

## **Chapter 4 Constant Comparative Analysis**

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### **H1 What is Constant Comparative Analysis?**

Constant comparative analysis (CCA), also known as the constant comparative method, is an inductive coding process used as a data analysis technique in qualitative research (Onwuegbuzie, Leech, & Collins, 2012). Glaser and Strauss (1967) first introduced the concept of CCA within the coding process of grounded theory (GT), positioning it as a very specific approach to analyzing data. Holton and Walsh (2017, p. 78) state that CCA is a “foundational pillar of classic GT”. Urquhart (2013) differentiates between the use of GT as a methodology (where the aim is theory building) and the use of GT methods, which include CCA. Palmberger and Gingrich (2013) state that although no single method nor theory of qualitative comparison exists there are several approaches. They argue that comparison in qualitative analysis “aims to achieve abstraction by doing justice to the context in which the different cases are embedded” (Palmberger & Gingrich, 2013, p. 95). In ethnography, comparison “is constructed by the ethnographer, based on her research questions and working hypotheses” (Buscatto, 2017, p. 336).

CCA begins when the researcher starts to collect data and is an ongoing process as the research progresses, having both a data analysis function and a role in influencing decisions about data collection as the researcher considers how groups or settings compare and in what ways they may be similar or different. This allows the researcher to make comparisons and to step back from the data of a specific case to conceptualize, categorize or theorize data. CCA can therefore be used to guide the research process to make comparisons at each stage of the analytical process and as a way to have successive levels of data analysis (Charmaz, 2014).

CCA is an extremely versatile analytical technique to guide an iterative research process. It can be used to analyze data from one round of data collection or to conduct a within-case analysis or to compare talk, observations, drawings and documents (Leech & Onwuegbuzie, 2008). Freeman (2005) states that CCA can be used in both qualitative and mixed method studies whereby data are collected, analyzed and systematically compared before further data are collected. This chapter focuses on CCA as an approach to analysis, which, although has its roots in GT methodology, can also be used outside of GT. The authors of this chapter have used CCA in the context of GT in building theory and the two cases studies illuminate examples of this. We acknowledge that CCA can be used in other methodologies and endeavour to discuss this in the sections below.

### **H1 Why would you use CCA?**

The purposes of CCA are multiple. Holton and Walsh (2017, p. 78) state that the purpose of CCA is “to see if the data supports and continues to support emerging concepts”. When used as part of GT, the purpose of CCA is linked to different stages of the research process. For example, CCA is used in developing codes, informing theoretical sampling decisions, shaping iterations of the topic guide, guiding theoretical sensitivity, identifying the core and related categories, and situating the grounded theoretical perspective in the context of the extant theory and literature. According to Strauss and Corbin (1998), CCA has five major characteristics which support an understanding of why researchers would choose to use it: (a) to build theory, as opposed to testing it; (b) to provide researchers with analytic tools for analysing data; (c) to assist researchers in understanding multiple meanings from data; (d) to provide researchers with a systematic and creative process for analysing data; and (e) to assist researchers in identifying, creating, and seeing the relationships among components of the data when constructing a theme. Furthermore, Holton (2010) and Holton and Walsh (2017) referring to Glaser (2002) state that constant comparison prevents the researcher

becoming overwhelmed with data, because once no new conceptual properties or dimensions of categories are emerging, a category can be regarded as saturated and there is no need to continue gathering redundant data.

More generally, in considering qualitative comparative approaches, Lewis (2003) argues that there are five key purposes: (a) to identify the absence or presence of particular phenomena in the accounts of different groups; (b) to explore how the manifestations of phenomena vary between groups; (c) to explore how the reasons for, or explanations of, phenomena, or their different impacts and consequences, vary between groups; (d) to explore the interaction between phenomena in different settings; and (e) to explore more broadly differences in the contexts in which phenomena arise or the research issue is experienced.

### **H1 How would you use different types of CCA?**

CCA is “the process of taking information from data collection and comparing it to emerging categories” (Creswell, 2013, p. 86). CCA is an inductive approach to reach a broader understanding, moving through different levels of analysis. CCA will help to identify common points across and within the data. The constant comparison helps the researcher to elevate their understanding of the data. When collecting primary and additional data, comparison can be done within and across data to gain a deeper understanding. For example, Boeije (2002, p. 395) applied five steps when using CCA in her analysis of interviews: (a) comparison within a single interview; (b) comparison between interviews within the same group; (c) comparison of interviews from different groups; (d) comparison in pairs (i.e., comparing within and between the marital couples in the study). Ultimately “the process of constant comparison stimulates thought that leads to both descriptive and explanatory categories” (Lincoln & Guba, 1985, p. 334). O'Connor, Netting and Thomas

(2008, p. 41) argue that “constant comparison assures that all data are systematically compared to all other data in the data set”. Table 4.1 below shows steps to help you in conducting CCA systematically during data collection and analysis.

**Table 4.1. Conducting CCA**

Step 1 (CONSTANT)	Go through your data again and again
Step 2 (COMPARATIVE)	<p>Compare elements with all other elements</p> <ul style="list-style-type: none"> <li>• Compare data to data to identify similarities and differences</li> <li>• Compare codes to codes to identify and define concepts</li> <li>• Compare codes to concepts</li> <li>• Compare concepts to concepts to form categories</li> <li>• Compare categories to categories to understand their relationships.</li> </ul>

In a GT study, adopting constant comparison entails comparing codes with codes and data with data, breaking off from analysis regularly to create memos which capture developing theoretical concepts and possible further sampling possibilities. In initial coding, sections of transcripts or observations (incidents within the data) are compared to one another, with the researcher considering what is the same and what is different about them. This ‘open coding’ phase is the first point of comparison. As coding moves towards a more

conceptual level, the codes themselves are compared to one another, with the researcher using comparison to consider properties and dimensions of each, and to understand how they are related to one another. Using constant comparison helps to shape questions and probes for interviewing to support the pursuit of theoretical hunches set out in memos. Throughout the research process, concepts emerging from the data at a given point, guide subsequent theoretical sampling until data saturation is achieved. The need to find out more about a specific code or concept, in order to compare new data and understand it more fully, is what drives sampling. Finally, you are aiming to situate your theory in the extant literature and theory, another level of comparison. These steps are applicable in other uses of CCA also.

Comparing data to seek out similarities and differences is common outside of GT methodology as well. For example, Fram (2013) adapted and applied the CCA method within a naturalistic inquiry approach. Furthermore, O'Connor et al., (2008, p. 41) argue that

“It must be clear that constant comparison, the data analysis method, does not in and of itself constitute a grounded theory design ... Simply put, constant comparison assures that all data are systematically compared to all other data in the data set .... It is the timing and the process of this constant comparison that determines whether the analysis is deductive and will produce a testable theory or whether the analysis is inductive and will build a theory for a particular context”.

Regardless of applying CCA within GT or within another methodology, incorporating specific questions into the process of constant comparison can be helpful. For example, when comparing codes within categories, comparing selective codes with incidents in the data and comparing categories and codes, Urquhart (2013, p. 43) suggests using questions based on seven semantic relationships proposed by Spradley (1979):

- Is this a kind of...?

- Is this a part of...?
- Has this a place in...?
- Is this used for...?
- Is this a reason for...?
- Is this a stage of...?
- Is this a result/cause of...?
- Is this a characteristic of?

Case Study 1 provides an example of this approach. Strauss and Corbin (1998, p. 199) also suggest using a conditional/consequential matrix which is an “an analytic device to help the analyst keep track of the interplay of conditions/consequences and subsequent actions/interactions and to trace their paths of connectivity”. The purpose of this stage in the GT process is to identify the core category, related categories and category dimensions.

### **H1 What are the challenges using CCA?**

There are a few challenges specific to CCA. One challenge that researchers should be aware of is in relation to progressing the analysis from rich description towards a more theoretical conceptualization. Specifically, if all data are collected before analysis commences, it may remain difficult to move beyond rich description to more conceptual exploration of the substantive field of study, because the researcher is not able to deliberately search for new data that will allow further comparison to be made. If a researcher chooses to consistently apply the same topic guide to all interviews, then it may be difficult to fully ‘flesh out’ emerging concepts or to understand the relationships between them. In GT, when constant comparison and theoretical sampling are combined, interviewing evolves to support

progress in the research from descriptive to conceptual while moving back and forward between the transcripts in the analysis. This is also the case in other uses of CCA.

Another challenge is to persist with the memo writing and to note all your thoughts and interpretations and decisions throughout your analytical journey. This allows for an audit trail of the analytical process of GT and supports the researcher to remain open and be systematic in the comparative process. The process of constant comparison is one that is non-linear and is dynamic and the researcher must remain open to new insights during analysis (Tweed & Charmaz, 2012).

### **H1 How would you ensure rigour using CCA?**

Harding (2019, p. 270) states that

“constant comparison contributes to the credibility of the research by ensuring the researcher stays close to and guided by her participants’ accounts as she codes and that by constantly comparing codes with codes and data with data, categories are built that are grounded in the data as opposed to forcing the data to fit with the researcher’s assumptions or preferred theoretical perspectives”.

Carroll and Harding (2019) shared techniques to ensure trustworthiness of the data analysis within a GT methodology. These include that confirmability can be achieved through the data collection and analysis phases using methods such as theoretical sampling, memoing, triangulation of multiple sources of data aiming to produce rich, substantive accounts of the complex perspectives, peer review, peer debriefing, prolonged engagement in the field. Credibility can be achieved during data analysis using a range of methods; for example, by the researcher mentally immersing themselves in the data and at the research site, using CCA, following a coding framework, and using theoretical

sensitivity. Transferability can be achieved through the application of theoretical sensitivity (see Carroll & Harding, 2019). Dependability can be built into the research design through data being recorded for later analysis using a software package to organise the data, and through peer review and debriefing. This rigour applies to all research using CCA regardless of methodology. Constant comparison supports reflexivity and ethical conduct in interviews, as, through constant comparison of interviews and by revising the prompt questions used in the light of developing theoretical concepts, it is possible to attend in the recorded interview to whether interviewees appeared constrained or coerced. For example, the interviewer could remind the interviewee that participation is voluntary and of their right to withdraw their data from a study if, on reflection, the interviewee feels the account is not representative of the view they hold. Constant comparison may make achieving saturation with fewer participants more plausible, as data collection and analysis occur in tandem. Specifically in GT, Holton and Walsh (2017, p. 104) state that “continuing to collect data for concepts that have saturated or for those that are not related in some way to the emerging theory’s core category is a waste of researcher time and resources”. Through constant comparison of incidents in the data, the researcher becomes sensitised to look for instances which elaborate emergent concepts and in turn this builds the researcher’s confidence in subsequent claims of saturation of central concepts. This further supports ethical research practice in limiting unnecessary collection of data.

Our case studies below reflect our experience with CCA in GT; however, the methods illustrated are applicable to the general use of CCA in qualitative research.

## **H1 Case Study 1 (Deborah Harding)**

### *H3 Developing a grounded theoretical perspective of supervision for allied health professionals: the role of constant comparison*

As indicated earlier in the chapter, alongside theoretical sampling, constant comparison is regarded as a key foundation in GT methodology (Holton, 2010). Having settled on a GT approach for my research about supervision for allied health professionals (AHPs) (PhD supervised by Professor Annette Boaz and Professor Deborah Bowman), it was inevitable that constant comparison would be central to my data analysis and my theoretical sampling decisions. My main data were transcripts of conversations with UK registered occupational therapists, physiotherapists and SLTs. Conversations were facilitated through semi-structured interviews using a combination of visual elicitation (Harper, 2002; Rose, 2016) and a loose topic guide (Charmaz, 2014). At the beginning of the interview, using published sets of photographs, (NHS Education for Scotland, 2012; Stokes, 2015), participants were invited to select an image or images which might tell me something about supervision. I analysed what participants were prompted to say about the selected image and like Rose (2016), I think research participants spoke in different ways about selected images, offering potentially richer insights into their supervision experiences and associated meanings. Liebenberg, Didkowsky, and Ungar (2012) also adopted visual methods in their constructivist GT research and suggested that the subjective viewing of images empowers research participants both in representation of self or others and in knowledge production. I felt there was a good methodological fit between visual-elicitation and GT because it helped me to remain more neutral than may have been the case had my researcher-led questions steered the conversation unintentionally or introduced taken-for-granted language and

assumptions. I also think photo-elicitation empowered me as the researcher to engage in some *in situ* CCA between the narrative accompanying the selected images and my loose topic guide, enabling me to modify my questions during the interview to follow leads in the data and not my *a priori* assumptions (Glaser & Strauss, 1967).

Glaser (2002) claim that 'all is data' is often cited. In my experience, CCA prompted me to look beyond the primary data to other sources. In my research this included the memos captured during data analysis, following conversations with research supervisors or in response to feedback from presenting research progress at meetings or conferences and, in final stages of the research, to wider extant theory and published supervision research. Constant comparison supports different aspects of the GT research endeavour at different stages: developing codes, informing theoretical sampling decisions, shaping iterations of the topic guide, guiding theoretical sensitivity, identifying the core and related categories, situating the grounded theoretical perspective in the context of the extant theory and literature. The relationship of constant comparison with the wider GT methodology process for my research is summarized in Figure 4.1.



The following sections illustrate how I used constant comparison in my research about supervision.

**H2 Developing initial codes**

Table 4.2 illustrates the sorts of incidents, gathered from the first four participants, which I compared to arrive at the initial code ‘*stresses and strains of practice*’. Comparing incidents with incidents, from and between the first two interviews alone produced a set of 81 possible initial codes and this increased to 88 after the third and 91 after the fourth interview.

**Table 4.2. Example of line-by-line segments and corresponding initial code**

Line-by-line segments from interview transcripts	Initial Code
it can be kind've up and down not always predictable how it's going to go terrified of litigation and being accused of malpractice terrible things that come up from like the Mid-Staffordshire Inquiry ensuring that notes are in the correct format if anything were to ever go wrong would this stand up in court? help with managing the stress of juggling things being in this context of crazy busy-ness a moment to stop the train for a bit I'm back on the train again staying late	Stresses and strains of  practice

writing reports at the weekends trying to get through all these kids and adults all these different places I was working in a new grad surrounded by stuff to do and no time to do it I needed her to understand me a bit better come in and just take some work away from I just had too much to do and I was too intent on doing it right	
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Figure 4.1 shows gaps between episodes of data collection. In the case of earlier episodes of data collection these gaps reflect the time I took to begin to get to grips with line-by-line coding and CCA. Through line-by-line coding I really immersed in my participants' accounts, but it also produced a plethora of possible codes which felt unwieldy to me as an inexperienced researcher. I spent a lot of time at this stage going back to Grounded Theory methodology (GTM) texts to seek assurance about what I was doing. I often felt I was combing over the same transcripts and initial codes willing something salient to jump out at me. I found that CCA is not a quick fix, and it is important not to rush through early analysis but rather to slice and dice the data in different ways as you look for similarities, differences and conceptual leads. Also remember that the initial codes will join your constant comparison data pool so they are likely to change as you gather more data and continue to compare. Time spent with your early data helps you to progress with more certainty as your codes become more focused, selective and conceptual and as you move from inductive generation of codes to abductively looking for instances of the concepts in your data (Charmaz, 2006; Charmaz, 2014).

## H2 Theoretical Sampling

Early CCA of interview data, memos and field notes was used to guide theoretical sampling decisions. Table 4.3 demonstrates how one of my data-prompted theoretical considerations influenced subsequent sampling decisions and possible connections to extant literature. In GTM the aim is not to get a representative sample of participants in the traditional sense but to follow up possible theoretical hunches prompted by engagement with and CCA of your data. As CCA continues, you will find different theoretical possibilities become more, or less salient, guided by and grounded in your data.

**Table 4.3. Relationship between theoretical considerations and theoretical sampling decisions**

<b>Theoretical Consideration</b>	<b>Theoretical Sampling Participant Characteristics and Criteria</b>
<p>Related to the therapist's actual or perceived isolation from colleagues</p> <p>Therapists actual or perceived visibility to others</p> <p><i>Possible relevant extant theory:</i></p>	<p>Therapists who are physically isolated from colleagues; lone working in community services, large hospital sites, satellite services, the only member of their profession working in the setting or employer, working in rural settings</p> <p>Therapists whose role is unlike others in the locality; high degree of specialism, emerging, non-traditional roles</p> <p>Therapists who have different contractual arrangements to colleagues; secondment to a different</p>

Professional sense of self – (e.g., Goffman,1959): Presentation of Self Governance and surveillance (e.g., Foucault,1972)	provider (e.g., health worker seconded to social services, temporary locum or bank contract, fixed term contract)
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As the research progressed, new theoretical considerations guided me to return to earlier data to look for instances which I may have overlooked in my initial analysis. This phase of CCA also informed revisions of my loose topic guide to ensure theoretical considerations were explored and tested in subsequent interviews. Table 4.4 demonstrates how I felt that a decision to change the focus of questions after analysis and comparison of the first eight interviews moved the research beyond description to a more conceptual level. Asking more specifically about supervision experiences led to less generic descriptions about the process of supervision, providing instead, more insights into what issues a therapist may take to supervision, under what conditions and in what ways supervision might help the therapist to resolve these issues.

**Table 4.4. Illustration of theoretical influence of change in focus of questioning in interviews**

<p>Excerpt from fieldnote following interview 9</p> <p>Ani has less positive perceptions and accounts of supervision. She goes as far as saying that if she could, she wouldn't be a supervisor. She gave a detailed account of challenging</p>
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supervision circumstances - because I had decided in terms of gathering less generic, descriptive data – which I think was the case in the earlier interviews. The moment I asked for more detail about her most recent supervision either as a supervisor or a supervisee she put her head in her hands.

Lots of this interview, I think, feels like it will fit with the ‘bumpy ride’ idea. But it doesn’t just reveal or add to the sense that supervision can be a bumpy ride, it reveals much about the delicate dynamics of the supervision dyad, the fragility of this interaction and of professional sense of self. The skills and degrees of comfort required and consequent in supervision.

I am yet to transcribe and analyse but I am feeling this is some of the richest data so far.

That’s partly because of the story that emerged in this interview but it’s partly the change in my questions nearer the beginning of the interview with an increased focus on telling me about a recent supervision experience in more detail

## H2 Developing focused codes

Once I had a bank of initial codes, I was able to compare codes with codes to generate more focused codes (see Table 4.5).

**Table 4.5. Relationship between initial line-by-line codes and tentative focused code**

<b>Initial Codes from Interviews 1-4</b>	<b>Possible Focused Code</b>
<i>Practitioner performances</i> <i>Being a supervisor</i> <i>Being a supervisee</i> <i>Having role models</i>	<b>Sense of professional self</b>

<i>Having an aspired to self</i> <i>Having role conflicts</i> <i>Needing to do a good job</i> <i>Knowing how you are doing</i> <i>Wanting to do one's best</i> <i>Doing the best for patients</i>	
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Again, I urge you not to get too bogged down worrying about whether a focused code is 'right' but to trust the constant comparison process. Hang on to what Glaser (1998, p. 100) says about not needing to prematurely formulate and to embrace confusion as a powerful learning tool. I certainly had some confusing moments, lost in the weeds of my data, but ultimately codes stabilise because they are grounded in the data and then it is possible to confidently compare these to identify the core and related concepts of the phenomenon you are exploring in your research.

## **H2 Oiling the constant comparison process with useful questions**

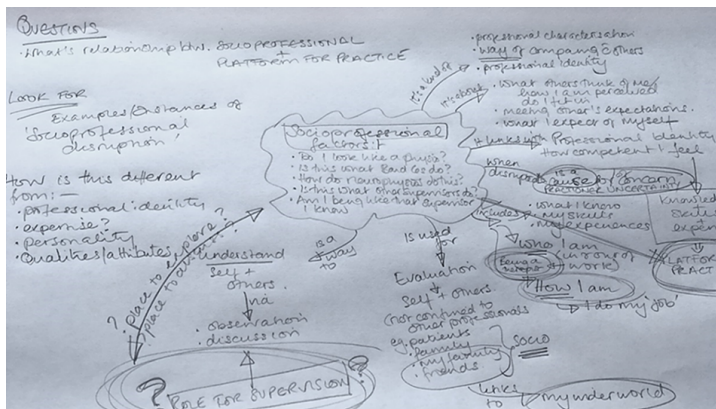
I adopted a largely constructivist version of GT methodology (Charmaz, 2006; 2014) in which line-by-line coding is followed by focused coding but I also drew on more classic GT guidance (Holton, 2010; Holton & Walsh, 2017) and Glaser's (1998, p. 140-141) questions which helped me to identify my participants' main concern:

- What category does the incident indicate?
- What property of what category does this incident indicate?

- What is the participant's main concern?
- What accounts for the continual resolving of this concern?

Including these questions in my CCA, I noticed that all my participants spoke about practice uncertainties of different kinds; this uncertainty was their main concern and I identified 'Practice Uncertainty' as the core category. It then became easier, as Holton (2010) describes, to code selectively around this core and related category.

The CCA which supports the integration of categories to construct a grounded theoretical perspective is theoretical coding. This phase of my CCA was assisted by incorporating the seven semantic relations proposed by Spradley (1979), as recommended by Urquhart (2013) which are described earlier in this chapter. The mind-map diagram in Figure 4.2 illustrates how I used the questions to support my theoretical coding.



**Figure 4.2. Example of a 'mind map' diagram developed when using Spradley's (1979) questions to compare the relationships between categories**

## **H1 Case Study 2 (Robert Wells)**

### **H3 *Barriers and facilitators of access to paediatric speech pathology services***

#### **H1 Introduction**

In my PhD research (supervised by Assoc Prof Suze Leitão, Dr Mary Claessen, and Dr Peta Dzidic) I sought to establish a model of speech pathology service access for children with Speech, Language, and Communication Needs (SLCNs) within Western Australia. In seeking to generate theory from qualitative data, I was guided towards constructivist grounded theory (Creswell, 2012; Liamputtong, 2013). In considering the literature I found that most existing studies reported on either caregivers' or clinicians' experiences and perspectives of accessing SLT services. I felt that the construct of 'access' (to speech SLT services) was central to the inter-related experiences and perspectives of both stakeholder groups, and so sought strategies to investigate this central concept. Through viewing access in this way, and through having sought to co-construct understanding with participants, I selected a Constructivist Grounded Theory (CGT; Charmaz, 2014) approach to data collection and analysis. Charmaz (2014) describes grounded theory as a cluster of methods. I chose to use CCA as part of my decision to adopt a CGT approach. Within CGT, the use of CCA facilitates researchers' reflection on data. This includes comparison of two or more pieces of data with one another: data with category, or data with concept. CCA is an ongoing process throughout several of CGT's overlapping phases (Tweed & Charmaz, 2012).

My research made use of in-depth semi-structured interviews with caregivers of children with SLCNs and SLTs who provide services to children with SLCNs. Throughout the overlapping phases of data analysis (Tweed & Charmaz, 2012). I used CCA as a strategy to

identify meaning within interview transcripts, which was then noted using codes or memos depending on the nature of the comparison. Charmaz (2014) encourages researchers to immerse themselves in their data, and to identify nuance and novel understanding within new pieces of data, as compared to an existing dataset. Immersion and CCA appeared throughout the phases of my research in different ways.

### **H1 Data Analysis**

After completing each interview, I actively reflected on how the interview went, and the key sentiments that were shared. I also considered the key sentiments considering the other data that had been collected up to that point, both within and between participant groups. Within the initial coding phase I used line-by-line and incident-with-incident coding to label experiences that were shared within interviews. This labelling can be seen in Table 4.6 below. Using CCA within coding allowed me to create initial descriptive codes that exist as line-by-line and incident-with-incident, but that were also situated within the surrounding codes. Where the comparison of two or more initial codes led to a new way to describe the data, I would create a new initial code that was attached to the relevant section of the transcript, often sandwiched between the relevant/neighbouring codes in the transcript table.

CCA plays a key role in focused coding, as Charmaz (2014) encourages researchers to compare initial codes with the transcript, and initial codes between transcripts in order to identify meaning that can then be noted in focussed codes (see Table 4.6). In coding the transcripts for meaning it became increasingly important to use CCA to explore the differences between participant groups. By actively looking at the different ways that caregivers and SLTs discussed access, we were able to focus on the meaning being expressed, rather than the terminology used by either group within their interviews. It is worth noting here CCA in this phase was facilitated

by the 'distance' created between the transcript and its interpretation through descriptive initial coding.

In categorising data, I sought to group the focussed codes based on meaning into increasingly theoretically saturated groups. Through this process I used CCA to support the sorting of codes through reflecting on whether the meanings shared were the same or different.

Throughout data analysis I worked to ensure that the data being collected within interviews was moving categories towards theoretical saturation. The analysis of interviews raised further questions, sometimes about an unexplored area and sometimes about a nuanced experience that had been shared. When questions were raised, I used CCA to first seek understanding from existing data. This was helpful, as often when questions were raised, they represented a new perspective of an experience, and so some data had already been collected but not analysed with that perspective or understanding. This process allowed me to not only identify new insights, but to shape further data collection towards theoretical saturation.

Throughout the research I also generated memos when I reflected on data as a whole and sought to immerse myself in the data. For me, CCA became a part of this immersion as I mulled over different pieces of interview data or my own coding. Sometimes this was an active process wherein I had reviewed a line of a participant's interview and was not sure how it related to other interviews or codes, as described above. At other times it was a passive process where a comparison would spring to mind while I was doing something unrelated. In either case, it was important that I was aware of my data and codes, and sought to construct meaning through analysis including comparative analysis.

In the example in Table 4.6 below, in separate interviews a caregiver and a SLT are discussing travel as an aspect of access to services, but from their own perspectives. The caregiver is discussing travel as an investment in intervention, while the SLT is discussing the need for *financial* investment by families in order to receive services at home. In both cases the participants are discussing the need for resources (time or financial) to address the barrier to access presented by travel. However, it was the comparison of focussed codes arising from analysis of these passages' that enabled me to see the broader concept of 'resource allocation' here, as reflected in the memo below.

**Table 4.6. Coding and memo data sample**

Caregiver: Catriona (pseudonym)			
Speaker	Transcript	Initial Codes	Focussed Codes
Robert	Is there anything that you think made it more difficult or that was frustrating in the way that you maintained services?		
Catriona	Could my maintenance have been better? Hmm. If [the SLT] didn't live so far away, yes. So sometimes that was a pain because a I guess a half-hour session turned into kind of a two-hour round trip. So driving half an hour to get there, half an hour for therapy,	Describing how maintenance could be improved through reduced travel time to and from the clinic	Overcoming distance as a barrier through viewing travel as an investment in intervention

	half an hour back to daycare, and then another sort of half an hour back to work.		
	So that was a <b>big</b> investment.	Describing travel time as a <b>big</b> investment	
	So I think for other caregivers who don't see how important [intervention] is, I can see how barriers such as distance and time could make a really big difference in whether you continue going or not.	Linking a lack of investment from families to their observing of the importance of the intervention	Investment in intuition is justified by observing its importance
<b>Speech-Language Therapist: Caroline (pseudonym)</b>			
Speaker	Transcript	Initial Codes	Focussed Codes
Robert	What makes it harder for families to access your service?		
Caroline	But we do also offer site visits. So people don't have to come to our clinic. We can go and do a home-visit or a school-visit.	Indicating that there is an option for home visiting, but that they attract a financial cost	Community visits are offered to address location access difficulties; however this comes with an additional travel cost, that may or may not
	There is a travel charge, ...		
	...sometimes that's covered by funding.	Indicating that travel charges may be	

		covered by funding packages	be covered by funding package/s
<b>Memo comparing coding of Catriona &amp; Caroline’s interviews</b>			
<p>Both caregivers and SLTs have spoken about the barrier presented by travel and/or distance from clinical services. Catriona and other caregivers discuss time as a resource to address distance through seeing travel as addressing distance – though travel can present its own challenges for a family. Caroline and other SLTs have presented home- or community-based services as addressing travel and/or family distance from clinical services. Discussions by SLTs have typically looked at addressing travel through a cost or charge that is passed on to the family or occasionally the funding source.</p> <p>While both are seeking solutions to clinical services being distal from families, they are addressing this using different resources, either time or money. In either case families are required to have resources to invest into the intervention to address their distance from the clinical services.</p>			

**H2 Challenges in analysis**

CCA can be challenging. Within my research I found it difficult being so immersed in my data, and having to be conscious of my position as a SLT while interviewing both caregivers and SLTs. It can feel overwhelming to be immersed in your project’s data. With respect to CCA it can be difficult to decide which pieces of data to compare. With the knowledge that I was aiming to create meaning from my data, I focussed on making comparisons that were meaningful and contributed – in part or whole – to my understanding of access to paediatric speech pathology services within Western Australia. At certain times throughout my research when I felt

overwhelmed by my data it was important for me to reflect on why I was feeling overwhelmed, note/memo it, and then reflect on the whole dataset. Through stopping and documenting my reflection I was able go from looking at an individual piece of data (see the tree) to seeing the dataset as a whole (the forest). Often this process allowed me to identify something that was not sitting well with me, which then informed CCA and/or theoretical sampling.

Coming at this research as a SLT, I brought a clinical understanding and commonality to data co-generated with SLTs, and I had to seek to show equal respect by giving equal weight to data co-generated with each participant. A core part of the investigative approach within my research was viewing ‘access’ as not having a true and whole form in either the caregiver or the SLT, but having an existence that is held wholly by the relationship and combined experiences and perspectives of caregivers and SLTs. And as such I worked with all participants to co-create meaning, not with each group separately. This awareness was important when using CCA as I sought to draw comparisons between groups to identify a clearer understanding of access to speech pathology services, and to avoid comparisons placing participant groups in opposition to one another. In my project it was important for me to acknowledge my positioning as a SLT, and to seek to treat data that was co-generated with SLTs and caregivers with equal rigour and respect.

## **H1 Chapter summary**

CCA is a method that can be applied broadly within qualitative research methodologies. CCA is an essential component within GT (Glaser & Straus, 1967), frequently used within ethnography (Buscatto, 2017), and can be applied to other research methodologies alongside other methods. As outlined within Table 1, CCA requires the researcher to take an iterative approach to data analysis, so that it can inform the research process as the project progresses.

This iterative process throughout a research project supports researchers to have a powerful connection with their data. In turn, ongoing relationship and connection with data supports the researcher to identify and make meaningful comparisons within their dataset. As a qualitative researcher you may draw on a variety of data types to form the dataset of your project. CCA facilitates researchers to see data within the *context* of their whole dataset, giving equal weight to different types of data by focusing comparison in meaning rather than by valuing any given pieces of data.

We have identified some tips for researchers wanting to use CCA:

- Start analysing your data from the earliest opportunity.
- Dissect your data line-by-line during early analysis to stay close to the data and to avoid searching for your own assumptions in the data.
- Keep meticulous records of what you have compared with what and how your thinking is evolving during your CCA. If you are doing a GT methodology you will do this by memoing.
- Do not get too bogged down in the early stages in a search for the perfect code; as your CCA proceeds, your codes will evolve.

In conducting research, you will receive many recommendations from people who may be doing research and may be familiar with your methodology and topic, or they may not. It is important that you do not feel you have to do it all. CCA can be applied across varying methodologies. Different methodologies and approaches have different ways of dealing with data and cultivating rigour. A strategy that works for someone else's project may not work well for your project. As such, it is key that no matter which recommendations you accept (or do not),

you consider and document appreciation of recommendations. As a researcher it is, in part, your job to see that the outputs of your work are well founded. So, consider your options, and document your decisions in a consistent way so that you can talk and write through your process later.

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