Chapter 3

Analysis and Findings of Social Media Usage among Nursing Students

This chapter will provide the results of each study's analysis as well as the overall findings. This systematised literature review included eight papers conducted in four different countries: Australia, the UK, Jordan and Nigeria. Participants in these studies were undergraduate nursing students. Different appraisal tools, such as the CASP, the JBI, and the MMAT, were employed to ensure that the articles were valid and reliable. There were eight themes identified as a consequence of the synthesis of quantitative, mixed, and qualitative data; as follows: (1) knowledge (2) An assistance tool for the educational and learning process (3) Stress management (4) Confidence (5) Assessment and exam preparation assistance (6) Communication (7) Engagement (8) Convenient access.

3.1 Characteristic and geographical regions of the selected papers

This systematised literature review included eight papers conducted in four different countries: Australia (n = 5), the UK (n = 1), Jordan (n = 1) and Nigeria (n = 1). Participants in these studies were undergraduate nursing students, see **Table 8**.

Table 8: *Studies' settings*

No.	Region	Authors	Number of studies
1.	Australia	Mather et al. (2016) Tower et al. (2015) Ferguson et al. (2016) Tower et al. (2014) Watson et al. (2016)	5
2.	Nigeria	Pimmer et al. (2018)	1
3.	Jordan	Al-Shdayfat (2018)	1
4.	The UK	Jones et al. (2016)	1
5.	Total: 8		

Four studies mentioned the age and gender of the nursing students (Al-Shdayfat, 2018; Ferguson et al., 2016; Jones et al., 2016; Mather et al., 2016; Pimmer et al., 2018; Tower et al., 2015) None of the nursing students' ethnic backgrounds were mentioned, but the study by Ferguson et al. (2016) included foreign students. The SM platforms under study were Facebook (n = 5), Twitter (n = 2), WhatsApp (n = 1), Skype (n = 1), LinkedIn and internet blogs (n = 1). However, one study did not select any type of SM platform (Al-Shdayfat, 2018). The papers considered in this review reflected results from different countries and cultures around the world. Nonetheless, it is clear from this review that researchers and academics in Australia are particularly interested in learning about how SM influences undergraduate nursing students, maybe due to the fact that in a huge nation like Australia, nursing education seems to be a priority (Stein-Parbury, 2000). With regard to the Middle East, Jordan has the most research publication results in the Arab world (Sweileh et al., 2019) and there are numerous research papers on the impact of SM on nursing students; however, due to the inclusion criteria of this review, the included papers were restricted and only one paper from the Arab region was included.

3.2 Analysis

In order to verify that the articles were valid and reliable, different appraisal tools were used such as CASP, JBI and MMAT. All of the studies were critically appraised and **Table 9** presents the validity of the included studies and **Table 10** summarises them.

Mather and colleagues published a cross-sectional study in 2016 investigating nursing students' use of SM as an information source. The study conducted was a part of larger multi-site investigation surveying undergraduate nursing students currently training in Australia. The study included 126 participants in two cohorts: first- and final-year nursing students. After completion of the study, the demographic surveyed demonstrated a skewed distribution, showing more female participants than male. This could reflect the gender distribution in the profession of nursing or it could be a skewed distribution by gender, depending on the actual pool of participants. A more representative distribution would give greater weight to the generalisability of the findings. The authors used a cross-sectional design to survey nursing students regarding their preferences for SM use. This is the appropriate method for the outcome being sought (Setia, 2016), but such a design is not without its limitations and the authors acknowledged this. The data reported were very limited in that only demographic and prevalence data were presented in a descriptive fashion. Although it is acceptable in cross-sectional studies to do so (Sedgwick, 2014), no hypothesis testing was performed to ascertain whether the gender differences were statistically significant in terms of SM desirability and interest in its use. Confounders were present and not accounted for in this study. The biases associated with a cross-sectional design were not corrected for and no attempt was made to overcome them. It is important to clarify that the authors recognised these issues and accepted that, as pointed out by Sedgwick (2014), a degree of bias is an expected limitation of their study design. However, actions could have been taken to limit bias. For example, an independent method of confirmation is to ask respondents to provide a link to a personal SM account, which would give an objective reference that could be compared to the survey answers. This would add a degree of control over recall bias or selective reporting bias and it would help to put the survey answers in the context of the provided

answer. The authors correctly administered the survey and reported on their findings. They put effort into administering a validated questionnaire, which gives more weight to their findings. They sampled nursing students undergoing training in Australia, and the sampling process was suitable for answering the intended question given the population in question; thus the authors met the required criteria for sampling. However, given the small sample size, the conclusion of this cross-sectional study should be taken with caution because the power of the study is limited by its design and the sample size, which both put constraints on the generalisability of the results to the larger nursing student population (Jones et al., 2003). The risk of non-response is ambiguous in this sample since the surveys were non-randomised and the confounders were difficult to ascertain, so it is possible that the sample being surveyed was skewed to some degree compared to the general nursing student population. This limitation, however, is common in cross-sectional studies and it is expected to affect the conclusions in a general way (Setia, 2016). Frequency of different SM use was not provided in detail except for asking the final-year students about their use of LinkedIn. Finally, frequency of use should be the central theme of such surveys since the primary objective was to find SM use patterns that could be utilised to provide a feedback system to benefit curriculum design and implementation.

In 2018, Pimmer and colleagues published a study on the impact of mobile instant messaging (MIM) platforms' use on nursing students' clinical learning experience. The sample was drawn from nursing students in five schools in Nigeria. The total sample comprised 196 nursing students with 25 men and 171 women. The sample may be representative of the nursing population in general; however, the male representation is around one quarter of the sample. This could affect the generalisability of the findings (Kukull & Ganguli, 2012). The authors provided a good description of the demographics of the sample, including age and placement location. They used a validated survey to ask the participants about their use of MIM platforms, especially WhatsApp. A questionnaire regarding participants' attitudes is the proper method for such a design (Boynton & Greenhalgh, 2004). The goal of this study was to investigate the correlation between WhatsApp usage and other socio-professional indicators such as professional capital, feelings of professional isolation, perceived professional identity and nursing students' satisfaction with their placement. In accordance with the recommendation of Elm et al. (2007), the authors provided descriptive statistics on the participants' demographics and a detailed description of the sample including mean age, duration of previous posting in months, and location of previous posting. They also gave a good description of the answers the participants provided and moreover they indicated the number of non-responses and to how many questions (two non-responders to one question). They reported inferential statistics regarding multiple variables connected to MIM use by nursing students. First, authors reported that the sample was not normally distributed and they correctly used Kendall's rank correlation. Analysis showed that WhatsApp use by nursing students during their placements was correlated with all the other socio-professional measures. The strongest correlation was with the variable of social capital, which is the degree of connection to friends and colleagues from their school ($r = 0.25$, $p < 0.001$). There was also a positive correlation between WhatsApp use and professional identity ($r = 0.21$, $p < 0.01$) and placement satisfaction ($r = 0.17$, $p < 0.05$). A negative correlation was found between WhatsApp use and feelings of professional isolation ($r = -0.18$, $p < 0.05$), demonstrating that the more WhatsApp was being used,

the less professionally isolated the students felt during their placement. The authors concluded that the use of WhatsApp by nursing students was associated with positive socio-professional indicators in conjunction with positive ease of use and a positive view of the application's usefulness. This confirms the positive role of WhatsApp use in supporting nursing students in clinical learning situations in Nigeria. Given the meticulous design of the study and the correct presentation of the data, including missing data and robust statistical analysis, this conclusion is a proper representation of the findings. Al-Shdayfat published a study in 2018 about the attitudes of the undergraduate nursing student to the usage of SM platforms. This was a cross-sectional study using a questionnaire distributed to 395 nursing students enrolled in two universities in Jordan. The questionnaire asked them about their attitudes towards SM use. The sample was representative of the nursing population being investigated in general and it was large enough to detect a statistically significant effect (Charan & Biswas, 2013). However, the male-to-female ratio was 1:3, which demonstrates an under-representation of males in the sample that could impact the generalisability of the conclusions. The authors used an Arabic version of the questionnaire to elicit the student nurses' use and views of SM. This was done to achieve two goals: first to measure the nursing students' attitudes towards the use of SM and second to simultaneously validate the Arabic version of the SM survey. This use of a validated survey is an effective method for correlating the variables under study with the conclusion; this is a strength of the study design (Boynton & Greenhalgh, 2004).

The authors used exploratory factor analysis and correlation metrics to assess the validity and reliability of the translated questionnaire. This began with measuring the nursing students' attitudes towards the use of SM, then the results were used to validate the Arabic version of the questionnaire. The authors concluded that the Arabic version was valid, given that Cronbach's alpha showed a high level of reliability of 0.84, which is higher than that prescribed in the literature (0.70) (Burns & Grove, 2005). This finding is an appropriate interpretation of the analysis and gives weight to the validation process of the study. The author focused on employing a detailed statistical approach, which is a major strength of this study (Cichoń, 2020). The author first used skewness and kurtosis tests to properly conclude that the sample was normally distributed. Showing the relationship between variable pairs on a scatterplot gives a proper representation of the relationships observed. A Kaiser–Meyer–Olkin (KMO) test for sample adequacy (Pett et al., 2003) was also used and it found the sample to be adequate. Factor analysis was employed properly for this design and the author demonstrated a fluent and robust statistical analysis that detected nursing students' attitudes towards SM use and simultaneously validated the Arabic version of the revalidated questionnaire written originally in English. The author concluded that the participants in the cross-sectional study had a positive attitude towards using SM for academic purposes. Given the use of a validated questionnaire to measure participant attitudes and given the detailed statistical analysis of the variables, the results of this study are directly related to the variables questioned and the study design; the conclusion is therefore a proper representation of the findings. Finally, the author was also successful in validating the Arabic version of the survey of the student nurses' use and views of SM. This validation is significant because it will help to make the use of this questionnaire more widespread in Arabic-speaking countries.

Tower and colleagues conducted a study in 2014 to assess undergraduate nursing students' perceptions of Facebook when used as a tool to aid studying. The participants were selected from a

group of nursing students attending a course that the study was being conducted in conjunction with teaching the course. They were asked to participate in a Facebook group, with participation being completely voluntary. This is a methodological strength that demonstrates free choice to participate. The authors used a validated survey to measure the participants' impressions of the use of the Facebook group as an innovative method to aid their study. Using a validated questionnaire to assess participants' views in a cross-sectional design is the proper methodology (Boynton & Greenhalgh, 2004).

Furthermore, the authors clearly stated the type of questionnaire they would be using, emphasising the validity of the questionnaire and describing in detail the process of administering it, which is a methodological strength (Creswell, 2014). Although 70% of the course attendees opted to join the Facebook group, only 24% of the participating students answered the questionnaire at the end. This observed response rate is worth investigating further for potential causes of low interest in answering the questionnaire. The explanation provided by the authors was that the participants were on vacation; this could be a weakness in the execution of the methodology, failing to properly plan in advance for the timing of the distribution of the questionnaire. It could also reflect disinterest by the participants. Either way, this sheds some doubt on the authors' explanation of the low response rate. For the statistical analysis, the authors opted to limit their analysis to descriptive statistics only; this limitation is a recognised form of cross-sectional design (Sedgwick, 2015). No hypotheses were formulated, no testing was carried out and no a priori hypotheses were specified prior to the study, although this could have been done and would have provided a good reflection on the results. For instance, hypothesising and testing a potential difference between male and female group participants would have provided an in-depth view of the sample and it could have drawn more information on potential gender differences in terms of viewing the use of Facebook as a tool to aid studying. The authors gave examples of participants' positive feedback regarding the use of Facebook as an innovative studying tool, but there was no mention of any comments from participants who did not find the group valuable. This selective presentation of positive opinions does not provide a balanced representation of the findings. However, the authors presented both positive and negative participant views on the effectiveness of the Facebook group in guiding learning. The authors recognised this but they did not provide context to the possible cause of this finding and there was no mention of whether this small percentage of participants who did not find the group beneficial were in a specific age or gender group. The authors concluded that Facebook is an innovative and effective tool for study support. Given the proper design of the study and the statistical analysis of the findings, this conclusion is a good representation of the findings. In order to offer in-depth and thorough knowledge of a phenomena, or to design and test equipment, mixed methods are recommended (Bryman, 2006). However, Tower et al. (2014) failed to provide sufficient justification for the choice of the mixed-method approach to answer the research question. As a result, it is possible that the researchers will be less critical of the overall viewpoint they bring to their study project (Given, 2008). The data collection and analysis methods for the qualitative data were explained well, as a comment area was used to gather qualitative data and these were analysed thematically (Braun & Clarke, 2006). However, Tower et al. failed to identify how many researchers were working on each process, and it is crucial to recognise everyone's contributions (Jenn, 2006, p. 74). Furthermore, this may result in

ethical dilemmas if information is withheld (Kornhaber et al., 2015). Integration is a critical element of mixed-methods research and it is described as the process of bringing two methods together "explicit interrelating of the quantitative and qualitative component in a mixed methods study" (Plano Clark & Ivankova, 2016, p. 34), Tower et al. (2014) successfully integrated both types of data, and additionally presented both sets of results in a table. Clark and Vealé (2018) demonstrate that this method helps readers to better understand and draw conclusions from the research. Nonetheless, there is concern that some bias would be introduced due to the fact that there is insufficient information to be explained through a table. Moreover, the differences and conflicts between numerical and qualitative outcomes were not mentioned appropriately by Tower et al. (2014). Furthermore, the authors failed to give sufficient details about the ethical considerations and confidentiality aspect of this study, and confidentiality is a significant concern in the qualitative part of a study (Richards & Schwartz, 2002). Furthermore, the trustworthiness of the obtained qualitative data will be affected (Aluwihare-Samaranayake, 2012).

Jones et al. (2016) conducted a case study on the utility of Twitter use for the online professionalism of nursing students. The study included participants who were going through their first year of nursing school in two cohorts: the first students started in October, and comprised a large cohort, and the second group was a cohort of students starting in March, which was a smaller one. The first cohort received a face-to-face lecture about professionalism while the second cohort received a revised version of the lecture that included feedback from the first cohort. The use of Twitter was the primary variable being measured. The authors received ethical approval to conduct this study in conjunction with a running course and students in both cohorts were assigned grades for their participation on Twitter. Where study participants should be compensated for their time; however, this should not be so inadequate as to be seen as dismissive of the importance of their contribution (Zand, 2019), which also this is an unusual method if the outcome sought was to assess the free and voluntary use of Twitter in a professional context, as the participants were not free to choose the use of Twitter; they were forced to use it. This makes the generalisability of the conclusions difficult if not impossible. Both cohorts reported not using Twitter frequently, and this result could be due to the personal preferences of the participants or to the low utility of Twitter as a platform in this context. Deciding which is the real cause is not possible. The authors used descriptive statistics to report their findings, which is appropriate for this design (Sedgwick, 2014). There was no clear, reliable hypothesis testing to determine whether there was an intergroup difference or a between subgroup difference that was statistically significant. It can be argued that the participants' aversion to using Twitter as frequently as would potentially occur if they chose to use the platform guided by their free will could be due to the design of the study itself and not due to a detectable true outcome; ascertaining the true cause is difficult. Most importantly, an un-validated questionnaire was used to document the responses of the participants, which weakens the conclusion of the study and gives less weight to the statistical findings even if they were significant (Boynton & Greenhalgh, 2004). No confounding factors were clearly defined or accounted for in this study. The participants were required to set up a Twitter account and be active on the account by tweeting, retweeting, and liking other posts as a measure of the utility of the platform and student professionalism. This measure is not a good method for correlating student use with the outcome given that the students were participating for the grades and not of their own

volition. The results could therefore differ significantly if the students were allowed to decide which SM platform they preferred using.

The results of both cohorts should be viewed under this light. There was also an over-representation of females in the sample (> 90%) so it is unknown how a more evenly distributed sample (half males, half females) would answer. This is a major confounding factor that puts the results of this study under serious question in terms of generalisability to a larger population. Nonetheless, given the design of this study and the statistical analysis, the conclusion can be accepted in the context of the limitations discussed herein. Jones et al. (2016) succeeded in explaining the need to use mixed methods. In order to resolve discrepancies between the quantitative data and qualitative discoveries, mixed methods are very beneficial (Mertens, 2013). The qualitative data in this research was gathered from an open question in a survey, and integrated with the quantitative data in a way that successfully answered the research question (Jones et al., 2016). An open question provides respondents with the chance to give several different responses; however, surveys are not well suited for open-question enquiries, and they are time consuming (Michael & Jeremy, 2016). The findings were adequately integrated via themes by the authors, and the divergences and discrepancies between quantitative and qualitative findings were handled properly. With regard to the qualitative data, positive and negative comments were provided. Jones et al. (2016) mentioned the contradictory data in the qualitative part, which went against the positive results from the quantitative data, as some students posted on Twitter "To be honest I don't think creating a Twitter account should be obligatory for completion of the module", which presenting the contradictory data is essential (Antin et al., 2015). However, considering only the data that is significant to the research may introduce bias into the final results (Anderson, 2010). Jones et al. (2016) failed to compile every element of the research with the quality standards established by each tradition of the methods that were investigated. The quantitative analysis was explained in detail but the qualitative data received less attention from the authors.

Facebook as a SM tool was explored by Tower et al. (2015). The author recruited second-year undergraduate nurses to foster confidence in their ability to study. Five themes were developed from this study: managing confusion, seeking clarification, managing stress, information sharing and building a sense of community. Tower et al. (2015) conducted a qualitative study using the phenomenological approach to explore "sophomore slump" in the second year in nursing students. This approach allows the researcher to place an emphasis on the sensory and lived elements of a specific construct, which is how a phenomenon is perceived at the moment it happens (Nelson, 2011; Neubauer et al., 2019). This is an appropriate approach to addressing the study aim. According to Polit (2017), the research sample should be guided by parameters that are relevant to the study's objectives, and Tower et al. (2015) made clear how the participants were chosen. However, when the authors chose the undergraduate nursing students, they neglected to highlight if any students were excluded. Qualitative research relies on a deep examination of cases, and it thus requires small samples to enable in-depth research (Vasileiou et al., 2018). Shetty (2018) confirmed that in order to accurately characterise the phenomena and answer the research question, the researcher needs a significant sample size, and 198 undergraduate nursing students participated successfully in Tower et al.'s (2015) study. In addition, the authors used SM itself to collect the data, whereas interviewing the participants would have been more appropriate for this study, as the authors would then have been

able to gather extensive data on the subject of the study in person (Barrett & Twycross, 2018, p. 63). Nevertheless, through this study Tower et al. (2015) explored in depth the potential impacts of the SM tool Facebook by using thematic analysis. The reliability and impartiality of the results are reinforced where the reader is able to connect the findings (Anderson, 2010). Tower et al. (2015) successfully explained the ethical part of the study, where the author identified for the participants the guidelines for sharing information and preserving confidentiality. However, people who take part in a study may face moral dilemmas, and may even be unsure about whether they can trust the researchers (Sanjari et al., 2014). Moreover, Tower et al. (2015) listed the limitations of the study and recommended that further studies be conducted in order to explore the relationship between the self-efficacy of the nursing students and their outcomes.

Hermeneutic phenomenology is centred on how people or groups see things subjectively, and its goal is to reveal how they see the world by looking at their life experiences (Fuster, 2019). Watson et al. (2016) used this approach to better comprehend the experience of undergraduate nursing students in building confidence in clinical skills. Watson et al. (2016) analysed four themes from the qualitative data: "This is about my future goals and success", "We're all in this together", "I can do this" and "Real time is not fast enough!". The study recruited ten undergraduate nursing students in the first year of their nursing programme. Watson et al. (2016) employed a similar study design to that of Tower et al. (2015) and used the SM tool Facebook to determine the impact of SM on the practical side of nursing. However, Watson et al. (2016) interviewed the undergraduate nursing students, and they recorded non-verbal data and interactions between the student and the researcher, which is a method recommended by DeJonckheere and Vaughn (2019). This method aids with the collection of a large quantity of information (Sutton & Austin, 2015a, p. 227) but the interviewing method takes a significant amount of time, in addition to roughly 6 hours for the transcribing of the interview recording (Bryman, 2015). This method also has the potential to influence the answers of the interviewees, resulting in bias or even the inability to elicit a response. The analytical process was well explained and rigour was achieved (Watson et al., 2016). According to Cypress (2017), rigour is a measure of credibility and reliability for qualitative methodology, and it enables the researcher to make sure that their methods remain consistent throughout time. However, if rigour and trustworthiness were not achieved, bias will be increased and the quality of the study will be reduced (Johnson et al., 2020). The authors of the study analysed the data in thematic way but they failed to discuss the limitations of the study in depth.

Unlike the previous qualitative studies where one type of SM was used, in this study by Ferguson et al. (2016) a qualitative focus groups was conducted with 10 first-year undergraduate nursing students about three SM applications: Facebook, Skype and internet blogs. The aim was to explore how SM supports the transfer to and participation in higher education. The study resulted in three main themes: "facilitating familiarity and collaboration at a safe distance, promoting independent learning by facilitating access to resources, and mitigating the hazards of social media" (Ferguson et al., 2016, p. 625). Ferguson et al. (2016) succeeded in choosing the most appropriate method for achieving the study objective. Face-to-face focus groups were employed to collect data, allowing the researchers to explore individuals' experience and knowledge. This approach can investigate not just what people actually believe but rather how individuals reach conclusions and why people hold those beliefs

(Kitzinger, 1995). However, the limitations of focus groups should be considered. For example, there are likely to be massive amounts of qualitative data, which would be time consuming to analyse; they cannot protect against vocal people who control discussions; and the findings from people who take part cannot be applied to a bigger group (Leung & Savithiri, 2009). According to Bornstein et al. (2013), researchers are requested to describe the sampling method's shortcomings, and its potential consequences. Ferguson et al. (2016) stated that the snowballing sampling method was used in this study, but they did not highlight the limitations of this sampling method, which can lead to confounding factors and result in bias (Kirchherr & Charles, 2018). Ferguson et al. (2016) demonstrated the process of collecting and analysing the data in a thorough manner. Collecting and analysing data are by far the most challenging and confusing stages of a qualitative study, therefore detailing the process is beneficial for the reader (Thorne, 2000). Still, it may be difficult to comprehend how the results developed from the data since it is hard to comprehend the authors' processes (Sutton & Austin, 2015b).

Table 9: *Summary of internal and external validity of included studies*

No.	Study ID	Risk of bias	Generalizability
1.	Al-Shdayfat (2018)	Low	High
2.	Ferguson et al. (2016)	Moderate	Low
3.	Jones et al. (2016)	Moderate (self-reported data)	Moderate
4.	Mather et al. (2016)	Moderate (self-reported data)	Moderate
5.	Pimmer et al. (2018)	Moderate (self-reported data)	High
6.	Tower et al. (2014)	High (76% non-responders)	Low
7.	Tower et al. (2015)	Moderate	Low
8.	Watson et al. (2016)	Moderate	Low

3.3 Findings

The synthesis of quantitative, mixed and qualitative data findings resulted in eight themes. For a summary of the extracted themes, see **Appendix 2**.

3.3.1 Knowledge

Firstly, undergraduate nursing students reported that SM platforms were mostly used to increase their knowledge. Secondly, SM increases knowledge about professional opportunities and what to expect in their future jobs. Thirdly, some students reported that SM raises their knowledge about their health issues and personal development. The students confirmed that SM helped them to clarify their knowledge and understanding of academic topics, and to correct misinformation. However, the study by Ferguson et al. (2016) mentioned the excessive usage of SM in order to check for updated information.

3.3.2 An assistance tool for the educational and learning process

SM for educational purposes was reported to be a useful tool by nursing students as they can share beneficial sources for their study, and it can help to develop their clinical skills. It was stated that SM is a useful tool that should be included in the curriculum of nursing education. One study reported that students can learn from SM and a high percentage of students believed that SM could influence the learning process in actual classes.

3.3.3 Stress management

Some of the included papers reported that SM is a source of inspiration for students, and a useful tool to help them cope with their stress and gain empathy from their peers. SM may reduce clinical students' sense of loneliness.

3.3.4 Confidence

Increasing the feeling of confidence in sharing concerns and questions is one of the useful benefits of SM, although some students felt too shy to ask or thought that their question was absurd.

3.3.5 Assessment and exam preparation assistance

Some studies were unanimous in that SM is an effective tool that can be used as an evaluation tool and to assist students with completing their assignments or finding answers to enquiries or questions related to their assessment. Students reported that SM helps them to prepare for their exams, as they can share useful information to help with exam preparation, such as a study plan.

3.3.6 Communication

In most of the included studies, nursing students stated that SM is an effective tool for communicating with peers, employed nurses and faculty members in order to ask them for assistance with academic difficulties. SM also helps them to establish and build their professional identities by communicating with each other.

3.3.7 Engagement

Nursing students showed that SM helped them to engage easily with their peers and academic staff and that it resulted in successful learning.

3.3.8 Convenient access

Nursing students claimed that SM usage was flexible and easy to use. However, a study by Jones et al. (2016) declared that some students struggle with using SM.

Table 10. *Summary of the included studies*

First author name/year/ country	Aim of the study	Data collection method/ Analysis and statistics	Sample size number/setting	Social media application used	Methodology/ Design	Findings
(Al-Shdayfat, 2018) **Jordan**	To examine the validity and reliability of a modified version of the "Students' Use and Perceptions of Social Media questionnaire" among nursing students.	Survey Convenience sampling Strong use of statistical analysis for validation of Arabic version of the questionnaire.	N = 741 nursing students were invited, n = 398 students completed the questionnaire. Undergraduate nursing students Public and private Jordanian universities	No specific application reported	Quantitative Cross sectional	A total of 63.8% of students admitted to utilising social media for personal purposes. To increase students' knowledge, 32.4% used social media for educational purposes. For professional purposes, 3.8% of students used social media. 64% of nursing students turned to social media to ask faculty staff

						and their peers for help with academic difficulties.
(Ferguson et al., 2016) **Australia**	Explore how social media aided first-year bachelor's degree nursing students' entry into the field and their level of involvement.	Face-to-face focus groups Convenience sampling Snowballing sampling Thematic analysis of qualitative data	n = 10 from n = not reported First-year undergraduate nursing students A large university in New South Wales	Facebook Skype Internet blogs	Qualitative	Facebook facilitates interaction between students about their assignments, providing updates, sharing information or useful sources, and clinical experience. Facebook is a convenient method of asking for answers to enquiries and questions instead of waiting for the academic staff to reply to emails sent by students. Some students are self-conscious about their usage of Facebook while others complain about the excessive usage of Facebook.

(Jones et al., 2016) **The United Kingdom**	Examine the possibility of utilising Twitter to evaluate student learning and explore students' thoughts on its effect.	Survey for the Twitter followers Open-ended survey questionnaire (qualitative data) Convenience sampling Descriptive statistics (demographics and Twitter use) by using SPSS.	N = 547 participants, 1st cohort n = 261 out of n = 450 1st year students. Male: 42 and female: 408. 2nd cohort n = 87 out of n = 97 nursing students. Male: 8 and female: 89. First-year undergraduate nursing students (Adult) Plymouth University	Twitter	Mixed methods Cross sectional	Nursing students felt it was beneficial to include Twitter in the curriculum (p < 0.001); most of them were female. Students learnt "something" from using Twitter, and many of them found it helpful in learning and personal growth. Some used it to support them in their personal or health-related problems. Some students would not use Twitter if there was no evaluation involved. Some students found Twitter difficult to use.
(Mather et al., 2016) **Australia**	To discover how student nurses utilise social media to acquire knowledge	Multi-site survey Convenience sampling	First-year undergraduate nursing students (n = 65),	Facebook Twitter LinkedIn	Quantitative Cross sectional	Nursing students use Facebook and Twitter to search for information, learn, and

	and their preferred option of media.	Descriptive statistics only (demographics)	male: 12 and female: 53 Final-year undergraduate nursing students (n = 61) Total = 126, Male:11 and Female: 50. The University of Tasmania				interact with each other. Nursing students (Final year) are using LinkedIn for finding jobs, making connections, or viewing employment possibilities.
(Pimmer et al., 2018) **Nigeria**	To examine the usage of WhatsApp and its link to several socio-professional variables.	Survey (paper-based questionnaire) Descriptive statistics and multivariate analysis. Data were entered into a computer programme for statistical analysis. Convenience sampling	n = 196 from n = not reported Male: 25 and Female: 171 First-year undergraduate nursing students in Nigeria's South-west region, with five nursing schools	WhatsApp	Quantitative Cross sectional	Nursing students can easily use the WhatsApp platform to communicate with their friends and employed nurses. WhatsApp enables students to retain social capital with their peers and professors. WhatsApp decreases feelings of loneliness among students and nurses in the

						clinical community. WhatsApp encourages students to establish their professional identities.
(Tower et al., 2014) **Australia**	The research was focused on evaluating whether or not students thought Facebook might be used to assist in studying.	Descriptive online survey For quantitative data, questions using a 5-point Likert scale were included Comment area was used to collect qualitative data Convenience sampling Descriptive analytic approach and thematic analysis	N = 373 out of n = 533 joined the Facebook group. First-year undergraduate nursing students who enrolled in Medications and Safe Administration module Academic settings	Facebook	Mixed methods Cross sectional	89 students responded to the survey. 88.6% of students described Facebook as an innovative method to aid with their studies and the preparation for exams. Their understanding of the topic was greatly enhanced by the group, according to 89.8% of students. Eighty-three percent of students thought that their learning capacities that focused on the

						material in their classes were influenced in a helpful manner. Nearly 92% of students who engaged considered it helpful to receive assistance from other pupils, and 87.5% saw cooperation via the Facebook group as a good method to learn. Twelve per cent of students were undecided whether it was a useful tool or not. Facebook was a useful tool to engage with the nursing academic staff.
(Tower et al., 2015) **Australia**	The study's goal was to create a Facebook forum that used peer learning to boost	Data collected from a Facebook forum over a period of 13 weeks	n = 198 from n = 236 Second-year undergraduate nursing students	Facebook	Qualitative	Students utilised Facebook when they were uncertain about how to handle an assessment. Students also utilised Facebook

	students' self-efficacy in their second year.	Convenience sampling Thematic analysis	The largest university in South-east Queensland			to handle their stress and to gain empathy and support from their classmates, posting about their study load, clinical practice, and false information. Facebook was utilised to clarify knowledge and understanding of many academic topics, so that students could learn about resources and share useful advice. Facebook was used to share information about study plans for assessment, which made a community share their experiences.
(Watson et al., 2016) Australia	Explore the usage of Facebook by nursing	Interviews with ten undergraduate	n = 10 from n = not reported	Facebook	Qualitative	Facebook was used to ask and find similar doubts which

students to develop their confidence level in practical skills.	nursing students. Convenience sampling Thematic analysis	First-year undergraduate nursing students The largest university in South-east Queensland			increased the feeling of confidence among students. Students felt Facebook was an excellent platform to acquire clinical skills, incorporate theory and exchange resources. Reflecting on their knowledge of ideas was a source of inspiration for students since Facebook had them thinking about their drive to achieve in the future. They enjoyed how easy it was to access and utilise Facebook.

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