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# Internet and Social Media as Research Tools for Evidence-based Practice

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## CHAPTER OBJECTIVES

In this chapter, you will learn about:

- » key terms related to online research
- » the ways online methods can apply to evidence-based practice in health
- » how to apply research methods in online contexts
- » the ethical challenges raised by online research

## KEY TERMS

- » Apps
- » Data capture
- » Digital media
- » Folksonomy
- » Internet
- » Internet research
- » Social networking services

# Introduction

Internet-based research tools and digitally informed methodologies are practical, novel and often a necessary means of conducting research. Online research is useful for exploring how information is shared through various forms of **digital media**, watching events and conversations as they unfold, and investigating the practices of specific groups of **internet** users.

With digital health becoming an increasingly important aspect of health care—accelerated by global pressures like the COVID-19 pandemic—digital research methods are increasingly valuable. **Internet research** can be used to gather both qualitative and quantitative data, and used for mixed methods research. As digital media can be contingent, impermanent and messy, careful research design and planning are especially important for researchers interested in using the internet for evidence-based research. The modern internet is not the anonymous and open space imagined in the 1990s; it is a corporatised world in which researchers must be aware of website policies and the expectations of site users. Internet-based research, like any research, must have robust ethical principles.

Using examples from different health care contexts, this chapter will outline key technical, methodological and ethical considerations for research in online and digital contexts. It also provides some direction for how to move planned qualitative research from face-to-face to online.

## Defining internet research

The scope of internet research is as broad as the internet itself. Generally, though, internet research is any research that uses the internet as a tool to gather data, and/or as a source of data. In this way, internet research can be a specialised form of enquiry, or a modification to more traditional ways of doing research. Here, we consider three ways to conceptualise internet research:

- as a tool—the internet is an access point through which research can be conducted. It can be used to recruit and interview research participants, or to gather information from pre-existing sources
- as content—the internet hosts countless digital media items. The text and audio-visual content that make up a website or the posts and messages exchanged between internet users can be researched
- as a form—the internet is a communication hub and acts as a meeting point. In only a few decades, it has fundamentally changed how humans communicate. It is home to distinct groups and communities of users. The values, practices and social networks of these users can be researched. This includes the rise of **social networking services**.

Some approaches to internet research rely on complex computational means of data collection and analysis. For example, sentiment analysis can be employed to understand the content of a topic and how it is discussed online, or data can be mapped to understand who creates content and where it is shared. However, these approaches complicate the research process: digital media companies are not always open to research activities (Bruns 2019) and are selective about granting access to data capture tools, especially for large-scale quantitative projects. Due to this limitation, this chapter does not cover these methodologies. However,

### Digital media

Any media that is stored in a digital format, such as an image saved to a computer hard-drive rather than printed on a piece of paper. Digital media are dynamic and interactive, and can be rapidly reproduced, altered and communicated. As objects of research, most media can be made digital, but not all digital media can exist in an analogue format.

### Internet

A massive system of computer networks, that transmits and allows access to information between devices. The technology supports a range of services including telecommunications, file transfers and access to the World Wide Web (websites). The internet has no single physical location nor governing body; however, it is subject to local regulatory arrangements, such as copyright infringement or political speech.

### Internet research

Research that often uses website content as a source of data, and computer code as a tool.

### Social networking services

Websites and apps that allow users to connect in some way (e.g. through specific online activities, shared interests or their real-world relationships). These services are interactive, allowing users to consume, share and upload their own media. Users' profiles are tied together by connective labels (e.g. 'friend' or 'follower') and new content is presented in a continuous feed. Communications on these services may be broadcast (live videos), one-to-many (e.g. a blog or status update) or one-to-one (private messages and calls).

the lists of further reading and websites at the end of this chapter include resources from leading social media scholars, which explain these research approaches in more detail.

In health and medical contexts, internet and online research has great potential to generate evidence to inform research and professional practice, clinical interventions, primary prevention and health policy. There are, however, some specific considerations that health researchers should keep in mind when considering internet and online research. At times, online material can appear faceless and anonymous, but it is vital to remember that information shared online can be deeply personal. As health researchers, we must remain sensitive to the personal nature of individual experiences and disclosures. At the same time, we need to carefully consider what constitutes viable 'data' in internet research. In some cases, we can think of internet data as being analogous to other forms: the text of an interview transcript is very similar to a written blog post, for example. In other cases, it is more complex: is a 'like' on Facebook the same as a survey response?

It is also important to consider how the research-governing agency in your jurisdiction defines internet and/or online data. In Australia, the National Health and Medical Research Council's 'National statement on ethical conduct in human research' treats internet research data in the same way as offline research data. Like test results, biospecimens, administrative records, interviews, surveys and images, 'digital information that is generated by persons falls within the bounds of standard research data management procedures' (2018, p. 33). The National Statement also provides a valuable clarification: data are 'raw' while 'information' is data that have been 'interpreted, analysed or contextualised' (2018, p. 33). As an internet researcher, you may deal with anonymous or public 'raw data', but it is important to be sensitive and self-critical about how you transform data into 'information'. While the internet may offer novel forms of research material, we should not consider these sources as exempt from the usual practices of ethical and rigorous research.

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### STOP AND THINK

Consider the following questions regarding self-presentation on the internet.

- Is life on the internet the same as life offline?
  - Do you talk or share content differently in one online space compared to another?
  - What might your social media presence 'say' about you, to someone who does not know you?
  - Why is it important to consider these ideas before embarking on internet research?
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The constant presence of the internet in day-to-day life means that new research possibilities might arise without us even looking for them. Often, we are looking at potential data before we even form a clear research problem.

It is important to think about what kinds of research questions and research designs are appropriate for a digital context, and how they relate to or differ from other forms of health research. With the cyclical research process in mind (see Chapter 3), think carefully about what internet-based research can offer health researchers specifically.