Transformative research methods: Grounded Theory

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INTRODUCTION
The conceptual underpinning of this chapter is to provide broad information about Grounded Theory (GT) and a practical example of how to use it. This chapter explains aspects of GT however, researchers are encouraged to read widely (see Charmaz, 2006; de Vos, Strydom, Fouche & Delport, 2011; Glaser & Strauss, 1967; Neuman, 1997).

GT is a qualitative research tool generally used to investigate social processes within the social sciences however, its scope is broadening and it has been used in many fields for instance, in dentistry and nursing (Sbaraini, Carter, Evans & Blinkhorn, 2011) and it aims to describe and understand social contexts which humanity must adapt to (Corbin & Strauss, 2008). It can be defined as the systematic discovery of theory from data obtained during the social research process (Glaser & Strauss, 1967). The premise of GT is based on the acknowledgment that investigations are always context-bound and that facts should be regarded as both theoretical and value-laden which is reflected in Constructivist Grounded Theory developed by Charmaz (2000).

In South Africa the use of GT as a research method is practical and innovative. We also feel that it can be used in a transformative and constructive manner. We consider GT to be a transformative research method because it makes researchers re-think traditional ways of doing research, as stated by Niels Bohr (1958, p. 24) the Nobel Prize winning physicist and humanitarian, “[transformative research] concerns intangibles such as human intuition, serendipity, unpredictable events, implausible hypotheses, a well-prepared mind and often interpersonal communications (Bohr, 1958”).

In this chapter we describe our approach to GT. Fundamentally, it is a process which involves inducing theory from data which is generated from the participants themselves.
Importantly, researchers do not work from an objective or quantitatively based research design. It is an approach in which data, that is text or observation based, is read and re-read in order to glean categories or concepts. The categories or themes are drawn from data generated from participants’ belief systems which, when described in a step-by-step manner, make these schemes clear and unambiguous in nature. Consequently, the approach can involve both inductive (from specific to general) and deductive (from the general to specific) reasoning processes. A glossary of terms is presented at the end of the chapter to help the reader understand key concepts relating to GT.

The study we used to illustrate the GT process in research is a community and health psychology project in the higher education sector. This investigation generated a process and substantive theoretical model for a reproductive health intervention in a community setting.

**BRIEF OVERVIEW OF HISTORICAL CONTEXT**

During the mid-20th century, quantitative research, which was underpinned by the positivist paradigm, was generally used in the social sciences to conduct studies. This type of research, which had filtered through from the natural sciences, was useful in testing hypotheses but it did not give insights into human experience and behaviour. GT was originally developed by sociologists Glaser and Strauss (1967). They argued that researchers needed a method that would allow them to move from data to theory, so that new theories could emerge. Such theories would be specific to the context in which they were developed and would be ‘grounded’ in the data from which they emerged rather than rely on analytical constructs, categories or variables from pre-existing theories. GT was consequently designed to open up the space for the development of new, contextualised theories.

Glaser and Strauss’ (1967) early conceptualisations led to qualitative research being formalised in a logical, consistent and systematic manner which has underpinned various approaches in the paradigm. The emergence of GT was thus influential in the development of qualitative research, particularly at a time when it was disparaged by mainstream researchers within the positivist paradigm. It uses induction, deduction and the verification of data together. This produces insights, further questions and assumptions about the phenomena which are then followed up by further inquiry (De
Vos et al., 2011). Fundamentally, it is not a theory in and of itself but is rather a set of procedures that generates substantive theory (a description of what occurs in a specific social setting) as opposed to formal theory (hypotheses about relationships which explain specific areas of study). De Vos et al. (2011) explain substantive theory as the type generated by interrogating what happens, for instance, in hospital wards where critically ill patients are treated; while formal theory is used in conceptual areas of study, such as to understand deviant behaviours.

Glaser and Strauss differed on their approach to GT and Glaser is viewed as staying closer to the original theory in which data analysis was poorly articulated. Strauss and Corbin (1998) reformulated the data analysis process in order to clarify it. Fundamentally, the original authors disagreed on whether GT verification was an outcome of the analysis. For instance, Strauss (1987) felt that induction, deduction and verification were essentials whereas Glaser (1992) thought that GT was inductive only. There is much academic debate around the topic however, simply stated Glaser highlighted aspects of the researcher’s creativity and induction and Strauss sought a more systematic approach that could be demonstrably validated. It is worth noting that Glaser saw GT as using any data which included survey and statistical data. Charmaz (2006) re-invented GT in a constructivist manner. The paradigm of constructivism states that there is no all-encompassing objective reality. It asserts that reality is a social construction by individuals living within a specific context which allows for many versions of their perceived realities, while recognising that some versions of these realities will be shared (Levine, 1999). Charmaz (1995) proposed that constructivist GT highlights the view that communication, between the researcher and participants, yields data. This means that the researcher and participants produce the data together; it is a collaborative process.

Students are often confused about the meaning of constructivism, previously described, and constructionism which is an individual’s own system of knowing, informed by their context and knowledge acquisition (Papert & Harel, 1991). Fundamentally, constructivism is an individual’s mental construct of their own experience while social constructionism is socially (group) rather than individually constructed (Young & Colin, 2004). It must be noted that both terms have been used interchangeably by Charmaz (2006).
All qualitative research approaches use in-depth methods that aim to understand the human experience. They can be used with quantitative measures, as a form of triangulation which attempts to give a more holistic picture of the phenomena under investigation. Qualitative methods do not attempt to quantify lived experiences but rather try to understand human behaviour, as it occurs in lived experience (by exploring individual, group or community narratives). As the process of qualitative research has evolved it has become usual for data collection and analysis to be a ‘joint collaborative process’ between all stakeholders. This is particularly the case with GT as the theoretical underpinning is based on two notions (Glaser & Strauss, 1967). These are: a) constant comparison, which refers to ongoing association and comparison of data throughout data collection and analysis which results in the formation of categories. These are grouped together and tested by collecting more data. Themes emerge and are confirmed by: b) theoretical sampling until saturation is reached, when the data does not have the capacity to generate any new categories (Swandt, 2007).

After their initial work, Glaser and Strauss disagreed on how to apply the method which has, in our opinion, been beneficial as it has paved the way for innovative and creative interpretations of GT. This does not imply a lackadaisical approach but one that is dynamic and aimed at understanding and revealing poorly understood aspects of human behaviour which can lead to the development of new theory. We understand GT to be a transformative research method which begins with an idea. It is important to remember that typically, data collection begins without a formal question. The researcher(s), in co-collaboration with the stakeholders, review and re-review data, looking for recurring impressions which are coded and then grouped into concepts which might underpin the formulation of a new theory.

There has been much criticism of GT as summarised by Thomas and James (2006) who argue that it is a systematic approach which does not facilitate open and original interpretations. They also suggest that those collecting the data are not free from bias in terms of what they think they will find. Conversely, Charmaz (2015) reports that GT is a well-rounded method as it can report fact statements, experiences and observations. She also proposes that researchers should “treat the research process itself as a social construct” (Charmaz, 2008, p. 7) and further argues that GT is compatible with social constructivism which is a ‘flexible and innovative’ paradigm. This is underpinned by
Mills, Bonner and Frances’ (2006, p.1) argument that, “Grounded Theory can be seen as the methodological spiral that begins with Glaser and Strauss’ original text and continues today”.

WHEN TO USE GROUNDED THEORY
A common question is when a researcher should use GT. Principally, it is a qualitative approach which is used when accounts of the phenomena under investigation are not likely to provide a holistic picture of the process and outcomes. It is commonplace that theories that do exist are either a) poorly described, or b) do not exist at all. For instance, “How do Clinical Masters Students develop a process for health interventions?” or “How do elderly patients prepare themselves for death and dying?” These questions do not lend themselves to quantitative research as one needs an in-depth understanding of their rationale.

In qualitative research, phenomenology gives rich descriptions and ethnography much cultural understanding of phenomena while thematic analysis provides themes which are underpinned by theoretical foundations of the research. In these methodologies the research question and theoretical underpinnings are always known before research takes place. However, in GT, the researcher is often not entirely sure what the core study area is until much data has been collected and analysed. After the analysis is complete, a core category will emerge and other concepts should be related to it. This can be quite difficult particularly when writing research proposals for ethical consent, or funding, as many reviewers want to ‘know’ what the actual research questions and/or hypotheses are. It is thus up to the researcher(s) to properly motivate GT research by using appropriate examples.

AN OVERVIEW OF THE GROUNDED THEORY PROCESS
There are several basic processes which occur in the research design in most GT research. They are a) framing the question (what needs to be asked); b) theoretical sampling (reading and re-reading data until no more categories emerge); c) data transcription (ensuring all categories that arise out of the data are properly noted); d) boxing and naming data (data is put into ‘boxes’ and each box is named; e) development of concepts (concepts are developed out of the boxed data); f) memoing (writing down thoughts so that emergent concepts are generated); and g) developing
theories (the growth of the theory is explained). Over and above the aforementioned, there are several unique elements inherent to GT (Glaser & Strauss (1967):
  
  - data analysis and collection should take place concurrently;
  - the collected data generates codes and categories not hypotheses;
  - as the data is analysed, concepts emerge which help us recognise and understand human experience and behaviour;
  - this enables us to build theory;
  - which, in turn, helps us to understand which literature to review (takes place after the analysis); and
  - to engage in continuous reflection (reflexivity) about all aspects of the research.

The fundamental premise behind GT is that it is used to understand meaning intrinsic to human behaviour in terms of emerging interactions with different phenomena. When analysing transcripts or different types of texts (for instance, films), data immersion requires stakeholders to become sensitive to subjective experience which emerges naturally out of individual understanding(s), or appreciations of a particular behaviour, contextualised in a specific social context. In a co-collaborative endeavour, which is integral to GT, it is always necessary to ask, “what is happening?”. Charmaz (2015) suggests that different levels (multiple layers) of meaning are found through this process. It is, we contend, at every step of the process, very important to ask the following questions, as any analysis or interpretation takes place within a specific paradigm and social context, in terms of how an individual (and communities) interpret that setting:

  - What do I understand about my behaviour and how do I explain it in this context?
  - What understandings can I generate about others’ behaviours in this context?
  - What meanings and understandings do myself and other stakeholders find implicit in this context?
  - Why do I engage in those behaviours?
  - Why do I understand others to behave in the manner that they do in this context?
  - Do I think the way I behave affects the behaviours of others in this context?
  - Do I think the way others behave in this context affects my behaviour?
• Do we (co-collaboration) think our collective behaviours have affected the context of the situation?
• How do I feel these behaviours affect me?
• How do I understand these behaviours to affect others?
• How do we (co-collaboration) understand these behaviours to impact on the context?

When co-collaborating (for instance, in an interview) and making meanings from, or coming to an understanding of, the data, observation is a GT tool. For instance, naturalistic observation is where people are observed in their own setting and the researcher(s) blend into that setting and sit unobtrusively recording observations and/or taking field notes. These descriptions, which should include a description of the researcher(s) own behaviour(s), should also be corroborated through the descriptions generated by other stakeholders. The researcher(s) then individually, and in co-collaboration with the stakeholders, try to understand assumed meanings and explore these presumed meanings and/or intentions together. All stakeholders should then reflect on their behaviours together and try and associate meanings inherent to their behaviour(s) and/or if any behaviour seems to have changed because of the observation. If observation takes place over a period of time, and on multiple occasions, any changes in so-called natural behaviour will be diminished as the observer(s) blend in, and become part of the context. Nevertheless, it must be noted that any intervention changes a context so nothing is quite the same as before. This must always be reflected on. For instance, did all stakeholders (participants and researchers as co-collaborators) gain more insight into the situation?

DATA ANALYSIS
It must be remembered that in GT, the process of data analysis, while using a particular set of processes, is fundamentally an inductive one which relies on the experience, knowledge and sensitivity of the researcher(s). It is also true that depending on their experiences and/or understandings of the GT process, analysis may be carried out in slightly different ways (it is not in the scope of this chapter to elaborate on this statement but hopefully it will motivate the reader to engage further with GT, for an example, see Greaves (2001)).
Coding
Coding is the most fundamental process of GT and encompasses the method of naming or labelling objects, categories, and properties that emerge out of reading and re-reading the data. During the coding process, the different types of coding are unlikely to take place in strict chronological order and are likely to overlap. This is because the collection of data and the coding process are concurrent as researcher(s) are always gaining new insights which continue until saturation (of data) is reached and an in-depth understanding of the phenomena emerges. This is referred to as the constant comparative method.

The researcher and/or co-collaborators engage with the data and generate codes that arise from this data. This is not easy and takes practice as it is difficult for researcher(s) and stakeholders to put aside (or bracket) their own implicit assumptions and biases. When co-collaborating it is always ‘easy’ to see others biases which assists in coming to a broader, more holistic unbiased approach that is inherent to the generation of new theory. In this regard, Corbin and Strauss (2008) discuss sensitising concepts. Fundamentally, this is where researcher(s) should discuss and write down any theoretical concepts that might influence and, in some cases, guide the study (Peters, 2014).

Substantive coding
According to Holton (2010), this is the conceptualisation (drawing together the data) which results in discovering key indicators from which concepts and categories are drawn and ultimately from which the theory emerges. It begins with open coding of data and the development of a core category (to saturation) and defines data collection in preparation for selective coding. The researcher(s) work with the data by breaking it up and using open coding, until a core-category emerges.

Open coding
In this stage of coding, a grounded theorist is required to construct initial categories of information about the studied subject by segmenting the collected data (Creswell, 2014). To do this, the researcher needs to identify the important words or phrases and label them by using a simple term. Later, all collected data are classified into the corresponding categories. According to Birks and Mills (2011), a grounded theorist
might code the data in multiple possible ways and use memos to construct an emergent concept or theory during data analysis. Thus, open coding is the initial stage of forming emergent theory or conceptualisation.

**Axial coding**
At this point, the codes from the open coding process are reviewed to help categorise key element(s) in the dataset. This helps researchers to clarify the context and to define and develop areas of importance in the mass of data. Fundamentally, the researcher tries to generate groups (from the open coding) that relate to each other. In this coding stage, hypothetical relationships between the major categories and their sub-categories are built.

**Selective coding**
According to Creswell (2014), during selective coding, a grounded theorist generates theory by interpreting the inter-relationships that emerge among categories formed in axial coding. Birks and Mills (2011) contend that selecting coding retains only variables relevant to the core variables in order to yield an explicit theory. The resultant story line enables a grounded theorist to investigate how certain factors affect the studied phenomena and how certain strategies lead to certain outcomes (Creswell, 2014).

**STRENGTHS AND WEAKNESSES OF GROUNDED THEORY**
The strengths and weaknesses of GT are well documented (see Allan, 2003; De Vos et al., 2012; Neuman, 1997). Strengths include:

- a good method of understanding unique phenomena and building innovative theories;
- new theories that emerge are of good quality owing to the rigorous, systematic process of GT;
- data analysis and collection is collaborative so is looked at through different lenses and is continuous and results in ongoing reflexivity before results are presented; and
- the developing theory results in the formation of hypotheses/models/research questions for future research.
Weaknesses include:

- the nature of the research results in the collection of much data which takes time to process properly as it needs to be re-read, reflected on and verified (by researcher(s) and co-collaborators (participants)) every step of the way;
- there is much ‘noise’ in the data which means it is difficult at first to categorise it properly and decide when each category has reached saturation; and
- it is a process which needs patience on the part of the researcher(s) as it is often difficult to ‘divorce’ pre-existing notions and judgements from the process and so using other researchers as sounding boards as well as transcript verification (do the participants understand/agree with what is written down) helps.

The last point is extremely difficult to navigate, particularly for the novice researcher, as there is much debate about how the method has evolved. According to Bluff (2005), it is up to each researcher to present a clear justification for using GT and then to meticulously develop the process. Most researchers use GT as a standalone method (Bryant & Charmaz, 2007) however, Collier and Elman (2008) discuss different approaches to co-ordinating alternative methodologies. The reader is encouraged to read further as this will not be discussed in this chapter.

We understand GT as flexible, although it must always be used in a logical and systematic manner to ensure the integrity of the research. The use of terminology may differ, from one research intervention to another, depending on the approach (for instance, Glaser or Charmaz). It is a method, which unlike most, merges the process of data collection and analysis. It also encourages the researcher to continuously review and engage in reflexivity (which means they must think about their part in the research and any notions, thoughts or biases they have) at each stage of the research, and if necessary change the research focus or direction.

**TRUSTWORTHINESS IN GROUNDED THEORY RESEARCH**

In quantitative research we discuss reliability and validity however, in qualitative research and GT we talk of trustworthiness. We discuss the elements of trustworthiness as outlined by Morrow (2005).
**Credibility**
This is recognised through lengthy reviewing and re-reviewing of data and different sources of data (for instance, interviews with participants and use of their words as well as memos written by the researcher); constant comparisons of the transcripts of data; the coded concepts and categories; and participant checks (respondents’ validations of the data).

**Transferability**
This is similar to external validity in quantitative research and is augmented in GT by giving a clear and concise description of participants’ perspectives and a coherent interpretation of results. The methodological process and the relationship between researchers and participants must also be accurately described.

**Dependability**
This is related to reliability in quantitative research. In GT, researchers and co-collaborators verify (or review) procedures and the outcomes of the research process to ensure that they are representative of the phenomena under scrutiny.

**Confirmability**
In GT this refers to the objectivity of the research which can be seen by an independent review (or audit) of the methodology and processes that were used by researchers.

**CASE STUDY: COMMUNITY AND HEALTH PSYCHOLOGY PROJECT ON REPRODUCTIVE HEALTH - “DENIAL IS DEADLY – BE SEXUALLY RESPONSIBLE”**
Reproductive health is the cornerstone to the health and well-being of any country. It is a broad perspective which includes reproductive rights, positive sexual practices, health education and appropriate health care services which should be available to rural, peri-urban and urban communities. An intervention, at an emerging university, took place as senior-students felt that many undergraduates had not been exposed to issues related to reproductive health. The university is situated in a peri-urban area and its student body is entirely African. Most of the students are from rural, working class backgrounds. The university has a small, but vibrant, international component, mostly from other African countries. In this investigation only students and staff who passed the stall (at a central
position in the university grounds) participated. The sample was thus purposive in nature. The researchers consisted of seven clinical psychology students and two lecturing staff. Overall, the total number of participants who approached the stall was five hundred and thirty-three (533), of which two hundred and three (38%) were males and three hundred and thirty three (62%) were female.

Before the intervention took place it was decided that GT would be used as an appropriate tool and learning process for the group of novice researchers. Observation, as a tool in and of itself, was not inclusive enough and other research methods were considered to be too inflexible to generate results. The slogan of the intervention was decided on, after much reflection namely, ‘Denial is Deadly – be Sexually Responsible’. Fundamentally, it was ‘catchy’ and expected to invite the interest of students at the university. Reflection on the words in the slogan was undertaken as they could be looked at as inherently biased themselves. However, the need to motivate the curiosity of students was seen as extremely important thus it was felt that a ‘trendy catchphrase’ was needed. Posters and fliers were also designed in this manner in order to invite curiosity (see Figure 1).

![Figure 1. Poster advertising community and health project](image)

**A Grounded Theory intervention at an African university**

The overall research question was ‘What do African students understand by sexual responsibility?’. It was considered that there were no adequate explanations for this question in current academic discourse or theory. The research began by operationalising the theoretical concepts used for data collection; in this case sexual responsibility was defined as: ‘personal motives for sexual behaviour and their actions
based on different beliefs and meanings’. The research concept and questions were developed over several months and the actual intervention was carried out in one day. Research questions which emerged out of the overall question were open in nature and linked to the social processes contributing to the investigation:

- What were the experiences of contributing to the community health reproductive stall from the perspectives of the researchers and participants?
- How did these experiences differ (between researchers and participants)?

Van Zyl et al. (2015) note that at the start of the intervention the researchers actively participated in constructing their data with their study participants (co-collaboration). In this respect, interview guides, with open-ended questions, which flowed in a logical manner, were used in data collection. As far as possible, the researchers tried to steer participants away from giving ‘stock’ or ‘desirable’ answers by engaging with them as peers and not as ‘authority’ figures. Questions such as: ‘How do you think you are sexually responsible?’ were asked of the participants. Answers were probed so that researchers could gain an understanding of what participants meant. Conversations were thus different with each participant who discussed their personal motivations and beliefs about sexual responsibility.

**Data transcription**

Data were transcribed from audio-recorders and field notes made by the researchers. This was carried out after the intervention. The transcribed data included both verbal and non-verbal information (observed and recorded in field notes). It is very difficult to remove or avoid including researcher’s ideas about a given phenomenon and thus sensitising concepts (Corbin & Strauss, 2008) were formulated. Fundamentally, this is when researcher(s) discuss and write down any theoretical concepts that they think might influence the study. In this instance sensitising concepts were noted to be ‘Westernised ideas of sexually responsibility’ and ‘notions of sexual identity’. These were considered, and reflected on, during the research process and the development of the substantive theoretical model.

**Practical examples of coding in the case study**

Co-collaboration between researchers and participants took place and thus researchers repeated their understandings of the participants’ responses to ensure that they were
valid. Observations of non-verbal behaviour were recorded and open-coding was used to categorise them. Unanticipated evidence found in the data was tracked (by probing and asking pertinent questions) particularly if stakeholders noted it as being important. Critical information was only accessible when co-collaborators reflected on the rich, in-depth data which included, “thoughts, feelings, intentions and actions as well as context and structure” Charmaz, 2015, p. 61).

Different items were displayed on the stall, for instance, female condoms, male condoms, dildos, a model of female genitalia and informative pamphlets to engage students. Researchers continuously asked themselves, ‘what is happening now?’ Two researchers manned the stall at any given period and others observed and wrote memos (field notes) of the activity. This was rotated after a period of approximately 45 minutes. The intervention was flexible and when, for instance, lecturing staff came to observe the interactions they were also invited to ‘watch’ demonstrations and/or participate in the intervention by narrating stories or knowledge relating to the topic. This enabled much interaction and collaboration and participants were seen as eagerly contributing to discussions and engaging in demonstrations (for instance, inserting female condoms into the model of female genitalia) (see Figure 2). Researchers also constantly reflected on their own behaviours in terms of setting up the stall and deciding on which materials to display, and they recorded the observed behaviours of all of the participants who attended the stall. As the data was collected it was coded which meant that researchers were continually comparing the data with other data that they had collected in each observational situation.

Figure 2. Discussing wearing male and female condoms
For instance, in one interview a female participant said,

   It is very challenging for us [females] to be sexually responsible. Our culture makes us believe that the man must take the lead in, you know, it [sex].

This was initially coded as *men take the lead in sex*. Further interviews with participants elicited responses such as, “as a man it is my duty to take the lead in these matters” and “I don’t like to tell my boyfriend to wear a condom, as an African man he would not like it”. This eventually led to the code *manliness*.

Another example of coding is when one participant stated that “I don’t want to use condoms because I am not connected to my partner; there is something between us”. At the time, the researcher wrote a memo stating *connections and feelings between partners not good*. The initial coding for this was *poor connection* but later, after reading several different responses related to this code such as, “those things [condoms] keep me away from my girl” and “no, man – they stop me feeling properly,” the code became *passion killer*. The pun (or double meaning) was intentional (as passion was deflated by condom use and sexually transmitted infections STIs, if untreated can kill). Researchers constantly compared their experiences (reflexivity). This meant that each event (situation) was labelled and compared to other situations (or events) that they had coded. This also helped develop the questions that were asked of participants (see Table 1).

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<tr>
<th><strong>Table 1</strong>. Development of questions in the process of continuous coding</th>
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<tr>
<td><strong>Initial question and response</strong></td>
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<td>“What did you experience when you approached this stall?”</td>
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<tr>
<td>Example of responses:</td>
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<tr>
<td>• “Curious and uncertain because of the ‘things’ [dildos and fake female genitalia]”</td>
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<tr>
<td>• “Embarrassment as not used to talking about such things”</td>
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During the course of the research, each code was linked to others and categories or concepts were developed. In this regard, the writing of memos, as noted previously, helped the researchers make associations to other codes. This process helped them, in terms of theoretical sampling which underpins the formulation of developing theory. The ongoing analysis assisted researchers to recognise gaps in the data that was being collected by using the initial questions. By probing responses, they were then able to develop new questions in order to clarify meaning with participants. It was found for instance, that the word ‘experience’ was not well understood in the context by many participants. This is easily explained as in psychology we use the word ‘experience’ often in order to ask people to clarify their feelings however, in other disciplines this is not the case. Groups of participants were then taken to different positions (away from the stall), and sat on the grass or benches, and interpretations and uncertainties were clarified through co-collaboration. This was carried out in order to develop and build emerging theories. After the stall had been running for some time and we had collaborated (at different times) during breaks, it was apparent that saturation of data (in terms of participants’ responses) had been reached.

The intervention ended and the researchers gathered in the psychology department to transcribe data and continue coding. The open coding process continued and codes were reviewed so that key points in the data could be developed. Axial coding took place which meant links between different categories were found. An example of this is that when researchers read and re-read the codes *manliness and passion killer* it became apparent that responses were situated within a rural African context. This resulted in the development of an overarching category which was named *cultural sexual identity*. This
category was reflected on by researchers in terms of the sensitising concepts namely, ‘Westernised ideas of sexual responsibility’ and ‘notions of sexual identity’ to ensure impartiality in the concept category, as far as possible. The category was then further expanded, by using selective coding, which required continuously comparing relationships and developing them until they were theoretically saturated. In this case, cultural sexual identity was related to the patriarchal paradigm in which the research was contextualised which was conceptualised as African notions of sexuality. These are a few examples developed out of a validation and understanding of the data in this intervention.

**Ethical issues**

As indicated earlier in the chapter, a grounded theorist plays an active role in seeking explicit theory from a substantive phenomenon. The relationship and intimacy that is established between the researchers and participants in GT research can raise a range of ethical concerns, and researchers face dilemmas such as disclosure concerning the study, self-determination, privacy, anonymity, confidentiality, fair treatment, and protection from discomfort and harm (de Vos et al., 2011). There is a general consensus in national research policies and institutions regarding the ethical guidelines governing research (Creswell, 2014). Institutional review boards or research ethics committees are mandated to evaluate the ethical base of a study before the actual research is conducted and sometimes during the research process. With regard to the case study cited earlier on reproductive health, ethical approval for the study was obtained from the members of the Department of Psychology Research Committee at the University of Limpopo. Informed consent in GT research has been of interest to many researchers (see Carey, 2010; Corbin & Straus, 2008; Hedgecoe, 2008; Sanjari & Mohammad, 2014) in various disciplines. It is based on the principle of autonomy (Corbin & Straus, 2008) and the negotiation of trust between the researcher and the participants. Informed consent is an explicit agreement by the research participants to participate in the research process. It is a problematic concept in GT research, since participants cannot be fully informed at the very beginning of the research process owing to the flexible nature of the study. In the study on reproductive health, the researchers were advised to evaluate any possible risks and benefits to all of the prospective participants. All participants were given a copy of the informed consent document and it was explained that there were no known risks or benefits in participating in the study. The researchers adopted a flexible
approach during the interviews and engaged in holistic listening of the participants’ experiences on reproductive health. Participants were also informed that if they experienced discomfort or stress during the interview process they could be referred to a psychologist at the Student Counselling Centre for debriefing and counselling.

Confidentiality and anonymity are related but distinct concepts (Creswell, 2014). Maintaining confidentiality can be challenging in GT research due to the detailed descriptions used to illustrate and report the findings. It is essential that robust methods to ensure confidentiality are incorporated into the design of the study. One such method is the use of member checking. Typically, member checking (as noted earlier) is used to enhance the rigour of a study (Carey, 2010). Pseudonyms or initials should also be used in transcripts and, where possible, other identifying details should be altered as was adopted in the study on reproductive health.

The above-mentioned concerns were the central ethical and methodological questions raised in conducting GT research on issues of reproductive health amongst students at an emerging university. The basis of ethically sound research thus lies in the relationship between the researcher and participants. However, it is also obvious that the content, the process, the methods used and the ethics of the study cannot be divorced from each another. This means that researchers have to have a sound and reasonable plan for conducting their research. They have to be alert to emergent difficulties and problems concerning the participants and themselves throughout the process.

**Substantive model**

Overall, in this research, the emergent theory from GT resulted in the development of a substantive model which has a functional application. This model can be refined further through ongoing research in order to map substantive or functional theory (one that is transferable as opposed to a theory that is generalisable) which is underpinned by the research questions. It is currently conceptualised as a model of inter-related ideas, with continuing interventions in reproductive health at the university. The authors would like to note that although models are generally associated with quantitative research (for instance, regression analysis) it is now commonplace to find models in qualitative research. It is our opinion that qualitative paradigms cannot be governed by outdated notions of scientific discourse (Denzin, 2009).
Action strategies identified by the process were:

1. More interventions such as the stall or university driven campaigns should be engaged in as reproductive health has far reaching social and economic factors, both at management and departmental levels (co-collaboration of different faculties and departments is advised). In terms of this action strategy, the reproductive health project will be continued for three years.

2. Other events such as poetry, drama and debate competitions focusing on the topic should be held on campus. In this regard an event was planned and will be co-ordinated by senior students (Masters and Honours level) as part of the reproductive health intervention.

In summary, we regard the use of GT in this research process as transformative as it was part of a community and health psychology project. In many ways, the intervention changed the manner in which the module was taught. It made theory in research come to life as both exciting and offering a practical example of how a study can generate a collaborative model which can be used in a community setting (in this case a university community). Lecturers as stakeholders in the research found new insights into how capable students (researchers as participants and participants as researchers) are of generating new meanings. We hope the application of GT in this research will generate updates to the model and new insights through the cyclical process of the ongoing investigation (see Figure 3).

![Figure 3](image-url)

**Figure 3.** Process and substantive theoretical model of a reproductive health intervention (Nel & Govender, 2016)

CONCLUSION
This chapter has presented a general overview of the multifaceted aspects of GT. GT is especially helpful in generating explanations or refining contemporary theories for complex phenomena in social life, as well as being applicable to practical problems in which established theories do not exist or are not all-inclusive. GT is thus an innovative, transformative and powerful tool which can help explain social processes.

**Citation:** The authors would like to thank the M1 Clinical Masters Class of 2015, particularly Mr Jaco van Zyl, for their contributions to the community and health project using Grounded Theory.

**REFERENCES**


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Sanjari, M., & Mohammad, A.C. (2014). Ethical challenges of researchers in qualitative studies: the necessity to develop a specific guideline. *Journal of Medical Ethics and History of Medicine, 7*, 7-14.
**Glossary of general terms used in Grounded Theory**

This is not an exhaustive list and many more terms can be added

<table>
<thead>
<tr>
<th><strong>Action/interaction</strong></th>
<th>Approaches that are designed to organise and manage responses to specific phenomena in a particular context</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Axial coding</strong></td>
<td>Codes are linked as you recognise similarities or connections between them</td>
</tr>
<tr>
<td><strong>Category</strong></td>
<td>This is a taxonomy or classification of various concepts – a grouping of concepts makes a category</td>
</tr>
<tr>
<td><strong>Causal conditions</strong></td>
<td>Any occurrence which leads to the development of a specific phenomenon</td>
</tr>
<tr>
<td><strong>Coding</strong></td>
<td>This is the process of analysing data</td>
</tr>
<tr>
<td><strong>Co-collaboration</strong></td>
<td>Sometimes called interaction; the things that people do together with associated behaviours and actions</td>
</tr>
<tr>
<td><strong>Concepts</strong></td>
<td>These are labels which are specific to a particular happening</td>
</tr>
<tr>
<td><strong>Context</strong></td>
<td>A context represents a particular set of conditions or situations within which the action (research) takes place</td>
</tr>
<tr>
<td><strong>Core category</strong></td>
<td>The key phenomena around which other categories are integrated</td>
</tr>
<tr>
<td><strong>Discriminate sampling</strong></td>
<td>Used when selective coding to get the most out of opportunities for authenticating the narrative or story and the relationships between under-developed categories</td>
</tr>
<tr>
<td><strong>Diagrams</strong></td>
<td>What researchers draw as a visual representation of associations between concepts or to help sort out thought processes at any point in the research process</td>
</tr>
<tr>
<td><strong>Memos</strong></td>
<td>A written record undertaken at any point in the research process particularly associated with analysis linked to theoretical formulations. Also used to remind yourself of any questions that you need to ask (of the data) and the way the data seems to be directing you</td>
</tr>
<tr>
<td><strong>Open-coding</strong></td>
<td>The steps used when researchers examine and compare data and further conceptualise and categorise data</td>
</tr>
<tr>
<td><strong>Open-sampling</strong></td>
<td>Open sampling can be purposive or systematic and can occur naturally</td>
</tr>
<tr>
<td>-------------------</td>
<td>------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Selective coding</strong></td>
<td>A key characteristic or variable in the data which you code</td>
</tr>
<tr>
<td><strong>Narrative</strong></td>
<td>Narrative or story you can use interchangeably which describes the key phenomena in the research</td>
</tr>
<tr>
<td><strong>Substantive theoretical model</strong></td>
<td>A practical or functional model derived from the use of Grounded Theory</td>
</tr>
<tr>
<td><strong>Theoretical sampling</strong></td>
<td>Based on concepts which are theoretically relevant to the emerging/developing theory</td>
</tr>
</tbody>
</table>