

Social Networking Sites Utilization, Perceived Benefits and Potential for Improving Study Habits among Nursing Students in Five Countries

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Abstract

Background: The abundance of easy and accessible information and fast developing social networking sites (SNS) have proven the world is small and within reach. The great implication of this interconnectedness can be somehow attributed to the change in the learning and sharing environment, for the most part, something a classroom is lacking, and considering the potential implication of SNS in nursing education reveals that the benefit allows the students to communicate and interact with a wider audience and beyond the classroom. The aim of this study is to identify the extent of SNS utilization, the perceived benefits and the potential for improving study habits of nursing students in five countries (Israel, Iraq, Oman, Philippines and Turkey).

Methods: The study is a quantitative cross-sectional study that determined the relationship between the utilization of SNS, the perceived benefits of SNS, and the potential for improving study habits among nursing students in the five participating countries (Israel, Iraq, Oman, Philippines, and Turkey). The basis of this paper is the careful analysis survey of responses from a sample of 1,137 students from an online hosting site. The online instrument focuses on the extent of utilization and benefits of SNS according to their accessibility, usability, efficiency and reliability.

Results: Our findings, in correlation using Pearson's r , reveals a significant positive correlation between the extent of possibly improving study habits and the extent of utilization of SNS in terms of the four domains, namely, accessibility ($r=0.246$), usability ($r=0.377$), reliability ($r=0.287$) and efficiency ($r=0.387$).

Conclusion: It can be concluded that a significant positive correlation between students' study habits and the extent of utilization of SNS, meaning that the more students devote themselves to study habits, the higher the level of SNS utilization. There are positive and negative implications in using SNS among nursing students, and there is greater potential in further improving the approaches to nursing education through adaptation of curricula based around the proper utilization of SNS.

Background

In today's generation, the rapid and ever-changing advancement in technology and interconnection through networking has drastically influenced the culture of learning and knowledge acquisition. The abundance of easy and accessible information and fast-developing social networking sites (SNS) have proven the world is small and within reach. The great implication of this interconnectedness somehow can be attributed to the change in the learning and sharing environment, for most the part something a classroom is lacking. Also, social media in nursing education have shown great potential in influencing students' study habits^[1]. Online SNSs (e.g., Facebook, Myspace, Flickr, Twitter, and YouTube) have surfaced as the fastest means to exchange personal and professional information among college students^[2]. The utilization of SNSs is identified as information networks that utilize a form of communication that are widely used for several purposes. SNS are used for dealing with interactive users and generating content, and in recent years, they have seen expansion for creating and maintaining relationships between people^[3]. Above this are issues on limited, but growing, research on the use of social media as a learning tool in higher education^[4]. SNS function like an online community of web users, depending on the website, and a lot of these online SNS are based on a shared interest. Once accessed, users may begin to socialize. This socialization may include

reading profile pages of other members and possibly even contacting them. The profiles of SNS users vary according to the user's discretion with regard to privacy and its visibility settings^[5]. In this age of technological acuity, the world has become too small and communication has become more efficient than ever. SNS have played a vital role in bridging connections, and Facebook is the most current SNS in use today. It has become one of the most regularly visited websites in college, and because of its rise in popularity, the subject of SNS among students and faculty has been a topic of concern. SNS are seen as an alternative to social interaction, access to information and face to face interaction. SNS, such as Facebook, seem to provide a ready space where the role conflicts that students and faculty often experience in their relationship with university work, staff, academic conventions, and expectations can be worked out in a backstage area. SNS, such as Twitter, are utilized as a tool for posting an explanation in study groups, academic advising, and for student education^[5]. Many researchers have discussed the broad benefits of SNS in higher education^[6]. Nursing students identified three proposed reasons for the use of social media to learn through social networking and to socialize with other students, which establishes professional social networking^[7]. First, SNS also allow communication with students through instant messages. Second, they enable rapid responses to questions asked by students and facilitate virtual discussions that make students part of a community. Third, these SNS also allow active, interactive and reflective learning^[8]. A study on the use of Facebook for online discussions among distance learners showed that interaction via Facebook was more frequent compared to the use of the forum, which indicates that Facebook has the potential to be used in online academic discussions^[9]. The use of Twitter allowed connection between students, access to external resources, improved learning, and support to access videos providing an opportunity for reflection, flexibility, collaboration, and feedback^[10]. The use of a social networking tool called Ning verifies the feasibility and effectivity of integrating interprofessional education, which most students showed interest in learning more and in optimizing patient care^[11]. The use of social networking platforms is a less expensive way to achieve interpersonal education with the possibility of implementing interprofessional education on a large scale and in the long term^[11]. A study identified that most students agree that the use of SNS, such as Ning, contributed to adding knowledge and increasing understanding of content^[12]. The study considering the potential implication of SNS in nursing education revealed that the benefit allows students to communicate and interact with a wider audience and beyond the classroom^[13]. One example is the creation of a research group called the Mentors and Researchers Group (MARG) to create mentors that use Facebook as a communication platform to promote events and serve as a network to discuss issues and concerns among nursing students^[14]. Students realize that Facebook groups can be an innovative method to study. It is also described to be useful in promoting learning among peers and teachers^[15]. SNS are very widely used among college students and are beneficial to them, because they have the ability to mingle students from all over the world in one virtual world^[16]. This also means that campuses can now begin to blend the subject areas of classes as well as different campuses. A similar study agreed that students spend, on average, 1–2 hours a day on SNS for educational purposes^[17]. In relation to this, a study on social networks and learning stated that students listed learning as a top priority in utilizing SNS^[18]. In contrast, however, other studies say that Facebook leads to lower grades^[17]. Students reported concerns that include time management issues, lack of Information Communication Technology (ICT) skills and limited technical infrastructure in some higher education institutions^[6]. The use of social media has greatly shown an unlimited influence in a student's

lifestyle in general. The research was empirically designed to identify the degree of utilization by nursing students, perceived benefits of SNSs and their potential in improving the study habits of students. This study also seeks to determine the relationship between utilization, perceived benefits, and potential for improving study habits among nursing students in five countries. The study was set in five countries, Israel, Iraq, Oman, Philippines and Turkey. Geographically and demographically, Israel, Iran, Oman and Turkey are homogenous in terms of settings and cultural background. On the other hand, although also a part of Asia, the Philippines is more geographically and demographically different in many aspects. According to the Internet World Statistics in 2019, the Philippines, Iran and Turkey were among the top 20 countries in the world with regard to the number of Internet users, while on the other hand, in Israel and Oman, 3.8% and 2.2%, respectively, of the population are Internet users^[19]. There is a scarcity of research specifically addressing nursing education and the use of SNS that this study generally aims to shed light on the potential of SNS in improving the study habits of nursing students among these five countries.

Research Questions And Hypothesis

This research study seeks to answer the following questions: What is the extent of utilization of SNS as a means of communication in terms of educational purposes? What social media network is most helpful among nursing students? What are the perceived benefits of SNS in terms of accessibility, usability, efficiency and reliability? Is there a significant relationship between the extent of utilization and perceived benefits of SNS among nursing students? and Is there a potential for improving the study habits of nursing students utilizing SNSs?

- HO 1: There is no significant relationship between the extent of utilization and benefits of SNS among nursing students.
- HO 2: Using SNS has no potential for improving the study habits of students.

Methods

Study Design

This study has a quantitative cross-sectional design that determines the relationship between the utilization and perceived benefits of SNS and the potential for improving study habits among nursing students in the five participating countries.

Research Locale

The study was conducted in five countries. Country selection and participation was through a voluntary system. The focus of the study was the utilization and perceived benefits of SNS and the potential for improving study habits among regular nursing students in the selected colleges and universities of the participating countries. The study participants consisted of first-year to fifth-year Bachelor of Science in Nursing (BSC) students from the five participating countries.

Sample and Sampling Techniques

The sample of respondents of the study comprised a 1,200 student selected study cohort from all the universities that met the set of inclusion criteria, and based on the returned online form, 1,400 links were forwarded. This purposive sampling technique was used considering the criteria for the population, and a post hoc sample was computed using proportion analysis using CI.0.65 and CL of 0s.95 of a sample of 1,137 students. Inclusion Criteria: a. BSC student, b. A resident in one of the five participating countries and c. Access to online SNS or similar platforms. Exclusion Criteria: a. Residing in a country not included in the study and b. Students under the investigators/collaborators.

Ethical Considerations

The study sought approval from Assiut University in Egypt (IRB 08/08/2017 number 38) and ethical clearances in the respective participating countries. The study is a non-experimental study and did not utilize human subjects. The study was done by seeking permission and approval from the respective focal collaborating countries. The three-part survey tool was administered through the use of an online survey, with a consent form provided to proceed and to seek their willingness to partake in the study. The return of the electronically tallied survey form indicated a willingness to participate. The identities of participants and personal information were left undisclosed. Blind tallying was used to secure privacy, and codes were used to maintain the anonymity of participants. All respondents were informed that they could voluntarily withdraw from the study.

Data Gathering Procedure

Main IRB approval and communication letter with the approval of the IRB were coursed through the pre-identified colleges and universities in the five aforementioned participating countries. Once approval from the IRBs in each locale were obtained, the corresponding co-researchers were in charge of the selection of the study participants based on the inclusion and exclusion criteria. Data collection transpired between the Spring of 2017 and Fall of 2018. Through a hosting site, a web-based online tool was forwarded as a link to study participants for easy access.

Research Instrument

The research instrument has been subjected to both internal validity and reliability. Face validity and content validity were performed and screened by two experts in the field of Nursing Research. A post hoc reliability test was done and results of the Cronbach α yielded a reliability of 0.92 and margin of error of 0.8. A three-part questionnaire was utilized. Part 1 of the questionnaire sought to determine the demographic profile of the participants in terms of age, gender, year level, type of social media site used, and country of residence. Part 2 of the questionnaire was about the extent of utilization of SNS as a means of communication according to educational purposes among nursing students. Finally, part 3 of the questionnaire was about the perceived benefits of SNS among nursing students. Both used a four-point Likert scale. When responding to Likert questionnaire items, respondents specify their level of agreement to a statement. Participants were asked to check the number that best corresponded to their answer regarding the extent of utilization and perceived benefits of SNS among nursing students. The highest score is 4, and the lowest score is 1.

Data Analysis

The results of this study were analysed and interpreted using the Statistical Package for Social Sciences (IBM SPSS 24.0). The weighted Mean was used to determine the average of the extent of utilization of SNS among nursing students. It was also used to determine the perceived benefits of SNS in terms of accessibility, usability, efficiency, and reliability of SNS among nursing students. After gathering all the answered questionnaires, the mean was computed and gauged according to the following range and qualitative interpretations:

Table: 1 Using a four-point Likert scale (extent of utilization)

Weight	Mean Range	Adjectival Rating	Interpretation
4	3.51–4.50	Always	Highly utilized
3	2.51–3.50	Often	Moderately utilized
2	1.51–2.50	Sometimes	Slightly utilized
1	1.0–1.50	Never	Not utilized

Table 2 Using a four-point Likert scale (perceived benefits)

Weight	Mean Range	Adjectival Rating	Interpretation
4	3.51–4.50	Always	Highly beneficial
3	2.51–3.50	Often	Moderately beneficial
2	1.51–2.50	Sometimes	Slightly beneficial
1	1.0–1.50	Never	Not beneficial

Repeated measures of ANOVA was also utilized to identify significant differences among the two different mean domains, and a post hoc test was performed using Bonferroni's α [20]. The Mann Whitney U test was used to test two or more independent samples that were drawn from the same population where the level of measurement was ordinal [21]. Pearson's r is both descriptive and inferential [20], and it was used to determine the magnitude and direction of a significant relationship between the extent of utilization and perceived benefits of SNS among nursing students and to determine the relationship between student demographic profile, utilization and perceived benefits with the potential to improve study habits statistical power used for correlation is 1.

Results

The study recruited 1,200 participants, out of which a post hoc sample using proportion analysis yielded 1,137 students, that were taken as an actual sample for the study. The profile distribution of the nursing

students grouped by country showed that students from Israel were mostly 26–28 years old, female and first-year students. While nursing students from Iraq were mostly 20–22 years old, female and second-year students. In Oman, most of the nursing students were also 20–22 years old, female, and did not belong to first- to fifth-year levels. They were irregular students who could be placed in between levels depending on their nursing major courses, and they could be clustered in a specific year. In the Philippines and Turkey, most of the students were 20–22 years old, female and third-year students. Overall, the majority of the students were 20–22 years old, female and third-year students (Table 3).

The percent distribution of the extent of utilization of SNS as means of communication according to educational purposes among nursing students in five countries showed that the majority of the nursing students slightly utilized SNS in terms of their accessibility (61.3%) and moderately utilized them in terms of usability (60.2%). It also showed that most of them moderately utilized SNS in terms of their efficiency (45.2%) and reliability (46.8%) (Table 4). Figures 1–4 show the extent of SNS utilization among nursing students when grouped according to age, gender, year level and country. The results also revealed that nursing students had varied responses in terms of their perception of the extent of utilization of SNS as means of communication. At least 2.1% and at most 6.2% of nursing students did not utilize SNS, and 27.8% to 61.3% of nursing students slightly utilized SNS. It was also observed that more than one-fourth (30.6%) to 60.2% of the students moderately utilized SNS. There were at most 16.8% of students that perceived utilization of SNS as highly utilized. Moreover, on average, the nursing students slightly utilized SNS in terms of accessibility (2.34) and moderately utilized them in terms of usability (2.81), efficiency (2.74) and reliability (2.66). Likewise, the nursing students' extent of utilization of the SNS in terms of accessibility was slightly utilized. On the extent of accessibility, results indicated that they sometimes went to the Internet café (2.33), campus (1.94), malls (2.42), restaurants (2.12), game consoles (2.23), iPad (1.76) or USB broadband (2.20). It can also be identified that they often access SNS in their own houses (2.88), mobile phones (2.52), and portable laptops (3.01). In terms of usability, the nursing students have moderate utilization of SNS. This means that they often utilize SNS to get updates in school activities (3.10) to gain more knowledge about their current lessons (2.97), to share their thoughts and opinions about discussions (2.79) and for advanced studies (2.74). Sometimes, they utilize SNS for communication purposes in relation to their studies (2.40). In terms of reliability, results revealed that they often relied on SNS to familiarize themselves with their future lessons (2.71), to get updates on school activities (2.69), to improve their knowledge and skills (2.79), to participate in group research (2.72), and to do assignments and projects (2.75). This means that they had moderately utilized the SNS. In terms of efficiency, nursing students often enhanced their abilities in providing nursing care through SNS (2.82). They often considered that the sources obtained from SNS were accurate (2.71) and that they learned proper techniques related to nursing skills by using them (2.56) (Table 5). They also were recognized by their clinical instructors because of the expertise obtained from the SNS (2.39). This meant that they had moderate utilization of the SNS.

Regarding the question on what SNS nursing students found most helpful, slightly more than one-fourth of the nursing students considered Facebook (25.3%), WhatsApp (26%), and Google (25.8%) as the most helpful social media networks. The results also showed some of the students considered Instagram, Snapchat, e-learning, YouTube, Twitter, and others. Three of the students (0.3%) claimed that they used none of the social media networks (Table 6). In the premises of usability, reliability, accessibility, and efficiency, the results

showed that nursing students perceived SNS as slightly beneficial in terms of accessibility (2.34). They also revealed that the SNS among nursing students were moderately beneficial in terms of usability, reliability, and efficiency.

With regard to study habits, nursing students often have different study habits in terms of time management, study focus, and personal perceptions regarding learning, getting good grades, doing assignments, and the importance of achieving exceptional grades. In terms of time management, students allotted enough time (2.85) for studying (2.74), scheduling fixed time (2.94), and setting the best time they can study (2.84), either every day (2.71) or every week to review (2.51). They also often considered how to focus entirely on studies (2.87) or get interested in studies (2.93), such as seeking a quiet place (3.12) or sometimes studying with music or while watching TV (2.41). Moreover, they often considered studying even without exams (2.70) or completing difficult assignments (2.70). They normally enjoyed learning (2.81), and they were always confident that they could get good grades (3.10). They also frequently gave importance to getting exceptional grades (3), and they made sure that they knew which homework to accomplish (3.10) (Table 7). The results in the extent of utilization of SNSs in terms of accessibility, usability, and reliability suggested that the younger the age the bracket of the nursing students, the lower their extent of utilization, except for the age bracket 23–25 years old. However, the result on the extent of utilization in terms of efficiency contradicted the possible correlation; it suggested that the younger the age of the students was, the lower the extent of utilization in this area, except for the age bracket 23–25 years old. The results further showed that there was a significant difference in the extent of utilization of SNSs in terms of usability ($\chi^2(4)=16.038$, $p=0.003$) and efficiency ($\chi^2(4)=12.360$, $p=0.015$). The significant result also existed in terms of reliability ($\chi^2(4)=11.012$, $p=0.026$). However, pairwise comparison disconfirmed the result on the significant difference. The extent of utilization of SNS in all areas was consistently higher in female nursing students, except in accessibility. This suggested a possible relationship that the female students tended to have a higher extent of utilization of SNS but not in accessibility. The Mann-Whitney U test was used and the test revealed that there was a significant difference in the extent of utilization of SNS only in terms of accessibility. This indicated that the extent of utilization of nursing students in terms of accessibility was significantly higher in male students compared with the extent of utilization of female students. Since the results indicated a non-significant p-value ($p>0.05$), this also meant that the extent of utilization of SNS in terms of usability ($p=0.134$), reliability ($p=0.264$) and efficiency ($p=0.586$) of the nursing students were the same regardless of their sex. On accessibility, fifth-year nursing students had the highest utilization of SNS in terms of accessibility (Mn rank=538.86), reliability (Mn rank=603.22), and efficiency (Mn rank=631.38). Fourth-year nursing students consistently had the lowest extent of utilization in terms of usability (Mn rank=471.68), reliability (Mn rank=448.22), efficiency (Mn rank=419.48) but not in accessibility (Mn rank=486.23). It was also observed that there was a fluctuating pattern as the students' year level increased, which was consistent with the results presented.

From the initial extent of utilization of the first-year nursing students, the extent of utilization of second-year students was lower compared to first-year students. The extent of utilization of SNSs was higher in third-year students compared to fourth-year students. Also, the extent of utilization of SNSs among fourth-year students was lower compared to fifth-year students. Inferential testing was performed through the Kruskal-Wallis test. Results of the test revealed that significant differences existed in the extent of utilization of SNS in terms of

accessibility when grouped by year level ($\chi^2(4)=19.897, p=0.001$), reliability ($\chi^2(4)=21.345, p<0.01$), and efficiency ($\chi^2(4)=33.682, p<0.01$). However, no significant difference in the extent of utilization was found in usability ($\chi^2(4)=1.187, p=0.880$). A significant difference was found between the extent of utilization and perceived benefits of SNS in terms of accessibility ($\chi^2(4)=126.981, p<0.01$), usability ($\chi^2(4)=40.096, p<0.01$), reliability ($\chi^2(4)=51.915, p<0.01$), and efficiency ($\chi^2(4)=147.964, p<0.01$) (Table 8). It was observed that Oman and the Philippines had the highest mean ranks among all the countries, except in terms of utilization of usability (where Israel obtained the highest mean rank). This indicated that nursing students in Oman had the highest utilization of SNS in terms of accessibility and reliability. The Philippines had the highest utilization in terms of reliability but with a slight difference compared with Oman. Moreover, Turkey obtained the lowest mean rank in all areas, except in terms of accessibility. This indicated that Turkey had the least utilization of SNS in terms of usability, reliability, and efficiency. Arranged from highest to lowest, the extent of utilization of SNS of the nursing students in terms of usability (2.81) was the highest, followed by reliability (2.74), efficiency (2.65) and accessibility (2.34) (Table 9).

Furthermore, the result of repeated measures ANOVA revealed that there was a significant difference among the domains of the utilization of the SNS. Hence, in a further test performed through Bonferroni's post hoc test, accessibility was significantly lower than usability, reliability or efficiency. However, usability was significantly higher than reliability or efficiency, and reliability was significantly higher than efficiency (Table 10). Pearson's r revealed a significant positive correlation between the extent of possibly improving study habits and the extent of utilization of SNS in terms of the four domains, namely accessibility ($r=0.246$), usability ($r=0.377$), reliability ($r=0.287$) and efficiency ($r=0.387$). This meant that there was a direct relationship between the two variables. It further meant that the more the nursing students studied, the higher their extent of utilization in terms of accessibility, usability, reliability, and efficiency (Table 11).

Table 3. Participants Profile

Profile	Categories	Israel	Iraq	Oman	Philippines	Turkey	Total
Age	16-19 yrs old	5 (0.4%)	43(3.8%)	74(6.5%)	12(1.1%)	25(2.2%)	159(14.0%)
	20-22 yrs old	45 (4.0%)	151 (13.3%)	229 (20.1%)	51 (4.5%)	144 (12.7%)	620 (54.5%)
	23-25 yrs old	43 (3.8%)	59 (5.2%)	39 (3.4%)	9 (0.8%)	33 (2.9%)	183 (16.1%)
	26-28 yrs old	72 (6.3%)	11 (1.0%)	13 (1.1%)	3 (0.3%)	3 (0.3%)	102 (9%)
	30 and above	54 (4.7%)	10 (0.9%)	8 (0.7%)	0 (0%)	1 (0.1%)	73 (6.4%)
	Total	219 (19.3%)	274 (24.1%)	363 (31.9%)	75 (6.6%)	206 (18.1%)	1137 (100%)
Gender	Male	60 (5.3%)	119 (10.5%)	110 (9.7%)	14 (1.2%)	56 (4.9%)	359(31.6%)
	Female	159 (14%)	154(13.5%)	246(21.6%)	60(5.3%)	150(13.2%)	769 (67.6%)
	Prefer not to say	0 (0%)	1(0.1%)	7 (0.6%)	1(0.1%)	0 (0%)	9(0.8%)
	Total	219 (19.3%)	274 (24.1%)	363 (31.9%)	75 (6.6%)	206 (18.1%)	1137 (100%)
Year Level	Year I	63 (5.5%)	12 (1.1%)	0 (0%)	0 (0%)	0 (0%)	75 (6.6%)
	Year II	37 (3.3%)	117 (10.3%)	37 (3.3%)	0 (0%)	0 (0%)	191 (16.8%)
	Year III	48 (4.2%)	76 (6.4%)	77 (6.8%)	72 (6.3%)	163 (14.3%)	436(38.3%)
	Year IV	52 (4.6%)	35 (3.1%)	71 (6.2%)	0 (0%)	42 (3.7%)	200 (17.6%)
	Year V	0 (0%)	24(2.1%)	56(4.9%)	2(0.2%)	1(0%)	83(7.3%)
	Others	19(1.7)	10(0.9)	122 (10.7%)	1 (0%)	0 (0%)	227 (20)
	Total	219 (19.3%)	274 (24.1%)	363 (31.9%)	75 (6.6%)	206 (18.1%)	1137 (100%)

Table 4. Frequency and Percent Distribution of the Accessibility, Usability, Efficiency and Reliability of the Extent of Utilization of Social Networking Sites as a means of Communication

Extent	Accessibility		Usability		Efficiency		Reliability	
	F	%	f	%	f	%	f	%
not utilized (NU)	71	6.2	24	2.1	55	4.8	45	4.0
slightly utilized (SU)	697	61.3	316	27.8	368	32.4	427	37.6
moderately utilized (MU)	348	30.6	684	60.2	514	45.2	532	46.8
highly utilized (HU)	21	1.8	107	9.4	191	16.8	129	11.3
No data	0	0	6	0.5	9	0.8	4	0.4
Mean (QD)	2.34 (SU)		2.81 (MU)		2.74 (MU)		2.66 (MU)	
SD	0.529		0.612		0.707		0.637	

n=1137

Table 5. Means, Standard Deviations and Qualitative Description of the Utilization of Social Networking Sites

Statements	Mean	Std. Deviation	Qualitative Description
1. I work on my assignments using my own computer inside our house.	2.88	1.030	Often
2. I go to internet cafes near our house to do my assignments.	2.33	1.240	Sometimes
3. I utilize social networking sites inside the campus to help me on my seatwork.	1.94	1.026	Sometimes
4. I utilize social networking sites in malls to get me updated on school activities.	2.42	1.058	Sometimes
5. I can access social networking sites in restaurants for research purposes.	2.12	1.018	Sometimes
6. I can access social networking sites for my assignments through my mobile phone.	2.52	1.115	Often
7. I can access social networking sites for my assignments through my portable laptop.	3.01	1.014	Often
8. I can access social networking sites for my assignments through game consoles like Playstation3 and Xbox360.	2.23	1.206	Sometimes
9. I can access social networking sites for my assignments through my iPad.	1.76	1.037	Sometimes
10. I can access social networking sites for my assignments through my USB broadband.	2.20	1.090	Sometimes
Accessibility	2.34	.529	Slightly utilized
1. I utilize social networking sites for communication purposes in relation to my studies.	2.40	1.030	Sometimes
2. I utilize social networking sites to get me updated in school activities.	3.10	.869	Often
3. I utilize social networking sites to gain more knowledge about my current lessons	2.97	.888	Often
4. I utilize social networking sites to share my thoughts and opinion about our discussions.	2.79	.995	Often
5. I utilize social networking sites for advance studies.	2.74	.884	Often
Usability	2.81	.612	Moderately Utilized
1. I rely on social networking sites to familiarize myself with future lessons.	2.71	.988	Often
2. I rely on social networking sites to get me updated on school activities	2.69	.864	Often
3. I rely on social networking sites to improve my knowledge and skills.	2.79	.973	Often

Statements	Mean	Std. Deviation	Qualitative Description
4. I rely on social networking sites for group researches.	2.72	.865	Often
5. I rely on social networking sites for my assignments and projects.	2.75	.946	Often
Reliability	2.74	.707	Moderately utilized
1. Social networking sites provide correct data and information	2.80	.916	Often
2. Social networking sites enhance my abilities in providing nursing care.	2.82	.866	Often
3. Sources from social networking sites are accurate.	2.71	.802	Often
4. I learn proper techniques related to nursing skills from social networking sites.	2.56	.875	Often
5. Clinical instructors recognize my expertise obtained from social networking sites.	2.39	.921	Sometimes
Efficiency	2.66	.637	Moderately utilized

Legend: 1.00-1.49 (never/not utilized), 1.50-2.49 (sometimes/slightly utilized), 2.50-3.49 (often/moderately utilized), 3.50-4.00 (always/highly utilized)

Table 6. Frequency Count and Percent Distribution of the Most Helpful among Nursing Students

Social Media Network	Frequency	Percent
None	3	0.3
Facebook	288	25.3
Instagram	60	5.3
Whatsapp	296	26.0
Snapchat	41	3.6
Google	293	25.8
e-learning sites	23	2.0
Youtube	85	7.5
Twitter	34	3.0
Others	14	1.2
Total	1137	100.0

Table 7. Means, Standard Deviations, and Qualitative Descriptions of Extent of Doing Possible Study Habits

	Mean	Std. Deviation	Qualitative Description
1. Do I allot specific number of hours for studying?	2.74	.944	Often
2. Do I follow a definite time schedule?	2.94	.903	Often
3. Do I take time to study everyday	2.71	.942	Often
4. Do I know which time of the day I can study best?	2.84	.962	Often
5. Do I easily find enough time to study?	2.85	.959	Often
6. Do I allot time every week to review?	2.51	.910	Often
7. Am I able to focus entirely when I study?	2.80	.875	Often
8. Do I get interested on my studies?	2.93	.824	Often
9. Do I easily concentrate when I study?	2.87	.800	Often
10. Do I usually seek a quiet place to study?	3.12	.788	Often
11. Am I able to study best with music on/ while watching TV?	2.41	1.038	Sometimes
12. Do I study even when there are no quizzes and exams?	2.50	1.037	Often
13. Do I easily complete a difficult assignment?	2.70	.889	Often
14. Do I enjoy learning?	2.81	.822	Often
15. Do I believe I could get better grades?	3.10	.852	Often
16. Before I leave class, do I make sure that I know which homework to accomplish	3.10	.847	Often
17. Are exceptional grades important to me?	3.00	.843	Often
18. Do I prioritize studying over other activities?	2.95	.860	Often
19. Do I exert extra effort when I study?	2.98	.812	Often

Legend: 1.00-1.49 (never), 1.50-2.49 (sometimes), 2.50-3.49 (often), 3.50-4.00 (always)

Table 8. Inferential Results on Significant Difference in the Extent of Utilization and Perceived Benefits of Social Networking Sites among Nursing Students when grouped by Profile Variables

Grouping Variable	Accessibility	Usability	Reliability	Efficiency
Age	$X^2(4)=6.89$ $p=0.142$	$X^2(4)=16.04$ $p=0.003^{**}$	$X^2(4)=11.01$ $p=0.026^{*a}$	$X^2(4)=12.36$ $p=0.015^*$
Gender	$U=122944$ $p=0.003^{**}$	$U=129223$ $P=0.134$	$U=130415$ $P=0.264$	$U=134163$ $P=0.586$
Year Level	$X^2(4)=19.90$ $p=0.001^{**}$	$X^2(4)=1.187$ $p=0.880$	$X^2(4)=21.35$ $p=0.000^{**}$	$X^2(4)=33.68$ $p=0.000^{**}$
Country	$X^2(4)=126.98$ $p=0.000^{**}$	$X^2(4)=40.10,$ $p=0.880$	$X^2(4)=51.92,$ $p=0.000^{**}$	$X^2(4)=147.96,$ $p=0.000^{**}$

*significant at 0.05 **significant at 0.01

^apairwise comparison disconfirmed that sig. diff. exist

Table 9. Repeated Measures ANOVA Result on Significant Difference among each domains of the extent of utilization and perceived benefits of social networking sites among nursing students

factor1	Mean	Std. Error	F	df	Sig.
Accessibility	2.34	.017	151.334	3	.000**
Usability	2.81	.021			
Reliability	2.74	.024			
Efficiency	2.65	.020			

**significant at 0.01

*significant at 0.05

Table 10. Bonferroni Result

(I) factor1	(J) factor1	Mean Difference (I-J)	Std. Error	Sig.
Accessibility	Usability	-.470	.022	.000**
	Reliability	-.397	.025	.000**
	Efficiency	-.308	.023	.000**
Usability	Reliability	.074	.019	.001**
	Efficiency	.163	.021	.000**
Reliability	Efficiency	.089	.019	.000**

**significant at 0.01

*significant at 0.05

Table 11. Pearson-r Result on Relationship between the Extent of Doing Possible Study Habits and Extent of Utilization of Social Networking Sites

		accessibility	usability	reliability	efficiency
potential	Pearson Correlation	.246**	.377**	.287**	.387**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	1134	1130	1128	1133

** . Correlation is significant at the 0.01 level (2-tailed).

Discussion

The findings of this study identified SNS and the relationship between their utilization and perceived benefits and their potential for improving study habits among nursing students in five different countries. Based on the analysis of the findings in the study, most student respondents were 20–22 years old, female, and in their third-year. Our findings were similar to a study conducted in Pakistan where the majority of the nursing respondents were female and within the age bracket of 21–25 years old [22]. A relevant finding explained how social media was an important aspect of today's adolescents, which poses efficiency if properly utilized [23]. In a similar study on social networking, it was identified that SNS addiction was higher in male compared to female students [24].

The study revealed that the majority of the nursing students from across five countries were more engaged in websites and SNS, such as Facebook, WhatsApp and Google. A study conducted in 2009 in Brazil and Singapore showed wide utilization of Facebook on a regular basis [25]. These findings were also true in earlier studies where Myspace and Facebook were among the most popular sites among students, even though they were not created for educational purposes [26]. In the study results, it was also evident that the use of SNSs

was important in establishing communication for educational purposes, and 61.3% of the respondents utilized SNS for the purpose of relaying information relevant to their studies.

A study suggested that SNS are platforms that can be used to improve educational impact by adapting modifications in instructional curricula in medical schools [2]. The aspect of accessibility is an important factor in today's generation of Internet-savvy students, and the study findings suggested the great importance of accessibility. It was found that students were able to get access to their social networking profiles through Internet cafés, malls, restaurants and within the campus. A study mentioned that access to information was just a click away and the accessibility of the information on the Internet and SNS was widely used, and it was inherently identified as the main reason why most students were not visiting libraries anymore [27]. Quick and easy access to SNS makes it preferable for most students, especially for the purpose of education and learning.

The usability of SNS in terms of educational purposes a topic that needs contextualization as the study findings showed that nursing students in five countries use SNS for educational gain by taking advantage of the information in acquiring knowledge on current lessons, getting updated on ongoing school activities, and for the purpose of advanced studies. Although many educational institutions are still dependent on a traditional learning system, which does not use the full capacity of SNS as a tool for teaching and learning [28]. This was contrary to the study done in Oman where the findings showed that SNS were mainly used for entertainment purposes and lesser for educational purposes [29]. SNS can be presented in various mediums, such as photos, videos, interactive interfaces and games, which make them highly engaging among students. Moreover, nursing students engage in more interactive skill-based learning sessions. In terms of reliability, nursing students from the five participating countries identified that SNS were moderately utilized for the purpose of keeping track of school activities and improving knowledge and skills. In the aspect of efficiency, students scored high in providing correct data and information, enhanced their abilities in providing nursing care, and learned from performing proper techniques relevant to their nursing skills. It was also noted that clinical instructors partly recognized the expertise of students drawn from SNS, which was supported by a study intervention using SNS that taught nursing students about ethical and moral behaviours through humanized mannequins in social networks, such as Facebook [30].

Advanced teaching strategies and the availability of updated and timely learning materials can be advantageous as learning platforms among nursing students. Overall, the nursing students in all five countries were synonymous in that they moderately utilized SNS. In terms of benefits, students from the five countries said that SNS were highly beneficial according to a study where 54.92% of dental students in a university in India suggested that the usage of SNS were beneficial in their studies and learning needs [31]. This could be supported by an online survey conducted about social networking as a learning tool, where it was found that majority of the students perceived SNS as an innovative method of study support guided by learning and by enhancing efficacy [17]. However, this was contrary to the study results on the effects of online social networking on student performance that suggested that time spent by medical students on SNS could negatively influence student achievement [32]. The negative and positive aspects of SNS utilization are a debatable issue that is yet to be addressed, because SNS can be addictive and their improper usage may lead to less positive outcomes. Studying is a skill, and developing study habits is vital to the progress of the

academic performance of students^[33]. There is available literature that highly contends the use of SNS as means to become academically successful, such as in a study that mentioned that Facebook and SNS were considered the biggest distraction among college students, subsequently affecting their study habits and grades^[34]. Based on the perspectives of nursing students with regard to their study habits, the study participants from the five countries unanimously identified time management as essential, and a fixed schedule was important when utilizing social networking platforms. This was evidently described in the result of the study conducted where SNS could enhance performance in a simple task environment, where it made no difference in a complex performance environment^[35]. Utilization was also found to be consistently high among female nursing students. It's a known fact that nursing is female-dominated^[36], there are confirmed gender differences that exist with adopted technologies, and they occur among genders of ages 16 to 35^[37]. These findings are firmly contradicted by a study conducted in China where Chinese females were found to be clearly less engaged with technology as compared with Chinese males^[38]. On the other hand, women who were found to have higher introversion and extraversion traits turned to the Internet for social services, such as online chats and discussion groups^[39].

In a geographical and cultural context, it can be viewed that, in countries such as Iran, Israel, Oman and Turkey, the female gender is given less opportunity for public exposure, which results in higher use of SNS and is seen as a viable medium to socialize and be engaged with others, instead of being physically present. A study observed that cultural considerations influenced the interaction platform of choice and the use of SNS^[40]. Oman and the Philippines were identified highest in terms of utilization. In a study conducted by Sultan Qaboos University among health science students, the findings showed YouTube, Facebook, and Twitter were the most used social media platforms. The findings generally suggest that usage and addiction is similar to the rest of the world^[41]. On other hand, in the Philippines, the US-based Pew Research Center said that 88% of Filipinos felt that increasing Internet usage was good for education, given that the Philippines is often dubbed as the "social media capital" of the world^[42]. On the contrary, Turkey ranks lowest in the utilization of SNS in the findings of Kirschner and Karpinski in Turkey, where a study among undergraduate students revealed that students who reported academic problems were more likely to use the Internet for social networking (e.g., Facebook) purposes^[43]. The results of the hypothesis testing yielded a positive relationship between study habits against the extent of utilization among nursing students in the five participating countries. The levels of engagement among nursing students in the utilization of SNS can be most beneficial and relevant to their study purpose. SNS are deemed necessary in this generation of learners, wherein a significant amount of information acquisition is within grasp and readily available. The utilization of SNS for educational purposes has both positive and negative implications^[44,45].

Limitations

Our study has several limitations. Due to the cross-sectional nature of the study, it was not possible to explain the causal relationship between the demographic profile, such as geographic location and culture, which will require a more extensive research design and strategy. In addition, the researchers acknowledge the lack of attention to the role of the faculty members in facilitating the utilization of SNS among nursing students in the selected countries.

Conclusion

The paucity of research and policies related to the integration of SNS as a learning tool requires attention from both researchers and policymakers. Nursing students from five participating countries were widely female dominated and the extent of utilization was higher among females. This study also identified the level of nursing student SNS utilization and benefits were perceived moderately, taking into account access, usability, efficiency and reliability. The most utilized social media platforms in Israel, Iraq, Oman, Philippines, and Turkey were WhatsApp and Facebook. On correlation of utilization, perceived benefits and study habits showed a positive relationship among the three factors. Similarly, a significant positive correlation between the study habits of students and extent of utilization means that the more students devote themselves to study habits, the higher the level of SNS utilization.

Recommendations

The study further suggests that similar studies in the future should focus not only on the aspects of access, usability, efficiency and reliability but also on the inclusion of behavioural aspects. Cultural differences can also be taken into consideration. The homogeneity of the sample can also be improved by tapping more diverse nursing student populations in Israel and Iraq. Oman and Turkey, with the exception of the Philippines, are homogenous in terms of culture and geographic settings. A mixed-method approach can also be recommended to contextualize the confounding influence of culture and geographic location in future studies. Although there are several studies on SNS and academic performance, very few studies have been done in nursing academia that focus on skills or psychomotor development through these virtual platforms that can also be used in the teaching-learning process. The influences of SNS among nursing students and their great potentials in enhancing the study habits of students are an area of opportunity in developing curricula that are not restricted to the four corners of the classroom. By far, SNS is the current and most relevant platform that can further add to the learning success and academic achievement of nursing students. A tailored strategy for enhancing student participation, interaction and real-life learning are just a few of the advantages of tapping on the positive contribution of SNS as a teaching-learning tool in nursing education.

Abbreviations

SNS - Social Networking Sites

BSC - Bachelor of Science in Nursing

IRB - Institutional Review Board

MARG - Mentors and Researchers Group

ICT- Information Communication Technology

SPSS - Statistical Package for Social Science

Declarations

Ethics & Consent to Participate

The study sought approval from Assiut University in Egypt (IRB dated 08/08/2017 number 38) and ethical committee clearances from Oman-Sultan Qaboos University College of Nursing, Iraq-Bagdad University, Israel Max Stern Yezreel Valley College, Turkey-Ondokuz Mayıs Üniversitesi and Northern Luzon Adventist College, Philippines. Consent to participate was obtained from the participants. All participants were above 18 years old.

Consent for Publication

Consent from all authors was obtained.

Availability of Data and Materials

Not applicable.

Competing Interest

No competing interest

Funding

The study did not receive any form of funding.

Authors' contributions

Researchers	Contribution
GFDV, ARC, SAF	Conception of idea, research design, data collection/field work, data management, analysis, report writing, interpretation of results, and critical reviewing with intellectual input
GFDV, ARC, SAF, MK, SO, CLS, MBA, HF, JPC	Data collection/field work and data management
GFDV, ARC, SAF, MK, SO, CLS, MBA, HF, JPC	Critical reviewing with intellectual input
GFDV, ARC, SAF, MK, SO, CLS, MBA, HF, JPC	Critical reviewing with intellectual input
GFDV, ARC, SAF, MK, SO, CLS, MBA, HF, JPC	Critical reviewing with intellectual input

All authors have read and approved the manuscript.

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Figures

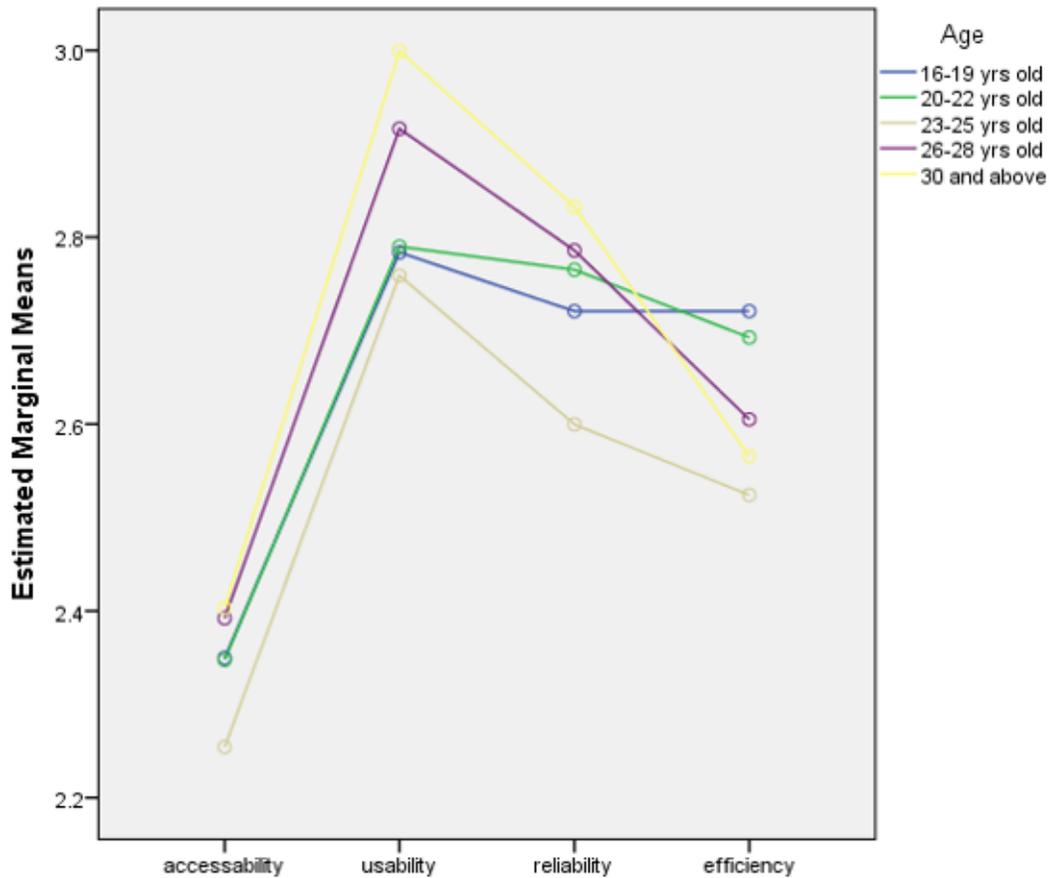


Figure 1

Line Chart of the Extent of Utilization of the Nursing Students Across All Domains when grouped by Age

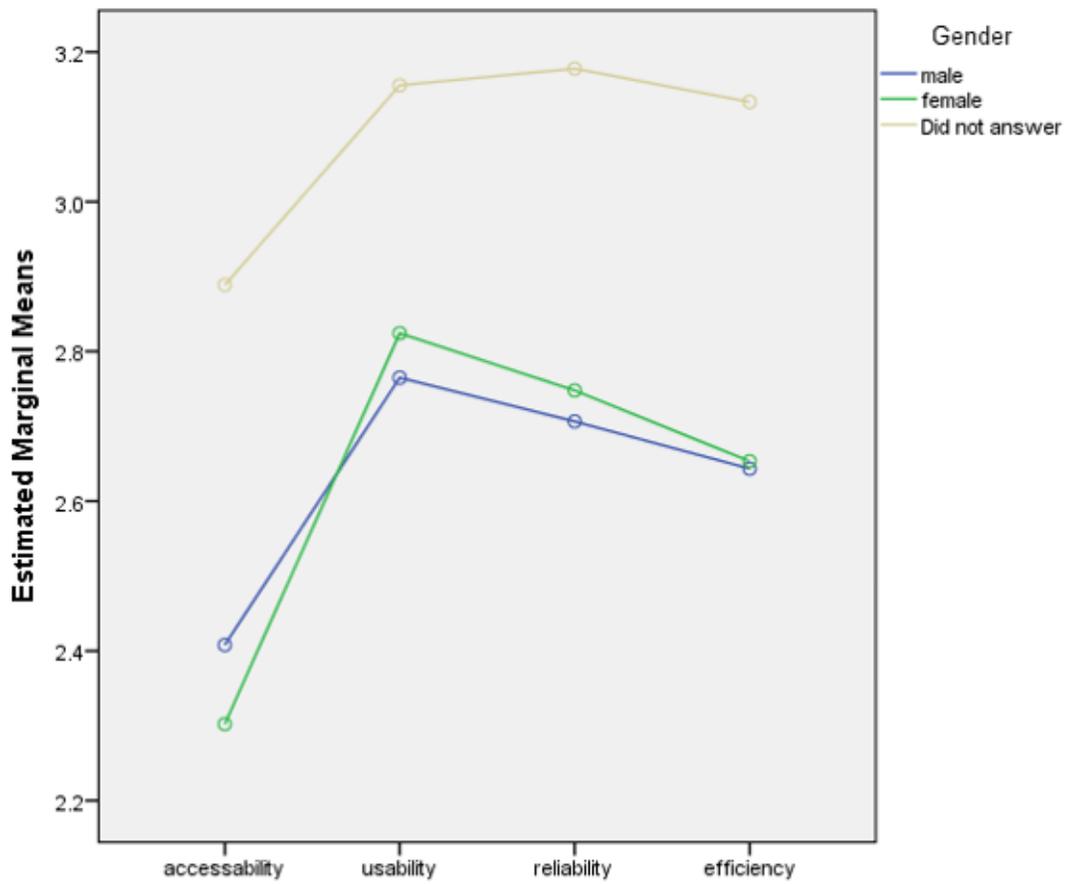


Figure 2

Line Chart of the Extent of Utilization of the Nursing Students Across All Domains when grouped by Gender

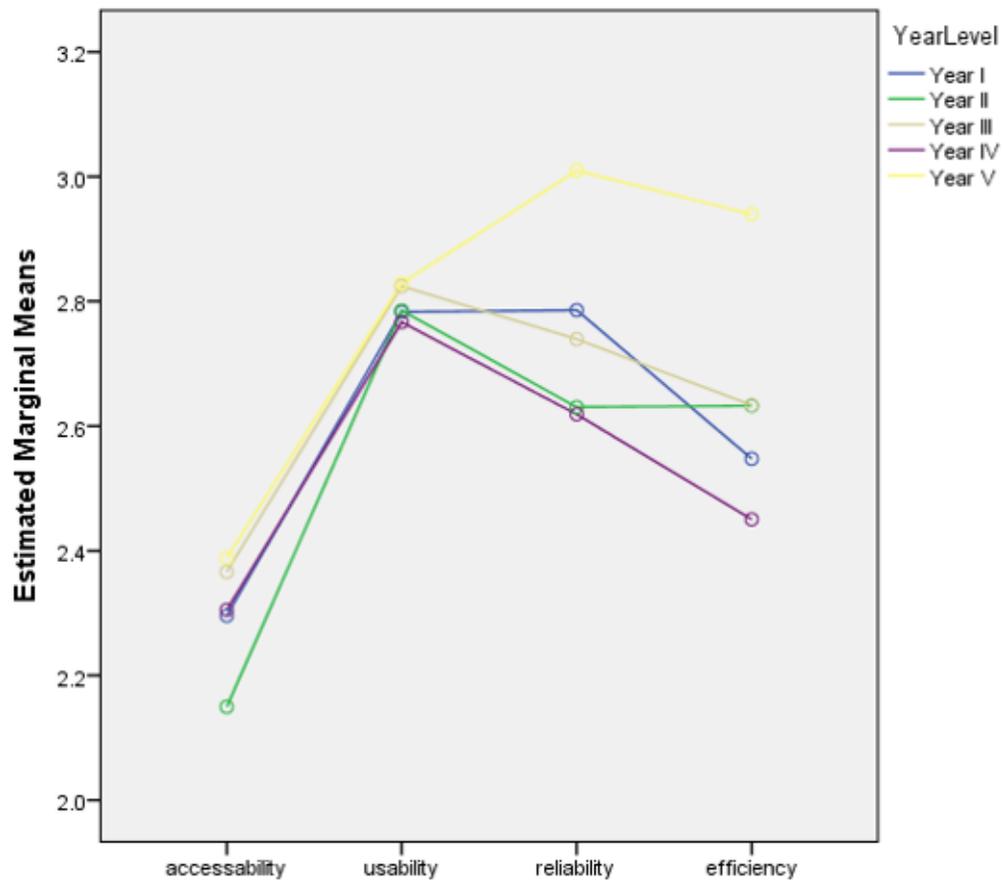


Figure 3

Line Chart of the Extent of Utilization of the Nursing Students Across All Domains when grouped by Year

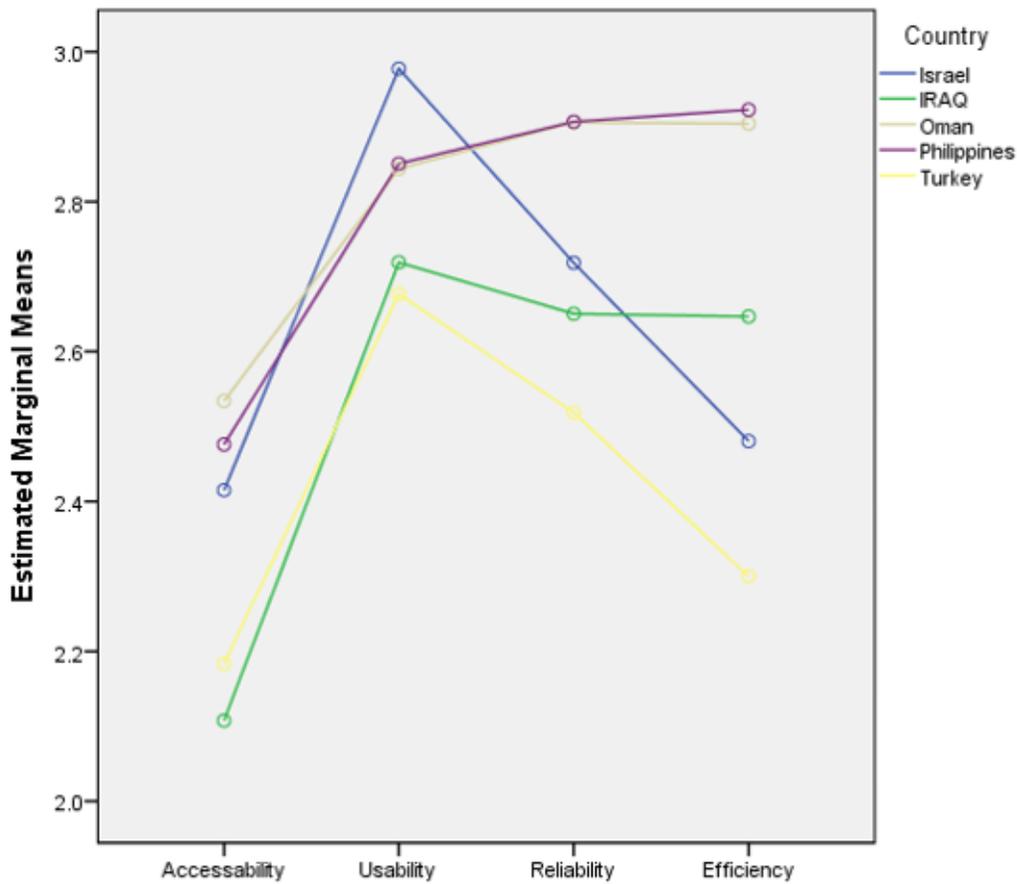


Figure 4

Line Chart of the Extent of Utilization of the Nursing Students Across All Domains when grouped by Country

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