

Qualitative Coding and Content Analysis

Qualitative coding is a process of taking unstructured data and systematically categorizing data for analysis to identify themes and patterns. There are many kinds of data that can be used for our qualitative coding, such as transcripts, diaries, videos, documents, case studies, podcasts, radio broadcasts, notes and observations. For this exercise we will apply coding to interview transcripts.

A code is similar to a label or tag that is applied to words, excerpts of texts, images, sounds, paragraphs, sentences or phrases.

| Sample coding of interview text: | Code (theme) |
|--|-----------------|
| <i>"I prefer to make an outline first for my research paper. Then I write keywords or an outline for each section of what I want to include in the section. I also link the outline to my data and literature I want to cite. I usually write my methods section first and I write the introduction last".</i> | Writing process |

Coding allows for a rigorous and systematic analysis process, allows for analysis to be organized and accessed easily for reference, helps identify patterns and themes, and allows you to confirm or verify any bias.

A. Coding Design

When deciding which codes to use consider the following:

1. What is your research objective or questions?
2. What do you seek to know and understand from the research?
3. Were there any themes or patterns you recognized from the interviews, documents or material you will code?
4. Is there a theory or framework for the basis of your study?

Depending of your responses to these reflections you may decide to code with a set list (deductive) or as you assess your data (inductive), you may also decide to use a combination approach to begin the process.

Deductive Coding

Is a top-down approach that allows you to develop a set of codes (codebook) based on your research framework or questions that is ideal for descriptive, structured or evaluative research. This process begins with a set of codes that are applied to the coding material (e.g. interview). Once you are finished, your codes will resemble your codebook. A codebook contains a list of codes with definitions and examples as to how they are applied.

Sample Codebook

Writing process

Process by which one prepares, documents, and the efforts involved in research analysis and the process of research writing (publication).

Examples

Explaining or describing techniques to begin writing or writing that takes place, patterns of writing behavior or process

Inductive Coding

Rather than using a traditional approach to coding, one can attempt to begin coding with no codebook or defined codes to analyze the dataset.

Combination Coding

Many studies use both deductive and inductive coding approaches. This may involve the use a codebook to begin your initial analysis. This codebook can then be adapted with additional iterations as you move through your datasets.

B. How to Begin Coding

We use a form of content analysis to analyze the text with our codebook. This is one of the most common techniques that allows a researcher to take qualitative data and transform it into quantitative data. This method can be used for many different kinds of data (transcripts, video, audio, etc.).

Steps to begin coding for your content analysis

1. Identify key concepts from the research framework to establish initial codes.
2. Create a codebook with definitions for each code by on your research framework.
3. Gather data to review your sample codebook within your framework.
4. Code your transcripts.
5. Evaluate data that you have gathered from your codes to validate or invalidate theories. Remember to maintain notes on your interpretations.
6. Evaluate data that did not work with your initial code framework.
7. Record the frequency of codes that appear from your codebook. How does the data validate or invalidate the research framework? Is there anything new that you have discovered that you can build upon for your research framework?
8. Begin writing your analysis in the form of a narrative.

Step 1: For the first round of coding you want to move quickly through the text. Do not worry about the codes or coding process, here you are wanting to begin the process of using your codes, getting a feeling of the information and text you will be working with to develop your analysis. You can choose to focus on single phrases within a sentence from the text.

You will also need to decide on which set of codes you will be using. Here are some types of coding methods that you can choose from.

In Vivo Coding: Interviewee Discourse

When using *in vivo* coding, you will code excerpts taken directly from the interviewee to use their own language to interpret the meaning as close as possible to their intention and meaning. This approach

is often used to help summarize passages into single words or phrases from interviews. This approach is also known as verbatim coding, literal coding or natural coding. It is appropriate to use *in vivo* coding (1) when you using an inductive coding process; (2) when you are capturing an emic perspective that reflects the perspective of the study site; (3) when you are using grounded theory; and (4) when you are conducting research that requires a level of sensitivity or consideration related to the participants and/or research framework.

| Sample In Vivo Coding | | |
|------------------------------|---|---|
| Code | Definition | Example Excerpt |
| Speed | This representation provides the quickest means to solve the problem. | "It was the quickest and shortest solution ... Path, as far as I was concerned." |
| Familiarity | This representation is more familiar to use and is often described as a comfortable choice. | "Then since I was comfortable with Darcy and had already known about it, it seemed fitting, I guess" |
| Confidence | This representation provides a higher degree of confidence and trust to solve the problem. Often described as representations that are the least confusing. | "But I think as I was going through, I just felt confident in my ability to just plug everything into my calculator and solve for each pipe diameter." |
| Accuracy | Representation used based on the level of accuracy that it provides based on some engineering judgement of the student. | "And there would have been a chance of error with each pipe, and then on top of that, I would have to change the diameter of each pipe when solving using the equation, and there'd just be a greater chance for messing up..." |
| Ease of Use | Using this representation requires less work and effort to solve the problem and is typically described as easy or simple. | "Yes, it seemed very simple using the charts for this problem." |
| Source: Geston et al., 2019 | | |

Process Coding: Capture Activities

Process coding uses codes to extract the activities that are communicated in the data. To help identify the actions from the activities one can search for codes that end with "ing". It is not meant to use process coding as a standalone method, but rather used together with multiple other forms of coding techniques. This method is helpful to better understand the actions observable (i.e. running, talking, dancing) or conceptual actions (i.e. thriving, adapting, worrying). This method is appropriate for (1) studying processes or systems related to people; (2) when researching people related to tasks or problem-solving; and (3) capturing the sequence of events or processes.

Sample Process Coding

An adult female interviewer talks to a teenage girl about rumors. Note how the codes are all gerund based (and note that the interviewer's questions and responses are not coded – just the participant's responses):

TIFFANY: Well, ¹ that's one problem, that [my school is] pretty small, so ² if you say one thing to one person, ³ and then they decide to tell two people, ⁴ then those two people tell two people, and ⁵ in one period everybody else knows. ⁶ Everybody in the entire school knows that you said whatever it was. So

¹ PROBLEMIZING SCHOOL SIZE
² SAYING ONE THING
³ TELLING OTHERS
⁴ TELLING OTHERS
⁵ EVERYBODY KNOWING
⁶ KNOWING WHAT YOU SAID

I: Have you ever had rumors spread about you?

TIFFANY: Yeah, ⁷ it's just stupid stuff, completely outlandish things, too. ⁸ I, I don't really want to repeat them.

⁷ REJECTING RUMORS
⁸ NOT REPEATING WHAT WAS SAID

I: That's OK, you don't have to.

TIFFANY: ⁹ They were really, they were ridiculous. ¹⁰ And the worst thing about rumors, ¹¹ I don't really care if people think that, because obviously they're pretty stupid to think that in the first place. But ¹² the thing I care about is, like, last year, especially freshman year, was a really horrible year school-wise. And, ¹³ I guess it was good in a way that you find out who your real friends are, because ¹⁴ some of them turned on me and ¹⁵ then started to say that those things were true and, like, ¹⁶ then people thought, "Well that person's her friend, so they must know." And so, ¹⁷ it just made the entire thing worse. And ¹⁸ you really learn a lot about people and, uh, and ¹⁹ who your real friends are. LuAnn's ²⁰ probably the only person who's really stuck by me this entire time, and ²¹ just laughed at whatever they said.

⁹ REJECTING RIDICULOUSNESS
¹⁰ CRITICIZING RUMORS
¹¹ NOT CARING WHAT PEOPLE THINK
¹² REMEMBERING A HORRIBLE YEAR
¹³ FINDING OUT WHO YOUR REAL FRIENDS ARE
¹⁴ TURNING ON YOU
¹⁵ SAYING THINGS ARE TRUE
¹⁶ ASSUMING BY OTHERS
¹⁷ MAKING THINGS WORSE
¹⁸ LEARNING A LOT ABOUT PEOPLE
¹⁹ LEARNING WHO YOUR FRIENDS ARE
²⁰ STICKING BY FRIENDS
²¹ LAUGHING AT WHAT OTHERS SAY

Source: Saldana, 2013

Open-Axial –Selective Coding

Consider using the open-axial-selective coding method when you want to follow a grounded theory (qualitative method that allows one to study a particular phenomenon or process to discover new theories based on data collected and analyzed), derive new theories or concepts from your data, you do not want preconceived theories to determine the outcomes of your research and when you are conducting exploratory research to generate new concepts and ideas.

Open Coding

Open coding is a common first approach to analyzing your research that allows you to break down your data into discrete parts and create codes to label them. Open coding is meant for you to first engage with your qualitative data to allow you to compare and contrast data as part of your analysis. To use this method, you will begin by organizing the data, such as quotes, to label with a particular code which helps eliminates bias about your research and analysis.

Axial Coding

Axial coding is the second step in grounded theory that follows open coding. Axial coding is where you begin to draw connections between the codes. Axial coding provides you a second read over the codes and underlying data to find how you can group the codes into categories. A category may be created based on existing codes, or a new abstract category for a set of subcodes. After conducting this process, you will have a number of categories, known as the “axes” that support the codes.

To help with developing the relationships between the codes Corbin and Strauss (1999 and 2015) developed a Coding Paradigm to define six subcategories. The subcategories are (1) phenomenon; (2) causal causation; (3) strategies; (4) consequences; (5) context; and (6) intervening condition. You should conceptually summarize how the six subcategories make up the category. Grounded theory and axial coding are iterative and should be continually revisited and reconsidered.

Subcategory: Phenomenon

The idea of “what” you will be exploring. It is best to try and identify common experiences.

Subcategory: Causal Conditions

Now you will begin looking for codes from your open coding that could be the causal condition of the phenomenon so that they can be grouped under a sub-category to describe the causal condition.

Subcategory: Strategies

Up until this point the research has a phenomenon experience where you have identified one or many related causes. Now you will begin to understand what the research participant did because of the phenomenon. These actions can be identified as the strategies taken by the participant in the interview.

Subcategory: Consequences

The outcome of the strategies imparted by the participant through the phenomenon is considered the consequences of these outcomes. These consequences can be actual outcomes or the expected outcome of the strategy.

Subcategory: Context

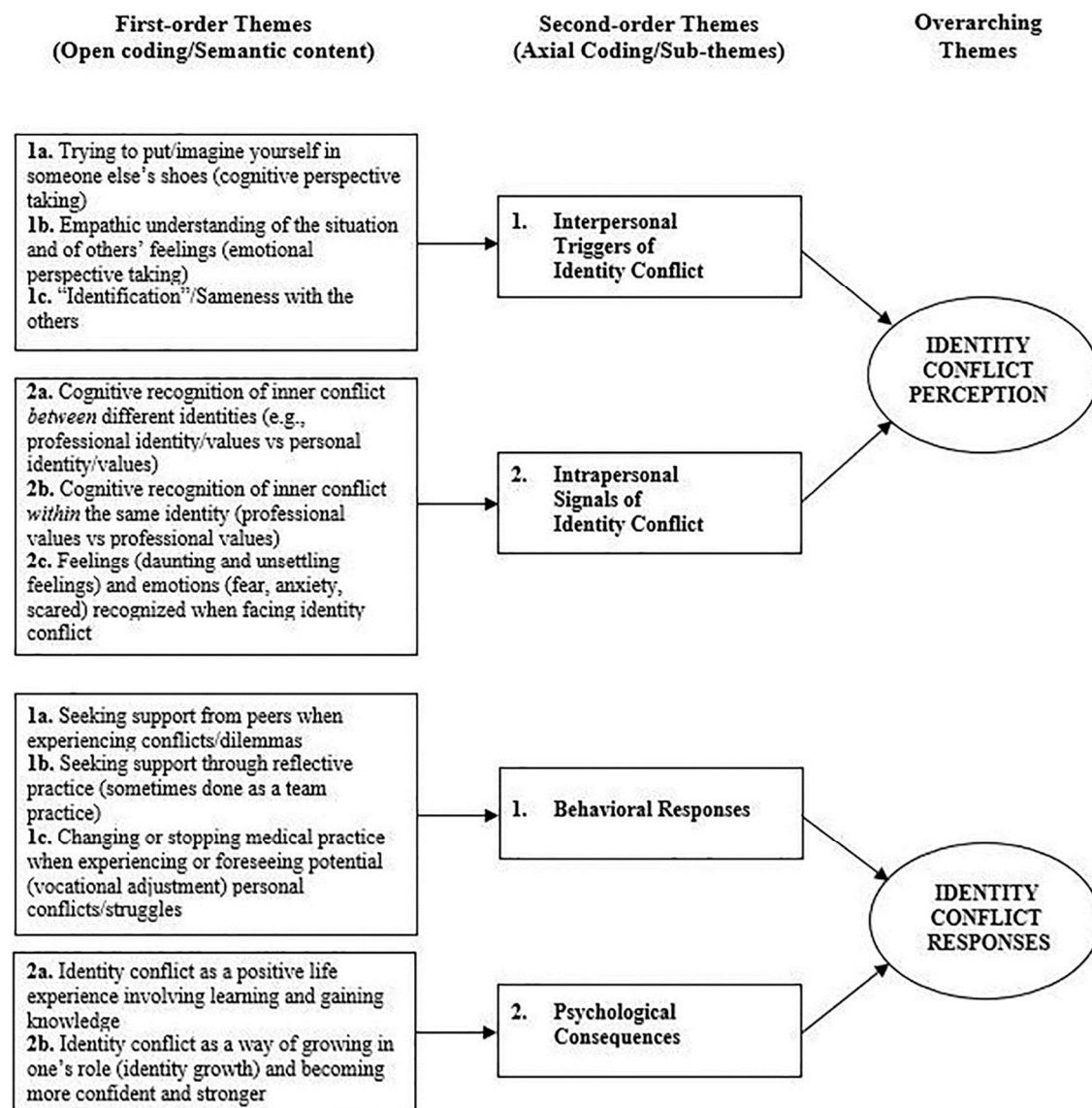
As you identify your codes you will begin to provide context to the phenomenon. The context may be any number of details that can describe the phenomenon against the chosen strategies. This context can provide insight into how the phenomenon happens, the frequency and if applicable the intensity it may occur.

Subcategory: Intervening Condition

The intervening condition provides the context that describes the attributes about the participant and how it may influence their strategy. This often provides the background information needed such as demographics or past experiences that contribute to the scenario.

| Sample Open and Axial Coding | | |
|--|---|--|
| Data | Open Coding | Axial Coding |
| First there was the message of we didn't have to... "We could find another municipality to live in, if we wanted" and "there are other options", and it was very clear, that this was not just a hint that there were other places to live, so, it was very uncomfortable. | Lack of empathy Lack of help from the system Perception of 'thinking' in social service system Stressful experiences | <u>Category</u> Social services contributing to stress <u>Property</u> -Physical consequences of lack of support -conditions for support -stressful encounters -support provided but stressful |
| It was only when we got someone else in to help, a social worker from (an independent institution), who could write to the authorities.... At least then something happened, not until then, did something happen, right? | Needing external expertise in negotiation Support provided, but stressful Clientization | <u>Subcategory</u> Negotiating social services <u>Properties</u> Needing external expertise |
| In as far the message was that only..., 'it was not acute until one of us were hurt or had a bad back or something like that', and that really scared me, because what if that happened then what? And then who should (care for the child)? And it would take some time to move out as well and so on, so if... | Physical consequences of lack of support. Conditions for help Increasing uncertainty | Perception of 'thinking' of the social services <u>Subcategory</u> Expectations of social services <u>Properties</u> Lack of empathy Lack of help from the system <u>Dimensions of the category and the subcategories</u> Increasing uncertainty clientization helplessness |
| Source: Graungaard, 2009 | | |

Sample Open and Axial Coding



Source: Carminati and Héliot, 2022

Selective Coding

The last step in grounded theory is selective coding by connecting all the categories together around one central theory for a unified category. This process occurs after you are able to develop and connect categories around your qualitative data in previous coding cycles. You should be able to state your theory in simple and concise statements for your research analysis.

Descriptive Coding

This coding process allows you to summarize the content of the text into a description by targeting code words that are descriptive often in the form of a noun. This involves the use of tagging or hashtags to identify topics for data insight. This allows for alternative coding method to in vivo coding or values coding. The resulting describing coding creates a categorized inventory or index of data that is organized by topics or themes to assist with further data analysis and interpretation. Descriptive coding is useful for beginning qualitative research, those with multiple forms of data (i.e. interviews, field notes, archives, artifacts, and video), longitudinal data across multiple studies, or when you want

to organize large data sets. Descriptive coding involves five steps: (1) reading through your data and identify topics or themes; (2) create codes for each topic or theme; (3) code the excerpts according to the topics or themes; (4) assemble the excerpts together related to each descriptive code to create an index; and (5) use other coding methods to determine meaning from the data using the newly created index of topics.

| Sample Descriptive Coding | | |
|-------------------------------|--|---|
| Descriptive Code | Definition | Example of Coded Response |
| Trust in program | Parent confidence in program's ability to keep their children safe | "we found it meaningful, understanding the environment and people he was entering it with, both counselors and the other patients" (divorced father-13-06) |
| Physical and emotional safety | Parents see program as nurturing and conducive to healing process | "I was relieved cause I knew he was safe, I knew where he was at, and I knew he was getting help" (single mother of adopted son-09-06) |
| | Child removed from negative environments, harmful behaviors and substances; prevented from leaving | "the only place that could possibly contain him long enough where some type of therapy could get through to him" (father-10-06) |

Source: Harper, 2007

Structural Coding

Structural coding is a form of coding that allows you to code your data according to your research question or topic. This method also allows for you to use a large dataset of semi-structured data to then restructure it into smaller parts for further analysis. Structural coding is applicable when you have a specific research question and topic you want to address, using semi-structured interviews for your dataset and when you have multiple participant interviews. To begin structural coding (1) make a list of research questions to organize your data by; (2) replace each research question as a code; (3) read the transcripts and apply codes to relevant sections related to your research questions; (4) analyze the themes or research questions using further coding rounds that establish subcodes into various types of motivations; and (5) use other methods of coding for further analysis to help strengthen your final arguments.

Structural Coding Example

Coded Segments

Research Question: What types of smoking cessation techniques (if any) have participants attempted in the past?

Structural Code: ¹ UNSUCCESSFUL SMOKING CESSATION TECHNIQUES

¹ I: Have you ever tried to quit smoking?

PARTICIPANT: Yeah, several times.

I: Were any of them successful?

PARTICIPANT: Only for a short while. Then I started back up again.

I: What kinds of stop-smoking techniques have you tried in the past?

PARTICIPANT: The nicotine lozenges seemed to work best, and I was doing pretty well on those for about two or three weeks. But then life stuff got in the way and the work stress was too much so I started smoking again.

I: What other techniques have you tried?

PARTICIPANT: A long time ago I tried cold turkey. I just kept myself busy doing stuff around the house to keep my mind off of smoking. But then my car got broken into a couple of days later and the window got busted, so the stress just got to me and I started smoking again.

I: Are there any other ways you've tried to stop smoking?

PARTICIPANT: Mm. (pause) No. Those were my only two attempts. Both of them failed, though.

Coded Segment Categorization: Frequency Code Report

| Technique | Number of Participants |
|---------------------------|------------------------|
| PRESCRIPTION MEDICATION | 19 |
| "COLD TURKEY" | 8 |
| Keep Busy | 3 |
| Thoughts of Saving Money | 2 |
| Exercise | 2 |
| Try Not to Think About It | 1 |
| NICOTINE PATCHES | 8 |
| SUPPORT NETWORK | 6 |
| Friends | 4 |
| Partner/Spouse | 2 |
| NICOTINE GUM | 5 |
| NICOTINE LOZENGES | 4 |
| GRADUAL WITHDRAWAL | 4 |
| COUNSELING | 2 |
| HYPNOSIS | 1 |
| AVERSION THERAPY | 1 |

Source: Saldana, 2013

Values Coding

Values coding provides a method to process reflections of participant's values, attitudes, beliefs and worldviews despite each being nuanced. Values coding provides valuable insight into qualitative studies that explore cultural values, identity, experiences and actions in case studies. These complex variables manifest through various thoughts, feelings, and actions. However, value coding does not necessarily require these each to be coded separately or differentiated to better understand ideologies, motivation, agency and causation. Values coding is a method that can be applied to various forms of qualitative data such as field notes, archives, interviews and audio.

Values Coding Example

The types of Values Codes in the example below are distinguished through the use of V: (Value), A: (Attitude), and B: (Belief), though it can sometimes be a slippery task to determine which participant statement is which type. Barry, a high school senior and gifted actor, is asked what he wants to do with his life after he graduates (Saldana, 1998, p. 108):

Well, I'm struggling with that right now. ¹ College is a very scary thing for me to think about. You know, ² it's hard to get into theatre except through the universities. So my tentative game plan – ³ in fact a couple different ways it could go – one, I may go to college and ⁴ major in theatre and minor in choral music and then come out and look for a job, look for a place to work as an actor.

¹ A: COLLEGE IS "SCARY"
² B: THEATRE IS EXCLUSIVE
³ B: FUTURE OPTIONS
⁴ V: FINE ARTS

Sample Categorization Analysis

Values

FINE ARTS
PURSUING PROFESSIONAL DREAM
MAINTAINING PERSONAL DREAM
SUCCESS
FAME
PROFESSIONAL ACTING CAREER

Attitudes

COLLEGE IS "SCARY"
FUTURE IS SCARY
NON-THEATRE WORK IS MENIAL
"ROMANTIC"
"DRIVE"

Beliefs

THEATRE IS EXCLUSIVE
FUTURE OPTIONS

Source: Saldana, 2013

Simultaneous Coding

Simultaneous coding is a coding method working with data excerpts and multiple codes to allow the data to be categorized in multiple ways. This method is also known as double coding. Simultaneous coding is applicable when you are (1) investigating interrelationships between codes; (2) data passages that have multiple layers and nuance that require more than one code for categorization; (3) the stories have multiple underlying meanings requiring more robust coding; and (4) excerpts are related to several different themes; (5) you want to use multiple codes ranging from broad to specific scales.

Simultaneous Coding Example

A public school teacher is interviewed on how holding an advanced graduate degree affects her salary. Her MFA (Master of Fine Arts) required 30 more credit hours than an MA (Master of Arts), yet the district does not acknowledge the legitimacy of her degree. In this first example, note how *the entire unit* merits two codes because the researcher perceives two separate issues at work within the teacher's story. Another code is applied later that refers to the "cultural shock and adaptation" processes employed for the study's conceptual framework. This code *overlaps* with the two major unit codes:

I: Did completing your MFA degree affect your pay scale or status of employment?

NANCY: ^{1a} & ^{1b} Not one bit. But I fought. I wrote a couple of letters to the district human resources director explaining that I have an MFA which is 60 credit hours, and they stipulated an MA degree for a pay raise. And my degree was like getting 30 more credit hours of schooling which would be the "Master's plus 24," which is the next pay line. And we went over it and over it and she wouldn't give me the extra pay raise. And then I explained that I have 96 graduate credit hours now, so I have far above the 30 credit hours for a master's, and they still wouldn't give it to me. And so it's kind of a moot issue, they just won't do it.

^{1a} INEQUITY

^{1b} SCHOOL DISTRICT
BUREAUCRACY

Sample Simultaneous Coding Analysis

The first example above displays a case that occasionally occurs in qualitative data when the richness or complexity of an event or participant's story makes it difficult for a researcher to assign only one major code to the datum. And if the researcher's focus for the study includes several areas of interest, and if a single datum captures or illustrates points related to more than one of those areas, Simultaneous Coding can be applied. The method can also serve as a means of investigating interrelationship. If passages coded INEQUITY are consistently coupled with such codes as SCHOOL DISTRICT BUREAUCRACY, STAFF AUTHORITY, PRINCIPAL'S LEADERSHIP, and ACCULTURATION, emergent patterns can be explored and tested.

Source: Saldana, 2013

Step 2: Now that you have chosen your coding methodology and approach you now need to begin organizing your codes into categories and subcodes. You may want to try more than one coding method to find an appropriate structure for your analysis.

You will want to begin the process of writing analytical memos to capture your insights as a researcher through a system of thinking which forms your writing practice. These memos function much like internal conversations with ourselves about the data. This functions as a reflectivity process on the data corpus. You simply write what is going through your mind, then classify the memo with a set of tags or keywords to help locate its location for your data corpus. These memos are data as well and can also be coded. Consider dating your memos as a way to track your reflections and writing process to help write your final reports. Analytical memos are separate and different from field notes as these are a process in which you reflect on the data to identify key insights and findings as opposed to summaries of data observations, notes or records of activities.

Here are two reflections to assist in designing your analytical memos:

- Reflect and write about you personally relate to the participants and/or phenomenon.
- Reflect and write about your study's research question, theme and problem.
- Reflect and write about your code choices and their operational definitions.
- Reflect and write about emergent patterns, categories, themes, concepts and assertions.
- Reflect and write about the possible networks (links, connections, overlaps, flows) amongst the codes, patterns, categories, themes, concepts and assertions.
- Reflect and write about an emergent or related existing theory
- Reflect and write about any problems with the study.
- Reflect and write about any personal or ethical dilemmas with the study.
- Reflect and write about future directions for the study.
- Reflect and write about the analytical memos generated thus far.
- Reflect and write about the final report for the study

Step 3: Apply further rounds of coding qualitative data to compare your codes and how they are related. This will also help you structure your themes for analysis. This process is also known as a first cycle, second cycle and a hybrid cycle method. The first cycle method entails the initial coding of the data (normally a quick and fast coding process) whereas the second cycle helps you reorganize and reconfigure the codes into a more select list of codes that become the major components of your research study and reports. This typically involves using other coding methods such as focused coding, axial coding, pattern coding, theoretical coding or longitudinal coding versus the first stage coding methods such as in vivo coding or process coding. The first and second cycle do not mean that you will only code once in each cycle but rather numerous times with different objectives. The first cycle focuses on developing the list of codes, much like a table of contents to identify themes and broad aspects of the datasets for analysis. The second cycle is about refining the data for active analysis to help you develop your final narrative.

Thematic Analysis

Thematic analysis is method that allows you to read through the data set and identify patterns of meaning across the data to derive further meaning. This process involves a practice of reflexivity in order to gain a complete understanding of the research theme and ensure accuracy of the research. You begin first by familiarizing yourself with the data, so that you can create your initial codes, now decide what to code and add new codes if needed, next you will collate the codes with supporting data to gain better understandings, then you group the codes into themes, next evaluate and revise your themes to articulate the boundaries of each theme for your analysis, remove themes not applicable and lastly you will write out your narrative of your analysis that tells a coherent story to

articulate your arguments supported by quotes. This method is appropriate for wanting to identifying patterns in your datasets, for those starting out with qualitative analysis or if you want involve research participants also in the analysis process. Because this approach is very flexible it can also be that there are multiple ways to interpret meaning from the data, making it difficult to focus on what is important. Additionally, when using this method, it is assumed that you are not using any existing theoretical frameworks for your research, which may limit your analysis.

Pattern Coding

Pattern coding groups your previous coded data into sets and themes to construct the qualitative data analysis. This functions as a filter process to help you find commonalities, similarities or patterns in the texts. Typically, the first cycle coding is done in a quick manner and now the second cycle focuses on reanalyzing the data to find patterns and develop your final theories and concepts a refinement process. Pattern coding aims to reduce the total number of codes from your initial round of coding and how to best categorize your codes. Pattern coding is useful for helping identify patterns between the codes to help construct your final narrative for your writing process and reports.

Focused Coding or Selective Coding

Focused coding seeks to find the most significant or frequent codes to develop the most important categories from your data corpus and requires the most analytical attention. Focused coding as a second cycle is an adaptation of axial coding in grounded theory. It is recommended that a simple organizational or hierarchical outlining of the categories and subcategories which then can be plotted as a tree diagram for visual representation of the phenomena or process. The benefit of using this method allows you to compare new codes across the data for comparability and reliability.

Axial Coding

Axial coding extends the work from the initial coding to a more focused coding that allows to address the data that is fractured or unorganized during the initial coding process. The main objective is to identify which codes are the most important versus the least important in order to reorganize the data set to identify critical aspects such as, if, when, how and why something happens. Axial coding helps reduce the number of codes you develop initially in order to create conceptual categories.

Theoretical Coding

Theoretical coding functions like an umbrella that covers all the codes and accounts for all other potential codes and categories formulated through the grounded theory analysis. This method integrates and synthesizes the categories derived from the coding and analysis to form new theory. This is done by specifying the possible relationships between categories and moves the analytical narrative forward in a theoretical direction. In order to further develop the potential new theory, it is important to address the “how” and “why” to explain the phenomena as to how it works, how it is developed, how it compares with others, or why it happens under certain conditions.

Elaborative Coding

Elaborative coding is the process of analyzing textual data in order to develop theory further using a top-down coding method. This method allows for the use of additional studies or data to build upon the research investigation to strengthen, support, modify or disconfirm the findings from previous research.

Longitudinal Coding

Longitudinal coding categorizes researcher observations into a series of matrices over time for comparative analysis and interpretation to generate inferences of change if applicable. Seven descriptive categories are suggested to be used and organize the data into matrix cells using

descriptors such as verbs, adjectives and adverbs that most accurately describe phenomena and change that is interpretative and focuses on the essential qualities of the phenomena:

(1) Increase and Emerge

Quantitative and qualitative summary observations that answers “What increases or emerges through time?” This code documents the changes that occur.

(2) Cumulative

Summary observations that answer “What is cumulative through time?” These codes answer what successive results occurred over time.

(3) Surges, Epiphanies and Turning Points

Summary observations that answer “What kinds of surges, epiphanies and turning points occur through time?” These codes identify the changes that result from experiences that significantly alter or impact the participant.

(4) Decrease and Cease

Summary observations that answer “What decreases or ceases over time?”

(5) Constant and Consistent

Summary observations that answer “What remains constant or consistent through time?”

(6) Idiosyncratic

Summary observations that answer “What is idiosyncratic through time?” These codes document events that are inconsistent, ever-shifting, multidirectional and unpredictable.

(7) Missing

Summary observations that answer “What is missing through time?”. These codes seek to document what is not present but also what is missing that would influence participants.

Step 4: Apply codes into categories for your final analysis narrative

Now that you have completed all of your coding and analytical memos you can now begin constructing your final narrative. The final narrative may take different forms such as a new theory, detailing your findings or presenting a research narrative grounded in your qualitative data.

To help the writing process, consider by starting to write the conclusions of your research. This should include a highlight or recap of the study’s goals and research design, a review of the major outcomes or findings from fieldwork, recommendations for future research and a reflection by researcher on the project and experience. The summary from the conclusion serves as an outline for the larger results, analysis and discussion needed for the final research report.

C. Validity and Reliability in Qualitative Research

When conducting qualitative research, it is important to consider validity and reliability. There are practices that can be applied to increase your research reliability:

Peer Debriefing

Practicing Reflexivity

Intercoder Reliability

Negative Case Analysis

D. Coding Tools

There are a few options you can use to begin your coding and analysis process. The following are a few coding tools to choose from:

(1) Coding by Hand

You will need to have all of the data collected as physical documents to complete the first coding round. This requires you to use highlighters to highlight relevant excerpts and a pen to write down the names of codes in the columns next to the text. For the second round of coding you will now cut out the individual excerpts to rearrange them into categories and themes. You will also establish your codebook and analytical memos using a notebook or in digital form if applicable.

(2) Coding in Word

To code your data in Word you will need to convert all the data into digital form. Similar to coding by hand, you will highlight excerpts that are relevant and use the comments to name the code. You will want to keep separate document for your codebook, analytical memos and separate documents for each additional round of coding and categories identified.

(3) Coding in Excel

Similar to coding in Word, you will need all of your data converted into digital form in spreadsheets. You will place each excerpt into a row and a code column. This process will apply for each round of coding, the design of your codebook and analytical memos.

<http://derwinchan.iwopop.com/ThematiCoder>

(4) Coding in Software

There are also alternative software options that are available for coding such as MAXQDA, NVivo, Atlas.ti, and Qaltrics. However, most software options require a license and are not open-source. Alternative open-source options include Aquad, CAT, qcoder, RQDA, and Weft QDA. Most of these options will require additional programming knowledge, such as R.

<https://carstenknoch.com/2018/02/qualitative-data-analysis-using-microsoft-word-comments/>

Guide adapted from Saldaña, J. (2013). The coding manual for qualitative researchers. The coding manual for qualitative researchers, Sage, London.