

Chapter 5

Discussion

5.1. Introduction

The main objective of this study was to examine the experiences and perceptions of female Saudi nursing students regarding their usage of social media whether for personal or academic reasons. It also sought to identify positive and negative influences based on the students' perspectives. The preceding chapter presented the key findings. In line with the constructivist grounded theory approach, a second review of the literature was performed following the analysis of the data. This was to enhance the theoretical sensitivity of the researcher and raise their awareness of the principal ideas that emerged. Charmaz (2014) asserts that such a review should be aligned to the particular aims and central thesis of the research. To meet this aim, the chapter presents the main categories generated by the analysis, including personal interests, extending knowledge, and challenges, in the context of previous work. It concludes with a comparison between existing theories and the theoretical model developed for this research.

5.2. Review of the literature in relation to the findings

In accordance with grounded theory methodology, the researcher conducted another literature review upon completion of the data analysis in order to compare the theoretical findings with those of existing theory and research (Charmaz, 2014). The focus was on the particular categories and subcategories developed during the analysis that were deemed essential in making sense of the data and devising the theoretical model (see Chapter 5).

The second review commenced in August 2021 and continued until the work was completed in January 2022. A structured and non-systematic strategy was employed to identify relevant works. Table * lists the databases that were used and the search terms that were employed.

Databases searched	CINAHL, ScienceDirect, Journals@OVID, ProQuest, Web of Science, PsycInfo, ERIC, Cochrane Library, Google Scholar and EThOS.
Search terms	<i>“Personal interests”, “Extending knowledge”, “Challenges” “Connection and collaboration” “Social media features” “self-concepts”, “Building understanding” “Planning and organisation skills” “Quality of information” “Distraction and loss of attention” “Time-consuming”, “Internet connection” (combined with “social media”, “nursing”).</i>

search strategies	<ul style="list-style-type: none"> - To combine key terms, Boolean operators AND, OR and NOT were used. - To increase the efficiency of the search, several databases were searched at the same time using a bigger search engine - The “Find similar results using SmartText searching function” in EBSCOhost searches was used - To ensure all related terms were captured, truncation was used (e.g., Nurs*, learn*, knowledge*, challenge*).
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Table*. Databases used and search terms and search strategies employed

The search strategies used were the same as those for the first review, and involved searching electronic databases for relevant journals and then identifying additional articles using the reference lists of these papers as suggested by Horsley et al. (2011). The review principally focused on social media, which meant that papers concentrating on other elements of technology, such as virtual learning environments, were not included. To ensure the literature was up-to-date, the review was restricted to work published in the last 5 years. Although in excess of 2350 results were generated by the search terms, only 36 papers met the inclusion criteria. Further scrutiny revealed that just 17 of these papers focused on the topic under investigation. Initial screening of the title and abstract of each paper enabled the researcher to select those which were relevant to nursing students in higher education and referred to social media usage (Table *).

Inclusion criteria	Exclusion criteria	Rationale
Published < 5 years at time of search	Published > 5 years at time of search	Publications > 5 years old may not reflect current nursing students' usage of social media
Published in the English language	Published in a language other than English	Translation would be required
Focused on social media	Not related to social media	Relevant to the topic of the research
Related to nursing students	Not related to nursing students	Relevant to the sample recruited for the research

Table *. Inclusion and exclusion criteria

5.3. Personal interests

Personal interests concern the individual desires or wishes that drive nursing students to participant in certain activities on social media platforms. This was considered a core category due to the fact it appeared to be vital in elucidating how nursing students engage with each other and work together, increase their knowledge, and tackle challenges. Its close relationship with the other categories rendered this the core category. This finding is supported by previous work; for example, Skinner (2009) argued

that personal interest is the factor that underpins each person's reasons for engaging in online activities. The personal interests of students can therefore be captured through the careful design of online activities. For instance, Chen and Bryer (2012) found that the social media activities undertaken by learners' are based less on the requirements of institutions or teachers and more by their personal preferences and interests. Moreover, Zarrinkalam et al. (2020) found that the effective enhancement of user engagement leads to social media being viewed as a reliable source of information. For instance, Valdez et al. (2020) pointed out that most social media platforms are centred around the shared interests of users, resulting in increased levels of communication and socialisation. Especially relevant to this study, Zhu et al. (2021) found that nursing students' attitudes towards social media are predicted by their reasons for using social media and for engaging with others online. O' Connor et al. (2018) argued that these individual motivations then shape the nature of online interactions and usage of social media. Harackiewicz et al. (2016) therefore concluded students are likely to be better motivated and engaged if their interests are promoted.

Analysis of the data suggested that this category could be divided into the three subcategories: connection and collaboration (both personal and academic), social media features and roles (in their lives), and self-concepts, such as self-development, online self-presentation, and self-control. Each is discussed in turn in the following sections.

5.3.1. Connection and collaboration

Numerous studies have focused on the use of social media platforms by nursing students to connect and collaborate (Kakushi and Évora 2016; Scott and Goode 2020; Giroux and Moreau 2021; Guven Ozdemir and Sonmez 2021; O'Connor et al. 2021; Zhu et al. 2021). In the current research, nursing students explained that they use social media platforms to connect and collaborate for both personal and academic reasons. The platforms they used most regularly were WhatsApp, Instagram, YT, Snapchat, and TikTok. The reasons they gave for using these were varied and included socialisation, entertainment, collaboration, communication, and academic work. The current findings are supported by Alharbi et al. (2021) who also found that undergraduate nursing students used social media for a variety of reasons, principally to fulfil personal, academic, and indeed their professional requirements. For instance, they used social media to connect with friends, to seek social support, for entertainment, enhance learning, develop their professional identity as nurses, share work-related experiences and identify job opportunities. Earlier work by Alharbi et al. (2020) showed that nursing students used WhatsApp, Twitter, Telegram, and Instagram to connect and share information in groups associated with Saudi nursing, YT to watch clinical procedures, and Snapchat and WhatsApp to keep in touch with family and friends.

In the current study, similar patterns were identified in terms of the use of different platforms for specific purposes. For instance, the nursing students used Twitter to keep themselves informed about the latest news, academic developments, and nursing-specific opportunities announced by university departments, WhatsApp to arrange academic and social events, and YT to watch educational videos. Overall, students regularly used at least two of these platforms.

The diversity of ways in which most people use a wide range of communication media in contemporary society make has been defined as polymedia by Madianou and Miller (2012). They argue that users make effective use of multiple platforms to manage different forms of relationships, as each platform has a particular utility that differentiates it from others (Madianou, 2014). Moreover, users also select different platforms on the basis of the possibilities they offer for varying forms of communication (Madianou and Miller, 2013). Tandoc Jr et al. (2019) posits that polymedia offers a conceptual framework for contextualising the social media environment as one that provides unique as well as shared features which social media users view as constituents of a greater whole rather than separate, self-contained entities.

5.3.2. Social media features and role

In this category, the nursing students highlighted the main features of social media platforms they find most useful. For instance, they highlighted the practical utility of being able to use social media applications created specifically to provide nursing-related education and assist in the development of associated skills. With regard to current social media platforms, students largely agreed that there were multiple personal and academic benefits to be derived due to core features such as their simplicity, efficiency, affordability, flexibility and accessibility. It therefore came as no surprise to learn that such platforms now form an integral part of the daily routines for these students. Numerous studies have identified the many benefits social media platforms offer for nursing students (Ramage and Moorley 2019; Daigle 2020; Geraghty et al. 2021; Jones et al. 2021). For instance, Valdez et al. (2020) found that by taking into consideration their usability, accessibility, reliability, and efficiency, the benefits and utility of social media platforms were perceived to a moderate degree by nursing students. With respect to efficiency in particular, students explained that such platforms taught them how to correctly implement nursing techniques and increased their capacity to deliver nursing care. Overall, students preferred to use social media platforms for educational purposes because it was readily accessible.

Conversely, doubts were raised about the value of social media platforms by some participants. They stated that the extent to which social media platforms are important depends on context: specifically, time, mood, and the nature of the activities undertaken.

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This aligns with research by Giroux (2020), who found that factors such as institution, educators, learning requirements, and individual characteristics influenced whether nursing students chose to use social media.

In the current study, another notable finding in this study is that the majority of the students felt that the popularity of social media platforms would increase in the future not only in Saudi Arabia but also around the world. This is supported by Gulzar et al. (2021) who reported that in recent years, social media has become increasingly popular among people from all backgrounds, not just students. Mersin et al. (2020) stated that this increasing popularity is driven by the fact social media applications offer a real-time and dynamic mode of communication.

5.3.3. Self-concepts

This subcategory addresses aspects of the self-concept such as self-development, self-presentation online, and self-control. The importance of exercising self-control is not surprising given the multitude of purposes served by social media platforms, including connection, entertainment, and learning. The nursing students were acutely aware that to succeed academically and professionally, they needed to be able to manage and control their use of social media platforms. To achieve this, they employed a variety of strategies, such as assigning particular timeslots for study, but all agreed that self-control would enable them to enjoy the pedagogical and entertainment advantages of social media platforms. Moreover, self-control also enabled the nursing students to minimise any negative effects of using social media. The value of self-control is highlighted throughout the literature. For instance, Fauzi et al. (2021) found that if used wisely, social media enhances the academic performance and productivity of students. The authors also found that social media did not have any negative impact on academic performance. Mukhtar et al. (2018) agreed, arguing that social media is a positive phenomenon and that its use should be encouraged as it not only enhances academic performance but also facilitates interaction with teachers and peers. This aligns with research by Oducado et al. (2019), who found that social media was widely used by nursing students who viewed it positively and emphasised the importance of using it responsibly.

With regard to the subcategory of self-development, most nursing students identified improvements in their communication, academic, and nursing skills. This also applied to nursing-specific knowledge, and particular abilities in the domains of research, language, reading, and information retrieval. Such findings accord with those of Isik and Jallad (2019) who reported that with respect to nursing education, that social media has immense practical value as it enhances develop educational, communication, and organisational skills, enables students to exchange information, and enhances clinical experiences. Additionally, Guven Ozdemir and Sonmez (2021) asserted that social

media may be more beneficial than traditional (face-to-face) education may be more beneficial in enhancing the clinical skills of nursing students, as it can reduce anxiety and strengthen self-confidence, perceived competence, self-efficacy, and levels of satisfaction in relation to both theoretical knowledge and practical skills.

One of the social media platforms most frequently cited by the students was YT, which was lauded for the fact it provided students with an enormous library of academic and practical resources free of charge. Having said this, others doubted whether YT videos could ever really serve as a viable alternative to real-world development and training. For instance, Savci et al. (2021) stated that clinical skills and theoretical knowledge are the principal, indivisible elements of nursing education. Although education can teach psychomotor skills and cognitive readiness through the use of online videos and virtual simulations; face-to-face teaching is still required for applied elements of the teaching. Although most students were happy with online learning, which fulfilled certain cognitive aims; this approach alone was not sufficient to equip them with the technical and clinical skills they require. They also requested the use of clinical and laboratory settings to bolster their theoretical knowledge. Cathala et al. (2021) also made a distinction between using YT as a means of acquiring skills through demonstrations and using Twitter as a means for sharing, discussing, and reinforcing theoretical knowledge pertinent to nursing.

Regarding online self-presentation, the following key points emerged from the interview data. First, students used anonymous social media accounts for different reasons, such as academic communications, family communications, and so on. Smith (2016) found that students often voiced concerns over issues such as anonymity and privacy, and wished to have a level of control over what they share and to remain anonymous to protect their privacy and keep their social life separate from their academic life.

In terms of the actual activities students engaged in on social media platforms, this tended to be at a high level when performed for academic and communication reasons like study groups on WhatsApp. Indeed, research by Mukhtar et al. (2018) noted this for nursing students in particular, who were able to maximise the value of different platforms in accordance with their academic or personal needs. Alsayed et al. (2020) also identified a high level of use among nursing students wishing to actively acquire information and engage with others, an approach that appears commensurate with their educational requirements.

In the current research, most participants appeared to use at least two social media platforms on a regular basis. In contrast to postgraduate students, undergraduate students seemed to make greater use of innovative platforms like TikTok. This aligns with research conducted by Cathala et al. (2021), who found that two factors which

impact the use of social media by student nurses are generation and year. Regarding the former, younger generations tend to use social media more often for educational purposes. For instance, first-year nursing students are visual learners who are more accustomed to social media use and therefore make greater use of YT, whereas older nursing students prefer to use Twitter to obtain articles and discuss key issues.

With respect to the use of TikTok, Rukavina et al. (2021) noted how this platform is becoming increasingly popular among students yet the content is time limited. Novel research is therefore required to understand how the youngest generation of nursing students are making use of these types of social media platform.

5.4. Extending knowledge

This main category refers to how nursing students utilise social media platforms to increase their knowledge, enhance understanding, and help them with planning and organisation. It also encompasses the recommendations made by students regarding certain social media applications they felt others should use. In terms of the extant literature, Griffin et al. (2021) found that that nursing students acknowledged the value of social media as a means of enhancing their knowledge or disseminating this with others. Education through social media was therefore perceived as means of enhancing their professional development and enabling them to engage with others on a professional level through such platforms. Specifically in relation to Saudi undergraduate nursing students Alharbi et al. (2020) found that they used social media to further enhance their knowledge of nursing. Moreover, Mukhtar et al. (2018) found nursing students perceive the use of social media as an effective way to acquire and exchange knowledge. Similar results were obtained by Al-Shdayfat (2018), who found that nursing students exhibited a positive attitude towards using social media as means of enhancing their education, Moreover Honey and Raphael (2017) highlighted the fact that social media offers a readily accessible way to acquire information in a multitude of formats while fostering greater collaboration and interactions. As such, it simultaneously enhances both their communication skills and technological skills.

The core category of extending knowledge was further divided into the following subcategories: building understanding, planning and organisation, and recommending social media applications. Each will be discussed in more detail in the following sections.

5.4.1. Building understanding

This subcategory encompasses the way in which nursing students utilised social media platforms to enhance their general, academic, and domain-specific knowledge by refining their skills, verifying information, and assisting memorisation. Most of the

participants reported that making use of one or more social media applications was immensely valuable as a means of increasing their understanding. Specifically, many of the participants cited YT as a vital, readily accessible, and free way to enhance their understanding of nursing-specific and more general academic topics. This aligns with the work of Ross and Myers (2017) who reported that the enormous range of educational videos hosted on YT can be employed to enhance levels of student engagement the classroom via the application of knowledge, critical thinking, active learning. For instance, it enables, nursing students to view brief but relevant extracts from full-length programmes, examples of therapeutic nurse-patient communication, the correct implementation of clinical skills, and acquire education materials for patients.

In the current research, the students stated that the use of such media positively enhanced their nursing-specific skills, language skills and overall academic skills. Another critical benefit of social media platforms in terms of enhancing understanding was that it helped to assist in the important skill of memorisation. For instance, several participants described using YT videos to help them memorise essential facts prior to exams. This is supported by research conducted by Bal and Bicen (2017) which found the active acquisition of information on social media by students constituted an efficacious form of learning as it facilitated the easy exchange of information. This enhanced levels of academic achievement, fostering an environment that, in conjunction with other multimedia tools, and increased motivation levels among students. Bal and Bicen (2017) also argued that a key advantage of social media from an educational perspective is that lessons and broadcasts can be paused or repeated, enabling students to learn at the pace the suits them best. Moreover, in terms of student-centred education, it facilitates cooperative learning and communication with teachers, which is an extremely positive benefit. Likewise, Smith (2016) found that social media helps nursing students increase their understanding of topics and important theoretical concepts. Students often use sites such as YT to elucidate material which they can then review and revisit in bite-size manageable chunks. Such materials can take the form of essential equations, important definitions, and animations used to illustrate particular topics.

O' Connor et al. (2018) also found that for nursing and midwifery students social media not only assists in acquiring key knowledge and skills, and also increased their confidence and helped them to build personal and professional and networks. Other essential abilities acquired by these students through social media interventions were those relating to communication, research, stress management, digital literacy, and study skills. In addition, the midwifery students stressed that high quality videos on YT constituted an effective teaching tool. Research conducted by Wahila et al. (2018) also

found that in a WhatsApp Group, nursing students shared knowledge acquired in class and best practices to enhance their levels of knowledge, which had a positive effect in terms of enhancing clinical placement learning. Additionally, Giroux and Moreau (2021) reported that the use of social media use enables nursing students to forge important links between the content encountered on their nursing courses and that which they encounter during their free time. This can help to bridge any gaps in nursing education. Furthermore, social media enables nursing students to build on classroom content, share resources prior to clinical rotations, discuss clinical experiences with their fellow students, and ensure they are able to handle the important transition involved in practicing as a new nurse.

In terms of increasing their language skills, Mukhtar et al. (2018) found that social media was useful in increasing the English proficiency of nursing students by introducing them to new sayings and phrases.

Although a number of students continued to prefer the use of conventional approaches to teaching such as seminars and lectures, all generally accepted that social media platforms offered substantial educational benefits. This aligns with research by Smith (2016) who found that some nursing students deliberately avoid using social media platforms as an educational tool as they perceived there to be greater value in the use of traditional resources (e.g., printed books and face-to-face teaching). Indeed, students often stated that the ideal approach was to combine online teaching with face-to-face tuition instead of relying entirely on technological methods.

5.4.2. Planning and organisation skills

The analysis of the interview data indicated that nursing students, used social media platforms in diverse ways to help with study skills, time management, and academic preparation. While most explicitly stated that social media platforms were essential in preparing for exams, they were aware of the inherent problems that arise regarding the level of information on these platforms that is largely unreliable. For instance, Giroux and Moreau (2021) found that social media was primarily used by nursing students as a means to collaborate with one another and prepare for nursing school and NCLEX exams. A number of these students, however, were uncertain as to the reliability and accuracy of online information. Likewise, with respect to exam preparation, O' Connor et al. (2018) reported that several nursing and midwifery students felt rapid replies to their posts had a positive impact on exam preparation, but the quality of information was highly variable. It was relatively easy to disseminate misinformation and even if it were accurate, such information may be incorrectly interpreted by students.

In the current study, the nursing students highlighted the advantages of certain social media platforms like WhatsApp in enabling them to form study groups that enhanced their capacity to plan and manage their academic work. Effective organisation and planning was also facilitated by the capacity of most social media platforms to support real-time communication, file-sharing, and information exchange. Indeed, Nuuyoma et al. (2020) reported that nursing students exhibit an extremely positive attitude towards WhatsApp, viewing it as a highly valuable and convenient tool for communication in higher education as it facilitated discussions, content sharing, and freedom of expression. The multi-functionality of WhatsApp in terms of voice calls, voice notes, small group calls, and video calls was also highlighted as a notable advantage of WhatsApp. Furthermore, it enables multiple documents, large-sized documents, media, and other forms of content to be shared among the users of a large group. Such advantages were highlighted in a study by Mohamed and Mostafa (2020) who found that nursing students used different types of social media as tools to acquire information, communicate with others, chat in groups, share their status, and upload videos or pictures.

With respect to time management, in the current study the participants agreed that particular aspects of social media platforms are extremely valuable, such as the screen time feature on iPhones. This is important as several studies have emphasised the importance of time management, skills in nursing. For instance, Nayak (2018) identifies this as a crucial skill in the academic and professional lives of nursing students as they will need to be able to deal with unexpected emergencies and crises whilst at work. It is therefore essential for nursing students to understand the need for, and to acquire effective time management skills. Similarly, Said (2014) highlighted the need for nurses to be organised as their occupation is both stressful and demanding. The successful and productive management of time can be achieved through effective planning and good organisation, along with efficacious implementation of the plan and a negative attitude towards wasting time. Notably, Altiner Yas et al. (2021) reported that nursing students with superior time management skills also report higher levels of academic achievement. In research in the study skills of nursing students from five countries, Valdez et al. (2020) found that all perceived time management as crucial, and thus adhered to a rigid schedule when using social media platforms.

5.4.3. Recommending social media applications

The social media application most frequently recommended by the nursing students in this study was YT. Its value was perceived to lie in its ability to function as a vast repository of information, its user-friendly search functionality, the fact it can provide information specific to nursing, and its convenience. Indeed, one participant felt that all students should be taught how to use YT effectively as an academic resource. Another

platform that was highly recommended was WhatsApp, due to its ability to facilitate timetabling, data sharing, the receipt of real-time updates, and the creation of study groups. Such findings align with those of Alsayed et al. (2020), who found that most nursing students perceived YT to be a useful learning resource whilst also taking part in WhatsApp groups to support their education. Indeed, WhatsApp was extremely popular and was used as the primary means of getting in touch with fellow students and teachers. This suggests that nursing students can potentially engage in specific methods of learning through WhatsApp. In the current study, another social media platform that was frequently recommended was Twitter, due to its general use was by staff members and government or university departments. Its value is elaborated on in research by Isik and Jallad (2019) and Ross and Myers (2017) who found that Twitter promotes reflection and higher levels of thinking, supports active learning, and encourages interactions among students and between students and staff, which increases levels of collaboration and a sense of community. As such, it enhances the clinical decision-making abilities of nursing students.

Due to its file-sharing capabilities, Telegram was also recommended as a useful social media application by the students in this research, a finding corroborated in a several studies (Pourteimour et al., 2019; Hame-Morad et al., 2021). For example, Iqbal et al. (2020) found that many students were impressed by the numerous advantages of Telegram, such as easily accessible educational resources, the capacity to add a limitless number of members, along with files in all sizes and formats, and the fact it enabled students to take part in collaborative learning. Furthermore, Tagoe and Cole (2020) reported nursing students are also forming their own groups and interacting via WhatsApp and Telegram to increase their social presence.

Finally, although it was recommended by a smaller number of students, SnapChat was cited as a useful resource that allowed people to be kept informed about departmental events and current staff members. Moreover, Mersin et al. (2020) stated that Snapchat helps students publicise important events, finds out what is taking place in the wider world, and maintain contact friends and family, all of which ties in to the concept of polymedia, which was discussed earlier in section 5.2.1.

5.5. Challenges

This category encompasses the challenges faced by nursing students when using social media platforms. This is an issue that has been widely addressed by scholars (Isik and Jallad 2019; McGrath et al. 2019; Daigle 2020; Giroux 2020; Rukavina et al. 2021) with research identifying factors such as privacy, interruptions and distractions, reliability and quality, and of information as exerting negative effects on learning. In the current

research, the challenges identified included distractions and a loss of attention, consumption of time, information quality, and Internet connection. Each is treated as a subcategory and discussed in greater detail in the following sections.

5.5.1. Quality of information

In the current research, the nursing students stated that reported guidelines on social media usage were not widely shared in their university, and were generally unaware that these guidelines even existed. Nevertheless, most agreed that prior to using information obtained from social media platforms, it is vital to assess it with respect to quality, accuracy, and reliability. However, the nursing students felt that this was a difficult task. Among the reasons they cited for this were the dominance of the English language, including the length of time required to evaluate information, and the difficulties involved in screening articles and acquiring high-quality data. Such findings align with those of Giroux (2020), who found that nursing students were cautious in their use of social media as they were unsure about the reliability and credibility of online sources. Nevertheless, they explained that they assessed the credibility and bias of online sources by critically assessing the adverts on the page. This type of approach demonstrates that students possess skills in digital literacy as they are cognisant of possible threats to credibility and can utilise techniques to assess online sources. Moreover, they emphasised the importance of ensuring sources consulted on social media were credible, as they need them to study for the NCLEX or to provide patients with health information in clinical settings. In addition, Smith (2016) found that many students perceived information literacy skills and the ability to perform a robust critical evaluation as essential in their learning given ubiquitous concerns over a lack of credibility and misinformation social media platforms.

To address such challenges, participants deemed it important to enhance academic abilities such as critical analysis and research skills, rely on the resources recommended by teachers, and to fully extend their level of social media literacy, the latter of which was considered vital when using social media apps. Even though many nursing students were engaging with social media apps for the first time, and appreciate the enormous impact such apps have on their learning, they continued to experience particular difficulties, such as searching and downloading, and dealing with the information acquired from external sources. Thus, Smith (2016) considered digital literacies and critical appraisal skills to be essential for assessing credibility and correctly using information. To facilitate this, it is important to educate students and increase their understanding of digital literacies, as students themselves emphasised the importance of being able to discern whether and how information on social media supports learning. Importantly, Giroux (2020) explained that digital literacies relate as much to students'

ability to assess the credibility and reliability of online sources as they do to the professional use of social media. However, Giroux (2020) found that although many participants stated that their teachers cautioned them about unprofessional behaviour online and the use of reliable sources, none and were explicitly shown how to identify social media sources that were not credible or reliable as part of their nursing education.

A clear gap has therefore been identified in the lack of any social media guidelines for Saudi nursing students, and no previous studies have addressed this issue. Given the urgency with which dedicated social media guidelines for nursing students in Saudi Arabia are required, this is an issue that should be made a priority in future research. This aligns with the views of De Gagne et al. (2018) who argued that devising and updating social media guidelines is essential in nursing education. De Gagne and colleagues also emphasised the need to increase the levels of awareness and understanding of social media policies among both staff and students. More generally, Scott and Goode (2020) stressed the importance of improving guidance and policy for teachers, students, and practitioners in the domain of healthcare education. More broadly, Cathala et al. (2021) found that guidance on how student nurses should utilise social media for professional development is lacking at both a national and international level. To guarantee data protection, patient safety, and professional behaviour, further research is required to create an international consensus and standardise guidance on the professional use of social media by student nurses.

5.5.2. Distraction and loss of attention

In the current research, the nursing students often stated that their use of social media platforms has resulted in an increased loss of attention and a tendency to be distracted. The negative personal and academic consequences of this are a reduction in productivity and ongoing distraction. The participants attributed such distraction to an excessive reliance on advertisements on social media applications, the notifications that are continually generated, and the issue of quality in that academic, entertainment-related, and personal functions of social media platforms are often combined.

Numerous studies involving nursing students have found that social media can have a negative effect in distracting students from learning and encouraging them to procrastinate, which negatively impacts their academic performance and grades (O' Connor et al. 2018; Tubaishat 2018; Oducado 2019; Valdez et al. 2020; Robb and Shellenbarger 2021). Indeed, the students taking part in Smith's (2016) study felt that social media was as a double-edged sword as it can both inform and distract. An example of how social media can impede learning can be found in the use of an iPad where various types of entertainment can be distracting, which contrasts with the absorbing experience of using a textbook.

Notably, when the issue of distraction was discussed by the nursing students in Giroux's (2020) study, several cited that this was a primary motivation for not using social media as an educational resource. Moreover, social media was also described as being highly distracting in class as nursing students also felt a compulsion to review their social media accounts instead of listening to their teachers. Even if they were not doing this themselves, nursing students were often distracted during lectures by classmates who were checking their social media accounts. An additional source of distraction arose when looking up an issue related to coursework as the algorithms embedded in such platforms often generated additional content which students then felt compelled to look through.

Notably, nursing students also raised the fact that using social media platforms often increased feelings of nervousness, anxiety, and stress. This was particularly noticeable when using Twitter as an educational resource, as the platform is renowned for being awash with conflict, controversy, and negative attitudes, while other participants stated that they felt under pressure to use this platform, even if they did not want to. Also associated with increased feelings of nervousness, anxiety, and stress were the perceived need to continually check their devices and often review many different items of information across multiple technologies (McGrath et al. 2019; Vizcaya-Moreno and Pérez-Cañaveras 2020; Robb and Shellenbarger 2021). Indeed, Smith (2016) found that the potential for conflict or disagreement resulted in many students either avoiding or struggling to discuss complicated issues through social media platforms.

5.5.3. Time-consuming

Another key concern raised by the nursing students in this study when using social media platforms is that they often waste an enormous amount of time in unproductive activities. Notably, all the participants had first-hand experience of this negative aspect of social media usage. Another important finding was that the students engaged more intensively with social media platforms during their free time than when they were engaged in work related to their academic duties. The nursing students also highlighted the importance of context when using social media platforms, and an awareness of the potential risks involved in terms of hindering their exam preparation. In relation to the issue of time, Zhu et al. (2021) found nursing students spent an inordinate amount of time on such platforms and that this was negatively associated with academic performance. In relation to the amount of time spent on social media platforms, Duke et al. (2017) found that for nursing students this was generally for personal rather than educational reasons.

The primary way to address this challenge for the nursing students in this study was to exercise self-control. However, some were unsure about their ability to exert self-control in an effective manner. A particularly striking finding was that even though the

participants were aware of potential problems such as reduced productivity, potential addiction time-wasting, all were frequent and dedicated users who would often be on these platforms for as much as seven hours a day. A small number of students also highlighted the addictive nature of certain elements of social media, which studies have highlighted as having a negative effect on learning. Among the various forms of addiction among nursing students addressed by scholars are smart phone addiction, social media addiction, and internet addiction (Alsayed et al., 2020; Mohamed and Mostafa, 2020; Altiner Yas et al., 2021; Hoşgör et al., 2021). Guven Ozdemir and Sonmez (2021) highlighted the importance of assessing levels of technology addiction among nursing students, especially during the COVID19 pandemic. Levels of addiction are influenced by the easy accessibility of social networks and games online, which serve as a distraction from learning. More specifically, Nuuyoma et al. (2020) investigated how extensive use of WhatsApp leads to addiction among nursing students. This is reflected in a desire to communicate more generally on social media in general and to ensure their devices are always close at hand. Such students display an enthusiasm and pleasure at being able to see what other users are sharing and then conversing with them.

5.5.4. Internet connection

To maximise the educational value of social media platforms, along with their other functions, it is essential to be able to connect to the Internet. However, some of the nursing students stated that this was sometimes problematic due to poor or non-existent connections, the cost of home routers, and termination of service due to a failure to pay bills. It is vital to address this issue to ensure nursing students are able to leverage the educational value of social media applications, Similar issues have been reported by participants in other studies (Harerimana and Mtshali, 2018; Giroux, 2020; Masha'al et al., 2020), most prevalent of which are inadequate internet connections and the financial burden imposed on students who are required to use social media as part of their nursing education.

In the current study, nursing students proposed a variety of the solutions to overcome these problems and ensure students make the correct decisions when they encounter these issues. Among the pragmatic solutions proposed are more practice in the use of social media apps, avoiding distraction, seeking help from other people, setting aside a dedicated time for study, making use of internet services, and trusting in teacher-recommended resources. Similar findings were reported in previous studies, (Smith, 2016; Giroux, 2020; Valdez et al., 2020; Altiner Yas et al., 2021). For instance, in Griffin et al.'s (2021) study, participants stated that they engage in avoidant behaviour that involves restricting or entirely abandoning their use of social media platforms, such as refraining from making comments on online discussions. In, Smith's (2016) study,

nursing students stated they deleted their social media accounts or installed a browser extension that disabled social media at particular times of the day. However, this may not be a practical solution for students for whom academic and social communities are a fundamental element of their learning journey. Relating this to digital literacy, Giroux (2020) reported that one of the key factors driving nursing students to avoid the use of social media was the unreliable nature and poor quality of online sources. As described previously, students overcame this problem by exhibiting levels of digital literacy. Regarding time management, Valdez et al. (2020) found that nursing students set aside fixed times for study that aligned with their particular preferences. In terms of help seeking, Smith (2016) reported that to receive help with academic and social issues, students were cognisant of the importance of social media in helping them construct support networks. Finally, in Giroux's (2020) study, nursing students felt that their teachers endorsed the use of social media for educational purposes and recommended useful resources for creating learning portfolios.

5.6. Linking theoretical model of the study findings to existing theories

To some extent, the fact no unitary, overarching theory exists to explain all phenomena is somewhat liberating. What we have instead are myriad theories, based on contrasting assumptions about our world, how research is conducted, and which methods are the most suitable to apply (Bruce 2010). A researcher can therefore enhance their explanation of a phenomenon by drawing on multiple theories, (Downey 2012). Thus, the researcher drew on several theories to assess how the theoretical model of the findings compared to existing theories. To that end, two theories and one model are presented in the following section: Connectivism Learning Theory (CLT), Technology Acceptance Model (TAM) and Glasser's choice theory (CT). Together, these clarify how nursing students make use of social media to enhance their knowledge, handle challenges, and connect and collaborate. These theories were selected because of their relevance to the research topic and, in particular, because of the robust association between their core assumptions and the findings generated in the current research.

5.6.1. Connectivism learning theory (CLT)

One of the most important network learning theories created for digital learning environments is connectivism, which construes learning as a network phenomenon shaped by socialisation and technology (Siemens 2006). It is a network theory of learning and knowledge that stresses the utilisation of digital technology to increase and expand online interaction (Downes 2019). According to this theory, learning takes place when those involved engage in a learning community; the latter is defined a node that always

constitutes part of a more substantive network. Learning begins when knowledge is initiated by learners within the learning community. Such communities provide an arena in which shared areas of interest cluster, enabling learners to share, interact, talk, and think together (Goldie 2016; Siemens 2005). Indeed, in the current study, personal interests were a core category as they underpinned the way nursing students made use of social media to connect and collaborate, increase their knowledge, and address challenges.

Siemens (2005) asserts that there are eight core principles that underpin connectivism. First, it is the wide range of opinions people possess that form the basis of knowledge and learning lie. Thus, knowledge becomes further refined as ever more people add their input. In the current study, levels of activity among nursing students were largely high when they used social media platforms for communication and academic reasons, such as study groups on WhatsApp to manage group projects, receive alerts about important dates, and engage in real-time discussion with staff and students.

Second, there are connections between specialised nodes or sources of information are during the process of learning. Thus, when tackling a complicated issue, the best resolution is developed as a result of people learning about elements of the solution from each other. This happened in the current study, when nursing students proposed useful solutions to address the difficulties that arise in using social media Apps and ensuring nursing students make the correct choices when encountering such issues in the future. These included setting aside a specific time for study and making use of resources recommended by the teachers.

The third principle is that learning is situated in non-human entities, such as the data processing operations undertaken by machines. Like people, machines learn by perpetually gathering and collating information from a variety of sources. To cope with the rapid growth of available knowledge, machines distribute sense and meaning making, cognition, and filtering to vast networks of human and technological nodes (Siemens 2006). In the current study, participants agreed that particular elements of social media platforms, such as the hashtag search feature on Twitter, enabled them to learn about particular symptoms and diseases. They also expressed positive attitudes towards the effectiveness of social media platforms in facilitating productive time management. Importantly, the participants used a variety of communication modes on WhatsApp, such as text messages, voice recordings, Microsoft Word documents, and links to online resources.

The fourth principle holds that for learning, it is more to create the capacity to know than to concentrate on what is actually known. A cyclical process, learners join a network to locate and disseminate new information, alter their beliefs based in what they have newly

learnt, and then reconnect to disseminate their novel understandings and seek additional information (Goldie 2016). In the current study, nursing students explained that social media platforms allow them to not only exchange information but also retrieve up-to-date news regarding lectures, seminars, and other academic events. The nursing students also highlighted the function of social media in verifying the information with which a user interacts.

The fifth principle is that connections must be nurtured and sustained to facilitate ongoing learning. The development of knowledge thus necessitates perpetual communication between learners. In the current study, this was facilitated by the use of WhatsApp to sustain connection and collaboration and ongoing academic communication between group members through audio and text messages. For example, if they missed a lecture, group members were able to access the relevant files and request clarification from their peers via audio messages. Furthermore, YT offers a wealth of additional resources to promote understanding and effective learning of complicated topics.

The sixth principle states that learners need to be able to identify the connections between concepts, ideas, and domains. Through this core skill, learners are able to integrate and interpret the information they acquire via their networks. In the current study, the nursing students highlighted the utility of social media in enabling them to develop language skills, general academic skills, and nursing-specific skills. Also relevant in this regard is the use of YT videos to assist with memorisation prior to important assessments.

Seventh, connectivist learning activities need to ensure the learner receives a constant stream of accurate knowledge. A connectivist teacher does not believe knowledge is static and can never be revised or modified. Change is always possible. In the current study, several nursing students used Twitter to keep them up-to-date with the latest academic opportunities and developments, to receive announcements from prominent university or government departments, and receive real-time news, such as that relating to COVID-19

The final principle states that decision-making is itself a learning process. Students need to develop the skill to make wise choices due to the proliferation of online social media. In the current study, nursing students used certain social media applications for particular purposes, such as YT to watch educational videos and WhatsApp for academic communications.

5.6.2. Technology acceptance model (TAM)

One of the most widely applied models of technology acceptance is the Technology Acceptance Model (TAM). Within this model, the two variables that determine a person's

attitude (ATT) towards technology are perceived usefulness (PU) and perceived ease of use (PEOU). This nature of such attitudes then shapes how the system is used

PEOU is defined as the extent to which people believe using a given system requires no actual mental effort (Davis 1989). Conversely, PU denotes the extent to which a person believes their job performance will be enhanced by using this system (Davis 1989), whereas Davis contends that PU and PEOU shape the intentions a person will have to use a particular system or technology.

In the current study, the nursing students felt that existing social media platforms provide enormous practical and academic benefits with respect to information-sharing, entertainment, communication, collaboration, and enhancing the teaching and learning process. They attributed this to the accessibility, simplicity, affordability, flexibility, and efficiency of such platforms.

5.6.3. Glasser's choice theory (CT)

Devised by Glasser (1999), choice theory is a modified version of previous theory known as control theory. Its fundamental premise is that all human behaviours are the product of a choice, and such choices are motivated by five core needs: survival, belonging, power, freedom, and fun. The human brain is therefore genetically hardwired to satisfy these needs. Survival needs are fundamental needs such as food, water, sleep shelter, and safety. The "love and belonging" need refers to the need for social engagement, relationships, the mutual expression of affection, and a feeling of belonging to a group. The need for power combines needs for achievement, competency, and recognition, and is largely motivated by a striving for control over our lives and developing a sense of self-worth. The need for freedom encompasses the need to take control over the direction of our lives and the need for autonomy and independence. Finally, the need for fun captures the need to encounter enjoyment and pleasure (Glasser 1999).

Such needs align with views of the nursing students in this current study, this providing theoretical support for the findings that emerged. First, regarding survival needs, most notably the safety need, the nursing students advocated the establishment of clear guidelines regarding the use of social media platforms to ensure security, privacy, and professional usage, even though such guidelines were not widely available and students did not know about them. Second, with respect to the "love and belonging" need, the nursing students described how the possibility of creating study groups shaped their decision to use social media platforms as they enabled them to connect, socialise, and communicate/collaborate with family, friends, work colleagues and faculty members.

Third, regarding the need for power and control, nursing students referred to the development of their, academic, communication, and nursing skills. They were also

mindful of the risks inherent in failing to balance usage of social media with other important tasks such as home obligations or exam preparation. Despite this, nursing students generally engaged more intensively with social media during free time and less intensively when managing academic responsibilities. Fourth, regarding the need for freedom, the nursing students emphasised the importance of exerting self-control with respect to social media usage. They acknowledged the need to optimise and closely regulate usage, in order to enhance their future professional and academic success. Finally, regarding the need for fun, the nursing students enjoyed the rich content on offer with respect to music, videos, and shopping, as well as the ability to engage in hobbies through Snapchat diaries or YT videos.

According to CT (Glasser, 1984), students are likely to develop a more positive self-concept as they learn to implement more productive behaviours, rendering them better able to manage the everyday stresses of academic and social life. In most everyday situations, it is the self-concept that drives action, interaction, decision-making, and behaviour (Zeeman, 2006). The findings of the current study indeed suggest that the use of social media platforms by nursing students for personal and academic reasons will enable them to develop a more positive self-concept with respect to increasing their levels of self-control and discipline. Moreover, social media platforms have immense benefit in providing students with first-hand experiences of personal communication self-development, and academic activities.

Considering the findings in the context of CT foregrounds the psychological needs underpinning the use of social media by nursing students. Peterson (2000) contends that the key component of this theory is choice. Accordingly, the findings indicate that participants' usage of social media platforms, their motivations for such usage, and the types of platforms used is largely driven by their personal interests. Therefore, CT was selected as one of the primary theoretical perspectives in this research.

A comparison between the theoretical model of the study findings and the theories existing in the literature is summarised in Figure 14.

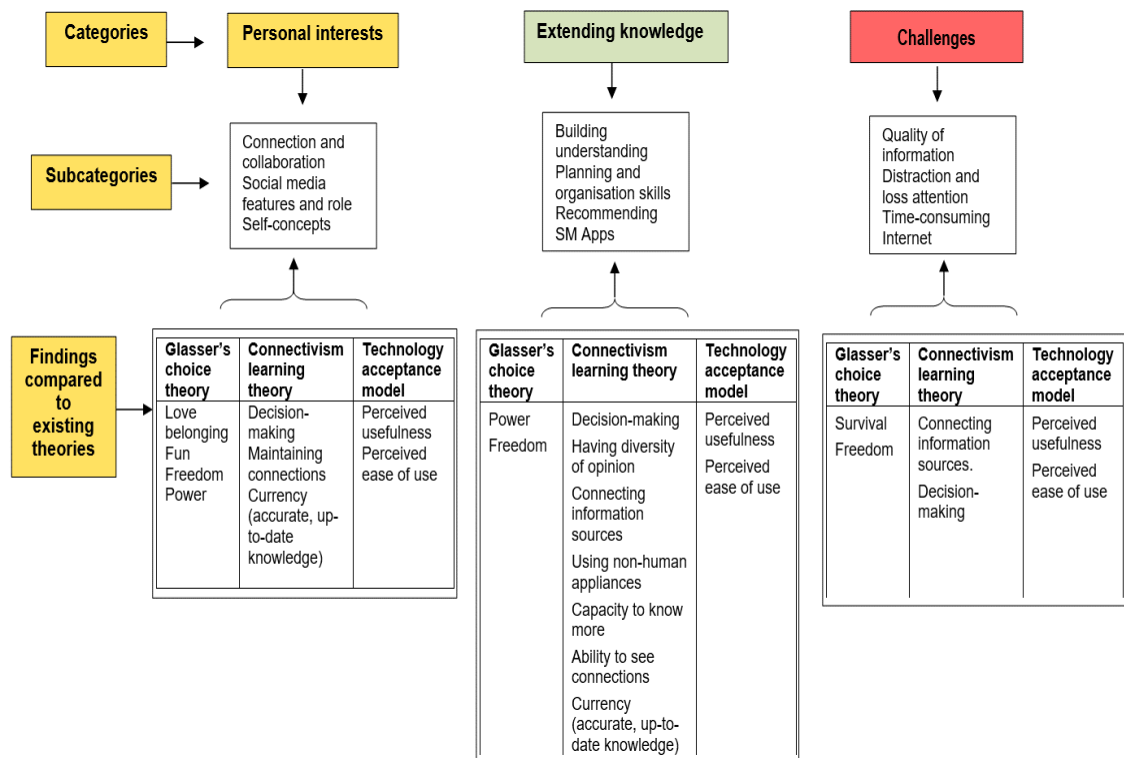


Figure 14. Theoretical model of the study findings compared to existing theories from the literature

To understand and reflect on the way in which social media is used every day by nursing students for personal and academic reasons, the researcher compared the findings with Glasser's choice theory (CT). The reason for selecting CT was the robust linkage between students' fundamental requirements and these results. Moreover, CT was found to be extremely useful in elucidating the way in which social media is used by Saudi nursing students. The following section therefore explains how CT provides robust theoretical support for the findings of the current study. To attain this, the discussion focuses sequentially on each of the basic needs identified by Glasser: love and belonging, power and achievement, survival, freedom, and fun.

5.6.3.1. Love and belonging

The first requirement identified by Glasser is the desire for relationships, social interaction, the two-way articulation of affection, and a feeling that an individual belongs to a particular group. To achieve the latter, people engage with each other and forge connections through sharing, mutual care, cooperation, and active involvement in friendships, family relationships, working relationships, and acquaintances (Glasser, 1999; Frey and Wilhite, 2005). Applying this to the current study, the nursing students explained that their decision to utilise social media platforms was influenced by the potential to form study groups, and that such platforms offer them an arena in which to connect, communicate and work with friends, family members, members of staff, and

work colleagues. Thus, it was the communicative potential of such platforms that was highlighted as their key benefit such as the use of WhatsApp to coordinate group projects with peers, receive updates and alerts about key dates and real-time communication with faculty members and other students. This enables the researcher to comprehend the essential need for nursing students to engage with their peers as part of the learning process and to maintain social connections with their family and friends. Support for these findings is derived from a study by Alharbi et al. (2021) who reported that social media was used by undergraduate nursing students to share work-related experiences, seek job opportunities, maintain contact with family and friends, and to source social support.

5.6.3.2. Power and achievement

Driven largely by a desire to exercise control over our lives and foster a feeling of self-worth, the second need is for personal recognition and an acknowledgement of individual accomplishments, competence, and skills (Glasser, 1999). With respect to the current study, this requirement was clearly evident among nursing students as they expressed a desire to develop and enhance their nursing, academic, and communication skills. This applied to specific abilities concerning reading, language research, and information retrieval, as well as to knowledge that relates directly to nursing. Also notable was the fact that there was a high degree of awareness among nursing students of the hazards of overusing social media, who therefore emphasised the need for self-discipline, and to exercise self-control. Nevertheless, the advantages of social media platforms in terms of supporting personal communication, self-development, and academic study were made clear through several first-hand accounts of their own experiences. The conclusion drawn by the researcher is that a diverse range of learning opportunities are afforded to nursing students via social media, that such platforms increase levels of academic achievement by clarifying students' learning requirements, and that they assist students in clarifying their strengths and weaknesses with respect to their academic work, thereby increasing levels of confidence among these students. These findings are in agreement with those of Guven Ozdemir and Sonmez (2021) who found that social media may serve to improve the skills of nursing students by boosting levels of perceived self-efficacy, competence, and satisfaction with respect to both practical skills and theoretical knowledge.

5.6.3.3. Survival

The third fundamental need posited in CT is that of survival, which is predicated on meeting an individual's basic necessity for food, water, safety, shelter, and sleep (Glasser, 1999). With respect to the current study, the researcher identifies safety as being a particularly salient need, as Saudi nursing students highlighted the lack of formal

guidelines on how to use social media safely. The respondents firmly recommended the development of transparent guidelines to ensure social media platforms are used in a professional manner and that their privacy and security are protected. To fulfil the need for safety encapsulated in CT, the possible consequences of misusing social media platforms ought to be made clear to nursing students. Westrick (2016) highlighted such potential misuse as an issue in nursing education where concern around this is increasing. Such consequences can take multiple forms, such as lawsuits being initiated by patients who feel there has been a breach of confidentiality. If a student is found culpable in this regard, they may have to face disciplinary or academic action which can result in them failing a clinical course or being removed from a programme. To remedy this, Cathala et al. (2021) proposed the establishment of standardised guidance on how student nurses should use social media to ensure their behaviour is professional, safeguard patient safety, and comply with data protection requirements. To that end, the researcher intends to help formulate national guidelines on the use of social media by nursing students based on the results.

5.6.3.4. Freedom

The fourth need in CT is that of freedom, which refers to people's wish to be autonomous and independent, and to exert control over the paths their lives take. It also encompasses the freedom to make choices, be creative, and express one's thoughts and feelings (Glasser, 1999). In relation to the current study, social media platforms are understood by the researcher as having a vital function in ensuring nursing students are given the personal and academic freedom to make choices and act independently with respect to communication, collaboration, sharing information, seeking entertainment, and supporting the process of learning. This certainly appeared to be the case for the nursing students as they felt their usage of social media afforded them the freedom to exchange ideas, share experiences, create and post content, and investigate in-depth areas in which they have a particular interest. They explained that such freedom is a consequence of the fact that social media is by its very nature easily accessible, efficient, flexible, affordable, and simple to use. These results align with those of Nuuyoma et al. (2020) who found that attitudes towards social media among nursing students were very positive, with most citing the fact that it supported and promoted content sharing, discussions, and freedom of expression as the reason why it has become such a convenient and beneficial forum for communication in the domain of higher education.

5.6.3.5. Fun

The final need in CT is that of fun, which refers to the pursuit of pleasure, relaxation, and enjoyment. It is a core psychological necessity and is manifested in people's wish to have interests, partake in a hobby, and feel excited about a particular activity or work

project (Glasser, 1999; Frey and Wilhite, 2005). It is a need the researcher finds useful in illuminating Saudi nursing students' reasons for using social media. For instance, they stated that they appreciated the opportunity to engage in their hobbies using YT videos or Snapchat diaries, and relished the wealth of content available regarding shopping, videos, and music. This agrees with the findings of Hayward (2022) who reported that nursing students derive personal and professional benefits from the plethora of social connections that can now be made on social media, and the assistance that this offers them in enhancing their enjoyment and participation in their work. Additionally, Mohamed and Mostafa (2020) reported that various forms of social media are used by nursing students to upload pictures or videos, communicate with other people, participate in groups, share their status, and obtain information. Finally, Mersin et al. (2020) emphasised the important role played by social media in enabling nursing students to remain informed about world events, maintain communications with friends and family, and publish key events occurring with respect to their own interests and hobbies.

In conclusion, the findings of this study demonstrate that the opinions expressed by nursing students in relation to their use of social media are commensurate with Glasser's theoretical formulation of basic necessities in his Choice Theory. As such, the results elucidate the way in which Saudi nursing students make use of social media. Central to this is the notion that the choices nursing students make regarding their personal interests illuminate the way in which they increase their knowledge, engage and work with others, and tackle challenges. This explains their patterns of usage on such platforms, the motives underpinning such usage, and the different kinds of platforms they use. Therefore, CT is selected in this research as one of the principal theoretical perspectives underpinning Saudi nursing students' use of social media platforms.

5.7. Chapter summary

Framed within the context of existing literature, this chapter critically examined the three categories that emerged from findings as core elements pertaining to the usage of social media by the nursing participants who took part in this study. The chapter concluded by comparing the theoretical model of the findings with existing theories. The next chapter concludes this study by reviewing main findings, their contributions, recommendations for action, research strengths and limitations, and avenues for future research.