



The Effects of Social Networking Sites Use on Students' Academic Performance at the University of Taiz

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Abstract

In the academic context, social networking sites (SNSs) have reshaped the way university students connect and communicate with each other, and the way they learn, thus influencing their identities and dimensions. This paper aims to investigate the impacts of SNSs use by students on their academic performance at the University of Taiz. A survey questionnaire was conducted to a total sample of 357 undergraduate students via personal administration and by an online platform to gather the initial information on their use of SNSs and the influence on their academic performance. The hypotheses of this study were studied and tested using descriptive statistics, regression model, T-test, and analysis of variance (ANOVA). The findings of H1 indicate that the impact of the use of SNSs on students' academic performance was statistically significant Interaction with the teacher (II) Collaboration with coworkers (CC) Engagement (EN) and learning a cooperating (LC). Meanwhile, the results of H2 indicate no significant differences between the mean averages of the respondents' answers for (purposes, the impact of the use of SNSs, and academic performance) due to gender, and age, respectively. Thus, using SNS as a learning tool has a great potential to improve students'

academic performance because it allows students to be more connected. Overall findings of this study indicate that the use of SNSs impact undergraduate students by factors are studied on academic Performance to some extent and suggested future strategies to enhance students' awareness to manage their time, multitasking skills, and study activities to enhance their academic performance and achievements.

Keywords: Social networking sites; Academic performance; University of Taiz.

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Introduction

The overgrowth and widespread of social networking sites (SNSs) have created concerns among communication experts, university authorities, and researchers about the usefulness and potential effect that face university students while engaging and using online networking sites (Yapıcı & Hevedanlı, 2014). SNSs use has changed the learning process of university students (Topal & Geçer, 2015). Nowadays, university students around the world tend to have more than one account on SNSs which hinders their academic performance and impacts their lives and sociability. This key issue has been widely addressed in many studies, and it has become prominent as a result of the many newly developed social sites such as Facebook, TikTok, WhatsApp, etc. (Albashtawi & Al Bataineh, 2020; Aljaraideh & Al Bataineh, 2019). Pew Research Centre conducted an extensive survey on adults who use social networking sites and found that majority of adults aged between 18 and 29 with a percentage of 53 have accounts on Instagram and Facebook. In the education sphere, the use of SNSs plays a variety of roles highlighted by (Al-Khalifa & Garcia, 2013), including sharing ideas, enabling students to develop communities, and collaborating and connecting, thus improving the art of learning. Although the use of SNSs has a variety of ways, their use in education remains a controversial subject for several experts and educators. Various studies have investigated the impact of social networking site use on academic performance found mixed findings, namely positive, no link, and negative effects (Mady & Baadel, 2020). Yet, whether or not the use of social networking sites is useful is still debatable because the research on this subject found no consensus of positive or negative effects on performance academic (Mady & Baadel, 2020; Topal & Geçer, 2015). Recently, the use of SNSs has grown significantly with a dramatic increase in usage among university students and the youth generation. Indeed, with the emergence of online networking sites, users can exchange ideas, feelings, personal information with no limitation and beyond physical (Brederode, Markopoulos, Gielen, Vermeeren, & De Ridder, 2005). Like many other countries, Yemen has experienced a significant increase in social networking sites usage especially Facebook (Ainin, Naqshbandi, Moghavvemi, & Jaafar, 2015; Bader Al Bataineh, Abdullah Ahmed Banikalef, & H. Albashtawi, 2019). The

excessive use of social networking sites among students has raised several questions on whether academic performance is affected (Alwagait, Shahzad, & Alim, 2015).

This study explores what and how to extend the use of SNS influences the performance academic of students in the University of Taiz through the use of questioners' survey among undergraduate students. This study is significant as it will provide directions for undergraduate students, particularly in Yemen to utilize social networking sites for the betterment of their studies and learning experiences.

Research objectives

- To investigate the type of SNSs used by undergraduate students for academic purposes.
- To investigate the uses of SNSs among undergraduate students.
- To recognize on use SNSs and investigate the factors that affect students' academic performance.

Research questions

1. What is the most type of SNSs used by undergraduate students for academic purposes?
2. What is the students' purpose in using SNSs?
3. What factors affect students' academic performance by using social networking sites?

Theories and hypotheses development

Concept of SNSs

SNSs are online platforms that provide users with several important advantages such as connection, sharing thoughts, moments and knowledge, communications, interactions, and collaborations. Boyd and Ellison, (2010) defined SNSs as web-based platforms that allow users to have a semi-or fully public profile that is accessed by the community to communicate, connect and interact with other friends and strangers. SNSs are mainly intended to promote communications and interactions between individuals and groups worldwide (Kaliyaperumal, 2008).

The essence of these networks, as well as their terminology, can vary from one site to the next. Regardless, all of these SNSs platforms have made it possible to communicate and share knowledge and other information with people more safely and rapidly. Six Degrees.com was the first social networking site, founded in 1997. Despite having millions of users, this social networking site did not survive, and it was shut down in 2000. Between 1997 and 2001, many groups and SNSs, such as Asian Avenue, MiGente, and Black Planet have allowed users to create their own profiles and interact with friends, dating, creating business networks, etc. between 1997 and 2001. Friendster was founded in 2002 and has since served people on a personal and professional level. Since 2003, a slew of new social networking sites have appeared, many of which have been extensively investigated by social tech analyst (Pascarella

& Terenzini, 2005). In 2004, adolescents began to use Myspace, although unlike older users, they rarely used Friendster. Facebook rose in popularity among high school students in 2005, when they started to create their own profiles. Cyword, Yahoo! 360, Black Planet, and YouTube all launched in 2005 (Junco, 2015). Twitter started in 2006. Many SNSs for example, Friend, were developed by 2010 and started in 2007. In 2008 Ping.fm was created. The net log was also known as Face Box and Bing Box in 2009. In addition, the buzz of Google began in 2010 as a social site that was later integrated with Gmail allowing users to make their profiles and upload their photos and share links and information with others.

SNSs for academic purpose

SNSs have grown rapidly in the fields of education and academia (Chen & Bryer, 2012). For instance, the students are able to search for information, documents through online SNSs platforms as well as to interact with their lecturers and class-mates using several important SNSs such as WhatsApp, Microsoft Team, Facebook and etc (Mazer, Murphy, & Simonds, 2007).

Online activities have become an integral part of day-to-day university life (Greenhow, 2011; Junco, 2015; Junco, Elavsky, & Heiberger, 2013), the use of SNSs in academic settings lies in providing and sharing new ideas, skills and involved in providing advice and opportunities for students. Several authors have argued that the use of SNSs improves students learning process and performance as well as allows students to access up-to-date information related to their studies.

Effect of SNSs on students' academic performance

The use of SNSs has increased rapidly among university students in recent years as a result of the advancement in the Internet and the availability of several social sites. According to McLoughlin & Lee,(2010). SNSs can promote students' involvement and active learning, and students can use SNSs as connection tools that are appropriate for today's educational systems. There are limited studies that have been done to determine the connection between social media usage and academic success (Glass, Prichard, Lafortune, & Schwab, 2013). Among the studies that found a positive relationship between social network use and academic performance is a study conducted by Eid & Al-Jabri, (2016) to examine the impact of SNSs on the learning performance of both graduate and undergraduate students. According to (Ainin et al., 2015), social networks use can enhance academic performance through knowledge sharing which allows students to obtain support from their peers and teachers, regarding their learning experiences. Other studies found a positive relationship between student's use of SNSs and their academic performance (Al-rahmi, Othman, Yusof, & Musa, 2015; Mohd Ishak & Ruzaini, 2015). On the other hand, some researchers indicated negative influences of SNSs on students' academic performance (Akyildiz & Argan, 2012; George D. Kuh, 2009; Hamat, Embi, & Hassan, 2012; Junco, 2015; Kirschner & Karpinski, 2010). Other studies also found an insignificant result between social media use and academic performance (Ahmed & Qazi, 2011; Knight-mccord et al., 2016; Lubis et al., 2012; Smith & Tirumala, 2012). Although

several studies claim that there is a negative effect between the use of Facebook and academic success, some studies have found that the rise in the use of social networks does not actually reduce students' academic performance (Abdullahi, Musa, Abubakar, & Yusif, 2019). They observed that social media was not used heavily by most students, although there were several exceptions. In fact, because of Facebook use, the process of balancing time between research and SNS use, also called the multitasking process, will mitigate the risk of lower GPAs. Consequently, students should learn the steps to balance their use of SNS and academic demands. In (Wakefield & Frawley, 2020) researchers also proposed that teachers could use obligatory policies that forbid students from using their telephones and computers as needed for course purposes.

Use of SNSs to engage and motivate

The main goal of lecturers and teachers in education is to inspire and motivate their students to be more productive, participate in learning and teaching tasks, involve in-class discussion, and engage with projects and assignments (Shih, 2011)(Sullo & Sullo, 2007). Various forms of motivations exist which are divided into intrinsic and extrinsic associations with student behavior in the classroom (Deci & Ryan, 2002). The activities are classified into extrinsic and intrinsic. The former motivates students for external activities such as the evaluations made by lecturers, meanwhile the intrinsic deals with activities related to self-enjoyment, satisfaction while carrying out the extrinsic activities (Marshall, 1987). Students may use immersive educational games and virtual learning environments to engage and inspire them (Franklin, 2011). When teachers use SNSs, Mazer et al., (2007) argued that they boost the motivations among their students as students tend to be inspired seeing the public profiles of their teachers (Mazer et al., 2007). In a study by Jabr, (2011), the majority of students said that communicating with classmates via a Facebook community helped them remain motivated to learn. Further-more, several studies have claimed that social networking sites have beneficial effects on education, outperforming conventional educational approaches in terms of participation, interactions, and student motivations (Al-menayes, 2015; Koranteng, Wiafe, & Kuada, 2019; Singh, 2020). Stockely et al. (2013) performed another ICT-related analysis in. According to (Pascarella & Terenzini, 2005), academic achievements of students are related to their engagement and commitment.

Use social media to inspire and engage students

The aim of lecturers in academic settings is to involve in inspiring their students using several motivating approaches that are grouped into intrinsic and extrinsic motivations related to study and classroom (Deci & Ryan, 2002; Sullo & Sullo, 2007). Extrinsic activities are related to the grade approval by teachers, assessing students, and supporting their needs, the intrinsic activity is related to personal perceptions and satisfaction towards external activities. However, student activities will vary despite experiencing similar motivations from teachers, and thus there is a distinction between motivation to learn and student motivation with respect to academic performance (Marshall, 1987). Therefore, the lectures can use the SNSs to motivate and

engage with their students in order to improve the learning process, academic sharing of information and knowledge and etc.

Young adults' use of SNSs

According to the Pew Internet and American Life Project in 2001, young adults' lives were becoming more socially connected as a result of technology in which the majority of young people use SNSs in their everyday tasks. In 2014, more than 70% of young people use Facebook as reported by (Junco, 2015; Junco et al., 2013; Koranteng et al., 2019). There have been several researchers on the frequency and length of SNS use. According to one report, half of SNS members use these platforms every day, and around 26-29 use these platforms in two days period (Lambi, 2016; Lenhart, Madden, Smith, & Macgill, 2009). In addition, according to one report, college students in the United States spend somewhere between 10 and 30 minutes a day on Facebook (Ellison, Steinfield, & Lampe, 2007). The findings of (McLoughlin & Lee, 2010; Roblyer, McDaniel, Webb, Herman, & Witty, 2010) indicated that the number of students who use SNSs especially Facebook are increasing rapidly. Similar findings were reported by (Poellhuber, et al (2011).

Research Hypotheses and Variables

Research hypothesis on the impact of SNSs on undergraduate students' academic performance has been proposed and addressed as follows:

- H₁: There is a statistically significant impact of SNSs use on undergraduate students' academic performance at the University of Taiz.
- H_a: SNSs allow students to communicate with their peers and enhance their performance.
- H_b: Using SNSs to communicate with teachers increases students' academic performance.
- H_c: Using SNSs to engage with other students, increases their academic performance.
- H_d: Using SNSs platforms for cooperative learning increases students' academic performance.
- H₂: There is no difference between the mean average of the respondents' answers and the demographic variables (gender, age,) for all Variables of study.

The following model was used to test the above hypotheses between the study variables:

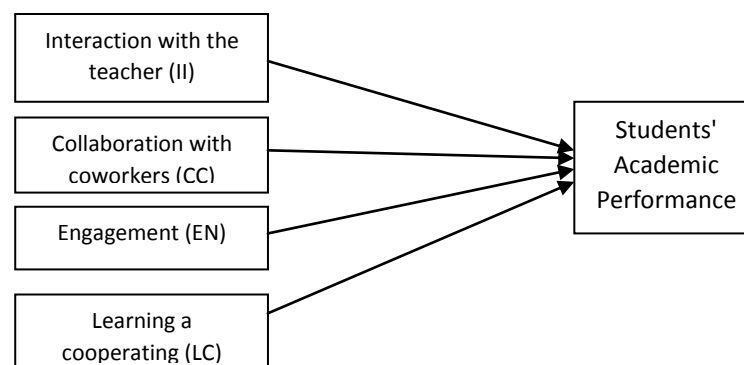


Figure 1. Portrays the theoretical model for this analysis.

$$SAP = \beta_0 + \beta_1 II_1 + \beta_2 CC_2 + \beta_3 EN_3 + \beta_4 CL_4 + \varepsilon$$

Where SAP denotes academic performance as the dependent variable of this study and the interaction with colleagues (IC), interaction with teachers (II), collaboration with coworkers (CC), engagement (EN), and learning a cooperating (LC) as the independent variables.

These variables were seen as important parameters to investigate the impact of SNSs on student's academic performance in several previous studies such as (Imran, Jawad, & Hameed, 2020; Junco, 2015; Junco et al., 2013; López-meneses & Vázquez-cano, 2020; Mazer, Murphy, & Simonds, 2007a; Shukla, 2021).

A quantitative analysis approach based on primary data was used in this study. At the University of Taiz, a survey was carried out to examine the parameters that affect students' AP when they use SNSs. During the 2019/2020 academic session, data for the study were obtained by circulating a questionnaire to undergraduate students. The population (number of students both undergraduate and postgraduate) at the University of Taiz up to date are around 25000. The selection of the sampling process and the sample size was according to (Krejcie & Morgan, 1970). Therefore, the sample size is 357 students and the total questionnaire obtained is 209. Out of the 357 distributed questionnaires, 232 were retrieved which then were analyzed carefully to assess the missing data and possible outliers that may harm the data analysis process. A total of 11 respondents were categorized as missing data (not finished questions), 12 were incomplete and 12 contained outliers. After data cleaning and processing, the incomplete, missing data, and outliers respondent were eliminated as they may influence the integrity and reliability of the findings. Therefore, the remaining questionnaires were 209. Prior to conducting questionnaires, we have conducted a pilot study using 38 respondents as well as the questionnaires were sent to two experts in the field to assess the reliability, language, and content validation of the questionnaires. The questionnaires comprised open and closed-ended questions that are easily understood by students and were categorized into five sections where the first section seeks to obtain the background and demographic variables of the respondents, meanwhile the second, third, fourth, and fifth sections were about the II, CC, EN, LC and SAP respectively. The collected quantitative data were assessed quantitatively using various statistical tests such as data cleaning, validity and reliability, correlation and regression, and ANOVA.

Reliability & Validity

Reliability examines the consistency and stability of each item of the established variables of the study. Cronbach's alpha is the reliability coefficient that determines the extent of the questionnaire's items are positively correlated with each other. A closer value of Chronbach's alpha to 1 indicates higher internal consistency reliability. In the present study, a pilot study was conducted to ensure that the questions are internally consistent and reliable. A total of 38 participants were randomly selected among undergraduate students at the University of Taiz with 38 items questionnaires. The findings of the preliminary survey analysis are shown in Table 1. This study survey had a Cronbach's alpha value of 0.91. As a result, the survey tool's

reliability was fully validated. The summary for the outcomes of the study's variables is shown in Table 2.

Table 1. Descriptive Statistics of Reliability

Variables	No. of items	Cronbach's Alpha	Interpretation (Nounally and Bernstein, 1994)
Most popular SNSs are used by students for academic purposes.	9	0.79	Very Good
The purposes to which students use SNSs	8	0.69	Moderate
Interaction with the teacher (II)	3	0.79	Very Good
Collaboration with coworkers (CC)	3	0.76	Very Good
Engagement (EN)	3	0.81	Very Good
Learning a cooperating (LC)	5	0.80	Very Good
Students' Academic performance (SAP)	7	0.91	Excellent
Total	38	0.80	Very Good

The research tool's dependability

Table 2. Means and S.D. of the study's variables.

Variable	Variables	Mean	S. D
Independent Variable	The purposes to which students use SNSs	3.59	0.984
Independent Variable	Interaction with the teacher (II)	4.02	0.950
Independent Variable	Collaboration with coworkers (CC)	4.19	0.818
Independent Variable	Engagement (EN)	3.65	0.863
Independent Variable	Learning a cooperating (LC)	3.79	0.690
Dependent Variable	Students' Academic performance (SAP)	3.90	0.571

Results and discussion

Profile of Respondents

To identify the characteristics of the respondents the descriptive and frequency analysis are carried out. The profile of respondents includes gender and age which are illustrated in Table 3. According to Sekaran (1983) the purpose of conducting the descriptive and frequency analysis is to observe the number of different respondents with different values that can be represented by the percentage rate. Thus, in this study, from 209 respondents, 58.9% or 198 of them are male respondents, and 41.1% or 86 are female respondents. Most of the respondents are between 20-25 years old with 167 (80%), followed by the respondents above 25 years old respondents with 42(20%).

Table 3. Demographic statistics for the profile of respondents.

Items	Label	Frequency	Items
Gender	Male	123	58.9
	Female	86	41.1
Age	20-25	167	80
	25-30	42	20

Time of use of SNSs

Table 4 shows the time in which students at the University of Taiz use SNSs where the majority of students 61 (29.2%) of the respondents used SNS for 3.4 hours each day on average for educational purpose, 60 (28.7%) of the respondents use SNS for 1.2 hours each day on average for educational purpose, 49 (23.4%) of the respondents used SNS for about 2.3 hours per day for the academic purpose, 27 (12.9%) of the respondents used SNS for above than 4 hours per day on average for educational purpose and finally the remaining 12 (5.7%) of the respondents used the SNSs for less than an hour approximately 0.1 hours each day for academic purpose. Therefore, from these findings, we can conclude that most undergraduate students spend around 3.4 hours per day for academic purposes. Few studies indicated different spending hours for academic performance as reported (Al-qaysi, Mohamad-nordin, & Al-emran, 2018).

Table 4. Hours of use of SNSs for academic purposes

Hours of use of SNSs for academic purposes	Frequency	Percentage %
0 - 1 Hour	12	5.7
1 - 2 Hour	60	28.7
2 - 3 Hour	49	23.4
3 - 4 Hour	61	29.2
+4 Hour	27	12.9
Total	209	100

Most popular SNSs for Academic Purposes

When the participants were asked what is the most popular SNS used for academic purposes, the majority indicated that the ResearchGate was seen to be the most popular SNS used for academic purposes with 136 (65.1%) of respondents. This was followed by WhatsApp with 134 (64.1%) of respondents, Facebook, and YouTube with 132(63.2%) and 131(62.7%) of respondents respectively, Google Groups with 73(34.9%) of respondents, LinkedIn with 62(29.7%) of respondents, Twitter with 26 (12.4) of respondents, and the remaining are 7 (3.3%) and 8 (3.8%) are Myspace and other SNSs respectively. The data is retrieved for different categories in the form of text file or csv file, it is loaded onto HDFS (Hadoop Distributed File System). Then it is pre-processed by the Mapper and Reducer phase of Apache Hadoop to get the number of positive and negative words which are used to calculate the sentiment accuracy. Table 5. Shows the findings for the most popular SNSs for academic performance.

Table 5. Most popular SNS for academic purposes

SNS students mostly visit for academic purpose	Frequency	Percentage %
Research Gate	136	65.1
Facebook	132	63.2
Twitter	26	12.4
LinkedIn	62	29.7
WhatsApp	134	64.1
YouTube	131	62.7
Google Groups	73	34.9
Myspace	7	3.3
Others	8	3.8

The Purposes for which students use SNSs

Table 6 shows the findings for the purposes to which students use SNSs. The majority of respondents with 4.14 mean and 1.040 SD of respondents use SNSs for connecting with their family and friends, followed by 4.06 mean and 0.951 SD said they of respondents use SNSs studying, 3.91 mean and 0.942 SD of respondents use SNSs for connecting and engaging with supervisor and lecturers, 3.85 mean and 0.991 SD of respondents use SNSs to join university groups with other students, 3.80 mean and 1.113 of respondents use SNSs to communicate with students in their colleges, 3.60 mean and 1.096 SD of respondents use SNSs to access course notes and other materials, 3.41 mean and 1.356 SD of respondents use SNSs for playing games and finally 1.98 mean and 1.409 SD of respondents use SNSs for online discussion with other students around the world.

Table 6. The purposes to which students use SNSs

No	The purpose of the use SNSs	Mean	Std. Deviation
1	Connecting with family and friends	4.14	1.040
2	Connecting and engaging with supervisor/lecturers	3.91	0.942
3	Studying	4.06	0.951
4	Playing games	3.41	1.356
5	Communicate with students in your course	3.80	1.113
6	Access courses notes and other materials	3.60	1.096
7	Joining university groups with other students	3.85	0.991
8	For online discussion with other students around the world	1.98	1.409
9	Connecting with family and friends	4.14	1.040

Topic-specific descriptive statistics

Based on the Tables (7 to 11) which summarizes descriptive statistics, including percentages, means, and standard divisions (SD), which define students' responses to relevant parameters for all 21 statements and constructs of the survey questionnaires.

Collaboration with coworkers (CC)

Table 7 shows the findings of the relationship between the independent variable (CC) with the dependent variable (AP) where the majority of students indicated that the use of SNSs makes it easier to interact and collaborate with coworkers, other students to exchange class materials. The means and SDs for the three constructs of the CC variable were ranging between 4.55 to

3.77 with the highest score for the use of SNSs to communicate with coworkers (4.55). This finding is in line with the findings of Hanson and Creswell (2005) who indicated that the mean scores of agreement range between 5.00 to 3.68.

Table 7. Mean & standard deviations for Collaboration with Coworkers (CC)

No	Collaboration with coworkers (CC)	Mean	Std. Deviation
1	Using (SNSs) makes it easier to communicate with coworkers.	3.775	0.891
2	Using (SNSs) is an easy way to connect with coworkers.	4.25	0.898
3	SNSs are easily used to exchange class materials with coworkers.	4.55	0.638
Total		4.19	0.818

Interaction with the teacher (II)

Table 8 shows the findings of the relationship between the independent variable (II) with the dependent variable (AP) where highest proportion of respondents went to using SNSs to facilitate interaction with the instructor, using SNSs is an important way to establish connection and communication with instructors regarding the materials and class notes with percentage of 4.77, 4.2, and 3.825 respectively.

Table 8. Descriptive analysis of study information for Interaction with the teacher (II)

No	Collaboration with coworkers (CC)	Mean	Std. Deviation
1	Using SNSs facilitates interactions with the instructor	4.057	0.632
2	Using SNSs is an efficient way to communicate with the instructor	4.200	0.678
3	SNSs are used effectively to share class materials with the instructor	3.825	1.473
Total		4.028	0.950

Engagement (EN)

Table 9 shows the findings of the relationship between the independent variable (EN) with the dependent variable (AP) where the highest proportion went to “using social media sites has aided me in developing a sense of collaboration”, “when I use social media sites, I get the impression that my views aren't taken into consideration” and “using social media sites has improved my personal relationships with my coworkers and teachers” with percentages of 3.88, 3.52, and 3.52 respectively.

Table 9. Descriptive analysis of study information for Engagement (EN)

No	Engagement (EN)	Mean	Std. Deviation
1	Using social media sites has improved my personal relationships with my coworkers and teachers.	3.54	1.21
2	Using social media sites has aided me in developing a sense of collaboration.	3.88	1.02
3	When I use social media sites, I get the impression that my views aren't taken into consideration.	3.52	1.07
Total		4.028	3.65

Learning a cooperating (LC)

Table 10 shows the findings of the relationship between the independent variable (LC) with the dependent variable (AP) where the highest proportion went to the “a cooperative learning experience is better than in a face-to-face learning” and “I found that using SNSs in

cooperative learning was useful” with means of 3.94 and 3.94 respectively. As shown in the table the student’s agreement were ranging between 3.6 to 3.94 and is considered high significance between the AP and the LC.

Table 10. Descriptive analysis of study information for learning a cooperating (LC)

No	Learning a cooperating (LC)	Mean	Std. Deviation
1	I found that using SNSs in cooperative learning was useful.	3.94	1.08489
2	I was able to learn new skills and gain experience from other SNS participants.	3.64	1.00757
3	Students' desire to learn is boosted by social media sites.	3.78	1.22041
4	In an SNS world, a cooperative learning experience is better than in a face-to-face learning environment.	3.94	0.96696
5	SNS discussion groups aided in the development of a sense of collaboration in me.	3.64	1.38264
Total		3.788	0.69920

Students' Academic performance (SAP)

Table 11 shows the findings between the independent variable (LC) with the dependent variable (AP) where the highest proportion went to the “using social media sites will help me learn more effectively in school” and the lowest portion went to “I felt at ease engaging in course discussions by using SNSs” with means of 4.137 and 3.57 respectively. Overall, the majority of students indicated that they use SNSs for academic purposes to improve their academic achievements as well as for organizing or hosting the academic event and communicate and connect with instructors was significant with a mean.

Table 11. Descriptive analysis of study information for (SAP)

No	Students' Academic performance	Mean	Std. Deviation
1	Use social media sites to help me organize academic events and communicate with colleagues and instructors.	3.968	0.605
2	I felt at ease engaging in course discussions by using SNSs.	3.57	0.332
3	It would be more convenient for me to get the best grade if I used SNSs in the educational sector.	3.967	0.380
4	Using social media sites will help me learn more effectively in school	4.137	0.348
5	My comprehension of course topics has grown as a result of using SNSs.	3.756	0.280
6	Using social media sites has improved my reading and writing abilities.	3.924	0.282
7	I've been more linked to my learning network as a result of using social media sites.	3.968	0.605
Total		3.898	0.571

Model with multiple regressions

The regression analysis was carried out to investigate the relationships between the dependent variable (academic performance) and the explanatory variables (CC, II, EN, and LC) variables and the results are shown in Table 12. The study aims to examine the student's AP when accounting for the impacts of CC, II, EN, and CL. The findings showed that the explanatory parameters are important with a positively impact on students' AP.

Table 12. Multiple regression estimation model

	Coefficients						
	Unstandardized Coefficients		Standardized Coefficients	t	Sig	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
Constant	0.176	0.158		1.040	0.31	- 0.154	0.506
II	0.150	0.037	0.121	3.438	0.00	0.050	0.243
CC	0.130	0.031	0.155	3.850	0.00	0.060	0.192
EN	0.252	0.042	0.201	4.832	0.00	0.131	0.309
LC	0.460	0.045	0.302	8.693	0.00	0.317	0.531
R Square	0.650						
Adjusted-R-Square	0.638						
F	140.8				0.00		

Hypothesis Testing Results

To achieve the third objective, the effect of SNSs on students' academic performance based on the following basic hypotheses. H₁: There is a statistically significant impact of SNSs use on undergraduate students' academic performance at the University of Taiz. from that the sub hypothesis as follows. H_a: Social networking sites (SNSs) allow students to communicate with their peers and enhance their performance. H_b: Using social media to communicate with teachers increases students' academic performance. H_c: Using social media to engage students to increase their academic performance. H_d: Using social networking platforms for cooperative learning increases students' academic performance. H₂: There is no difference between the mean average of the respondents' answers and the demographic variables (gender, age,) for all Variables of study.

To Validate Hypothesis No. 1

The primary goal of this analysis is to test the impact of SNSs on academic performance. The developed hypotheses were investigated using descriptive statistics where the significance level of 0.05 was selected as the p-value to accept or reject a hypothesis. Thus, if the p-value is less or equal to the level of significance, then we reject the null hypothesis, and the alternative hypothesis is accepted. Meanwhile, the null hypothesis is rejected if the p-value is greater than the level of significance and the alternative hypothesis is not supported. H1: The use of social network platforms has a statistically important effect on academic performance. The findings of the hypothesis's tests are illustrated in Tables 13 -15.

Validate Hypothesis No. a

The null hypothesis is, using SNSs to communicate with colleagues does not increase AP of students. The alternative hypothesis states that the use of SNSs to communicate with colleagues improves students' Academic performance. As shown in Table 13, the significance value of this hypothesis indicates high significance and thus we accept the alternative

hypothesis and reject the null one. The R-value of CC and SAP $R^2 = 0.561$, which suggested a moderate association, indicated that CC enhanced SAP when SNSs were used.

To Validate Hypothesis No. b

The null hypothesis is that using social media to communicate with teachers does not increase AP of student. The alternative hypothesis states that the use of SNSs to communicate with colleagues improves students' AP. As shown in Table 14, the significance value of this hypothesis indicates high significance and thus we accept the alternative hypothesis and reject the null one. The R-value of II and SAP was $R^2 = 0.591$, which suggested a moderate association, indicated that II enhanced SAP when SNSs were used.

To Validate Hypothesis No. c

The null hypothesis is that using SNSs to engage students does not increase their SAP. Alternative hypothesis: using SNSs to engage students increases their academic performance. The null hypothesis was rejected, and the alternative hypothesis was accepted, as seen in Table 15. The correlation test's p-value was significant, indicating that we must reject the null hypothesis and accept the alternative one. The EN improved SAP by using SNSs, as shown by the value of R between EN and SAP $R^2 = 0.720$.

To Validate Hypothesis No. d

The null hypothesis is that using SNSs for cooperative learning does not increase student results. Alternative hypothesis: using SNSs for cooperative learning increases SAP. Table 16 shows that the correlation test's p-value was significant, indicating that the alternative hypothesis accepted, and null hypothesis was rejected. The value of R R-square of CL and SAP $R^2 = 0.752$, indicating a strong association between the two, indicates that CL strengthened SP by using SNSs.

Table 13. Pearson correlation Summary analysis between CC and SAP

Variable	Mean	SD	Correlation	P-Value
CC	4.190	0.818		0.000
SAP	3.898	0.571	0.561**	

Table 14. Summary of Pearson correlation analysis between II and SAP

VAR	Mean	SD	Correlation	P-Value
II	4.028	0.950		0.000
SAP	3.898	0.571	0.595**	

Table 15. Summary of Pearson correlation analysis between EN and SAP

VAR	Mean	SD	Correlation	P-Value
EN	3.65	1.120		0.000
SAP	3.898	0.571	0.720**	

Table 16. Summary of Pearson correlation analysis between LC and SAP

VAR	Mean	SD	Correlation	P-Value
LC	3.788	0.699		0.000
SAP	3.898	0.571	0.752**	

To Validate Hypothesis No. 2

H₂: There is no difference between the mean average of the respondents' answers and the demographic variables (gender and age). This hypothesis was assessed using one way ANOVA and the results are shown in Table 17. Based on Table 17, there is no difference between the means of the respondent's answers for gender and the purpose of using SNSs because the value of the mean of the purpose is bigger than 0.005.

Table 17. ANOVA test results comparison between the averages of respondent's answers for all variables study by the gender.

		Sum of Squares	Df	Mean Square	F	Sig.
Purposes to which students use SNS	Between Groups	1.304	1	1.304	2.803	0.096
	Within Groups	96.299	207	0.465		
	Total	97.602	208			
academic performance (SAP)	Between Groups	3.27	1	4.27	6.40	0.066
	Within Groups	138.04	207	0.667		
	Total	141.31	208			
Interaction with the teacher (II)	Between Groups	0.226	1	0.226	0.697	0.570
	Within Groups	67.077	207	0.324		
	Total	67.303	208			
Learning a cooperating (LC)	Between Groups	0.957	1	0.957	2.190	0.259
	Within Groups	90.674	207	0.438		
	Total	91.631	208			
Engagement (EN)	Between Groups	0.691	1	0.691	1.904	0.159
	Within Groups	75.173	207	0.363		
	Total	75.864	208			
Collaboration with coworkers (CC)	Between Groups	0.288	1	0.288	0.645	0.349
	Within Groups	92.388	207	0.446		
	Total	92.676	208			

Significance level: 0.05

Table 18. ANOVA test results comparison between the averages of respondents' answers for (all variables) by age.

		Sum of Squares	d.f	Mean Square	F	Sig.
Purposes to which students use SNS	Between Groups	3.598	4	0.900	1.95	0.103
	Within Groups	94.004	204	0.461		
	Total	97.602	208			
Academic performance (SAP)	Between Groups	3.144	4	1.637	1.66	0.088
	Within Groups	140.16	204	0.982		
	Total	143.30	208			
Interaction with the teacher (II)	Between Groups	3.144	4	0.786	1.144	0.359
	Within Groups	140.16	204	0.687		
	Total	143.30	208			
Learning a cooperating (LC)	Between Groups	0.018	4	0.005	0.014	0.590
	Within Groups	67.33	204	0.330		
	Total	67.348	208			
Engagement (EN)	Between Groups	0.597	4	0.149	0.455	0.404
	Within Groups	66.816	204	0.327		
	Total	67.413	208			
Collaboration with coworkers (CC)	Between Groups	1.301	4	0.325	0.888	0.154
	Within Groups	74.652	204	0.365		
	Total	75.953	208			

Significance level: 0.05

As shown in Table 18 above, there is no difference between the means of the respondent's answers for age and the other parameters which are (purpose of using SNSs, SAP, II, LC, EN, CC) because the value of the mean of the purpose is bigger than 0.05

Conclusion

This study examined students' perceptions on the purposes of using SNSs and their impact on their academic performance. The main objective of this study was to assess the impact of the use of SNSs on the perception and therefore on the academic performance of undergraduate students at the University of Taiz as well as to identify the purposes of using SNSs. The correlation between the dependent variable (AP) and the independent variables (CL, EN, II and CC) was assessed using the multiple regression model. The results showed the majority of students indicated that the ResearchGate was seen to be the most popular SNS used for academic purposes with 136 (65.1%) of respondents. For the key assumptions in this analysis (H1 and H2). The first theory suggests that the usage of social networks and the academic success of the learner has a clear and important effect. On the other side, the second theory argues that owing to demographic features, there is a discrepancy between the mean average responses of the respondents (purposes, the influence of the usage of social networks, academic performance) (moderate variables: Age, gender,) It was necessary to measure the consistency of the calculated variables before evaluating the proposed hypotheses and how accurately they reflect the proposed construct.

To this end, both the independent variable (use of social networks) and the dependent variable (academic accomplishment) were accepted for reliability and convergent validity. The alpha coefficient of Cronbach and the association between the variables produced satisfying results. A basic linear regression method, T-test, and ANOVA were used to test the hypotheses.

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Conflict of interest

The authors declare no potential conflict of interest regarding the publication of this work. In addition, the ethical issues including plagiarism, informed consent, misconduct, data fabrication and, or falsification, double publication and, or submission, and redundancy have been completely witnessed by the authors.

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