

Chapter 2

Literature Review

2.1. Introduction

Deciding when to review the literature is an essential task for grounded theory researchers. To prevent pre-existing concepts and ideas from contaminating and influencing the development of a theory, Glaser and Strauss (1967) believe it should be conducted once the analysis is complete. Supported by Giles et al. (2013), this is a position which asserts that in grounded theory, a full and complete review of the literature is not necessary prior to embarking on a research project. This ensures that existing theoretical frameworks do not serve as a constraint; for example, by impacting the way in which researchers interpret and then analyse their primary data. However, in a revised version of grounded theory, Strauss and Corbin (1990) adopt a different stance based on their belief that researchers are fundamentally intertwined with their knowledge and personal experiences of the topic being investigated. According to this view, the literature used throughout the entire research process does not constrain the development of the theoretical model, but it fosters the process by offering essential reflective elements. Charmaz (2014) concurs, contending that the reflexive and creative process of GT research will not be hampered by a review of the literature to the extent that it impedes the emergence of any theory.

Accordingly, in the current research, the researcher elected to review the relevant literature at an earlier stage in order to situate her work within the existing body of knowledge and prevent any risk of duplication. Charmaz (2014) endorses such a strategy, arguing that it would be unfeasible for a researcher to be wholly unfamiliar with work in the relevant field. Moreover, the researcher needed to review the literature as a basis upon which to devise appropriate research questions. Again, Charmaz (2006) supports such a strategy as she believes a literature review illuminates the field of enquiry and helps in formulating research questions before commencing data collection. Another important point to make here is that doctoral students also need to show they are addressing a clearly identified gap in existing research. Indeed, Birks and Mills (2015) assert that although refraining from an early engagement with the literature can be epistemologically advantageous, at a practical level researchers are required to construct detailed research proposals embedded in an appropriate theoretical framework in order to justify their work and address the research questions they pose. With this in mind, the researcher conducted a comprehensive and broad literature review at an early

stage to ensure they fully understood the background to the work and had an explicit and justifiable rationale for carrying it out.

In line with grounded theory methodology, a second review of the literature was then undertaken following completion of the data analysis. The aim of this was to increase the theoretical sensitivity of the researcher and develop their awareness of the important ideas that were emerging. This is an effective strategy in grounded theory as, according to Charmaz (2014), the literature review is a process that continues beyond initial consideration of the existing literature. The second literature review focused on specific categories that emerged from the data analysis and were considered important for interpreting the data, and developing the theoretical model of this study (see Chapter 5).

This chapter presents a review of the extant literature associated with the utilisation of social media in healthcare, particularly nursing, from a global perspective as well as with a specific focus on Saudi Arabia. A structured review of the literature on the study topic is included, commencing with a summary of the search strategy and the inclusion/exclusion criteria. A description and exploration of the literature will be presented with a table summarising the included evidence. The chapter concludes with a discussion of the key findings and how these have informed the development of this research.

2.2. Search strategy

To retrieve relevant articles, a structured and non-systematic approach was adopted for the literature search. The databases and search terms used for this review are presented in Table 1. The initial literature review search was started in 2016 and was periodically refreshed until completion in 2019.

Databases searched	Web of Science, Science Direct, CINAHL, PubMed, PsycInfo, ERIC, Cochrane, EThOS, Google Scholar
Search terms	“social media”, “social networking sites”, “twitter”, “Facebook”, “YouTube”, “Snap Chat”, “nurse”, Nursing’, Nurs* “healthcare professionals”, “undergraduate”, “postgraduate”, and “students”

Table 1. Databases used and search terms adopted

2.2.1. Inclusion and exclusion criteria

The purpose of this literature review was to collate and synthesise articles describing the use of social media among nursing students and healthcare professions. As part of the search strategy, articles were considered for inclusion if they were:

- (1) Published in English;

- (2) Published in peer-reviewed journals or as PhD dissertations, conference papers, or grey literature;
- (3) Focused on social media (not on other aspects of technology, such as virtual learning environments);
- (4) Related to nursing or other healthcare professions.

As the purpose of this review was to retrieve all relevant articles on the topic, there was no restriction regarding the date of publication of the articles. The focus of the review was primarily on social media, and articles that focused on other aspects of technology, including virtual learning environments, were excluded from the review (Table 2). Following an initial screening of each article’s title and abstract, only articles that referred to the use of social media and were related to nursing and health profession students in higher education were included. PRISMA guidelines were followed in selecting the literature (Moher et al. 2009), and a flowchart of the identified and selected literature is shown in Appendix 1.

Inclusion criteria	Exclusion criteria
Published in English language	Not related to social media
Published in a peer-reviewed journal, PhD dissertation, conference paper, or as grey literature	Not related to nursing and healthcare professionals
Focused on social media	Related to virtual learning environments
Related to nursing or other health professions	

Table 2. Inclusion and exclusion criteria

2.2.2. Quality appraisal

The quality of the included studies was assessed using the Quality Assessment Tool for Studies with Diverse Designs (QATSDD) (Sirriyeh et al. 2012), as outlined in Appendix 2. As Fenton et al. (2015) note, the main benefit of the QATSDD is that it helps researchers to evaluate studies with various methodological designs. To use the tool, researchers are required to give each study a score on a scale of 0 to 3 for each of the evaluative indicators (Sirriyeh et al. 2012). To measure each indicator, a four-point Likert scale is used, from 0 (not at all) to 3 (completely). There are 16 indicators in the QATSDD, all of which are applicable to all methodological approaches. However, two of the indicators do not apply to qualitative studies and two do not apply to quantitative studies. Guidance notes in the QATSDD were used to help determine the selection for each score from 0 to 3.

2.2.3. Search results and study selection

322 studies were identified and screened using the inclusion and exclusion criteria. Following the removal of duplicates and full text screening, 13 studies (all of which were peer-reviewed) were included in the literature review. Studies selected for inclusion in the review utilised qualitative methodologies (n = 3), quantitative methodologies (n = 8), and mixed methodologies (n = 2). The studies retrieved originated from a wide range of countries, including: Australia, Brazil, Canada, China, Finland, Germany, Ireland, Mexico, New Zealand, Nigeria, Philippines, Saudi Arabia, South Africa, Thailand, the UK, and the US. The participants in six studies were nursing students, while those in the remaining seven were studying other professional healthcare disciplines, such as medicine and pharmacy. A summary of the 13 studies is provided in Appendix 3.

2.3. Quality Appraisal of Retrieved Literature

Using the QATSDD, two of the papers were rated “excellent quality” with few limitations (Nyangeni et al. 2015; Ferguson et al. 2016); nine of the papers were rated “good quality” (White et al. 2013; Tuominen et al. 2014; Campbell and Craig 2014; Alsobayel 2016; Alsuraihi et al. 2016; Benetoli et al. 2017; O’Sullivan et al. 2017; Alsaqri et al. 2018; Price et al. 2018), and two of the papers received a low score (Sattar et al. 2016; Smith and Knudson 2016). None of the appraised studies were excluded from this review on the basis of quality.

Based on the appraisal tool criteria, only four of the papers (Campbell and Craig 2014; Alsobayel 2016; Ferguson et al. 2016; Alsaqri et al. 2018) provided a statement on the theoretical framework used. One of the studies (Smith and Knudson 2016) did not provide a statement of aims and objectives in the main body of the report, or explain the sample size choice. Four of the studies (Alsobayel 2016; Alsuraihi et al. 2016; Sattar et al. 2016; Smith and Knudson 2016) used a small sample size, which represented only a limited portion of the target group. Four studies (Tuominen et al. 2014; Nyangeni et al. 2015; Ferguson et al. 2016; Benetoli et al. 2017) gave a limited explanation for the selection of the data collection tool used. The study by Smith and Knudson (2016) achieved the lowest score based on the QATSDD. Despite the limitations identified in this study, it was not excluded. As Noyes et al. (2008) stated, valuable insights can still be gained even from studies that are below the “gold standard”.

Of the quantitative studies, only two (Tuominen et al. 2014; Alsuraihi et al. 2016) discussed the reliability and validity of the measurement tool, although this was not statistically assessed. With the exception of the studies by Campbell and Craig (2014) and Tuominen et al. (2014), none of the studies linked the research question to the data collection method employed. Of the qualitative studies, two (Nyangeni et al. 2015;

Benetoli et al. 2017) used a data collection tool that could partly address the research question. Four of the studies (Tuominen et al. 2014; Campbell and Craig 2014; Nyangeni et al. 2015; Benetoli et al. 2017) used a method of analysis that addressed the fundamental aspects of the research question, while two (O’Sullivan et al. 2017; Price et al. 2018) gave no explanation for their choice of analytical method.

From the mixed-method papers retrieved, two (White et al. 2013; Smith and Knudson 2016) contained no description of reliability testing for their chosen analysis. Six papers (White et al. 2013; Campbell and Craig 2014; Nyangeni et al. 2015; Ferguson et al. 2016; Smith and Knudson 2016; Price et al. 2018) presented no evidence of a pilot study or user involvement in the research design. Three of the studies (Smith and Knudson 2016; O’Sullivan et al. 2017; Alsaqri et al. 2018) did not discuss the strengths and limitations of the research.

2.4. Key themes

An increasing number of researchers from a range of countries have begun to examine the use of social media in the nursing and health professional fields, focusing on issues such as unprofessional behaviour (Smith and Knudson 2016), responsible social media use (Nyangeni et al. 2015), and the use of social media in nursing and medical education (White et al. 2013; Tuominen et al. 2014; Campbell and Craig 2014; Alsuraihi et al. 2016; Ferguson et al. 2016; O’Sullivan et al. 2017; Price et al. 2018). The following subsections outline the key themes that emerged from the review of the papers included.

2.4.1. Social media use among nursing students

Globally, studies have investigated the professional use of social media (Tuominen et al. 2014; Nyangeni et al. 2015; Smith and Knudson 2016; Ferguson et al. 2016; Price et al. 2018). The authors of such studies have tended to describe the inappropriate use of social media as “unethical”. However, given that such behaviour is widely described by professional bodies, including the UK Nursing and Midwifery Council (2015) as “unprofessional behaviour”, the latter is the term the researcher elected to use.

2.4.1.1. Unprofessional behaviour amongst nursing students

Two of the studies included in this review investigated the professional use of social media by nursing students. One of them explored and described the perceptions of nursing students regarding the responsible use of social media (Nyangeni et al. 2015). The other focused on exploring differences in student nurses’ unprofessional behaviour by age (Smith and Knudson 2016).

The qualitative explorative study by Nyangeni et al. (2015) investigated the responsible use of social media among nursing students in South Africa. The study demonstrated

that social media use among nursing students blurred professional/personal boundaries and reduced accountability, with nursing students being found to post personal images of patients (including images of infants with congenital abnormalities, patients experiencing hallucinations, and patients' genitals) on social media sites.

Smith and Knudson (2016) used a mixed-methods design to examine unprofessional online behaviours among nursing students in Texas. The Hilbert Unethical Behavior Survey-Modified (HUBS-M) was used; however, no details of the survey were provided. The results demonstrated that there was a significant correlation between social media use and unprofessional behaviour among student nurses, with notable generational (i.e., millennial/non-millennial) differences in unprofessional conduct. This study did not determine common themes of unprofessional behaviour, nor take unprofessional offline behaviour into account and explain the measures or definitions of unprofessional online behaviour used.

These studies highlight a lack of awareness of professional social media use among nursing students. Furthermore, there is a need for specific guidelines for social media use among nursing students (Nyangeni et al. 2015; Smith and Knudson 2016). Two studies from different countries reached similar conclusions, suggesting that these issues are global rather than local.

2.4.1.2. Social media use in education of nursing students

One study included in this review widened the scope to include many social media platforms and highlighted the lack of social media use in education (Tuominen et al. 2014). Two of the studies focused on specific platforms, including Twitter and Facebook, and stressed the importance of social media in education (Ferguson et al. 2016; Price et al. 2018).

Tuominen et al. (2014) outlined the lack of social media use in the education of nursing students. Their descriptive survey from Finland investigated nursing students' social media usage for both study and leisure, and found that student nurses used social media more frequently in their free time than as part of their studies. The study did not explore the possibility of educational use of certain platforms (e.g., blogs), which were used by the students during their free time. The participants' social media skills were based on self-reports, with a statistically significant correlation found between age and self-reported skills (i.e., younger students reported the highest social media skills).

The UK-based study by Price et al. (2018) explored first-year nursing undergraduates' perceptions of Twitter. This study offered numerous insights into students' experiences of social media use in education. Most students perceived social media to be an

engaging platform for information exchange and discussion, and many of the students reported that they accessed and shared nursing information via Twitter.

The focus group study by Ferguson et al. (2016) in Australia investigated the role of social media in student nurses' adaptations to and participation in university life had similar findings. The impact of social media in this study was classified into three themes: joint working, independent learning, and risk reduction. Students reported that they used Facebook to complete group assignments, remind peers about deadlines, ask questions about subjects, or seek answers. This was in line with the findings of Goldsworthy (2012) in that using e-learning increased nursing students' confidence and assisted them in becoming engaged and active learners. It also promoted the transfer of learning from the simulation lab to the clinical area.

While few studies have examined the use of social media among nursing and healthcare professionals in Saudi Arabia, a recent quantitative, non-experimental study by Alsaqri et al. (2018) aimed to identify the relationship between Saudi nursing students' social media usage and study habits. The authors suggested that the student nurses' study habits might improve through the use of social media. Students stated that social media provided them with opportunities for group discussions and refreshed their minds on content taught in class. However, the latter point was not explained, and there was no mention of lecturers facilitating the use of social media for this purpose. Additionally, the paper did not mention the potential for misinformation between students sharing subject content.

In summary, most studies exploring students' perceptions towards the use of social media platforms in education confirmed that nursing students have positive perceptions.

2.4.2. Social media use among healthcare professionals

The use of social media among healthcare professionals has been investigated by numerous researchers worldwide, and three main themes emerged from the pertinent studies included in this review.

2.4.2.1. Unprofessional use of social media

The Canadian mixed-method study by White et al. (2013) explored student healthcare professionals' experiences and attitudes towards Facebook. The study demonstrated that Facebook was widely used among healthcare students, and that the majority of students deemed it unprofessional to create posts relating to patient information, sexual content, criticism of others, criminal activity, or the use of drugs and alcohol. Benetoli et al. (2017) explored how pharmacists share professional and personal information on social media and found that very few participants separate these two categories of information.

2.4.2.2. *Social media use in healthcare professional education*

O'Sullivan et al. (2017) examined the opinions of students regarding social media use in health science education and found that most students already used social media for direct educational purposes. Similar findings were reported by Campbell and Craig (2014) in their US study, which examined how student health professionals used social media. Facebook was the most commonly used social media platform, both academically and personally. A cross-sectional methodology was employed by Sattar et al. (2016), with a questionnaire to explore Saudi medical students' opinions on the use of social networking sites to acquire medical knowledge. The participants reported a positive attitude towards social networking sites, and they used the sites regularly to promote and enhance their knowledge. A similar study by Alsuraihi et al. (2016) examined the use of social media in education among Saudi medical students. Many students in this study reported the frequent use of social media (particularly YT) for educational purposes; however, the study did not thoroughly explain its underpinning theoretical framework, and the interpretation of the results was also limited.

These studies also suggested that social media platforms, when integrated into educational activities, have substantial impacts on healthcare professionals.

2.4.2.3. *Professional development*

The above major themes pertained to professional education, while the interrelated theme of professional development *per se* was also addressed by Alsobayel (2016), who conducted a quantitative, cross-sectional online survey study to examine the use and benefits of social media for professional development among healthcare professionals in Saudi Arabia. The results supported the belief that social media use is beneficial to professional development, due to its impact on knowledge acquisition and problem-solving (although participants perceived the enhancement of clinical skills as more beneficial). This pilot study did not examine participants' personal social media use, and was conducted with a small number of participants who were already active online or who already used social media for professional development.

In summary, the above studies mainly focused on quantitative approaches to superficially explore the professional and educational uses of social media by healthcare professionals, with an absence of in-depth explanations of the findings.

2.5. Discussion

The use of social media is evolving and increasing rapidly in the fields of nursing and healthcare. This review identified and appraised literature to explore the use of social media by nursing students and healthcare professionals. The review identified two key

themes: the unprofessional use of social media, and the use of social media in education. The studies examined in this review addressed the main ethical issues of using social media regarding students' professionalism and patients' privacy and confidentiality (White et al. 2013; Nyangeni et al. 2015). Scott et al. (2020) identified the same areas of concern, including issues of e-professionalism, privacy, and confidentiality.

A related review by De Gagne et al. (2018) reported that a breach in confidentiality can harm the patient as well as professional and organisational reputations. An example of a patient confidentiality breach, in terms of obtaining consent, was that students did not always obtain consent from patients before posting their information on social media, and instead befriended their patients to make them feel at ease before taking and posting their pictures (Nyangeni et al. 2015). In terms of negative consequences, such confidentiality breaches can lead to students losing or not being able to get jobs due to unethical or inappropriately posted content (Nyangeni et al. 2015). The main concerns from a study by Justinia et al. (2015) were patient confidentiality and potential ethical and legal consequences.

Regarding social media guidelines, Nyangeni et al. (2015) showed that students were unaware of any widely acceptable description of the accountable uses of social media. Price et al. (2018) found that some students were aware of the dangers associated with using social media and the need to incorporate professional and university guidance. Thus, this review emphasises the importance of providing updated and timely policies and guidelines for the use of social media by students in nursing and healthcare fields. Similar to this review findings, those of Scott et al. (2020) highlighted the need for clear policies and guidelines on social media use to reduce ethical issues. Moreover, Guraya et al. (2019) warned of the lack of strict guidelines for social media use in higher education.

As an educational tool, social media has been stated to have numerous benefits for students, including communication, information sharing and group discussions. For example, Price et al. (2018) reported that students used Twitter as a communication tool to access and share information in nursing education and to offer inspiration. Additionally, Alsaqri et al. (2018) highlighted that social media platforms assisted students in obtaining course reviews and it inspired their group discussions.

A number of studies have documented the benefits of social media use for students, but it is also important to pay attention to the role of faculty members. As mentioned by Alsaqri et al. (2018), students recommended that faculty members should incorporate social media in nursing curriculums to enhance communication and learning and to teach students how to use social media positively. In line with this, O'Connor et al. (2018) stated that faculty members could encourage nursing students to participate in designing

and evaluating their own social media education activities, which could help improve learning.

A strength of this literature review is its comprehensive and structured examination of the relevant literature (including quantitative, mixed-method, and qualitative studies) in order to better understand how nursing students and healthcare professionals use social media in education. Furthermore, the quality appraisal of the included literature was conducted using the QATSDD. The key advantage of the QATSDD is that it enables researchers to evaluate studies with different methodological designs (Fenton et al. 2015).

Limitations of this review are the inclusion criteria and the methodological quality of the studies reviewed. Only studies conducted in the English language and published in peer-reviewed publications were included. The review is also limited by the quality of the studies examined, in particular those that employed mixed method designs. For example, the study by Smith and Knudson (2015) did not identify any common themes regarding student nurses' unethical behaviours. Such a determination would highlight to what extent these themes are evaluated by authors. More comprehensive qualitative research is warranted in the future, to gain a deeper insight into the usage of social media in nursing and healthcare education.

Ensuring that nursing and healthcare profession students are using social media to enhance their education, while emphasising the importance of the ethical and professional uses of social media, is an important implication of this literature review. Moreover, there appears to be a clear need for guidelines on social media use specific for nursing students. This is in line with the findings of De Gagne et al. (2018), which stated that establishing and updating social media guidelines in nursing schools is critical in nursing education. These authors also highlighted the importance of raising the awareness and understanding of social media policies in both students and faculty.

Thus, De Gagne et al. (2018) recommend that higher educational institutions consider embedding social media proficiency as an essential element when designing educational curricula for nursing and healthcare majors. It is also important to educate both students and faculty about social media policies and their utilisation in education. In line with this, Jones et al. (2016) suggested that nursing schools should consider the use of Twitter for a short course in digital professionalism in their educational curriculum. Similarly, Guraya et al. (2019) stated that educators could perform the necessary curricular changes to include social media for educational purposes.

2.6. Summary of findings

An initial and wide-ranging review of the literature was undertaken by the researcher to ensure a comprehensive understanding of the background issues germane to this research, and to explain the rationale of the research to major review examiners. The purpose of the literature review was to synthesise findings from previous studies regarding the usage of social media in the nursing and health professional fields. The literature review indicates that studies worldwide, since the initial emergence of social media platforms in the twenty-first century, have examined the professional and academic use, impacts, and challenges of social media from several perspectives, applying quantitative, qualitative, and mixed-method approaches. Broadly speaking, researchers, including several studies undertaken in Saudi Arabia, have found that there are substantial challenges of social media in terms of responsible use, unprofessional behaviour, and ethical considerations; nevertheless, platforms such as Twitter and Facebook offer valuable educational and professional opportunities for joint working, independent learning, networking, and other benefits for healthcare education and professional development.

A major challenge identified in the literature concerning social media use among both nursing students and healthcare professionals relates to the opportunities the technology creates for unprofessional, unethical, and inappropriate conduct. Studies from both Canada and South Africa found that healthcare students were aware of the importance of not sharing patient information on social media or engaging in other types of irresponsible behaviour in a clinical setting (White et al. 2013; Nyangeni et al. 2015), but other studies reported generational differences in levels of professionalism, suggesting that younger nursing students are more likely to exhibit problematic conduct due to social media use (Smith and Knudson 2016). On the basis of these findings, as recommended in the literature itself, there is a research gap in terms of the need for improved guidelines and awareness-raising concerning social media use in healthcare, which this study contributes towards addressing.

The lack of social media use in education was another key challenge identified in the literature review. As a global and not just a local issue, researchers in various settings – ranging from Finland to Saudi Arabia – have found that nursing students and healthcare professionals typically use social media more frequently for leisure rather than academic or professional purposes. However, at the same time, this literature review cites multiple studies attesting to the benefits of social media for educational and professional use in the nursing and health professional fields, which include motivation, independent and group learning, and communication. For this reason, increasing the usage of social media, including universities facilitating social media for educational purposes, is a

worthwhile area for future development in the healthcare field, especially if the abovementioned challenges can be addressed.

Taken together, the literature in this field indicates that social media has benefits as well as challenges for professional development and academic development among nursing students and healthcare professionals. Social media can help students become more confident, engaged, and active learners, and it can assist to translate learning from theory to clinical practice. Along with this, however, the negative aspects of social media should be balanced, potentially by leveraging tools such as social media usage guidelines and professional development courses.

Further research on social media use in nursing studies and the healthcare professions is essential, in order to better understand how students use social media in their lives, and how their educational and professional development can be enhanced by its use. This may enable students to maximally benefit from using social media for themselves, their patients, and for their professional development, improving the quality of service they provide, and thus resulting in better patient and health system outcomes.

2.7. Chapter summary

This chapter has broadly reviewed studies on social media usage in the fields of nursing and healthcare. The search strategy and inclusion/exclusion criteria have been summarised, accompanied by details of the studies obtained via the search strategy applied. The following chapter explains the methodological and philosophical aspects of this qualitative research, as well as details on the data collection and analysis processes.