Chapter 5: Researching social media: qualitative and mixed methods research approaches

Cathy Brennan, David Ellis and Kim Heyes

To understand the relationship between social media and mental health we need research that examines what people are doing and how this relates to other, measurable, variables such as their personal characteristics and the outcome of their social media use. We also need research that explores how and why people use social media and their experiences of doing so. The chapter on quantitative methods has focused on the former, in this chapter we will look at research that explores how and why people use social media and their experiences of doing so. This type of research is referred to as qualitative research.

Qualitative research is that which seeks to understand rather than measure social phenomena; it uses non-numerical data such as interviews, written text, images and observations. Qualitative research can offer rich insights into the experience of people on social media; it can explore their motivations for being online, what they do when online, their reaction to content, and their interactions with others in particular online spaces.
In this chapter we will present an overview of qualitative approaches that focuses on methods of data collection and analysis. We will discuss the main approaches to data collection and offer some important pointers to bear in mind when evaluating the results of studies that use these methods. For those interested in a more in-depth exploration of qualitative methods then there are some suggestions for further reading at the end of the chapter.

Qualitative data collection

To some extent, qualitative approaches can be divided into two types of data collection methods; those that ask people directly about their experiences through either one-to-one interviews or focus group discussion (FGD), and those that observe what people are doing and make inferences about what they have observed, commonly called ethnography. Research studies can use more than one method of data collection within a project. For example, some studies can make observations about how people interact on social media and also interview participants to gain insights into the meanings they might ascribe to what they are doing.

Because of the personal detail uncovered by observational research there are key ethical issues with it: Social media can seem like a public space in which it is possible to make observations and collect data without the knowledge and consent of those being observed, and yet at the same time the content is personally contributed by individuals who will have their own views about what can be used for research by others. This is especially so when observing communities on social media where the interactions are asynchronous, often publicly accessible, and there is already a possible layer of anonymity afforded by the online

space. In contrast to seeking informed consent to interview participants, much virtual ethnography is undertaken without the knowledge and explicit consent of the users who are posting and interacting with content.

Interviews and Focus Group Discussion

Interviews and Focus Group Discussions (FGD) are the mainstays of qualitative health research and are used to explore with participants their understanding or experience of a particular issue. Individual interviews can be very structured where the same question is asked of each participant but with open format responses. More often though interviews are either semi-structured, using a topic guide that maps out the areas to be explored but allows scope for the interview to pursue directions of interest within that map, or less structured (often called depth or narrative interviews) where participants are set off on an idea by an initial very open question and the interview follows where the narrative goes using probing and clarification questions to get more detail on particular areas of interest as they are raised be the interviewee.

This sort of interviewing has been called "conversation with a purpose" and like any conversation it can be more or less fruitful. Some obvious ways to judge include how long the interview or discussion lasted and what topics were covered. An interview lasting about an hour and touching on three or four key themes is likely to be more productive than a single-issue interview lasting 15-20 minutes.

Example: Researchers in the UK were interested in suicide-related internet use in two groups of young people [1]. They interviewed twenty young people who had attended the emergency department following an episode of self-harm and who had reported using the internet for suicide-related purposes during their assessment. They also interviewed thirteen young people who were part of a different, population based, study who had responded positively to questions as part of that study about suicide-related internet use. Depth interviews explored their self-harm, internet use and the impact of their internet use. In the results, the authors described different patterns of internet use according to the severity of suicidal feelings. The participants from the cohort study mostly described disorganised browsing without a clear purpose except to make sense of their feelings they also reported accessing help content and sharing feelings online. The participants from the emergency department sample generally described more focused searches to research methods of self-harm, they rarely reported accessing help content.

This interview study demonstrates the value of talking to people about their experiences to gain insights into how people use social media. Insights can be gained from interviewing a relatively small sample as you are not seeking to make judgements about how likely different experiences are, only what types of experience there are or might be. In evaluating interview

or FGD studies, the questions you ask about samples are different from those in quantitative studies. You want the people who have been interviewed to have something to say about the complexity of the research question under consideration – they should be 'information rich'.

A good sample for a qualitative study would be chosen with purpose, called a purposive sample. The researcher will identify the type of informants they need to talk to and actively recruit participants who meet this criterion.

In research where the key informants may be difficult to identify, a form of sampling called snowball sampling may be used; the researcher asks an initial participant to identify other possible participants. Snowball sampling is useful when the research wishes to access the experience of groups who may not be easy to identify and recruit. For example, in a study to develop online resources for eating disorders, researchers used snowball sampling to identify and recruit a sample of men to interview as these are often underrepresented in research on eating disorders [2]. These participants were important to include as they reported a lack of gender appropriate information and resources for men and suggested that this may lead to delayed help seeking.

Group discussion formats are useful when the aim is to gain insights into shared understandings of a particular issue, to explore different perspectives, or to establish areas of contention or disagreement. The emphasis is on the interaction of the group and therefore they are less useful for exploring individual nuances within a particular topic. Group dynamics are important in FGD so it is vital that the participants are chosen in a way that will allow full participation by all group members. Real or perceived power imbalances between participants, for example because of age or status differences, may stifle contributions by some participants and lead to distorted discussions. The groups also need to be of a size that allows debate but isn't too unwieldly so that not everyone is able to contribute; groups of between eight and 12 participants are usually see as the ideal.

Example: Researchers in the UK were interested in how adolescents viewed social media and its potential impact on their mental health[3]. They held six separate FGDs with adolescents aged 11-18 years old, 54 adolescents took part in total. They were asked about their understanding of mental health, their use of social media and the potential of social media to promote mental well-being. The authors reported that the adolescents overwhelmingly held negative views about the impact of social media on mental health. They identified three themes from the FGDs: 1) social media can cause stress, depression, low self-esteem and suicidal ideation; 2) social media opens people to bullying and trolling; 3) social media is addictive.

Interestingly, although the consensus was that social media was bad for your mental health, few of the participants reported negative consequences personally. The authors concluded that the adolescents were identifying perceived risks rather than actual experiences, perhaps down to them buying into the dominant social discourse about the dangers of social media. It could be that a group forum was not conducive to explore more personal narratives in this situation. Whichever interpretation, studies of this nature are useful for exploring perceptions but are not able to answer questions about if and how much social media is detrimental to mental health.

Ethnography

Ethnography has its origins in anthropology and is useful when exploring the social, cultural and relational aspects of a topic. It usually involves immersion of the researcher into the community being studied and observation of the values and practices of the community through exploring the interactions between group members. When these communities are online it is sometimes referred to as virtual ethnography. Observational data are often supplemented with interview data from key informants within the community. Traditional ethnographic methods use participant observation, where the researcher becomes part of the group under study and participates in community life. Some ethnographic research uses non-participant observation, where the researcher observes the interactions but without full immersion into the community. In virtual ethnography, data also includes the social media content created, shared or commented on.

Example: UK based researchers undertook an online ethnography to understand the ways in which self-harm is defined and discussed on social media [4]. They collected data from communities on Instagram, Twitter and Reddit. This data included images and text-based content about self-harm as well as the conversations that formed around the content posted. All forms of expression were collected, including memes, gifs and emojis. The ethnographic data was supplemented with interview data from ten young people who had reported using social media to engage with self-harm content. The results suggested that young people were already engaging in self-harm prior to seeking content about self-harm on social media and that most online interactions were about giving and receiving peer support.

The researchers obtained informed consent from the interviewees but they collected the social media data without the consent or knowledge of those posting. They considered the ethics of this and only collected posts that they defined as public (visible without needing to sign in). To respect the privacy of the social media users, they did not give detail of any of the content when reporting the results.

Qualitative data analysis

Analysis of qualitative data involves exploring the data for potential patterns or themes. Analysis can be inductive, where the analysis starts with the data collected to generate themes, or deductive, where the analyst will have some pre-determined categories or framework and then explores the data to see how it fits into this. Whichever approach is taken, there is likely to be a degree of interpretation involved in presenting the results, sometimes a little sometimes a great deal. It may involve, for example, efforts to understand the language somebody uses when talking about a particular topic, or what to make of apparently contradictory statements from the same person.

For this reason, in qualitative research the issue of subjectivity is important. That is, most qualitative researchers would accept that any interpretation of qualitative date is contingent on the researcher's own context and experience. There is never one definitive interpretation. Good qualitative studies would therefore generally include a reflexive statement that allows the reader to understand the position of those doing the interpretation and how that has shaped the research. An assessment of validity therefore is about how credible you feel the interpretation presented is – does it fit with the data that they have collected?

There are many different theoretical underpinnings that can inform this sort of interpretation in qualitative analysis and it is beyond the remit of this chapter to go into that level of detail. The suggested further reading will give more background to approaches such as Grounded Theory, Discourse Analysis, or Interpretative Phenomenological Analysis. For this chapter we will give a brief overview of a common approach to analyzing text-based data – Thematic Analysis, and then look at ways to analyze the content of social media posts.

Thematic Analysis

Most qualitative data analysis will report on themes or patterns that the researcher generates from the data. As such, a thematic analysis is the bedrock of much qualitative research. It is a way to look conceptually across multiple perspectives and participant responses to identify themes that have importance for the research question under investigation. Thematic Analysis is a flexible analytic method that allows scope for the research to draw on different theoretical traditions [5]. A good analysis goes beyond simply describing or summarizing the data to give an interpretation of the whole corpus of data. A thematic analysis starts with the researcher becoming familiar with the data and then generating initial codes to categorise segments of the data. These codes are then grouped thematically, defined and refined, before being written up as final themes accompanied by excerpts of text (typically participant quotes) that exemplify the concept which the theme encapsulates. The stages are often iterative with multiple generating, defining and refining of themes to establish the most applicable interpretation of the data. A good analysis should contain sufficient participant data that a reader can see from where the themes have been generated.

Example: A UK study interviewed 21 young people (aged 16 to 24 years), recruited via adverts on Facebook, to understand their perception and use of online images of self-harm[6]. A thematic analysis was presented in three sections: 1) the role of the internet in young people's self-harm, 2) the influence of online imagery on young people's self-harm, 3) The use of online media platforms for displaying self-harm imagery. The main conclusions from the study were that images rather than textual interactions were the primary cited reason for using the internet and that viewing online images served an important role for many young people as part of a ritualistic practice of self-harm.

Example: A UK study recruited 25 participants via Facebook, Reddit and a well-known mental health forum, to understand the supportive benefits of online communities for people with mental ill health[7]. Three key themes were identified: 1. Safety – this theme focused on how some participants felt safer talking about their health online than offline; 2. Support – many of the participants were happy to offer supportive comments to other users, which helped them to feel as though they were useful members of the community; and 3. Network Sociality – feeling accepted within an online community helped to reduce isolation, however, negative experiences increased these feelings. The main conclusions were that online communities are not for everyone, but many people who struggled to communicate about their mental health offline, found that they were able to be open and honest online, and received the support they needed at that time.

Content Analysis

There are some types of studies that straddle the divide between qualitative and quantitative studies, they can sit in either camp and generally this is a subjective decision in relation to the level of quantification that goes into the analysis. Content analysis is one such approach. Content analysis is important to cover in any chapter on research methods in social media because the nature of what people are interacting with is an important component of the social media experience. This is especially true for research on mental health as much discussion is about the role of particular types of content in contributing to poor mental health outcomes. Content analysis is used when you want to describe the content of a phenomena. In its most basic form it is a count of the number of times a certain form of content appears within the data, such as reporting the amount of likes or retweets certain types of content gets.

Content analysis can also be a way of classifying the nature of content found online and will often involve some subjective classification of important variables. For example, there is much interest in the type of imagery that is shared on social media and some researchers have used content analysis to classify and quantify the type of images that are associated with self-harm related hashtags. This can lead to quite divergent results depending on both

the sampling choices and how the researchers have chosen to define key variables. A review of research on online self-harm and suicide content found that the amount of graphic imagery of cuts identified in studies ranged from none to 75%. This was largely attributed to the different ways in which the authors had defined graphic; for some this category included any images of scars for others graphic was defined as images of deep wounds[8]. How a study chooses what content to analyse is also important to consider; one that samples a small selection of content from a hashtag search using only one or two terms is unlikely to give an accurate representation of the type and range of content that someone might encounter when browsing, or actively searching for content of that nature.

Example: A German study used content analysis to describe Instagram posts associated with a suicide-related hashtag[9]. They did a search on the hashtag #selbstmord at one time point and downloaded the 250 most recent posts. These had all been posted within one week. Each post was rated for the presence or absence of a number of pre-defined variables including reference to suicide and the demographics of the poster. They checked the reliability of the ratings by double rating 10% of the posts and comparing the results. They found that there was an explicit reference to suicide in 45% of the posts and 34% depicted at least one specific method. Although the double rating was undertaken by the same researcher, albeit at different time points, they reported poor agreement for some variables, especially the demographics with determining age and sex being reported as particularly problematic.

Given the small number of posts in the sample all coming from a single hashtag search at one time point, it is unlikely that the results can be taken as indicative of the range of content that might be found on Instagram. The lack of reliability in the ratings for certain variables also highlights a particular dilemma for research on content on social media – it is not possible to know with certainty anything about the person who has posted the content.

Visual Analysis

Much qualitative work focuses on the collection and analysis of narrative or textual data and many of the core research methods have been developed with this type of data in mind. There is a more established tradition in the analysis of non-textual qualitative data in art history, visual anthropology and visual sociology. In recent years, visual methods are becoming more prominent in psychological and health research, although much of the focus has been on the use of visual prompts, such as photographs taken by participants, to stimulate discussion in interview or FGD situations. The analysis in many of these studies centres on the narrative data collected with the use of visual props rather than on the nature of images themselves.

Given the extent of visual content on social media, videos, photographs, drawings, gifs, memes to name just some, methods to explore and interpret visual data are important if we

are to understand how content on social media, and an individual's interaction with it, may affect mental health. Content analysis can go some way to categorizing the type of content to be found across platforms. However, more interpretative methods are needed to explore potential meanings within image-based data and therefore how these may be experienced and interpreted by those interacting with content.

There are some frameworks for analysing visual data that offer a model to structure interpretative analysis. For example, the press photograph story analysis model [10] prompts the researcher to consider questions of denotation (what kind of information is in the image) and connotation (what kind of emotional response comes from the image) and consider these from the point of view of the creator of the image and the viewer. Often images on social media will be accompanied by some further contextual data such as hashtags, labels and commentary posts. This can support an interpretation of the image from the position of the person posting it and, when there are responses from others in the comments, from the position of people viewing it.

Other frameworks suggest researchers consider the technological (how images have been produced), the compositional (the material qualities of the image) and the social (the range of economic, social and political relations, institutions and practices through which an image is produced and viewed) [11]. However, all frameworks acknowledge the importance of recognising the polysemic nature of the visual – that any image can have multiple meanings. This then raises the question of subjectivity – how much might the interpretation offered by the researcher differ from that intended by the poster of the content or indeed someone else viewing that post?

Example: A study explored the nature of images tagged as self-harm on popular social media sites [12]. A total of 602 images were collected from Twitter, Instagram and Tumbler and were analysed for literal visual content (using content analysis), and thematic content (using thematic analysis), both guided by a framework for analysing visual content. The content analysis noted that over half the images did not explicitly represent or refer to the act of self-harm. Where there was reference, self-injury was the predominant form of harm and 6% of the images portrayed self-injury that was rated as severe (showing bleeding or a wound that needed medical treatment). The thematic analysis identified four themes: communicating distress, addiction and recovery, the presentation of gender and the female body, and identity and belonging. The authors concluded that much of the imagery was being used to express difficult emotions, but there was also much positive imagery that celebrated recovery and offered support to others. They reflected that social media could be a powerful tool for peer support and communication.

Mixed methods research

Social media is not one thing and the space is complicated. Research that seeks to explore the role of social media in mental health outcomes needs to engage with this complexity. Mixed methods go beyond the traditional divide between qualitative and quantitative research. The commonest sort of mixed methods research uses each method to inform the other. For example researchers wanting to conduct a large scale online survey may choose some or all of the questions to ask by doing preliminary interviews analysed qualitatively. The survey may then answer the question the qualitative study can't, which is how common certain experiences or attitudes are. Or an interview study might seek possible explanations for the pattern of responses that have already been obtained in a quantitative study. Single estimates or in general measures of social media use (as in quantitative research) or one-off interviews with social media users (as in qualitative research) tell us comparatively little about *how* someone engages with people or content. For example, one might make a distinction between active use (e.g. writing a Tweet) and passive use (e.g. browsing a Facebook feed) [13].

For example, ecological momentary assessments use prompts (delivered perhaps by Smartphone) to capture recent information about social media use and ask questions about mood at the moment the prompt is sent. Related probe-based methods can include walking interviews, which involve walking with participants and interviewing them alongside technology interactions. These interviews can capture participants' thoughts and experiences in real-time as they move around a particular digital environment [14].

Summary and conclusions

Because of the personal and immediate nature of the findings of qualitative research, they can seem more convincing than the rather abstract-seeming results of statistical analysis of a quantitative study. We need nonetheless to read qualitative studies with key questions in mind: how the participants were selected and with what purpose; whether data were collected in a systematic way; whether the analysis was conducted rigorously so that the results clearly came from the study uninfluenced by the researchers' biases and so on.
In considering the implications we need constantly to be reminded that any insights are, by nature, about subjective experience and should not be taken as general principles to be applied across populations and contexts. It is a common mistake to slip into talking about qualitative research findings as if they are in fact quantitative – as if the pattern of responses can be generalized from a sample of 20 to the whole population.

With these basic principles in mind, qualitative research can give us important insights into how and why people use social media, and their perceptions of how it makes them feel.

Further reading

Silverman, D. (ed) (2020). *Qualitative Research,* 5th ed, London, SAGE Publications Ltd
Denzin, N. K. and Lincoln, Y. S. (eds) (2017). *The SAGE handbook of Qualitative Research*, 5th ed, London, SAGE Publications Ltd

Fielding, N., Lee, R. M., and Blank, G. (eds) (2017). *The SAGE handbook of online research methods*, 2nd ed, London, SAGE Publications Ltd

References

1. Biddle, L., et al., *Using the internet for suicide-related purposes: Contrasting findings from young people in the community and self-harm patients admitted to hospital.* PLoS ONE, 2018. **13**(5): p. e0197712.

2. Räisänen, U. and K. Hunt, *The role of gendered constructions of eating disorders in delayed help-seeking in men: a qualitative interview study.* BMJ Open, 2014. **4**(4): p. e004342.

3. O'Reilly, M., et al., *Is social media bad for mental health and wellbeing? Exploring the perspectives of adolescents.* Clinical Child Psychology and Psychiatry, 2018. **23**(4): p. 601-613.

4. Lavis, A. and R. Winter, *#Online harms or benefits? An ethnographic analysis of the positives and negatives of peer-support around self-harm on social media.* Journal of Child Psychology and Psychiatry, 2020. **61**(8): p. 842-854.

5. Braun, V. and V. Clarke, *One size fits all? What counts as quality practice in (reflexive) thematic analysis?* Qualitative Research in Psychology, 2021. **18**(3): p. 328-352.

6. Jacob, N., R. Evans, and J. Scourfield, *The influence of online images on self-harm: A qualitative study of young people aged 16-24.* Journal of Adolescence, 2017. **60**: p. 140-147.

7. Heyes, K., *Socialization or Social Isolation?: Mental Health Community Support in the Digital Age*, in *Research Anthology on Mental Health Stigma, Education, and Treatment*, I.R. Management Association, Editor. 2021, IGI Global: Hershey, PA, USA. p. 360-380.

8. Brennan, C., et al., *Self-harm and suicidal content online, harmful or helpful? A systematic review of the recent evidence.* Journal of Public Mental Health, 2022. **21**(1): p. 57-69.

9. Arendt, F., *Suicide on Instagram - Content Analysis of a German Suicide-Related Hashtag.* Crisis: Journal of Crisis Intervention & Suicide, 2019. **40**(1): p. 36-41.

10. Kędra, J., *To See More: A Model for Press Photograph Story Analysis.* Journal of Visual Literacy, 2013. **32**(1): p. 27-50.

11. Rose, G., *Visual methodologies: An introduction to researching with visual materials*. 4th ed. 2016, Oxford, UK: Sage Publishing.

12. Shanahan, N., C. Brennan, and A. House, *Self-harm and social media: thematic analysis of images posted on three social media sites.* BMJ Open, 2019. **9**(2): p. e027006.

13. Ellis, D.A., *Are smartphones really that bad? Improving the psychological measurement of technology-related behaviors.* Computers in Human Behavior, 2019. **97**: p. 60-66.

14. Eccles, D.W. and G. Arsal, *The think aloud method: what is it and how do I use it?* Qualitative Research in Sport, Exercise and Health, 2017. **9**(4): p. 514-531.