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# Academic Self-Efficacy as Mediator of Social Networking Usage and Digital Literacy Competence of Students

**Samuel V. Refugio Jr.[1] and Garry L. Bastida[2]**

[1]Student, University of Mindanao

[2]Professor, University of Mindanao

***Abstract*—** The study aimed to determine if academic self-efficacy significantly mediates the relationship between social networking usage and digital literacy competence of students. This study utilized a quantitative, non-experimental design, employing the descriptive correlation method and mediation technique to investigate the relationship among the three variables. The findings of the study indicated a high level of social networking usage, a very high level of digital literacy competence, and a high level of academic self-efficacy. Furthermore, the results revealed a significant relationship among the three variables, with social networking usage and digital literacy competence being partially mediated by academic self-efficacy. As students use social networking sites, more academic institutions will utilize social media in their learning approaches. Then, students must learn digital technologies for their studies, access information online, and connect with peers. Eventually, digital literacy competence will be a factor in students' academic self-efficacy.

***Keywords*—** Academic self-efficacy, digital literacy competence, library and information science, social networking usage.

## I. INTRODUCTION

Many adolescents and young adults today who have grown up in a technological society lack digital literacy (Pavlovich, 2021). They are in the middle of a paradigm shift because they use more electronic information sources that did not exist before (Dudenhoffer, 2020). Students need to gain digital literacy because they need to gain the skills necessary to locate, analyze, and evaluate digital information and content (Maxwell, 2020). Also, they need more technical knowledge to comprehend ownership and copyright issues and help with internet access and platforms (Alsowat, 2022).

Digital literacy is essential for using technology to locate, organize, coordinate, estimate, and distribute public information (Purnama et al., 2021). As students rely more on the internet to discover information that affects their lives, they must have critical digital literacy skills that allow them to guarantee that the content they are receiving is published by a reliable source (Erwin & Mohammed, 2022). Students must acquire digital skills, including the capacity to operate computers and mobile devices and the knowledge of these technologies' ethical, social, and political implications (Santos & Gomes, 2024).

The potential use of social media creates collaborative learning settings in which students can share instructional materials and content. Students communicate on social media, which aids collaborative learning and boosts self-esteem (Ansari & Khan, 2020). In addition, academics and policymakers have extensively investigated and discussed digital literacy competence and higher education is focusing more on it. Since the teaching and learning environment has changed, information communication and technology are now integral to the study process. They are strongly correlated with the performance of both teachers and students in the classroom (Zhao et al., 2021).

Indeed, the internet has enabled new forms of communication, and education is one area where the internet is being used to improve the teaching and learning process (Güney, 2023). The importance of information quality stems from the fact that much of the content on the internet needs to be more reliable and correct. Therefore, it is difficult for young students to locate credible sources online and evaluate the quality of digital content (Sariyev, 2021). Thus, the urgency of conducting this study was recognized: to determine if social networking usage affects the digital literacy competence of students with a mediating variable of academic self-efficacy. The study at hand will help to fill an existing gap in the literature. It will make specific contributions to the advancement of knowledge, theory, and practice about academic self-efficacy as a mediator of social networking usage and digital literacy competency among students, primarily in the local

context. Furthermore, this study's findings will help achieve the United Nations' Sustainable Development Goals, notably Quality Education, which assures a quality education for all and encourages continuous education for all.

The purpose of this quantitative study is to determine the role of academic self-efficacy as a mediator of social networking usage and digital literacy competence of students. As a result, this section investigates the numerous research and literature that describe the link and correlation among the model's variables. The researcher acquired material from books, published journals, newspapers, magazines, and electronic sources, all of which might be utilized to back up the researcher's activities and conclusions.

Social media is regarded as one of the most significant current breakthroughs in establishing digital information and communication, contributing to the development of digital literacies (Kutu et al., 2022). As it becomes more popular, especially among university students, it is commonly used by working people and students (Jarelnape et al., 2023). By their very nature, humans are social and have always found novel ways to interact. Most people use social networking sites to connect with people online, which suggests this is a distinct human tendency (Hoda et al., 2022).

Similarly, social networking sites facilitate new opportunities for communication, information search, and entertainment (Iqbal et al., 2022). Communication is an essential aspect of digital literacy when using social media. Internet and Web 2.0 technologies have greatly expanded the range of communication channels, such as email, instant messaging, social networking sites, forums, blogs, and wikis (Andreou & Nicolaidou, 2019).

Social media platforms have evolved into breeding grounds for extensive information sharing. As social media becomes increasingly integrated into the academic fabric, it becomes a source of contention (Mrah, 2022). Scholars and academic communities are paying attention to using social media to improve students' academic motivation with technology, where knowledge sharing, collaboration, and interaction with peers can facilitate the students' learning-oriented activities (Mohammed et al., 2021). Several review studies have paved the way regarding social networking sites' use, impact, and various issues in evaluating academicians, including faculty members, scholars, and students, and analyzing their knowledge-sharing behaviors (Ali et al., 2022).

The use of social networking sites has exacerbated various societal challenges. Many students need more focus on their academic work because they excessively use these websites during critical study periods (Calunsag & Calunsag, 2023). Furthermore, they need access to tools and resources to ensure their success in gaining knowledge. Students frequently need help accessing and understanding classes due to inadequate internet connection (Purmayanti, 2022).

In our rapidly evolving world, digital literacy has become a daily necessity and a prerequisite for lifelong learning (Reichert et al., 2020). Students are required to access vast amounts of information available on the internet. To do so, they must utilize their digital literacy effectively, which includes evaluating and synthesizing information and collaborating with others using online tools. Students can improve their critical thinking, self-efficacy, and inquiry learning by developing these skills using digital tools (Indah et al., 2022). When it comes to digital literacy among students, there is a need to foster a culture of critical thinking so that they can engage critically with the content they look for on the internet, relating it to the subject knowledge they have learned or want to advance (Tinmaz et al., 2022).

Digital literacy comprises required skills at all higher education levels and is critical to practical professionalization. Given the widespread use of digital media in everyday life, digital literacy provides a set of cross-cutting abilities that can benefit a wide range of activities (Vodă et al., 2022). Digital literacy necessitates the proper use of various technologies, the ability to access, create, and share the appropriate knowledge, and the ability to use technology in the learning-teaching process. It is a phenomenon that can potentially enhance lifelong learning (Canbolat, 2023). Several studies have found that students with digital literacy do better academically, are more motivated to learn, and are better prepared for future challenges (Murtadho et al., 2023).

Furthermore, most students agreed or strongly agreed that they require digital literacies for various tasks in their learning, academic or professional contexts, and daily lives (Smith & Storrs, 2023). Social media can assist them to improve their digital literacy and grasp 21st-century abilities, including using social media as a cognitive tool. Educating students about digital literacy

courses and services is just as important as teaching them traditional reading skills because combining them will yield positive results (Tsvetkova et al., 2024). Computer-savvy students may surf websites safely and determine whether sites are appropriate or unsafe (Che Wan Jaafar et al., 2023). However, it has been discovered that most young people entering university need more abilities to use the internet and ICTs successfully. Despite their ability to use social networks and navigate online, their knowledge of effectively applying these new technologies in the learning process could be more extensive (Del Carmen Pegalajar Palomino & Torres, 2023).

Self-efficacy is the belief that one has the knowledge, skills, and abilities to succeed in a particular course or task (Neroni et al., 2022). Academic self-efficacy has contributed the most to comprehending the significance of self-analysis and academic achievement (Booth et al., 2022). With software assistance and computer programs such as word processors and worksheets, digital literacy can assist individuals in completing more tasks more efficiently. Students must have a high level of digital literacy to comprehend and apply information in various formats and via computer (Sari, 2022). Students must possess the required digital competencies regarding knowledge, skills, and attitudes to use digital technology for effective learning (Chaw & Tang, 2022).

This study refers to the following anchored and supported theories to present theory-driven techniques and explanation for the current study's significance and validity: George Siemens' Connectivism Theory, Paul Di Gangi's Social Media Engagement Theory, Viswanath Venkatesh's Unified Theory of Acceptance and Use of Technology, and lastly, Albert Bandura's Self-Efficacy Theory.

Based on this research, the connectivism theory supports the findings of this study. Connectivism is motivated by the idea that judgments are dependent on constantly altering assumptions. Constantly, new information is being gathered. Critical information must be distinguished from irrelevant information. Beyond that, it is critical to notice when new knowledge changes the environment based on previous decisions. Connectivism also addresses the challenges many businesses face concerning knowledge management activities. To be considered learning, database-stored information must be associated with the appropriate individuals and situations (Siemens, 2004).

In addition, this study is founded on the social media engagement theory, which focuses on the social interactions between users enabled by an organization's social media platform. According to the core concept of social media engagement theory, greater user interaction resulted in increased use of the social media platform. Usage refers to the frequency with which a user publishes, retrieves, and investigates content on a social networking platform. The more frequently users engage in various activities, the more valuable the social media platform is to the organization and other users, resulting in value co-creation (Di Gangi & Wasko, 2016).

In addition, the unified theory of technology acceptance and use lends credibility to this study. According to this theory, the actual use of technology is determined by behavioral intention. The unified theory of technological acceptance and use identifies four main factors: performance expectations, effort expectations, social impact, and enabling conditions. Performance expectation refers to an individual's belief that employing the system may assist them in fostering their job performance. The simplicity associated with using the system is defined as effort expectation. Social influence is the degree to which a person believes that influential people think they should use the new system. Enabling conditions are the extent to which an individual believes that an organization and technical infrastructure exist to support the use of the system (Venkatesh et al., 2016).

The self-efficacy theory provides additional support for this study. The construct is defined as people's evaluations of their abilities to plan and execute the actions necessary to achieve specific types of performances (Bandura et al., 1999). It is more concerned with assessments of what one can do with the skills they possess than with the skills themselves (Lorsbach & Jinks, 1999).

The concepts, interconnected structures, academic works, and ideas derived from many sources are relevant to this study since they support its results and have served as a guiding lens for analyzing them. Each of the theories offered in this study lends support to the ongoing investigation. The Connectivism Theory will be employed in this study to explain the importance of academic self-efficacy, social networking use, and digital literacy competence. Moreover, the other two theories are as follows: Social Media Engagement Theory, which states that higher user engagement leads to increasing use of social media platforms; Unified

Theory of Acceptance and Use of Technology, which asserts that actual use of technology is determined by behavioral intention; and Self-Efficacy Theory, which is concerned with evaluations of what one can do with whatever skills they possess.

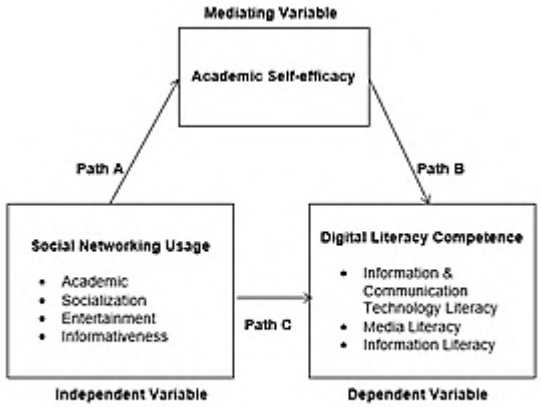


*Figure 1. Conceptual Paradigm of the Study*

Fig. I shows the study's conceptual framework, which presents the variables. It is composed of one independent variable (Social Networking Usage), one dependent variable (Digital Literacy Competence), and a mediating variable (Academic Self-Efficacy).

The independent variable of the study is social networking usage. Utilization of social networking sites is measured in terms of academic, socialization, entertainment, and informativeness. Academic is a term used to describe how academics perceive the use of social networks as a communication tool. Socialization refers to the use of social networks to make new friends and reconnect with old ones. The term entertainment is used to describe social networks as a source of amusement and enjoyment. Informativeness is a term used to describe the usefulness of social networks as a source of product/service information (Gupta & Bashir, 2018).

Additionally, the study's dependent variable is digital literacy competence. Information and communication technology, media literacy, and information literacy are all tested to determine digital literacy competence. Information and communication technology is the ability to use digital devices to collect, evaluate, store, produce, present, and exchange information, as well as to communicate and collaborate via the internet. Media literacy is the ability to access, comprehend, analyze, create, and evaluate information in any print, visual, or digital media. Information literacy is a set of skills that require individuals to recognize and effectively locate, evaluate, and use information (Wardhani et al., 2019).

In addition to that, academic self-efficacy serves as the study's mediating variable. It is a student's confidence in their capacity to complete academic tasks at the required level. Self-efficacy is context-dependent, meaning that beliefs in one area can affect beliefs in others. In this way, a related fall in academic self-efficacy can influence ideas about social and emotional self-efficacy. Improving academic self-efficacy may work as a resilience aspect, reducing depressed symptoms. Therefore, it may be helpful to increase adaptability among at-risk populations such as college students (Sachitra & Bandara, 2017).

While literature exists on either of the two variables: social networking usage, digital literacy competence, and academic self-efficacy, the relationship between the three variables remains to be seen, and there appears to be a dearth of literature on the topic. In contrast, this research provides additional factual and theoretical perspectives into the foundations of this relationship. As such, the researcher opts for this study to meet a gap in prior research. More evidence and studies are needed to examine academic self-efficacy as a mediator variable and attempt to explain the effect of academic self-efficacy by examining factors such as social networking usage and digital literacy competence. On top of that, the researcher is interested in the immediate impacts of academic self-efficacy as mediator of social networking usage and digital literacy competence of students, both of which are critical to their educational achievement.

The purpose of this study is to determine whether academic self-efficacy has a mediating effect on social networking usage and digital literacy competence of students. Specifically, this research will be designed to achieve these goals. First, to describe the level of social networking usage: academic; socialization; entertainment; and informativeness. Second, to ascertain the level of digital literacy: information & communication technology literacy; media literacy; and information literacy. Third, to measure the level of academic self-efficacy of students. Fourth, to establish the significance of the relationship between social networking usage and digital literacy competence; social networking usage and academic self-efficacy; and academic self-efficacy and digital literacy competence. Finally, to determine the significance of the mediation on academic self-efficacy of social networking usage and digital literacy competence of students.

Furthermore, the following assertions are the study's hypotheses, which connect to the underlying theory, particular research questions, and evidence to support the research's validity. There is a significant relationship between social networking usage and digital literacy competence; social networking usage and academic self-efficacy; and academic self-efficacy and digital literacy competence. Additionally, academic self-efficacy has no mediating effect on the relationship between social networking usage and digital literacy competence of students.

Lastly, every research study impacts individuals, society, the country, and humanity. As a result, the purpose of this study is to conceptualize and comprehend the mediating influence of academic self-efficacy in social networking usage and digital literacy competence of students. This study's findings may also add to the growing literature on librarianship that focuses on academic self-efficacy, social networking use, and digital literacy competence. On the societal value of the research, it can assist professors and students in various courses in achieving digital literacy competent students and academic self-efficacy, which leads to a balanced social life for students without compromising their studies. Furthermore, students with digital literacy competence are advantageous in this technologically advanced environment.

Most importantly, administrators and upper management can use the study's findings to develop specialized programs and strategies to reduce digital literacy incompetence. Furthermore, to promote a digital literacy competent student, assist students in using social networking sites productively, learn new digital technology skills, and use social networking sites and digital literacy to excel in their academic endeavors. More importantly, this study may allow professors, students, and librarians to have their voices heard by the administration, allowing them to create programs and policies to help avoid digital literacy incompetence, excessive use of social networking sites, and academic underperformance. Future scholars will use this work as additional information in studies that explore other dimensions or expansions of this setting.

## II. METHODS

### *A. Research Respondents*

In the context of this study, the population of interest comprises students from the College of Teacher Education at the University of Mindanao-Main and its branches. The overall population of students was 4,290 in the second semester of the school year 2023-2024. Using the Raosoft software, the total sample size for this study was 353 respondents.

The group was chosen through stratified random sampling, a sampling strategy in which a group is selected as a sample size for the research and divides a population into subpopulations. Using stratified random sampling to select a sample from each subpopulation is desirable (Parsons, 2017).

This survey does not restrict the respondents' age, ethnicity, gender preferences, or work position in the Davao Region. However, if the above-mentioned inclusion criteria are not met, the respondent would be removed from the study.

Participants are not compelled to complete the survey questionnaire; they cannot disclose any personal information requested and can opt-out anytime. The primary priority is the respondent's convenience because the refusal was voluntary; it did not break the respondent-researcher relationship and resulted in no loss of benefits. The researcher was grateful for the participants' involvement and ensured their well-being during the study. The researcher picked examples that fit and contributed their knowledge and experience to the output to the best of his ability. This study sheds fresh light on the perceptual process of associated elements influencing digital literacy ability.

The study was conducted in the Davao Region, an administrative region in the Philippines occupying a section of Mindanao. It covers five provinces: Davao de Oro, Davao del Norte, Davao del Sur, Davao Occidental, and Davao Oriental. The regional center is the City of Davao. Furthermore, the study took place in Davao del Sur, Davao del Norte, and Davao City to address various difficulties that have been identified with students' academic self-efficacy, social networking usage, and digital literacy competency.

### *B. Materials and Instrument*

There are three sets of standard survey instruments used to collect information from respondents in established research. A pilot test was carried out on 30 students from the Department of Teacher Education at UM Panabo College.

The academic self-efficacy survey instrument will measure the perceived students' academic self-efficacy using a 5-point Likert Scale from 1 (Strongly Disagree) to 5 (Strongly Agree).

The social networking usage survey instrument will measure the perceived students' social networking usage using a 5-point Likert Scale from 1 (Strongly Disagree) to 5 (Strongly Agree). It has five subscales: academic, socialization, entertainment, and informativeness.

The digital literacy competence survey instrument will measure the perceived students' digital literacy competence using a 5-point Likert Scale from 1 (Strongly Disagree) to 5 (Strongly Agree) and has three subscales: information and communication technology literacy, media literacy, and information literacy.

The following interpretation matrix was used to interpret the response on students' academic self-efficacy, social networking usage, and digital literacy competence. The range from 4.20 to 5.00 is described as a very high level, which means that the items relating to the academic self-efficacy, social networking usage, and digital literacy competence of students are always manifested. With the range of means from 3.40 to 4.19 and described as high level, the items relating to students' academic self-efficacy, social networking usage, and digital literacy competence are often manifested.

With the range of means from 2.60 to 3.39 and described as moderate level, the items relating to students' academic self-efficacy, social networking usage, and digital literacy competence are sometimes manifested. With the range of means from 1.80 to 2.59 and described as low level, the items relating to students' academic self-efficacy, social networking usage, and digital literacy competence are seldom manifested. With the range of means from 1.00 to 1.79 and described as very low, the items relating to students' academic self-efficacy, social networking usage, and digital literacy competence are never manifested.

### *C. Design and Procedure*

This study followed a quantitative, non-experimental approach. It is a non-experimental social phenomenon research design with no interference and direct manipulation of the tested variables. As a result, there is limited evidence to support the cause and effect of variables. The design is either descriptive or correlational, describing the phenomenon or the relationship between two or more variables without manipulation (Stangor, 2011).

Furthermore, the descriptive technique involves observing variables under investigation, attitudes, and behaviors (VanderStoep & Johnston, 2008). Descriptive research collects information on phenomena and occurrences on subjects to investigate and allows researchers to examine relevant factual data on attitudes, experiences, perceptions, and perspectives (Shuttleworth, 2008).

The mediating variable is fundamental to cognitive research and theory on mediating. It describes the impact of an independent variable on a dependent variable. Mediation is one way a researcher could demonstrate how one variable impact another. The mediation study is motivated by three factors: 1) the historical dominance of the stimulus organism response model; 2) it serves as the foundation for many psychological theories; and 3) it is methodological (MacKinnon et al., 2007). Hence, this study determined the levels of social networking usage and digital literacy competence, mediating academic self-efficacy.

During data collection, the research adviser received a letter of approval to conduct a study, which was then signed by the Dean of the Professional School. The letter, which included a sample survey questionnaire, was sent by email to the authorized personnel. Following approval from the dean to conduct the study, the survey questionnaires were administered, or an email/message via Google Forms with questions was sent to the respondents of the study.

All data acquired for this study was kept secret, especially throughout data transfer. In any event, specific data, such as names, was kept separate from other personal information acquired, which was retained in a locked filing cabinet as a hard copy. On the other hand, an electronic copy of the information was saved on a password-protected personal computer or in the cloud. Importantly, the data obtained was kept secret from random people. Otherwise, the data will be used with individual names and other identifiable information deleted. Survey instruments were eventually disposed, such as by burning or cross-shredding in a way that prevented information from being reconstructed.

The survey results were saved and tabulated in an Excel file, then sent to the statistician for evaluation. Descriptive statistics, such as mean and standard deviation, were used to assess academic self-efficacy, social networking usage, and digital literacy competence.

The data was interpreted and analyzed using the statistical methods listed below: Mean. It was used to evaluate students' academic self-efficacy, social networking usage, and digital literacy competence.

Pearson Product Moment Correlation. It was used to examine the significance between academic self-efficacy, social networking use, and digital literacy competence of students. Path analysis. This was utilized to evaluate the role of academic self-efficacy as a mediator in the relationship between social networking usage and the digital literacy competence of students.

This study adhered to the core of ethical proceedings and validation processes to settle ethical problems in gathering information. By accomplishing all the standard forms such as the consent form, conduct to study protocol information form, and consent assessment form, conforming to the University of Mindanao Ethics Review Committee (UMERC). This ethical compliance justified that only obtained data from authorized and willing individuals without manipulating the raw data and processing them to satisfy the scientific and ethical soundness of the paper.

## III. RESULTS AND DISCUSSION

### *Level of Social Networking Usage*

Table I shows that students' social networking usage is high, with an overall mean score of 4.10. The highest mean score among the indicators is entertainment, which received a mean score of 4.40, which is described as very high in level, followed by informativeness with a mean score of 4.20, which is described as very high in level, then academic with a mean score of 4.11, and finally socialization with a mean score of 3.83, both with a high descriptive level. The standard deviation of all indicators is less than 1.00, indicating that the participant's reactions to the various indicators are consistent.

*Table 1 Level of Social Networking Usage*

| Indicators | Mean | SD | Descriptive Level |
|---|---|---|---|
| Academic | 4.11 | 0.88 | High |
| Socialization | 3.83 | 1.03 | High |
| Entertainment | 4.40 | 0.83 | Very High |
| Informativeness | 4.20 | 0.82 | Very High |
| **Overall** | **4.10** | **0.93** | **High** |

The findings indicate that students use social networking extensively, especially in entertainment, which shows the highest level among indicators. Scholars and academic communities are paying attention to using social media to improve students' academic motivation with technology, where knowledge sharing, collaboration, and interaction with peers can facilitate the students' learning-oriented activities (Mohammed et al., 2021).

Several review studies have paved the way regarding social networking sites' use, impact, and various issues in evaluating academicians, including faculty members, scholars, and students, and analyzing their knowledge-sharing behaviors (Ali et al., 2022). Moreover, the social media engagement theory supports the findings of this study. According to the core concept of social media engagement theory, greater user interaction resulted in increased use of the social media platform. The more frequently users engage in various activities, the more valuable the social media platform is to the organization and other users, resulting in value co-creation (Di Gangi & Wasko, 2016).

### *Level of Digital Literacy Competence*

Table II shows students' digital literacy competence level is very high, with an overall mean score of 4.22. The highest mean score among the indicators is media literacy, which has a mean score of 4.49, indicating a very high level. Information literacy came in second with a mean score of 4.26, indicating a very high level, while information and communication technology literacy came in third with a mean score of 4.11, indicating a high level. The participants' responses to the various indicators were consistent. The standard deviation for all indicators is less than 1.00.

*Table 2 Level of Digital Literacy Competence*

| Indicators | Mean | SD | Descriptive Level |
|---|---|---|---|
| Information and Communication Technology Literacy | 4.11 | 0.94 | High |
| Media Literacy | 4.49 | 0.67 | Very High |
| Information Literacy | 4.26 | 0.80 | Very High |
| **Overall** | **4.22** | **0.86** | **Very High** |

The findings suggest that the students have a very high level of digital literacy competence. However, there is room for improvement in terms of information and communication technology literacy, although it still stands at the high descriptive level, suggesting that students have a background in modern technology. This may be attributed to factors such as limited access to technology, unawareness of the right uses of computers, and lack of knowledge of navigating digital technologies.

Indeed, digital literacy necessitates the proper use of various technologies, the ability to access, create, and share the appropriate knowledge, and the ability to use technology in the learning-teaching process. It is a phenomenon that can potentially enhance lifelong learning (Canbolat, 2023). With the widespread use of digital media in everyday life, digital literacy provides a

set of cross-cutting abilities that can benefit a wide range of activities (Vodă et al., 2022). Students with digital literacy do better academically, are more motivated to learn, and are better prepared for future challenges (Murtadho et al., 2023).

Moreover, the unified theory of technology acceptance and use lends credibility to this study. According to this theory, the actual use of technology is determined by behavioral intention. The simplicity associated with using the system is defined as effort expectation. Social influence is the degree to which a person believes that influential people think they should use the new system. Enabling conditions are the extent to which an individual believes that an organization and technical infrastructure exist to support the use of the system (Venkatesh et al., 2016).

***Level of Academic Self-efficacy***

Table III shows the level of academic self-efficacy of students, which is evaluated as high descriptive level, with an overall mean score of 4.10.

Only item 7 had the highest mean score of 4.37, suggesting a very high descriptive level. This suggests that most respondents seek assistance from their peers when they are struggling with a subject. However, item 3 had the lowest mean score of 3.69, suggesting a high descriptive level, implying that students failed to establish a study plan.

*Table 3 Level of Academic Self-Efficacy*

| Indicators | Mean | SD | Descriptive Level |
|---|---|---|---|
| 1. I ask questions in lectures. | 3.80 | 0.94 | High |
| 2. I respond to questions asked in lectures. | 4.01 | 0.77 | High |
| 3. I draw up a study plan. | 3.69 | 0.97 | High |
| 4. I ask for help from my lecturers. | 3.90 | 0.94 | High |
| 5. I write up additional notes. | 4.20 | 0.82 | Very High |
| 6. I plan my time for examinations. | 4.12 | 0.92 | High |
| 7. I ask for help from my friends when I have issues in subject matters. | 4.34 | 0.78 | Very High |
| 8. I produce my best work in examinations. | 4.15 | 0.81 | High |
| 9. I engage in academic discussions with my friends. | 4.28 | 0.80 | Very High |
| 10. I make sense of feedback on my assignments. | 4.25 | 0.80 | Very High |
| 11. I explain subject matters to my friends. | 4.15 | 0.85 | High |
| 12. I make a good attempt to answer questions in advance. | 4.11 | 0.86 | High |
| 13. I meet the deadlines for my assignments. | 4.26 | 0.84 | Very High |
| 14. I try to meet the deadline for group assignments. | 4.31 | 0.76 | Very High |
| 15. I pay attention during every lecture. | 4.24 | 0.80 | Very High |
| 16. I express my opinion when I do not understand the lectures. | 3.82 | 0.98 | High |
| 17. I feel nervous when I am doing presentations. | 4.10 | 0.99 | High |
| 18. I come forward to do presentations in group assignments. | 3.97 | 0.91 | High |
| 19. I feel confident that I can complete the degree within 4 years. | 4.08 | 1.02 | Very High |
| 20. I make sense of feedback on my exam. | 4.26 | 0.77 | Very High |
| **Overall** | **4.10** | **0.89** | **High** |

Self-efficacy is the belief that one has the knowledge, skills, and abilities to succeed in a particular course or task (Neroni et al., 2022). Academic self-efficacy has contributed the most to comprehending the significance of self-analysis and academic achievement (Booth et al., 2022). Students must have a high level of digital literacy to comprehend and apply information in various formats and via computer (Sari, 2022). Students must possess the required digital competencies regarding knowledge, skills, and attitudes to use digital technology for effective learning (Chaw & Tang, 2022).

Furthermore, the remaining items are evaluated as highly descriptive level. This means that, while there may be slight differences in some situations, students have a high level of academic self-efficacy and can complete academic activities. Finally, the self-efficacy theory provides additional support for this study. It is more concerned with assessments of what one can do with the skills they possess than with the skills themselves (Lorsbach & Jinks, 1999).

***Correlation Analysis of Variables***

Displayed in Table IV are the findings of the relationship between social networking usage, digital literacy competence, and academic self-efficacy. The data analysis shows a substantial correlation between social networking usage and digital literacy competence, with a computed R-value of.644 and a probability value of <0.05 (statistically significant at the 0.01 level).

*Table 4 Correlation Analysis of Variables*

| Pair | Variables | Correlation Coefficient | *p*-value | Decision $H_0$ |
|---|---|---|---|---|
| IV and DV | Social Networking Usage and Digital Literacy Competence | .644** | 0.000 | reject |
| IV and MV | Social Networking Usage and Academic Self-Efficacy | .368** | 0.000 | reject |
| DV and MV | Digital Literacy Competence and Academic Self-Efficacy | .580** | 0.000 | reject |

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

These findings suggest a significant relationship between social networking usage and digital literacy competence of students. As a result, the null hypothesis, which predicted no significant relationship between these variables, is rejected. In simpler terms, students' social networking usage directly influences and plays a determining role in their overall digital literacy competence. Students' usage of social networking sites has enabled them to be digitally literate.

In that case, social media can assist students in improving their digital literacy and grasping 21st-century abilities, including using social media as a cognitive tool. Educating students about digital literacy

courses and services is just as important as teaching them traditional reading skills because combining the two will yield positive results (Tsvetkova et al., 2024). Computer-savvy students may surf websites safely and determine whether sites are appropriate or unsafe (Che Wan Jaafar et al., 2023).

Table IV also shows the findings on the relationship between social networking usage and academic self-efficacy. The data shows a significant relationship between social networking usage and academic self-efficacy at the 0.01 level (p-value <0.05). Furthermore, the overall R-value of.368 suggests a favorable relationship between the two variables. These findings led to the rejection of the null hypothesis, indicating that there is no significant relationship between social networking usage and academic self-efficacy. Thus, there is a statistically significant relationship between the two variables. In other words, how students use social media has a substantial impact on their academic self-efficacy. The higher the amount of social networking usage, the more confident the student is in their ability to do academic duties at the necessary level. As a result, students spend time on social networking sites to be informed of their academic endeavors through socialization with friends or classmates.

In fact, students frequently need help accessing and understanding classes due to inadequate internet connection (Purmayanti, 2022). Therefore, social media platforms have become breeding grounds for extensive information sharing. As social media becomes increasingly integrated into the academic fabric, it becomes a source of contention (Mrah, 2022).

Table 4 displays the data on the association between digital literacy competence and academic self-efficacy. The study found a correlation coefficient (R-value) of.580 and a probability value of <0.05, indicating a 0.01 level of significance for the relationship between digital literacy competency and academic self-efficacy. Consequently, a significant relationship exists between digital literacy competence and academic self-efficacy. The null hypothesis is rejected, indicating that there is no significant relationship between the two variables. In simple terms, students' level of digital literacy competence influences their academic self-efficacy. A student's competence in digital literacy is a factor in their academic success because they possess high academic self-efficacy.

Most students agreed or strongly agreed that they require digital literacies for various tasks in their learning, academic or professional contexts, and daily lives (Smith & Storrs, 2023). Social media can assist them to improve their digital literacy and grasp 21st-century abilities, including using social media as a cognitive tool. Educating students about digital literacy courses and services is just as important as teaching them traditional reading skills because combining them will yield positive results (Tsvetkova et al., 2024).

***Mediation Analysis of Three Variables***

Fig. II depicts the three variables' mediation analysis, which illustrates their link using path analysis.

There are several philosophical systems and disputes surrounding the concept of mediation. In this study, academic self-efficacy serves as a mediator, explaining the way and reasons for the relationship between the independent variable, social networking usage, and the dependent variable, digital literacy competence.

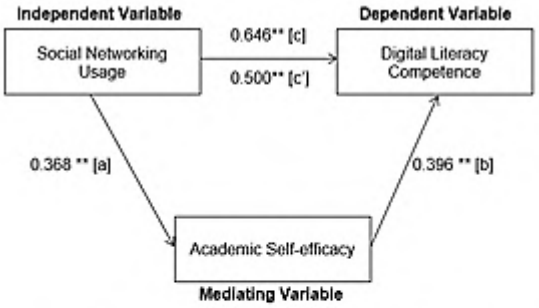


***Figure 2. Results of the Mediation Computation***

*Table 5 Regression Results of the variables in the four criteria of the presence of mediating effect*

| Step | PATH | BETA (UNSTANDARDIZED) | STANDARD ERROR | BETA (STANDARDIZED) |
|---|---|---|---|---|
| Step 1 | c | .690 | .043 | .646 |
| Step 2 | a | .382 | .051 | .368 |
| Step 3 | b | .407 | .039 | .396 |
| Step 4 | c' | .535 | .041 | .500 |

First, assess whether there are any mediating effects among the underlying variables. If the influence is shown to be statistically negligible, the analysis using the casual stages technique is completed. Complete mediation happens when the independent variable (IV)'s influence on the dependent variable (DV) is no longer significant at the end of the investigation. This means that the mediating variable (MV) completely controls all effects. In contrast, partial mediation occurs when the path analysis is greatly decreased in the final stage yet still significant. This suggests that while the MV mediates some of the IV's impact, the remainder is either direct or mediated by factors outside the framework.

After decreasing the MV, the IV's impact on the DV greatly reduces, but the effect remains considerable. Therefore, partial mediation is determined.

Table V depicts the mediation of academic self-efficacy, social networking usage, and digital literacy competence. Meanwhile, Figure 2 shows the effect size calculations for the mediation test, including the three factors.

As shown in the table, the mediation procedure included three stages for the third variable, academic self-efficacy, to act as a mediator. The stages appear as Steps 1–4 in the table. In Step 1, it was discovered that digital literacy competence substantially predicted academic self-efficacy, acting as a mediator, with a significance level of 0.01. Step 2 revealed that social networking usage predicted the relationship between digital literacy competence and academic self-efficacy with a significance level of 0.01. Step 3 showed that academic self-efficacy had a substantial impact on social networking usage at a p-value of 0.01. Given the importance of the three stages (Paths A, B, and C), additional mediation analysis using path analysis is required. This shows that the mediator, academic self-efficacy influences a portion of the independent variable, social networking usage. Also, other components not included in the model mediate specific aspects, either directly or indirectly. Furthermore, partial mediation was achieved because the effect remained significant at a level of 0.01.

Furthermore, as indicated in Fig. II, the findings of the Path Analysis show significant and consistent pathways from digital literacy competence to academic self-efficacy, from academic self-efficacy to social networking usage, and from social networking usage to digital literacy competence. This suggests that academic self-efficacy influences the relationship between social networking usage and digital literacy competence. The previous data show a significant rise of 0.368 units in social networking usage for every unit increase in academic self-efficacy. Furthermore, each unit increase in social networking usage corresponds to a significant increase of 0.646 in digital literacy competence. Furthermore, each unit gain in academic self-efficacy corresponds to a substantial rise of 0.396 units in digital literacy competence.

Moreover, the connectivism theory supports the findings of this study. Connectivism is motivated by the idea that judgments are dependent on constantly altering assumptions. To be considered learning, database-stored information must be associated with the appropriate individuals and situations (Siemens, 2004).

In summary, as academic self-efficacy functions as a partial mediator, it cannot be concluded that social networking usage solely influences digital literacy competence through academic self-efficacy. Therefore, academic self-efficacy is just one-factor impacting digital literacy competence. The figure illustrates the mediation analysis involving three variables examined in the study.

## IV. CONCLUSION AND RECOMMENDATION

The data collected and evaluated revealed that students social networking usage largely for entertainment. It showed that students' use of social networking sites as entertainment was to relieve academic stress by sharing pictures on social media, looking at funny sharing, and watching movies. Additionally, the students utilize social networking sites for their informativeness by reading news, sharing new ideas, and spreading awareness of credible information. Nevertheless, while their usage of social networking sites in terms of academic and socialization remains commendable, it is apparent that there is still room for improvement in those areas, warranting a need for further enhancement.

Meanwhile, the media literacy indicator of digital literacy competence demonstrated a very high level. This implies that students have media literacy skills, such as the capacity to use information from diverse sources and to find, use, and create information using any technology. Additionally, the students can identify an information need, choose trustworthy sources from hoaxes, access various information, and cite online references using the correct format. In contrast, information and communication technology literacy is rated at a high level as an indicator of digital literacy competence. This finding is linked to the use of various digital devices to obtain information, the capacity to utilize critical software such as Microsoft Office, and students' understanding of the several types of computer licenses.

On top of that, academic self-efficacy is rated high as a whole; the only exception is drawing up a study plan, which is rated high. This can be attributed to their usage of social networking sites, as students connect with their classmates to discuss and share information and their skills to navigate and identify reliable information. This observation highlights that the students excel in their

academic endeavors by having high digital literacy competence and access to various information sources while connecting with social networking sites to share relevant information from their classmates. Nonetheless, there is a need for more emphasis on enhancing students' academic self-efficacy through effective study practices. As such, it is essential to consider this aspect to improve students' academic success.

The above findings indicate a statistically significant relationship between social networking usage and digital literacy competency. Further, the study's findings suggest that academic self-efficacy strongly impacts this connection. Furthermore, most indicators for each variable show a high descriptive level, revealing the reasons for the considerable relationship between the variables.

Finally, this study's utilization of the mediating effect casual steps technique unveiled a substantial correlation between academic self-efficacy and social networking usage, demonstrating a partial mediating impact of the variables.

The findings show that social networking usage influences digital literacy competence through academic self-efficacy without reversing the effect.

Consequently, the observed mediation was only partial. In the third phase, the regression coefficient increased significantly yet remained statistically significant.

While certain characteristics of the mediating variable have direct effects on the independent variable, others are mediated by non-model components. Despite this small mediation, the influence was still statistically significant at this level.

Further, the supported theories which are the following: George Siemens' Connectivism Theory, Paul Di Gangi's Social Media Engagement Theory, Viswanath Venkatesh's Unified Theory of Acceptance and Use of Technology, and lastly, Albert Bandura's Self-Efficacy Theory affirm the results of the study and provided its significance and validity.

Subsequent recommendations are suggested considering the preceding findings and conclusion. Students may perhaps use social media to connect with inspiring individuals they can admire and learn from. This may aid in advancing and strengthening their internet and interpersonal skills.

In addition, a wide array of information that students may have access to with the right use of social media. Open-access databases, free educational websites, and online courses are made available on social media for everyone to access. This access to information may help a student excel in their academics and network with peers.

Also, academic institutions may use the result of this study to conduct programs that help students in acquiring information & communication technology literacy such as basic computer literacy skills. With that number of information stored on the internet, students need to acquire skills specific to this need. Libraries may hold training for media and information literacy, a useful skill for students identifying credible and relevant information.

Furthermore, the result shows that students are unlikely to come forward to do presentations in group assignments which manifests their academic self-efficacy.

Faculty can offer consultations to students having these problems in the classroom, which is already a practice in some colleges and universities. However, libraries may conduct maker space programs for students focusing on an introduction to creating PowerPoint presentations using a variety of tools and technology.

Regarding the absence of a study plan for students, they are perhaps teaching students the importance of curating and applying study habits in their daily lives.

The library may conduct information literacy programs to enhance the students' digital literacy skills, and the library may also include study guides for the students to help them with their studies.

Moreover, the library may provide additional programs customized to students' academic needs in cooperation with the faculty.

As students use social networking sites, more academic institutions will utilize social media in their learning approaches.

Then, students must learn digital technologies for their studies, access information online, and connect with peers. Eventually, digital literacy competence will be a factor in students' academic self-efficacy.

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