

Framework Analysis: A Worked Example of a Study Exploring Young People's Experiences of Depression

Abstract

Framework analysis is an approach to qualitative research which is being increasingly used across multiple disciplines, including psychology, social policy and nursing research. The stages of framework analysis have been described in published work, but the literature is lacking in articles describing how to conduct it in practice, particularly in the field of psychology, where researchers may be working as part of a team. Having used framework analysis on a study exploring adolescents' experiences of depression, we faced various challenges along the way and learned from experience how to use this approach to qualitative analysis. In this reflective article, we describe a worked example of using framework, which we hope will assist other researchers in deciding if this approach is suitable for their own research, and will provide guidance on how one might go about conducting framework analysis when working as part of a research team. We conclude that framework is a valuable contribution to qualitative methods in psychology, offering a pragmatic, flexible and rigorous approach to data analysis.

Keywords

data management; depression; framework analysis; lived experience; qualitative

Deciding which qualitative approach to use can be a daunting task, not least because there is a wide array of approaches and it is not always easy to tease out the differences and similarities between them. Indeed, they have been described as a “fuzzy set” (Madill & Gough 2008), often similar in terms of data management and organization but underpinned by quite different epistemological traditions. Once the decision is made as to which approach to adopt, researchers have to glean how to put it into practice from generic how-to-do guidelines or published work where the focus is on empirical findings.

This article describes the use of one approach to qualitative data, framework analysis (Ritchie & Spencer, 1994). The aim is to provide a detailed worked example in the field of psychology, from first deciding whether to use it, through to analyzing and writing up a study. In particular, we focus on using framework analysis as a team, who had varying levels of experience of qualitative data analysis, but all using framework analysis for the first time. We include a discussion of various questions and issues that arose for us regarding the use of framework analysis. By describing our experience and reflections on using framework analysis, we hope this article will help other qualitative researchers, particularly those working as a team in conducting qualitative data analysis in the field of psychology, and who are considering using this approach, to decide whether it is the right approach for them, and (if it is) to learn from our experience to inform their own use of framework analysis.

Framework Analysis

Framework analysis was developed in the 1980s by applied qualitative researchers working in an independent social research institute for Social and Community Planning (SCPR; Ritchie & Spencer, 1994). It is being increasingly used within the social and health sciences, and more recently in psychology, showing its potential as an analytic approach with multidisciplinary significance. It has been used to investigate how parents manage children’s

long-term kidney conditions (Swallow, Lambert, Santacroce, & MacFadyen, 2011), nurses' experiences of end of life decisions (McMillen 2008), the impact of a schizophrenia diagnosis on spiritual life (Yang et al. 2012) and migrant parents' perspectives of early education in Australia (Patel & Agbenyega 2013). In addition, a small number of articles provide guidance on how to conduct framework analysis in the fields of healthcare (Gale et al. 2013; Smith & Firth 2011), nursing (Furber 2010; Swallow et al. 2003), and policy research (Ritchie & Spencer 1994; Srivastava & Thomson 2009). No such articles have provided guidance on using framework specifically in the field of qualitative psychology; and none of the articles specifically address the issue of how framework analysis fits with a model of working together as a research team.

From our experience, using framework in psychology presented distinct challenges and differences; compared with the fields that framework has traditionally been used in, across policy, healthcare and nursing research. More specifically, our study had an experiential focus, and was carried out by a team with varying levels of knowledge and experience of qualitative research. We hope that this article contributes to an evolving set of guidelines, to demonstrate how framework analysis can be applied to the field of psychology, with the aim of helping others to understand the process of using framework, particularly when working as a team in the field of psychology or in research with an experiential focus.

The context: The IMPACT-My Experience (IMPACT-ME) Study

The IMPACT-ME study (Midgley et al. 2014) is a qualitative, longitudinal study which examines adolescent depression from the perspective of the young people, parents and therapists who are taking part in a randomised clinical trial evaluating the effectiveness of a range of psychological therapies (Goodyer et al., 2011). The IMPACT-ME study involves

data collection at three time points using semi-structured interviews: baseline (prior to therapy), post-therapy (36 weeks) and a final interview at 86 weeks.

Given the unusually large size of the study, compared to many qualitative research projects, the IMPACT-ME team consisted of six researchers. The principal investigators were both experienced psychotherapy researchers, one of whom (NM) was primarily a qualitative researcher, and one of whom (MT) had mostly conducted quantitative research. The rest of the team included an expert in qualitative data analysis (VE), two postgraduate research assistants (SP and JH) and a PhD student (ES), none of whom had a great deal of knowledge or experience of qualitative research. As none of the research team had previously made use of this particular approach, one member of the team (SP) attended the NatCen training courses in framework analysis (NatCen 2012a; NatCen 2012b), which were valuable in developing our understanding of the process; in particular in clarifying the emphasis on data management in framework analysis and seeing how a qualitative software package, NVivo (Bazeley & Jackson 2013), could facilitate this process.

In this article, we draw on data from the IMPACT-ME study, which we used to examine the experience of depression among adolescents, which has been published elsewhere (Midgley et al. 2015). The study was based on interviews with 77 young people (aged 11-17) who had been referred to a child and adolescent mental health service (CAMHS), and had been diagnosed with moderate to severe depression. The study made use of baseline interviews, which took place before the young people started therapy. Interviews were audio-recorded and transcribed verbatim.

The study was approved by Cambridgeshire 2 Research Ethics Committee, Addenbrookes Hospital Cambridge, UK (REC Ref: 09/H0308/137). Informed written consent was obtained from participants and for those under 16 years old, parental consent was also

sought. In order to protect confidentiality, identifiable details are excluded or disguised, and participants were assigned a pseudonym.

Why Choose Framework Analysis Over Other Qualitative Approaches?

In the early stages of developing the project, the decision about what kind of qualitative approach to take was led by the two members of the research team with the most extensive knowledge of qualitative research (NM and VE), although a period of time was allowed to explore and discuss different possibilities, keeping in mind three key issues: the research question we were trying to address; the nature of the data we were working with; and the pragmatics of working together as a team to conduct the study.

With regard to our aims, the baseline interviews aimed to elicit the perspectives of the young people; the ‘story’ of their depression including their thoughts, emotions and feelings. We wanted to get an understanding of the experience of clinical depression for young people, without being constrained by diagnostic categories, such as those outlined in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5; American Psychiatric Association, 2013). These concerns suggested using a method with an explicit focus on experience. For example, an approach such as Interpretative Phenomenological Analysis (IPA; Smith, Flowers, & Larkin, 2009) which is used extensively in health and clinical psychology within the UK, seemed worth considering. IPA aims to understand peoples’ experience of a particular phenomenon (e.g. “what is it like to experience depression?”) and how they make sense and ascribe meaning to the experience. Similarly, various forms of narrative analysis (Crossley, 2000; Ussher & Mooney-Somers, 2000) would have been in line with our stance of viewing the young people as telling their story rather than simply responding to our questions. To a lesser extent, grounded theory (Glaser & Strauss 1967) was a potential candidate, because of its concern with uncovering social processes, although this

limits its applicability to more experiential research questions, such as our one concerning the lived experience of adolescent depression (Willig, 2001). We can read data differently, depending on our epistemological orientation and what it is we want to understand. Based on discussions within the team, it was agreed that our concern was experiential; we were interested in what it is like to experience depression from the perspective of the young person, how they understand it and the personal meanings and significance it has for them, rather than the specific times and situations that they experienced it. This does not mean that context would be neglected, but that our focus was experiential.

In coming to a decision about what approach to use, we were also informed by the kind of data with which we were working, as in this case the interviews had already been carried out as part of the larger IMPACT-ME study, before we began to specifically examine the experience of adolescent depression. Given the large and somewhat unwieldy nature of our data set (77 interviews), we knew that we needed an approach that would balance depth with breadth. For instance, IPA's idiographic commitment (i.e. the focus on each individual's unique experience), which is a core feature of the approach, might be suitable for a subset of the data (possibly 6 to 8 interviews) but not for a dataset of 77 interviews. Similarly, its requirement for a homogenous sample (i.e. one that all share certain key characteristics) did not fit well with our large sample size, which was quite varied in age (from 11 to 17) and presentation (Smith et al., 2009). In contrast, framework analysis is not bound by a particular epistemological position, giving it freedom and flexibility which aims to obtain a 'best fit' with the specific aims of a particular piece of research (Ritchie & Spencer 1994). In this respect, it is similar to thematic analysis, which claims to be "essentially independent of theory and epistemology" (Braun & Clarke, 2006, p.6), and provides a somewhat pragmatic approach.

For the IMPACT-ME study, framework analysis was considered to be a better choice than thematic analysis, because it emphasizes how both a priori issues and emergent data driven themes should guide the development of the analytic framework. This was something that fitted the aims of our study, in so far as we had certain pre-defined areas we wished to explore, but also wanted to remain open to discovering the unexpected. (How to achieve this in practice is discussed in more detail below). We were also persuaded by the fact that framework analysis was designed to help manage relatively large qualitative data sets, and that the NVivo qualitative data software program is compatible with framework analysis (see below), which was important when thinking about how we would work together as a team.

The narrative that we have provided may make this sound like a relatively linear process, of weighing up different options and reaching a logical conclusion that framework analysis suited our needs. In practice, the process was messier than that, and involved quite a lot of back and forth between different ideas. Although the whole research team was involved in the discussions and decisions, it was the two more experienced qualitative researchers who led this process, and the principal investigator who ultimately made a decision on what approach the team would use. But the process acted as a form of education for the wider team, helping us to consider the strengths and weaknesses of different approaches, and helping us to reach a clearer consensus on our aims and the epistemological position that we wished to take, which was broadly a critical realist one (Guba & Lincoln 1994).

What Types of Research Questions are Suitable for Framework Analysis?

Ritchie & Spencer (1994) outline four types of research questions that they believe framework analysis can helpfully address:

- i. Contextual: identifying the form and nature of what exists (e.g. exploring the experience of pregnant women suffering from psychological distress; Furber, Garrod, Maloney, Lovell, & McGowan, 2009).
- ii. Diagnostic: examining the reasons for, or causes of, what exists (e.g. exploring the barriers to seeking help in young women with eating disorders; Evans et al., 2011).
- iii. Evaluative: appraising the effectiveness of what exists (e.g. evaluating the helpful factors of group interventions for anxiety and depression, and what improvements can be made; Newbold et al. 2013).
- iv. Strategic: identifying new theories, policies, plans or actions (e.g. identifying the requirements for implementing pediatric care closer to home; Heath et al. 2012).

Our research is within the field of psychology, rather than applied policy research, but we found this typology of research questions helpful. We felt that our question (“what are young people’s experiences of depression?”), fitted both within the ‘contextual’ and ‘diagnostic’ categories – in so far as we were interested in finding out about the nature of young people’s experience of depression (contextual), but also how these young people made sense of why they had become depressed (diagnostic). We also had in mind that at later stages in our project we will draw on other elements of our large ‘data corpus’ (Braun & Clarke 2006), including interviews conducted after a psychological intervention, with both young people and therapists, to address a series of other research questions, some of which will be more evaluative research questions (e.g. “why does therapy work for some young people?”) or more strategic questions (e.g. “how can psychological therapies be more effective for young people?”). As framework analysis is an approach that can be used for these different types of research questions, we were attracted by its flexibility, and felt that the relevance of the approach was by no means limited to applied policy research. The

possibility of using the same approach in the later stages of the IMPACT-ME study, to address a range of somewhat different research questions, was one of the features that attracted us to adopting this approach.

Is it Helpful to use Computer Assisted Qualitative Data Analysis Software (CAQDAS) to Conduct Framework Analysis?

Qualitative researchers are divided on the usefulness of CAQDAS (Odena 2013) and there are a number of things to be considered when deciding between these and manual methods, such as using word documents and/or spreadsheets. Things to consider include: the theory and methodology guiding the aims of the research; the amount of data to be collected; the depth and complexity of the intended analysis; the cost of purchasing software; and the expertise, preferences and interests of the researchers (Phelps et al. 2007).

In our view, the large amount of data collected for the IMPACT-ME study encouraged us to consider using CAQDAS. One CAQDAS package, NVivo (Bazeley & Jackson 2013), is fully integrated with framework analysis which increased the appeal of framework analysis for us. There are two NVivo software packages available (table 1 outlines the differences between these). We used the stand-alone package, and had an agreed protocol whereby any changes to the project were made on the project ‘master copy’, and copies of the project were regularly merged and the master copy was backed up weekly.

INSERT TABLE 1 ABOUT HERE

Using NVivo proved to be a sensible decision for us, given the size of our research team and the nature of our study. We found NVivo a useful tool for aiding collaboration between members of the team, because it is possible to note and track thoughts and observations throughout the data analysis process. Also, the electronic storage of data makes it portable, which may be particularly useful for researchers collaborating across different

sites or institutions. Using NVivo improves the transparency of the analysis process because it leaves a clear audit trail, so analytic decisions and interpretations can be easily traced back to the raw data. This may be particularly useful for inexperienced researchers and so that external reviewers can see where findings came from. In our study, it meant that a large proportion of the initial data management and coding of the data was done by the less experienced members of our research team; but those with more experience were able to audit the process and contribute to analytic discussions, which could be clearly documented as the process continued.

Conducting a qualitative study as part of a team, our experience led us to feel that the close integration with NVivo was a definite benefit, although there were sometimes issues about the stability of the system, which meant that we had to be extra careful to back-up changes to ensure that they were not lost. However, for those who decide to conduct framework analysis without using NVivo, Swallow et al. (2003) describe how they used Microsoft Excel for framework analysis.

The Process of Carrying out Framework Analysis

There are five stages of framework analysis outlined by Ritchie & Spencer (1994): familiarization; identifying a framework; indexing; charting; and mapping and interpretation. We found this structure helpful, but we also came to appreciate the phrase that the ‘devil is in the detail’, and that working as a team made more sense at some stages than at others. In the following sections, we therefore describe how we used each of these steps in our study, some of the challenges and questions that arose for us, and how we tried to resolve those challenges.

1. Familiarization

The aim of this stage of framework analysis is to 'get to know' the data extensively - from individual interviews to its overall 'feel'. Familiarization is a characteristic of almost all qualitative approaches, often described as a process of 'immersion' (Ritchie & Spencer, 1994, p. 179) whereby researchers work at achieving a holistic sense of what is going on. In practice, this usually involves listening to the interviews, reading transcripts and discussing emerging issues in the data. For framework analysis, it is not necessary to review all the material (Srivastava & Thomson 2009), as this will happen at later stages in the data analytic process. This is clearly an advantage when the data set is large, or in studies where analysis begins before all data collection is complete.

How did we Familiarize With the Data?

In the IMPACT-ME study, interviews had been conducted by a team of research assistants, and we were conducting the analysis as a team, so we wanted to develop a collective familiarity with the data. In weekly team meetings, we listened to an interview recording whilst reading the transcript. The average length of baseline interviews (15-20 minutes) made this possible, but with lengthier interviews it might be necessary to listen individually before meeting as a team, or to read the complete transcript prior to the meeting, and listen to one section of it. We did not have a systematic selection process, but made sure that we heard interviews from younger and older adolescents, and both genders, and listened not only to interviews with the more articulate participants, but also those who struggled to communicate or to describe their experiences. (As this was a sample of depressed adolescents, this was a pronounced feature for some of the young people in our study). Listening to these interviews gave us a sense of what was of concern to our participants, as well as helping us to become aware of the emotional ambience of the interviews: their sniffs, sighs, laughter and tears. Where possible, we invited the person who had conducted the

interview to join the meeting, so that we could also hear from them about their experience of being in the room with the young person who had been interviewed. The interviewer might describe the sense of ‘stepping on eggshells’ that they had as they asked questions, or help us know whether the continual sniffs were of a young person close to tears or suffering from a cold!

After listening to the audio together, we worked through the transcript from the beginning, noting and discussing anything that seemed of potential interest and significance, as well as any impressions, thoughts and ideas we had in light of our research question: what is the experience of young people with depression? For example, in one meeting, we listened to the interview of 'Brian', a 12 year old boy. We were struck by how fragile he sounded, and heard that he had been referred to CAMHS after speaking about wanting to die. Brian had a lot of relational issues: he described how he felt unloved, and being bullied at school and by his family. He spoke of feeling isolated, having troubles at school, and we were struck by the sense of hopelessness in the way he spoke. As two members of our research team were also clinicians, they were able to share their thoughts on how they would think about a boy like this if he had been referred to them; whilst the younger research assistants, who were closer in age to Brian, were able to link what they heard to their own experiences of growing up. All of this helped the research team to really 'live with' the data, whilst also reflecting on how their own position changed how they listened.

In these 'familiarization' meetings, one member of the team was tasked with keeping notes, which were circulated as a Word document to the group after the meeting, so that others could correct or elaborate. (This process could also take place in NVivo). From these initial notes, we developed a set of preliminary codes for different aspects of the participants' experiences, with illustrative extracts from the data for each one (Table 2).

INSERT TABLE 2 ABOUT HERE

This process was repeated across several meetings, and after each one the list of preliminary codes was revised. After listening to ten interviews together, we had a set of 150 preliminary codes relating to young people's experiences of depression, how they made sense of their difficulties and their hopes and expectations for therapy. At this point, the team felt immersed in the young peoples' experiences, and had a sense of some of the important issues that had emerged when they spoke about their experience of depression. We were somewhat uncertain about when to move on to the second stage (developing a framework), and in retrospect would see this as more of a to-and-fro process, in which the familiarization and development of a framework interact with each other. We were also fortunate that we had the time to familiarize ourselves as a team with the data, because we had these meetings alongside our on-going interviews with participants at later time points in the IMPACT-ME project (data which was not part of this particular study), allowing us to develop a shared way of working.

2. Identifying a Framework

The aim of this stage of framework analysis is to organise data in a meaningful and manageable way for subsequent retrieval, exploration and examination during the final mapping and interpretation stage. Ritchie and Spencer (1994) suggest that the process of developing framework categories is informed both by a priori concerns as well as emergent issues arising from the earlier familiarization step. The degree to which each is utilized in the development of framework categories will depend on your study, which is likely to involve trial and error in developing your framework, to identify categories that offer the best fit for your data and research questions (how we achieved this in practice is described below). The advantage of accommodating both a priori and emergent issues is that it focuses the

framework around research questions, but provides flexibility so the framework incorporates our interests as researchers, as well as the issues most pertinent to participants.

The literature often refers to framework categories as ‘thematic categories’ (e.g. Wood, Prout, Kinnersley, Houston, & Butler, 2010), which may mislead researchers into seeing framework categories as analytic themes similar to ones which one might develop when using thematic analysis or other qualitative approaches. For example, Ward et al. describe how they identified themes which were “derived from immersion in the data” from the familiarization stage, and these themes became their “theoretical framework” (Ward, Furber, Tierney, & Swallow, 2013, p.4). We initially attempted to develop our framework in this way, but in retrospect felt that it was not necessarily the best approach, as the following section will illustrate.

Developing the framework: a false start

As described above, we had developed a set of 150 preliminary codes as a team, and attempted to group them together to form our framework categories. This proved difficult. For example, in reviewing our preliminary codes in a team meeting, we started to develop categories, two of which were: “problematic sense of self” and “relationship issues”. Both of these were prominent in the young people’s account of their experiences of depression. We grouped numerous codes together to form the category “problematic sense of self” (this included: “loss of sense of self”, “low self-esteem” and “feeling not worthy of love”). Our “relationship issues” category was formed through grouping relational codes (“aggression from family” and “communication breakdown”), but then we wondered, would our code “feeling not worthy of love” fit in our “problematic sense of self” category or “relationship issues” category? Then we came to our codes relating to “isolation”, “loneliness” and “withdrawal”; and we debated whether these codes were “internalized difficulties” (which we

had developed as another category) or “relationship issues” (in terms of isolating oneself from the world around them). We realized the lines were too blurred between our categories; we needed our categories to be broader, so they could be used with clarity, while fitting with the complexity of the phenomenological data that we were working with.

While this process of trial and error, moving forward and going back, is an inevitable element of most qualitative research, we realized that this way of developing a framework was not possible in our study, due to the fact that our data set was very large, and yet also focused very much on personal experience. We gradually realized that we needed our framework to focus initially on data management, rather than immediately thinking about our data in a more interpretative way. In some respects, we were jumping directly to the later stage of ‘mapping and interpretation’, and had not made a clear enough distinction between this and the stage of developing a framework. (In approaches such as IPA, these two stages would not be so clearly distinguished). From this point onwards, we found it important to keep in mind the distinction between ‘identifying a framework’ (for the purpose of sifting and sorting) and ‘mapping and interpretation’ (for the purpose of making sense and understanding) – so in developing the framework categories, the focus was on managing and organising the dataset, and the interpretation was to come later. In a number of articles published using framework analysis, it seems that this distinction is not always clearly kept in mind, but from our experience it seems important to do so – especially in studies with large data sets which may be difficult to manage. After this false start, we decided to start again, developing our framework around more a priori issues, and we were clear at this stage that our primary focus was on managing our dataset, rather than interpreting the data.

How did we Develop the Framework?

After our false start, we decided to base our framework categories around the key areas of interest in our interview schedule (e.g. ‘the difficulties that brought the young person into CAMHS’; ‘the young person’s understanding of their difficulties’ and ‘their hopes and expectations for therapy’). As we wanted our framework to be open to issues arising from the data and issues which were participant orientated, we piloted this initial framework on one interview in order to refine our a priori categories using the data. Each member of the team individually coded the interview, by hand, annotating the categories that each chunk of text applied to in the transcript. We then had a team meeting to review the process. This gave us the opportunity to raise difficulties, such as when we were unsure where to code a chunk of text. This helped us to refine our a priori framework so that it also provided a good fit with emerging issues in the data. For example, when piloting the framework on interviews, we found that young people spoke at length about family relationships and the impact of their depression on these relationships. This led to us adding a category for ‘Description of young person’s relationships with parent(s) and other family members’, because this felt distinct from our other categories and was clearly an important aspect of these young people’s experiences of depression. This allowed us to manage the complexity of the data whilst retaining openness to the novel or unanticipated.

In the weeks that followed, we had a series of team meetings, where we tested the framework on a different interview each week. We coded each interview individually and in our meetings, we went through the transcript, line by line, to compare how we had applied the categories. Where discrepancies between team members’ coding occurred, this flagged up difficulty in applying our categories which led to tweaking the framework. We refined the framework as we went along, and continued to clarify how each framework category should be used. This helped us to develop a set of guidelines for using each of our framework categories. It is important at this stage to develop a real clarity about these categories,

because at subsequent stages they are used to code the remaining data set. We found that developing a framework requires researchers to move slowly and tentatively, and one should expect the framework to go through several iterations.

The final framework used in our study of young peoples' experiences of depression consists of the following categories:

1.01 Story of young person's referral to CAMHS and/or IMPACT

1.02 Description of young person's character, feelings, behaviors, difficulties and events

1.03 Understanding of young person's difficulties

1.04 Description of young person's relationships with parent(s) and other family members

1.05 Description of parental and family background, feelings and experiences

1.06 Interaction between interviewee and interviewer

This incorporates a priori issues, which were adapted to fit with emerging issues in

Although developing the framework proved time consuming, we cannot stress enough the importance of going through several iterations before settling on a final one. Our experience indicates that the initial identification of a priori issues to guide category development, followed by 'testing' out the categories on a proportion of the data set with the aim of revising them, in light of emergent data-driven issues, is a fruitful process in developing a framework. We also noticed that a shift took place in the way the group was working during this phase of the study. To some degree, the hierarchy 'flattened out', as the research assistants working most intensively on the data became more confident in their approach, and were able to 'educate' the research leads on the need for taking a more top-down approach to the development of the initial framework. Nevertheless, it was important

that the whole team were involved in this process, and that the logic of the framework was tested by being used by a number of different individuals.

Once we had developed a framework which had been piloted on 10 interviews, and each member of the team felt confident in using it, we were then ready to move on to the next stages of framework analysis. We uploaded our interview transcripts and framework categories to NVivo, and began coding the data (which involves the indexing and charting stages outlined by Ritchie & Spencer, 1994).

3. Indexing

According to Ritchie & Spencer (1994), the purpose of indexing is to organize the transcripts into the framework categories (this is the first stage to coding an interview transcript, before ‘charting’ the interview). This involves systematically applying the framework to each interview transcript.

How did we Assign Data to the Framework?

Three members of the team (SP, JH and ES) took responsibility for indexing and charting the data. Figure 1 shows an extract from NVivo, illustrating the list of framework categories at the top, and the transcript text below. The coder works through the transcript text, highlighting a chunk of the text and deciding which category (or categories) from the framework to assign the text to. The highlighted text is ‘dragged and dropped’ into the relevant category in the list above. The coder works through the entire transcript in this way.

INSERT FIGURE 1 ABOUT HERE

After indexing the transcript, NVivo enables you to extract all data coded to a category for a specific participant, group of participants or all participants, facilitating many potential avenues for exploration in the later stages of data analysis. For example, we knew

that data coded to the “Description of young person’s character, feelings, behaviors, difficulties and events” category would capture data of interest to our research question on young people’s experience of depression, so providing a more manageable set of data to analyze.

During the indexing stage, we found ourselves tempted to code text into multiple categories, as we came across chunks of data that did not fit neatly into one category. In some cases, double coding did not make sense, as in our analysis some categories would be looked at alongside each other and therefore there was no need to double code in these categories. For example, we saw the categories “Description of young person’s character, feelings, behaviors, difficulties and events” and “Understanding of young person’s difficulties” as connected so would analyze the categories together. In other cases, it felt appropriate to code data to more than one category. For example, one participant said:

Well I got put into [Accident and Emergency] a couple of weeks ago for attempted suicide. And so I got referred to CAMHS because of that. It happened because there was sort of issue with my ex-girlfriend.. And so I was getting down about that then the school was also kicking up a massive fuss and then I had a row with my Mum which caused everything to collapse and I ended up slitting most of my wrist up.

Parts of this extract would fit into multiple categories (1.01, 1.02, 1.03 and 1.04), as it covered their referral to CAMHS, the difficulties they were experiencing, how they made sense of their difficulties and issues with their relationship with their mother. We agreed that in such cases it made sense to multiply code the data, as the summary for such data would be distinct and telling us something important about several research questions of interest. Indexing aims to make the dataset more manageable, so coding data more than once should only be done when it will be meaningful for subsequent analyses. We suggest establishing rules within the team about if and when data should be multiply coded.

It is important to be aware that the framework will not be perfect, and it is likely that data will occur which will not fit into your framework categories. We advise having an 'Other' category, for such data. Data coded to this category may bring up ideas for changes or additions to the framework categories. We found ourselves coding data to this category which was to do with the interaction between the researcher and participant, which was not captured elsewhere in the framework, but could nonetheless tell us something interesting about the young person's experience of depression, such as their difficulty articulating themselves to the researcher. For example, in response to the interviewer's question, one participant replied: "I don't know how to explain it... it's hard to explain... oh God... I'm really sorry". We found that interactions such as this were not directly related to any of the categories in the framework, but did tell us something of interest about the participant. In this example, the participant is very apologetic about not remembering and this could tell us something important about the participant's sense of self and their way of relating with others. The example was brought to a team meeting, and discussed. We all felt it was important to capture this, resulting in the addition of a category "Interaction between interviewee and interviewer". Thus, during this process we were responsive to unexpected issues thrown-up by the data, and used the team discussions to work out how to respond to these. Therefore the development of the framework is an ongoing process which may continue to be adapted, even when you have moved on to the later stages of framework analysis. Although there is always a risk that the 'indexing' stage can become a somewhat mechanical process, linking it to further refinements of the framework ensures that it remains a thoughtful activity.

4. Charting

The aim of the ‘charting’ stage is to organize the data into a more manageable format, to facilitate data analysis in the next stage of framework analysis. It involves summarizing the indexed data for each category, and organizing the summaries in chart form.

How did we Organize the Indexed Data Into Charts?

Figure 2 shows an extract from the framework in NVivo used in our study. The rows show the categories from the framework and participants are shown in the columns. The end product is a chart where the participant’s interviews are summarized and organized by the framework categories. This allows the summaries to be read across for within-case analyses, or downwards for the analysis of a specific theme or category for between-case analyses (Ward et al. 2013).

INSERT FIGURE 2 ABOUT HERE

To chart an interview, the researcher works through each framework category, summarizing all data that has been indexed to that category, providing a summary for each category, for each participant. In NVivo, you can then link the summary to the relevant part of the transcript text, so clicking on the summary will retrieve the transcript text linked to that part of the summary, making it easy for the researcher to move between the summaries and the original transcript text (Swallow et al., 2011).

NVivo enables you to format the text in the summary boxes (such as using different fonts, colors, italics, bold). This can be useful if you want to highlight particular areas of interest. Sometimes we found participants’ words were concise and there was no need for us to paraphrase their words, so we would use italics to indicate that the summary was the participant’s own words. Developing such coding guidelines may assist in retrieving data of interest to specific research questions in the next stage of analysis.

We became aware that we could lose detail of participants' words, and to avoid this, our summaries tended to become somewhat elaborate. However this meant that the charting risked simply repeating whole sections of interview text. Once again, working in a team was useful to help take stock and remind ourselves of the purpose of this activity, which can get forgotten when one is very close-up to the data. We realised that it was important that summaries were not simply duplicating all of the text in the transcripts; as at this stage, the aim was to reduce the data set into a more manageable form. As NVivo makes it easy to move between the summaries and original text, we needed to keep in mind that we would be referring back to the original text during the interpretative analysis stage, so the detail would not be lost. From our experience, we would suggest that the summaries should be kept concise to meet the purpose of reducing the dataset.

Having summarized all of our 77 interviews in this way, we were ready to move to the final stage of the framework analysis.

5. Mapping and Interpretation

The aim of this stage of framework analysis is to move beyond data management towards understanding it. Ritchie and Spencer (1994) describe this as pulling together key characteristics of the data to map and interpret the data set as a whole. They suggest this step can include the description and clarification of concepts, representing the range and nature of phenomena within the data, creating typologies, establishing relationships and developing 'bottom-up' explanations for these, as well as proposing strategies for intervention and practice, if appropriate.

Mapping and interpretation involves finding patterns and articulating one's own sense-making of the data, in the light of one's research question(s). Depending on the nature

of the research question (see above), this stage could take somewhat different forms, and could lead to visual and/or narrative presentation of the study's findings.

What are the Challenges in the Mapping and Interpretation Phase of Framework Analysis?

This interpretive step is typically perceived as the most challenging to execute and the most difficult to elaborate in terms of what was done and how it was achieved. Ritchie and Spencer (1994) concede this, pointing to how it requires researchers to not examine the data mechanistically but to assume an intuitive and imaginative stance – qualities which are indispensable for the production of knowledge but are not easy to articulate in a 'how-to-do' sense. Qualitative research is not accessing experience directly; rather, our findings are a consequence of intersubjective meaning making through imagination, interpretation and conceptual input, which we use in all qualitative research. Taylor (1971) has written: "But how does one know that [an] interpretation is correct? Presumably because...what is strange, mystifying, puzzling, contradictory is no longer so" (p.17). Whilst we have found this a helpful thought, we have also found that such understanding does not always come in a simple 'eureka!' moment, but is often more gradual, and our confidence in the way we have made meaning of the data emerges gradually, after testing it over time.

The small body of work which has employed framework analysis has tended to gloss over the details of this stage of 'mapping and interpretation', with some researchers not describing their interpretive process at all, while others have reiterated Ritchie and Spencer's (1994) guidelines or offered some brief suggestions for what they found helpful. For example, Srivastava and Thomson (2009) recommend the use of a schematic diagram to guide interpretation of the data, while Swallow et al. (2011) worked independently on subsets of the data and established patterns and connections which they sought to explain. These were then compared and discussed with the aim of reaching a consensus.

What follows is our attempt to explicate in more detail what the process of interpretation was like in our study, including the question of how we worked as a team on this process.

How did we Move Beyond Data Management Towards Understanding our Data?

Although there were many advantages to working as a team, when it came to the process of mapping and interpretation, we realised that there was a risk of 'analysis by committee', which could inhibit the creativity of the process. Therefore two of the research team (NM and SP) took on the main responsibility for undertaking the initial interpretation of the data, with the rest of the team being used more as a sounding board, to help in checking the persuasiveness of the analysis. To begin with, NM and SP independently reviewed the first 40 interviews in groups of 10, using the charted data, to look for emergent patterns and the nature of the young people's experience of depression. We each read and annotated the charted data independently, and then discussed our impressions and gradually began to build up our understanding of the young people's experiences. We explored patterns in the data, and began to develop a set of themes to capture young people's experiences of depression. By this stage, both researchers knew the data extremely well, but NM brought a greater familiarity with the clinical literature on adolescent depression, whilst SP had done more of the indexing and charting of the interviews, so was closer to the individual accounts of the young participants in the study.

In discussing our impressions of the charted data from the first ten interviews, we found a number of statements that seemed to fit with what we thought of as a central feature of 'classic depression', i.e. low mood (DSM-5; American Psychiatric Association, 2013). For example, one young person spoke of "feeling really low [...] it's like grey, everything seems pointless". As we worked through the charted data from the next set of ten interviews, we

noticed that several young people spoke about bodily expressions of their sense of despair. For example, one participant spoke of breaking down in tears: “everything was just coming down around me, and then I ended up just bursting into tears with my Head of Year and telling her everything”. We saw how for many young people their inability to cope with the low mood and sense of despair led them down a path of self-destruction, self-harm, risk-taking and contemplating suicide. We came to see that young people were describing something that went far beyond low mood; they were expressing their pain, misery and desperation about living with such a low mood: ‘I don’t think I could live my whole life feeling like this every day’. As we continued to analyze our data, our understanding of ‘classic depression’ in terms of low mood changed, and we came to appreciate the overwhelming distress associated with this low mood that young people described. By the time we had completed our mapping and interpretation of the first 40 interviews, we had come to name our first theme ‘misery, despair and tears’, as alongside the feelings (especially low mood) described by young people, we wanted to capture the overwhelming sense of hopelessness and the way that this could be expressed physically.

Using our framework, we were able to carry out this process on a large number of interviews, but were able to easily refer back to the original transcripts for clarification and to look more in depth when interesting patterns in the data were found. (Using NVivo was certainly very helpful for the process of moving back and forth between the framework and interview transcripts). Having developed our understanding inductively, based on the first 40 interviews, we then presented our emerging understanding to the rest of the team, who were able to ask questions and make comments. The purpose of this discussion was to test the credibility and the clarity of the interpretation, and to ensure that it did justice to the experience of the participants.

Having established confidence in the relevance and meaningfulness of our interpretation, we then reviewed the other 37 interviews to test whether our understanding had reached 'saturation' (Glaser & Strauss 1967), i.e. whether it adequately described the experience of this second set of interviews, or if there were elements in these interviews that challenged or extended our interpretation. In the case of our theme of 'misery, despair and tears', although some minor changes were made to our understanding, the review of the latter group of interviews largely confirmed our view that our interpretation of the interviews had captured the experience of the young people in our study. In drafting the findings, we further refined our interpretation, and a final 'check' on the credibility of the analysis was conducted by presenting our interpretation of the data once more to the rest of the IMPACT-ME team, who were invited to comment and propose any changes to the way the findings had been interpreted.

The final outcome of our mapping and interpretation of the data has been presented in a final report on the study (Authors, 2015). In this paper, we have tried to shed light on our interpretive process without rendering it mechanical. Knowledge derived from intuitive leaps, hunches, impressions and so on is hard to elucidate precisely because of its tacit nature. As human beings, we are skilled meaning-finders and typically we can very quickly find meaning in even the most chaotic data sets (Miles & Huberman 1994). We encourage researchers to be mindful of this and be bold in their interpretive endeavors. The challenge lies not in being unable to "see" patterns and relationships and develop plausible explanations on the basis of these, but ensuring that they are open to intersubjective consensus and the scrutiny and challenge of others. Denzin (1989) proposes that the test of our interpretations lies in how others perceive their usefulness, as well as the interest they provoke. This is similar to other evaluative touchstones such as resonance and rigor.

What Does Framework Contribute to Qualitative Research in Psychology?

Framework analysis has been used in various fields, such as healthcare research, where Gale et al. (2013) describe their research which investigated the views of NHS stakeholders in providing ‘care closer to home’ in community-based outpatient clinics (see Heath et al., 2012, for the published paper). Framework analysis enabled the researchers to organize and categorize different models of service delivery (e.g. drop-in clinics and delivery of care over the phone); illustrating a research aim where the systematic approach to analysis fitted well with the data.

We suggest that the application of this approach to psychology is distinctly different, and throws up challenges that have not been reported in methodological papers on framework analysis in other fields. The key difference in fields such as policy and healthcare research is that they are working with data which is more concrete or factual (for example, different models of care, such as drop-in clinics and care delivered over the phone or electronically, are distinctly different and relatively straightforward to tease apart), compared to the field of qualitative psychology, where the focus may include a focus on experience, narrative and discourse. Such data may be deemed less suited to a systematic approach to data analysis, since the focus is on feelings, emotions and experiences, where it will be less clear how to organize and categorize their experiences. We found challenges in teasing apart and categorizing experiential data, as all aspects of young people’s experiences were so interlinked and overlapping. It was important for us to find a way of working with the data that kept the narrative of our participants’ stories. For us, this meant developing the framework in a way which was initially focused on data management; through organizing our data primarily based around our a priori concerns.

In contrast, published guidelines about Framework Analysis have seemingly developed their framework in a much more data-driven way, and whilst this appears possible

and appropriate in field such as social policy and healthcare, this was not the case for our psychological research. We hope this demonstrates how framework can be applied flexibly, depending on your research aims and the type of data you are working with. We would argue that framework can be usefully applied to psychology research, but one must be mindful of how to use it in a way that works for one's own data and research aims.

Qualitative approaches to data analysis are typically underpinned by theoretical positions which are often challenging to engage with for novice researchers. Framework analysis, however, is not tied to a specific epistemological position (Gale et al. 2013). We see this as a key strength of framework analysis (one that is shared with Braun & Clarke's 2006 model of thematic analysis), as this may be appealing to researchers with less knowledge of phenomenology, hermeneutics or social constructionism, who may be daunted by more traditional methods of qualitative data analysis. Through engaging in a study using framework analysis, we anticipate that researchers would begin to grapple with epistemological questions about the nature of knowledge (e.g. how do I know whether I have fully understood the participant's experience, and to what degree do their words refer to an underlying 'inner experience', or reflect wider social values and discourses?). We would therefore agree with other researchers who have suggested framework analysis may be a good 'entry point' for those new to qualitative research and for those collaborating across multidisciplinary teams (Gale et al. 2013; Ward et al. 2013). Furber et al. (2009) used framework analysis to collaborate with a service user as part of their data analysis, which illustrates the usefulness of this approach in collaborative data analysis, supporting researchers, clinicians and service users to work together in the analysis of qualitative data.

Another key strength of framework analysis is that there is a strong emphasis on data management, which improves the transparency and audit trail of where interpretations have come from, thus making it possible for members of the team or external reviewers to trace

findings back to the raw data. This is something which qualitative research has been criticized for, because it is not always clear where interpretations have been drawn from, making this an advantage of framework analysis compared with other qualitative approaches to data analysis. We found that this was especially important when working as a team of researchers, as the framework approach helped us to explicitly log our process, and to systematically review work of individual members of the team in a way that allowed us to feel confident in our shared way of working using our framework.

What are the Limitations of Framework Analysis?

As with most research methodologies, one potential issue with framework analysis is the risk that it may lead researchers to engage with data in an ‘unthinking’ way, and treat the five stages (especially the indexing and charting stages) as mechanical steps to follow. From our own experience, we found that there was a risk that coding to our framework could come to feel like a mechanical process, especially where the focus was on managing our large dataset in a way which was to an extent, removed from the research question we were answering. Had we been more focused on our research question from the beginning, we feel the coding stage could have felt less mechanical, and would have helped us to feel more immersed in the data, with our research question in mind. It is essential that researchers remain focused on the research question, and are clear on how the framework will assist in answering it.

We found that the indexing stage of framework analysis worked well for ‘factual’ data, or content which were easy to summarize. In contrast, we found that the less clear, more ambiguous and subjective aspects of the data could not be summarized as easily during the ‘indexing’ stage. It is important to keep in mind what the research aims and research questions are, and pay careful attention to aspects of the data that may not lend themselves so easily to the constraints of the framework categories, such as the more subjective, ambiguous

data. This data will be paid attention to at the later ‘mapping and interpretation’ stage, during which you will refer back to the original transcripts and audio recordings, so it is helpful to keep in mind there is an explicit place for making sense of the data, after the earlier data management stages. This is why we have emphasized the importance of the ‘mapping and interpretation’ stage in this article.

Like many qualitative approaches, framework analysis is time and labor intensive (we found it typically took us half a day to code a one-hour interview i.e. to index and chart the interview). This makes it a huge investment in resources to manage the dataset in this way, before moving on to the interpretative phase. Therefore researchers must consider whether they have the resources to spend on the data management required for framework analysis, especially when working with large datasets. Despite the relatively straight-forward description of the stages of framework analysis, this does not mean that researchers can use it to by-pass the time-consuming process of immersion and meaning-making, that is a core element of all qualitative research.

Conclusion

The aim of this article was to describe framework analysis and to provide a worked example to demonstrate its use in practice, and to illustrate its usefulness in the field of psychology research. As framework was developed in other disciplines, we hope this article has provided some guidance on how it can be applied to the field of psychology, especially when the research is being undertaken by a team. We found framework analysis to be a flexible but rigorous way of working that proved a good ‘fit’ with the aims of our study, the composition of our team and the kind of data we were working with. At the same time, there were challenges to using framework analysis, some of which resulted from a lack of detailed accounts of certain elements of the process of conducting such an analysis, especially in

applying its use to a psychological research project, where the focus was on participants' experiences and phenomenology. Although we are aware that this process of 'learning through experience' is an inevitable part of all research, we hope that this article will make a contribution to de-mystifying the process of framework analysis, whilst helping other researchers to consider whether this approach may be suitable to their own enquiries, particularly those working in the field of psychology.

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