Understanding the Influence of Social Media on University Students' Communication Skills in Digital Information Environment

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Abstract

Social media has emerged as the leading force in the communication behaviors of University Students in China. The high use of social media has influenced students' online engagement, how they learn, and communicate. Therefore, the study explores the influence of social media on Chinese University Students' communication skills in digital information environment. The study targeted 600 University Students from different universities in Shanghai and Chongqing using convenience sampling technique. Structural equation modeling (SEM) technique was used in AMOS software to analyze the data. All hypotheses were confirmed by the findings. Digital literacy, social cognitive learning and communication skills were greatly influenced by social media usage and engagement types. Digital literacy and social cognitive learning were also found to have a major role in enhancing communication skills. The study also reveals that digital literacy and social cognitive learning positively mediates the relationship between frequency of social media usage and social media engagement type and communication skills. The findings highlight the importance of social media to digital literacy and social cognitive learning as the primary means in which communication skills can be improved. Educational institutions and policy makers should focus on enhancing students' digital literacy and communication skills in the context of social media usage and engagement

Keywords

University Students, Communication Skills, Digital Information Environment, Social Media Usage and Engagement, China.

1. Introduction

Social media particularly in China has been rapidly embraced and has affected communication inside and outside the class (**Dwumah Manu *et al.***, 2023). A particular focus is placed on various levels of students' activity on these platforms from simple reception of information to active participation in the platform. These different forms of participation may also differentially impact students' communication proficiency and their capacity to negotiate information in a digital environment (**Yeh; Mitric**, 2023). With technology integration becoming pervasive in teaching-learning contexts, it is important to examine the concrete effects of social media use on the student's communication skills (**Dash**, 2022). In this environment of rapidly developing

digital information space, these platforms have significantly changed the ways of students' interaction, exchange of information, as well as their development of the communication skills. Despite the numerous opportunities of social media for learning and communication, issues regarding the positive influence of social media on students' communication and digital literacy, as well as social cognitive learning skills, are raised (**Chen *et al.***, 2021).

Digital literacy is a process of finding, reading, comprehending, and applying information derived from digital technology and it is critical for students today (**Alakrash; Abdul Razak**, 2021). The increasing use of technology in learning in China makes it relevant to understand how students' engagement in social media affects their ability to understand and evaluate information on the internet. Besides, digital literacy, social cognitive learning which is defined as learning through observing and interacting with others also has a strong link with students' communication skills (**Schunk; DiBenedetto**, 2020). All of these skills are crucial for academic achievement, as well as for the further employment in one's career.

Social media has impacted every individual's lifestyle and modes of communication (**Wang *et al.***, 2020). In particular this influence is clearly visible when it comes to University Students who are active users of social media in China and vulnerable to the threats and risks (**Lin *et al.***, 2020). Hence, the growth in the use of social media as a model of communication has not only contributed in developing students' communication competencies in a digital information environment, but this growth has also created risks and threats. It is widely argued that extensive use of social media hampers the development of the richer communication skills necessary in face-to-face and professional settings (**Steinsbekk *et al.***, 2024). In the context of China, the incorporation of social media into day-to-day living evokes important questions about its significance in the development of the University Students' communication skills. Few studies have been done in China to explore the application of social media in education, but little is known on how different levels of social media engagement influence learner's digital literacy, social cognitive learning, and communication skills in the current era.

Although social media has become popular among Chinese students, there is a lack of an empirical study regarding the effect of social media on communication skills holistically. While there are researches that address the impact of the use of digital tools in learning, there are limited studies that investigate the complex interaction between social media usage, digital literacy, social cognitive learning, and communication skills. In addition, as social media allows social interaction and learning, it is still uncertain how social media educates students in communication skills which are fundamental for academic success and in the workplace. This research seeks to address this gap by studying the impact of social media on the development of communication skills of University Students in China. The findings of this research will be useful in expanding the knowledge on the role of social media in learning communication skills in the context of Chinese University Students.

2. Literature Review and Hypotheses development

2.1. Frequency of Social Media Usage

Social media is defined as any technology that facilitates the generation, sharing, and exchange of information. Some of the examples are Facebook, Instagram, Twitter, LinkedIn and many more (**Van Looy**, 2022). Social media engagement refers to action that includes posting updates, sharing information, engaging in conversation and consuming content (**Dolan *et al.***, 2019). The availability and use of these platforms have largely impacted people's lives, their interaction, and knowledge acquisition. Digital literacy refers to the skills of finding, assembling, and using information and communication technology (ICT). It includes aspects such as analysis, synthesis, evaluation, and responsibility concerning use of technology (**Martínez-Bravo *et al.***, 2022). Digital literacy is the ability to be able to surf the internet securely, evaluate the authenticity of the sources found in the information space, and use digital tools for educational, professional, or other activities. Social media can be used in ways that allow users to build skills in areas such as, information searching, analyzing fake news, and participating in online communities (**Zhang; Ghorbani**, 2020). Users are introduced to various platforms and come across different content, thereby building them a knowledge in digital communication etiquette. On one hand, social media essentially contributes to increasing the level of digital literacy because they compel users improve their navigation and evaluation skills (**Al-shami *et al.***, 2024). On the other hand, the overreliance and or improper use of social media could present negative outcomes with regard to digital literacy by presenting the people with wrong information or lessen the ability to analyze digital content (**Shanmugasundaram; Tamilarasu**, 2023). Consequently, the influence of social media usage with regards to enhancing or otherwise decreasing digital literacy depends on how social media is used. This leads to the framing of the hypothesis:

H1: Frequency of social media usage has a significant impact on digital literacy.

Social cognitive learning is defined as a process by which learners are able to adopt new knowledge, behaviors and skills from their observations. It emphasizes the role of social context, environment and perceived self-ability on a learner's learning process (**Flores**, 2018). Key components of social cognitive learning include attention, retention, and motivating new information or behaviors that one wants to learn or perform (**Schunk; DiBenedetto**, 2020). Social media use in interaction and communication makes it possible to enhance social cognitive learning. It enables the user to monitor behaviors, exchange knowledge, and interact with different viewpoints through media products, conversation,

and group tasks. Due to its availability and real-time use, social media is a powerful factor in learning in both classroom and out of classroom (**Alam**, 2023). From content creators, peers, and social influencers, they can learn new and critical thinking skills. Social media also plays a role of enhancing learning since the feedback in terms of likes, comments and shares ensures that the learner's work is encouraging. Social media can strengthen the social cognitive learning since it provides the variety of learning experience, but it can also have some challenges (**Hosen *et al.***, 2021). Consuming too much or unverified information may lead to an exposure of such misinformation or even maladaptive behaviors. In other words, the use of social media in social cognitive learning depends not only on how it is used but the kind of interaction being made as well (**Schneider *et al.***, 2022). This necessitates testing the hypothesis:

H2: Frequency of social media usage has a significant impact on social cognitive learning.

Communication skill encompasses the ability to transmit information within and through formal and informal channels, orally, in writing or other forms or media. These skills are necessary in personal and business communication as well as in every aspect of social interaction (**Symonenko *et al.***, 2021). They include listening, articulating ideas, individual emotional self-awareness, and the utility of varying the way of communication with reference to the situation and the people involved. Effective communication skills are vital to ensure change, shared vision, teamwork, and conflict solving in various practices. Social media channels provide the users constant opportunities to use various forms of text, images, and videos (**Khanom**, 2023). High use might positively impact parts of communication, namely, the written language, its versatility within media models, and transcultural communication (**Ting-Toomey; Dorjee**, 2018). However, a number of problems can result from focusing on the use of social networks, including the inclination towards brief and intermittent communication that might erode face-to-face skills. For example, heavy use may impair the capacity to perceive vocal and bodily signals or active listening (**Ruben *et al.***, 2021). Therefore, the frequency and the way of the usage of the social networks define the degree of the positive or negative impact on communication overall potential. Hence, it is required to test the hypothesis:

H3: Frequency of social media usage has a significant impact on communication skills.

2.2. Social Media Engagement Type

Social media engagement type entails the manner people interact with content on social media platforms (**Shahbaznezhad *et al.***, 2021). This can be done implicitly, by just reading and looking at the posts, as well as explicitly, by commenting, reposting or creating content. The type of engagement frequently differs based on the platform, the audience, and the relation of the content to the topic. Active engagement can be understood as promoting direct shared communication and knowledge interchange, while passive engagement may be preponderantly cognitive (**Pang; Wang**, 2025). Both of them determine the way how users perceive the information that is why they can be considered as the factors that define the digital behavior. The type of social media engagement has an effect on digital literacy proves the connection between the user activities on social media and their capabilities to search, assess, and utilize digital content (**Cho *et al.***, 2024). Engagement usually makes students to think critically and learn collaboratively hence improving on their digital competency. For example, analyzing the sources for information users who often contribute to a discussion or post informative contents are likely to retrain their abilities to verify sources and comprehend various points of view. On the other hand, passive engagement can exclude one from such skills, but provides at least minimum level of awareness of digital settings (**Perski *et al.***, 2016). The type of engagement is a significant variable that determines how people learn and build their digital literacy skills. It is useful to explore this dynamic to develop ways of enhancing digital competencies using social media. This requires to test the hypothesis:

H4: Social media engagement type has a significant impact on digital literacy.

Social cognitive learning is the process of learning knowledge, skills and attitudes within a social framework through observing and by interacting as well as modelling. It focuses more on attention, retention, and motivation in learning from other people and the surrounding. It emphasizes personal characteristics, behaviors and the social context as antecedents of learning outcomes. The type of engagement users has with social media plays a significant role in social cognitive learning depending on the context that users have when observing content (**Shahbaznezhad *et al.***, 2021). The different levels of engagement include browsing, commenting, and content creation which afford users different levels of exposure (**Ksiazek *et al.***, 2016). For example, active engagement usually boosts observational learning and recall, but passive engagement may provide little mental challenge. Engagement in social interactions promote problem-solving and emulation of observed actualization patterns and hence ideal social relations. Furthermore, the content relevant to a user's interest increases the learning process as it attracts the user and in turn increases the motivation level (**Oh *et al.***, 2020). This requires to test the following hypothesis to gather more evidence:

H5: Social media engagement type has a significant impact on social cognitive learning.

Various modes of interaction on social media have an impact in the way people express themselves. This connection can be analyzed based on different engagement levels including the textual form of communication, video interaction, and real-time live chat (**Cao *et al.***, 2021). All these formats are different in terms of their impact on the development

of skills. For instance, a simple text interaction which may involve commenting on posts or posts on discussion forums will be helpful in written communication. It helps the user to understand how to synthesis ideas into specific and well-built statements, frequently needed appropriate grammar and punctuation. While staying at home and interacting virtually, people have little practice in face-to-face communication, but video-sharing sites like TikTok or Instagram Reels strongly rely on body language, voice inflection, and facial expressions–the aspects crucial for effective communication with other people (**Ji**, 2023). Further, real-time communication such as through the live stream or direct messages enables the practice of the use of the concept of immediacy. Such interaction increases confidence and flexibility since users have to hasten and answer in a relevant manner to the conversations (**Yu *et al.***, 2023). However, the extent of the impact is not the same as concentration on certain forms of engagement can reduce the range of communication activities. This leads to the framing of the hypothesis to understand this impact:

H6: Social media engagement type has a significant impact on communication skills.

1.3. Digital Literacy

Digital literacy comprises the skills regarding the use of technology, web and media to foster communication in various areas. Since interaction becomes more and more technology-driven in both personal and business environments, mastering the use of technology enhances better, efficient, and effective communication (**Okon; Chukwurah**, 2020). For example, knowing how to write effective emails, how to use teamwork tools, such as video conferences or how to share information on social networks improves the ability to deliver messages. Moreover, digital literacy fosters critical thinking and teamwork and enables people adapt to different context and address their audience directly (**Hobbs**, 2017). On the other hand, limited digital literacy can cause misunderstandings or lack of interest in the communicative process (**Audrin; Audrin**, 2022). Digital literacy does not replace conventional interaction skills but complements and expands upon them for use in a technology-centered environment, ensuring the skill of meaningful interaction is indispensable for success (**Chigbu *et al.***, 2023). Therefore, it is important to test the hypothesis:

H7: Digital literacy has a significant impact on communication skills.

1.4. Social Cognitive Learning

Social cognitive learning has a direct influence on communication skills reemphasizing the need to observe, emulate and to communicate with people (**Jowallah**, 2014). Importantly, people acquire information not just from personal practice but from watching another people behavior. Social cognitive learning enables skills like empathy, active listening and flexibility in communication hence making communication possible (**Eschenauer *et al.***, 2023). For example, learning derived from watching how effective communicators talk or solve problems gives learners strategies to model and improve. Personal factors which include self-efficacy and self-regulation also foster the appraisal of communication competence as well as real-time modification of the communication approach (**Stănescu *et al.***, 2024). Interpersonal feedback extends this learning, as people will give feedback on what they hear and what the speaker intended to convey. Education institutions, businesses, or web communities provide opportunities for social cognitive learning that promotes mutual aspect of learning due to which they foster development of complex skills required for effective communication (**Ahmed Helwa**, 2019). As such, this framework explains how our activities within social scenarios significantly influence observation and communication skills. This requires testing the hypothesis:

H8: Social cognitive learning has a significant impact on communication skills.

1.5. Digital Literacy as a Mediator

Social media usage gives users chance to perform different types of interaction including text chat, video call and sharing of materials. However, the quality and the impact of such interactions to the communication skills of users are highly dependent on the digital literacy of the users. High digital literacy increases platform competence, comprehending manners of presenting information and communication norms on various contexts thereby boosting person's interpersonal and expressive skills (**Xu *et al.***, 2019). On the other hand, low digital literacy may also lead to misunderstanding which may severely diminish effective flow of communication through use of the social media (**Martzoukou**, 2021). Thus, digital literacy acts as mediator that defines the nature of the impact of the often-used social media on the communication skills. Such mediating role underlines the need for enhancing the technology competency to address the opportunities offered by social media in improving the communication skills. This should be tested through the hypothesis:

H9: Digital literacy mediates the relationship between frequency of social media usage and communication skills.

The passive engagement (reading content) or active engagement (generating and sharing content, discussing) provide different levels of exercising and improving communication skills (**Prince *et al.***, 2020). However, the extent to which these opportunities foster improved skills is relative to the user's digital literacy skills. Higher levels of digital literacy enable one to gain mastery over the platform functionalities, appreciate the etiquette of the platform and hence optimize the benefits of active engagement to skill enhancement (**Hidayat-Ur-Rehman**, 2024). On the other hand,

people with less digital literacy are likely to use the social media inappropriately or fail to convey the intended meaning adequately thus reducing the beneficial impact of social media use (**Abima *et al.***, 2021). As a mediator, digital literacy influences the manner in which various kinds of engagements on social media platforms affect communication skills. This underlines the importance of the promotion of the necessary plans on digital literacy to get the best of this social media tool in improving one's communication skills. This requires further evidence by testing the hypothesis:

H10: Digital literacy mediates the relationship between social media engagement type and communication skills.

1.6. Social Cognitive Learning as a Mediator

Since social networks are an environment with continual interaction and information sharing, they can provide people with the opportunity to study through modeling and mirroring such factors as communication skills, language, and interpersonal skills (**Hosen *et al.***, 2021). Increased use of social media may benefit exposure to different communication modalities and contexts (**Dwivedi *et al.***, 2023). The extent to which social media use enhances one's communicative proficiency probably hinges on the kinds of content observed and learned and learner's capacity for acquisition and imitation (**Puja**, 2024). As a result, social cognitive learning plays the role of a mediator, determining how seamlessly users transfer their social media experience into actual communication skills. Knowledge of this mediation may help in the developmental of educational programs or digital media skills to enhance the beneficial effects of social media on communication. Therefore, this requires to test the hypothesis:

H11: Social cognitive learning mediates the relationship between frequency of social media usage and communication skills.

Social media present various forms of engagement; passive, active, or creative, which determine the ways in which users interpret and integrate social information (**Gainous *et al.***, 2021). The users who are using social media by commenting or participating in the discussion would certainly notice communication patterns, modify their own responses and develop interpersonal skills (**Lim *et al.***, 2022). On the other hand, passive consumption may entail fewer avenues for such cognitive involvement therefore the prospects to get skills (**Pagani *et al.***, 2011). The following proposed hypothesis supports the notion that the mode of social media content interaction defines the level of learning and development of communication skills. It draws attention to the need for purposeful, conscious participation in promoting effective skill acquisition in a technology context. This leads to the framing of the hypothesis:

H12: Social cognitive learning mediates the relationship between social media engagement type and communication skills.

The use of social media has transformed students' learning and communication especially in a digital environment. It plays an essential role in developing digital literacy skills, which means not only the ability to find, analyze and share the information. Research also shows that the use of social media in particular can enhance digital literacy because the live interaction with various forms of digital content is made possible (**Arafah; Hasyim**, 2022). Moreover, social media is a tool of modelling and enactive learning through interaction and sharing of contents with peers (**Marin**, 2022). It also fosters communication skills since findings have shown that content creation and participation in this case, improve the students' verbal and nonverbal communication (**Rahman *et al.***, 2024). The type of engagement: passive or active, also affects these outcomes where active engagement is associated with larger cognitive and communicative changes (**Li *et al.***, 2024). Through these relations, therefore, the study framed a research framework to investigate how social media influences the University Students' digital and communications literacy in the current era of technology. The research model is shown in Figure 1.

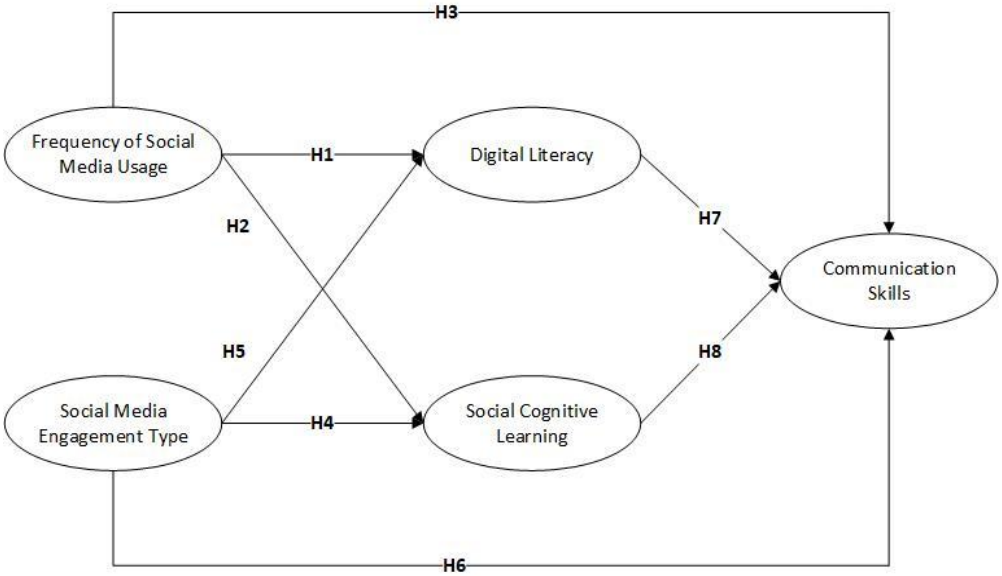

Figure 1 Research Model.

3. Methodology

The study adopted a quantitative research approach to determine the impact of social media on communication skills of University Students in a digital information context. A cross-sectional survey research design was used, which makes it possible to compile data from a large sample at one point in time, which gives a picture of the relationships between variables. The reason for selecting this design is based on the need to quantify the amount of time respondents spend on social media, engagement type, and their communicational skills. The target population for this research comprised the University Students from different universities in Shanghai and Chongqing, China. These cities were chosen because of the students' diversity and the strong academic profile of these locations. The students from different universities also help to generalize the results regarding the impact of social networks on communication skills. The study involves 600 University Students as respondents and this was considered reasonable especially given the fact that SEM research requires at least 200 respondents. The convenience sampling technique might not be very strong when it comes to sample generalizability; however, it works nicely for exploratory research targeting specific groups like the current population of undergraduate social media users.

The questionnaire for this study was designed carefully after undertaking a comprehensive analysis of the literature review of areas like social media usage, digital literacy, and communication skills. Such a comprehensive review also provided a strong theoretical basis for the instrument. The validated scales used in previous empirical research were chosen and modified to ensure that they fit the context of this research and its goals. The items were made more specific to improve the understanding and measurement of the variables within the context of the study. It also involved the assurance of the reliability and validity of the scales so as to make the results of the research study meaningful. To ensure content validity of the questionnaire, the initial version of the questionnaire was reviewed by an expert panel comprised of professors in the field of digital education, communication, and social media research. These experts were selected to reflect their academic background and experiences in the fields of interest and to have a more interdisciplinary approach. The questionnaire items were stringently scrutinized by each panelist for clarity, relevance and conformance to the objectives of the study. Some feedbacks and recommendations were given in relation to the development of the questions, the selection of the constructs, and the scope of the research variables. The feedback obtained was incorporated in the questionnaire and this led to the development of a well-structured and comprehensive instrument.

The developed questionnaire not only captured the nature of the research interest but also ensured that the items are clear and appropriate for obtaining high quality responses from the respondents. A pilot test was carried out using a sample of 50 students who were not part of the study sample for the research. The purpose of this preliminary study was to assess the reliability, readability, and general feasibility of the questionnaire. The pilot participants were recruited to represent the demographics of the intended research population to ensure the collected information is applicable to the study context. In the pilot test, participants were required to fill the questionnaire and give specific feedback on the various aspects of the items, response options, the sequencing and formatting of the questions and the general clarity of the questionnaire. Further, it was captured whether the respondents faced any difficulty or uncertainty in their response to the survey. Some of the changes made were adding clarity to few items, revising the Likert scale in order to make it more logical, reordering of few questions for logical grouping. These modifications were effectively designed to make the final questionnaire not only easy to use, but comprehensive in its ability to capture the information required for the research investigation.

The method of data collection was the use of printed questionnaires that were administered to 600 University Students from universities in Shanghai and Chongqing. University administrators and teachers were asked for permission to use the questionnaires during breaks so as not to interrupt learning sessions. The study involved use of self-administered questionnaires where respondents were informed of the study, its purpose, and benefits. Participants were also informed that the survey responses collected would be anonymous and confidential. The data collection process was completed over a period of two months enabling the researchers to get the required number of respondents. AMOS software was used for data analysis by employing structural equation modeling (SEM) technique. This technique is useful in theoretical testing of constructs while at the same time considering the measurement errors that can happen leading to better results of both observed and latent variables. Before undertaking the SEM analysis, data screening was carried out to check for completeness, accuracy, and validity of data. The data were checked for cases with missing values, which may negatively influence the results, and for outliers that may affect the findings. The findings show that dataset was clean, and did not pose any major problems thus making the data amenable for further analysis. To ensure validity of the measurement model, a confirmatory factor analysis (CFA) was performed. After establishing the measurement model, the structural model was employed to examine the hypotheses of the study. In order to test the mediation effects, bootstrapping method was applied to the data, as this non-parametric method entails confidence interval estimation for the indirect effects.

4. Research Findings

4.1. Demographic Profile of the Respondents

Table 1 illustrates the respondents' demographic characteristics.

Table 1: Respondents' Demographic Characteristics.

Characteristics	Category	Percentage
Gender	Male	55%
	Female	45%
Age	18-19 years	40%
	20-21 years	45%
	22-23 years	15%
Academic Discipline	Humanities and Social Sciences	30%
	Engineering and Technology	30%
	Natural Sciences	20%
	Business Management	20%
Device Used for Social Media Access	Smartphones	60%
	Laptops or Desktops	30%
	Tablets	10%
University Location	Shanghai	50%
	Chongqing	50%

4.2. Measurement Model Assessment

The measurement model (see Figure 2) was tested using confirmatory factor analysis (CFA) in AMOS software. The fit indices of the model are presented in Table 2 and Figure 2 depict that and they were above the recommended threshold (**Bentler**, 1990; **Hu; Bentler**, 1998).

Table 2: CFA Model Fit Indicators.

Indicators	Suggested Threshold	Test Results
X^2/df	< 3.0	1.756
CFI	> 0.90	0.967
NFI	> 0.90	0.928
GFI	> 0.90	0.915
RMR	< 0.08	0.054
SRMR	< 0.08	0.037
RMSEA	< 0.08	0.052

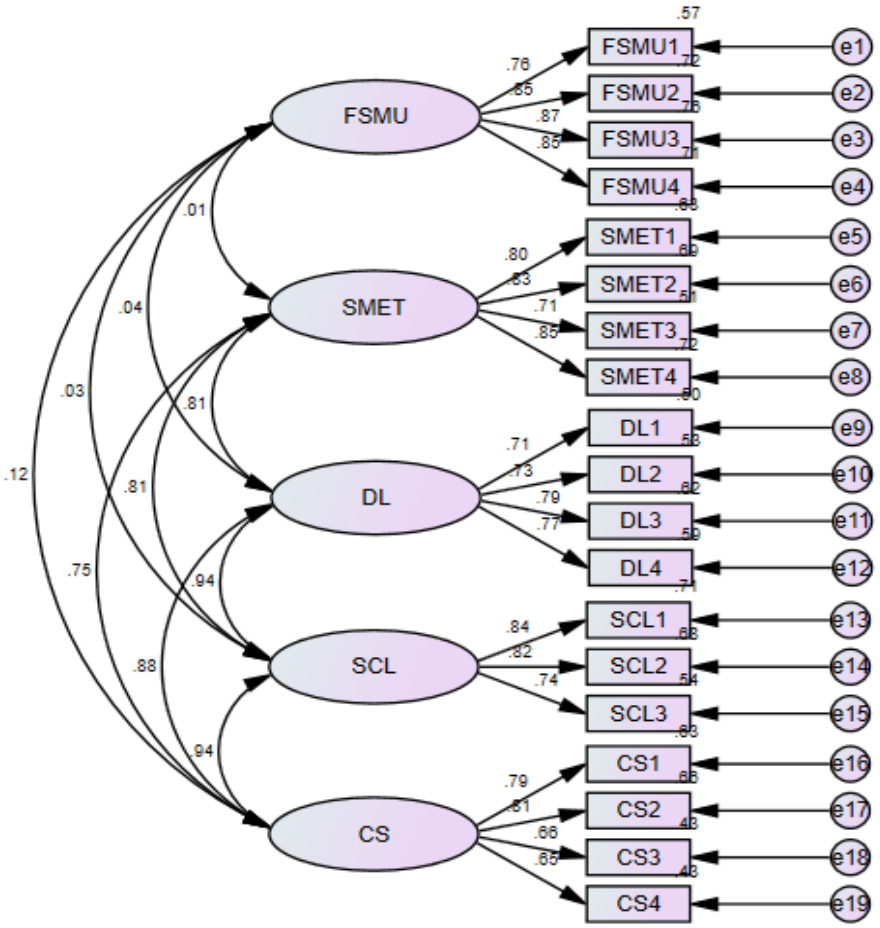

Figure 2: Measurement Model.
Note: FSMU: Frequency of Social Media Usage SMET: Social Media Engagement Type DL: Digital Literacy SCL: Social Cognitive Learning CS: Communication Skills.

4.3. Convergent Validity and Reliability

Average variance extracted (AVE) was used to evaluate the convergent validity. As shown in Table 3, all the AVE values were greater than 0.50 (**Fornell; Larcker**, 1981). Therefore, the study establishes convergent validity. The reliability of the constructs was also assessed by calculating Cronbach alpha (α) & composite reliability (CR). The value of α and CR were within the acceptable range (see Table 3) as suggested by **Nunnally and Bernstein** (1994) and **Hair *et al.*** (2010). Additionally, the results of the factor loadings as presented in Table 3 reveal that all the indicators are *having* good measures of the constructs and that they are above the 0.6 threshold as recommended by **Hair *et al.*** (2016).

Table 3: Assessment of Validity and Reliability.

Constructs	Items	Loadings	AVE (> 0.5)	CR (> 0.7)
Frequency of Social Media Usage (α = 0.885)	FSMU1: I use social media quite often to search for any type of information and materials for my studies	0.757	0.691	0.899
	FSMU2: I always use social media to check for new trends and information in the field I am studying	0.850		
	FSMU3: I often use social media to interact and work with classmates in various academic activities	0.869		
	FSMU4: I spend much time on social media for purposes of education or personal development	0.845		
Social Media Engagement Type (α = 0.871)	SMET1: I engage in the conversation and post on any social media platforms that relate to my field of study	0.795	0.638	0.875
	SMET2: I like, share or comment on articles that are educative or informative	0.829		
	SMET3: I use social media for the purpose of joining groups or communities that may enhance my academic or personal development	0.714		
	SMET4: I like the use of various widgets (like polls, quizzes) on social media to make my learning process more involving	0.851		
Digital Literacy (α = 0.848)	DL1: I know how to assess the reliability of the information found in social networks	0.709	0.560	0.836
	DL2: I am able to search for, assess and use information found on the internet in my academic endeavors	0.727		
	DL3: I am sure I can interact with digital media in order to share concepts and thoughts	0.790		
	DL4: I can recognize fake news or unverified information on social media platforms	0.767		
Social Cognitive Learning (α = 0.856)	SCL1: Social media is of great importance for me as I can get information by observing people's behavior and their stories	0.840	0.642	0.843
	SCL2: I effectively learn new knowledge and skills by being exposed to different opinions on social media	0.823		
	SCL3: I get encouraged to work hard on my academic performance after reading success stories from the social media platforms	0.737		
Communication Skills (α = 0.817)	CS1: I am well equipped to share my ideas to others through different social media platforms	0.792	0.536	0.821
	CS2: Social media have enhanced my skills to engage with people across the globe	0.813		
	CS3: I am more confident in crafting my message effectively for digital mode of communication	0.656		
	CS4: I have improved my listening and responding skills due to participation in social media conversations	0.654		

4.4. Discriminant Validity

The study first conducted Fornell-Larcker criterion (FLC) and then Heterotrait-Monotrait (HTMT) ratio test to assess the discriminant validity. According to the findings, the study found no concerns regarding FLC. The new method to evaluate discriminant validity was presented by **Henseler *et al.*** (2015) and **Gold *et al.*** (2001) states that each value in HTMT matrix should not exceed 0.90. The results show that all the values were in the recommended range (see Table 4).

Table 4: HTMT Matrix.

	Frequency of Social Media Usage	Social Media Engagement Type	Digital Literacy	Social Cognitive Learning	Communication Skills
Frequency of Social Media Usage					
Social Media Engagement Type	0.67				
Digital Literacy	0.61	0.58			
Social Cognitive Learning	0.46	0.42	0.39		
Communication Skills	0.35	0.31	0.28	0.22	

4.5. Structural Model Assessment

In order to examine the study hypotheses, the structural model was tested using AMOS software. According to **Hair *et al.*** (2010), all the model fit indices should be within the recommended values to get a proper fit of the structural model. Table 5 also reveals that all the proposed fit indices were satisfactory according to the cut-off criteria. R^2 value for digital literacy was 0.54, for social cognitive learning 0.58 and for communication skills was 0.63.

Table 5: Structural Model Fit Indicators.

Indicators	Suggested Threshold	Test Results
X^2/df	< 3.0	1.644
CFI	> 0.90	0.971
NFI	> 0.90	0.933
GFI	> 0.90	0.912
RMR	< 0.08	0.053
SRMR	< 0.08	0.036
RMSEA	< 0.08	0.051

Table 6 further reveals the frequency of social media usage significantly impacts digital literacy, social cognitive learning, and communication skills (β=0.442, t=3.374, p<0.001; β=0.731, t=10.594, p<0.001; β=0.519, t=4.185, p<0.001). The results reveal that social media engagement type positively influences digital literacy, social cognitive learning, and communication skills (β=0.389, t=3.382, p<0.001; β=0.650, t=9.027, p<0.001; β=0.526, t=8.218, p<0.001). The study found positive association between digital literacy and communication skills (β=0.643, t=3.263, p<0.001), and between social cognitive learning and communication skills (β=0.574, t=9.728, p<0.001). The study also found positive mediation effect of digital literacy between frequency of social media usage and communication skills (β=0.284, p<0.05) and between social media engagement type and communication skills (β=0.419, p<0.05).

Table 6: Results from Hypotheses Testing.

Hypotheses	Constructs	Estimate	S.E.	C.R.	P
H1	FSMU → DL	.442	.131	3.374	***
H2	FSMU → SCL	.731	.069	10.594	***
H3	FSMU → CS	.519	.124	4.185	***
H4	SMET → DL	.389	.115	3.382	***
H5	SMET → SCL	.650	.072	9.027	***
H6	SMET → CS	.526	.064	8.218	***
H7	DL → CS	.643	.197	3.263	***
H8	SCL → CS	.574	.059	9.728	***
*** p<0.001					

The findings show that social cognitive learning positively mediates the relationship between frequency of social media usage and communication skills (β=0.250, p<0.05) and between social media engagement type and communication skills (β=0.373, p<0.05). The direct and indirect effects are shown in Figure 3.

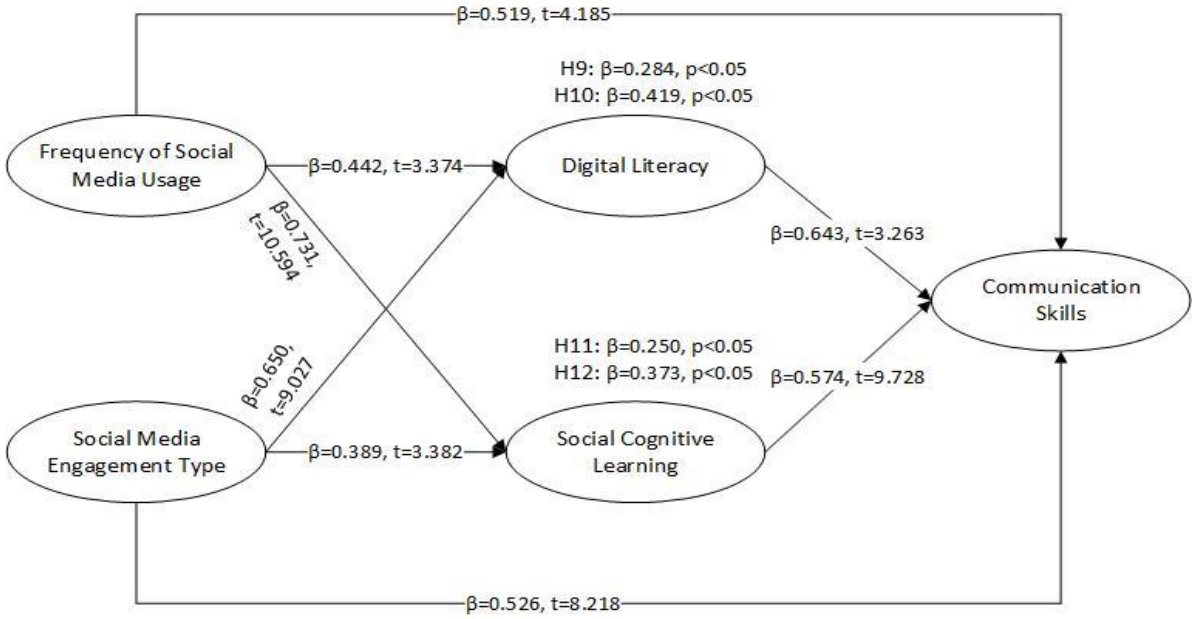

Figure 3: Direct and Indirect Effects.

5. Discussion and Conclusion

This study made evident that active use of social media improves digital literacy among the University Students in China. When a user interacts with various types of content, such as texts, images, and videos on social networks, it implies that it contributes to students' information literacy (**Smith; Storrs**, 2023). This is in line with earlier studies showing how social media can enhance digital competencies, a valuable asset in the current world (**Falloon**, 2020). The results show that frequency of social media usage significantly impacts social cognitive learning. This finding supports the notion that social media acts as a platform where students emulate what they see and hear their peers and other role models do. It was also ascertained that the more frequently people use social media, the better communication skills they develop (**Muftah**, 2024). Real time communication through social media can be a plus in enhancing the flow of ideas, improve group work and students' dialogues as well as enhance their verbal and writing skills (**Maulina *et al.***, 2023). It may be inferred from the current analysis that the use of social media enhances confident and effective communication due to its interactivity.

Social media engagement type greatly impacts digital literacy. The activity in the form of creating and posting content proved to be the most beneficial for the development of digital literacy (**Ali *et al.***, 2023). This means that not only how often students engage in social media is important but it is also vital that they engage in constructive manner. Social media engagement type significantly influences social cognitive learning. For instance, interaction in online forums and group discussions enables the students to augment the knowledge from the forums with their own mental processes for learning (**Al-Husban**, 2020). Active engagement is much more effective, but even passive consumption can offer observational learning, and the versatility of social media makes the messages even more useful (**Ibrahim *et al.***, 2024). Moreover, the type of social media engagement influenced communication skills. This result emphasizes that active social media engagement enhances communication skills necessary for both students' career and academics (**Duong; Pham**, 2022; **Chugh *et al.***, 2021).

The findings also reveal that digital literacy increases communication skills. Having higher digital literacy enables the students to understand message significantly as well as the ability to pass on the messages across the different digital platforms (**Arafah; Hasyim**, 2023). This is exemplified by the close association between the various digital competencies

and knowledge with the interpersonal and communication skills since the literate students can use the technology tools to reinforce the effectiveness of the communication process. Social cognitive learning was also found to be a significant determinant of communication skills. As a result of observation and participation, the student learns communicative acts and processes that can serve as models in authentic social situations (**Chuang**, 2021). This discovery calls for promotion of use of social media in learning environments in order to enhance collaboration and acquisition of skills.

At the next stage of the study, the study found that the level of digital literacy played a mediating role in the link between frequency of social media usage and communication skills. This implies that although increase in the use of social media positively influences communication, the extent of its impact is enhanced by students' digital literacy skills (**Ben Youssef *et al.***, 2022). Similarly, digital literacy positively mediates the relationship between social media engagement type and communication skills. The results showed that active engagement types were significantly more effective when combined with strong digital literacy suggesting an interaction effect between these variables (**Avcı; Ergün**, 2022). Teachers should not only promote different ways of interacting with social media, but also the use of different critical digital skills.

Likewise, the use of social cognitive learning as a mediator suggests that increased social media usage enhances the communication skills through learning cognitive and social knowledge and skills. Those who use the social media often have more instances to practice what they see and translate it to real life, making them more flexible and effective when dealing with the social media and real-life interaction (**Grajales Iii *et al.***, 2014). Social cognitive learning also mediates the relationship between the type of social media engagement and communication skills. Being active, for example, in the form of contributing to the discussions or developing content offers a lot of observational learning that improves communication skills (**Blakemore; Agllias**, 2020). This also underlines the need to promote effective participation elements of the digital media that students need to engage in. The study thus confirms that social media has a positive impact on the communication skills of Chinese University Students. Based on the findings that have revealed the mediating effects of digital literacy and social cognitive learning, the study is significant for designing the use of social media as an educational intervention. The research encourages policymakers and educators to implement these findings in implementing teaching approaches to boost interactional and new media literacy skills.

5.1. Implications, Limitations and Future Research

The research offers a rich theoretical contribution by showing how social media use, digital literacy, and social cognitive learning influence communicative skills in the context of the digital information environment. It extends social cognitive theory because the contemporary forms of media embody observational and experiential modes of learning on newer forms of social interaction online. Moreover, the research expands the understanding of competencies, including digital literacy as a specific competency that relates to the improvement of the communication skills and helps to comprehend how students interact with and interpret the digital content. Focusing on engagement types, the study expands theoretical frameworks concerning social media use and reveals that activity types are critical for skill acquisition and knowledge gain. These findings extend current communication and educational theories by connecting social media behaviors to cognitive and communicative impacts within a constantly changing technology-driven world.

The practical implications of this study are particularly relevant to educators, policymakers, and institutions that want to help students develop effective communication skills in the context of new technologies and the internet. First, digital literacy should be introduced into educational curricula to ensure students develop the ability to decode information found online as well as the ability to use digital tools of communication. Teachers should also foster creation of content on social media or engagement in the posts because both activities influence the enhancement of communication skills. In addition, social media can be used as an educational tool for creating engagement, group learning, and skills acquisition. The policy makers should encourage the formulation of frameworks on digital literacy and also ensure that teachers get direction on how to apply the social media in enhancing teaching strategies. Last, educational courses and trainings for teachers are needed to explain them basic features of social media and its usage in educational processes, while students must be ready to face challenges of modern world and social networking.

The study's limitations include the use of convenience sampling and the selection of University Students from two cities of China restricts the generalization of results to other regions of the world. The use of the use of self-reported data may create a possibility of sampling bias because the participants may overestimate their social media usage or skills, while others may do the opposite. The study uses digital literacy and social cognitive learning as mediating variables however, other mediating factors could also be used impacting the relationship between social media use and communication skills. To overcome these limitations, future studies should use larger and more widely representative samples, use longitudinal research designs that will help to capture changes in the use and engagement types over time. Furthermore, cross-cultural research could be useful in establishing to what extent social networking hampers or improves interaction skills in different cultures and would thus increase the generalizability of the results.

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