

Behavioral Intention of Chinese College Students Use Social Media to Improve English Speaking Skills: Based on the Technology Acceptance Model and Self-Determination Theory

Jie Ding, Nurhasmiza Sazalli

Faculty of Social Sciences and Humanities, Universiti Teknologi Malaysia, Malaysia

Email: dingjie@graduate.utm.my

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Abstract

The use of social media has become an important part of contemporary Chinese university students' lives and learning, and as an educational tool, it can facilitate learning. However, acceptance is a prerequisite for using social media in language learning. For Chinese college students who are not English majors, increasing learners' acceptance through intrinsic motivation has become a current concern due to the lack of extrinsic motivation. Therefore, this study, drawing upon the Technology Acceptance Model (TAM) and Self-Determination Theory (SDT) as theoretical frameworks, investigates the acceptance and usage patterns of social media platforms for enhancing speaking skills. Findings reveal a high level of acceptance among students, with usage intentions influenced by facilitating conditions, autonomy, competence, perceived usefulness, and perceived ease of use. Autonomy, competence, and relatedness impact the perceived usefulness and ease of use of social media for English-speaking learning. However, conclusive evidence regarding the impact of social influence and relatedness on behavioral intention to use remains elusive. Actionable recommendations are provided for researchers, policymakers, developers, and users to promote the integration of social media into language learning practices.

Keywords: English Speaking Skills, China-Based Social Media, Technology Acceptance Model, Self-Determination Theory, Higher Education

Introduction

With the globalization of the economy and the internationalization of higher education, proficiency in English is crucial for effective international communication and learning. Among the various language skills, speaking holds particular importance as it enables effective communication (Rao, 2019). However, improving speaking skills, which require a solid foundation in pronunciation, vocabulary, grammar, and cultural knowledge, as well as proficiency in reading, listening, writing, and interpersonal communication, poses a significant challenge for college students. Second language (L2) learners, especially, face the additional challenge of continuous exposure to their native language (Devi & Rao, 2018). These

requirements are often difficult to fulfill in traditional language classrooms, making speaking skills perceived as the most challenging aspect of language learning (Kehing et al., 2021).

According to Willis (1996), three essential conditions for second language acquisition include extensive exposure to the target language and culture, using the language in authentic settings, and having sufficient motivation to practice the language. The interactive nature of social media platforms can stimulate language learning motivation, facilitate negotiation, conversation, and meaning construction, and enable continuous input and output (Razak et al., 2013). Moreover, social media platforms encourage autonomous learning, promote permanent memory retention, and foster independent learning. In the era of digital communication, social media platforms have emerged as ubiquitous tools for interpersonal interaction, particularly among college students.

In China, the vision outlined in Chinese Education Modernization 2035 underscores the imperative to leverage modern information technology to revitalize educational practices. This initiative emphasizes enriching curriculum content, adopting diverse teaching methodologies, fostering students' innovative and practical abilities, and leveraging technology to reshape talent development models (Li et al., 2021). Consequently, personalized, independent, and networked learning are increasingly becoming focal points of higher education reform efforts in the country.

Moreover, social media platforms are recognized as potent catalysts for change in language teaching and learning. By utilizing these platforms, learners can access a wide range of resources to improve their speaking skills and interact easily with native speakers.

In recent years, there has been a growing emphasis on enhancing foreign language teaching effectiveness through the integration of social media in the field of mobile language learning. Research (Al-Emran et al., 2017; Huang & Liaw, 2018) underscores the crucial role of learners' acceptance of emerging technologies in fostering effective learning outcomes. Scholars such as Nikou & Economides (2017); Zhao (2017); Yang & Mei (2020) underscore the significance of both teachers and students embracing educational technology for its success, emphasizing the necessity for students' acceptance to ensure successful utilization. Technology acceptance model (TAM) remains the most common construct that influences social media acceptance. It is still widely adopted due to its adaptability, verifiability and generalizability in predicting attributes that have an impact on users' technology acceptance behavior. It is the same in China (Li, 2019; Hui et al., 2017).

However, the effective use of social media in language learning by Chinese university students is not satisfactory (Fang, 2015), the original Technology Acceptance Model (TAM) has faced criticism for its oversimplification and failure to account for other variables that may impact the acceptance process (Huang & Teo, 2021). Moreover, there have been arguments suggesting that TAM lacks practical guidance on enhancing perceived ease of use (PEOU) and perceived usefulness (PU) (Zou et al., 2021). In the context of China, the influence of technology acceptance on English learners' utilization of social media to improve speaking skills remains unclear, and theoretical studies on acceptance modeling of social media in speaking learning are limited. Therefore, this study proposes a modified version of TAM tailored to the specific context and objectives by incorporating four additional constructs: social influence, facilitating conditions, perceived enjoyment (PE), and English learning

motivation (ELM). This modified model preserves the original TAM constructs of PEOU, PU, and behavioral intention (BI) (Davis, 1989).

Although numerous studies have proved that social media platforms can be effective for English speaking learning, the efficacy and implementation of social media in college settings remain subjects of ongoing scholarly debate. Certain learners find it challenging to get the most out of them, and some are even reticent to use them (Lim & Newby, 2020). To fully and effectively use technology in speaking learning, it is important to understand the factors that influence learners' acceptance of social media, the improvement of speaking skills by social media, and how to effectively use social media to improve speaking skills. Without learner acceptance, the potential of these technologies cannot be realized. However, there is a limited systematic review of China-based research on social media for enhancing speaking skill learning. This paper attempts to fill this gap by identifying and describing the use of China-based social media in terms of the factors influencing learners' acceptance of social media, the improvement of speaking skills by using social media, and the impact of using social media in Chinese higher education.

Literature Review

Technology Acceptance Model (TAM)

Davis (1989) constructed the Technology Acceptance Model (TAM) based on the Theory of Reasoned Action Fishbein & Ajzen (1975) to explain the determinants that affect people's acceptance of computers. The TAM explains the determinants of people's acceptance of computers. The TAM suggests that technology use is closely related to behavioral intention, which is influenced by attitude towards using technology. At the same time, perceived usefulness and perceived ease of use jointly affect attitudes toward use, and external factors affect other factors in the model through perceived usefulness and perceived ease of use. The external factors of perceived usefulness and perceived ease of use influence the other factors of the model. Venkatesh and Davis (2000); Venkatesh and Bala (2008) argued that removing the attitudinal factor from the technology acceptance model would allow a better understanding of the relationship between perceived usefulness, perceived ease of use, and behavioral intention, and that existing studies in the literature have also conducted related studies based on the modified model, retaining the four dimensions of the technology acceptance model of external variables: perceived usefulness, perceived ease of use, and behavioral intention (see Figure 1).

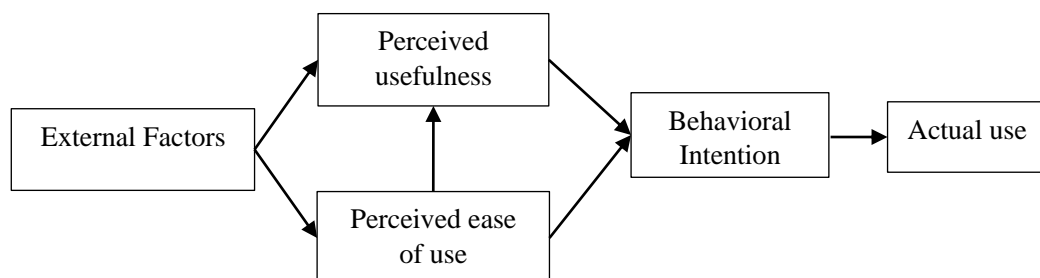


Figure 1. Technology Acceptance Model TAM (Davis et al., 1989)

Since its introduction, the Technology Acceptance Model (TAM) has been widely used and validated in the field of studying the acceptance of information technology. In educational

settings, TAM has also been found to be a useful tool for understanding technology adoption in different contexts among different populations. Intentional utilization of computer-assisted language learning 2.0 by pre-service EFL teachers Mei et al (2017), intention to use web 2.0 technologies by university teachers Faizi (2018), acceptance of digital media by students Pumptow & Brahm (2020), L2 learners' adoption of social media (Fan,2023), K-12 students' use of online learning Zou et al (2021), and university students' acceptance of mobile learning AIRhami et al (2022) have all been observed.

Li and He (2017) conducted a comprehensive review of China technology acceptance research, identifying several key findings. They highlighted the characteristics, problems, and future outlook of such research. Specifically, they found that domestic technology acceptance studies often focus on factors such as perceived usefulness, perceived ease of use, social influence, and facilitating conditions. However, they also noted certain limitations and challenges in existing research, including a lack of theoretical frameworks, methodological issues, and the need for more empirical studies in specific contexts. Despite these challenges, Li and He emphasized the importance of further research in this area to advance our understanding of technology acceptance among domestic users.

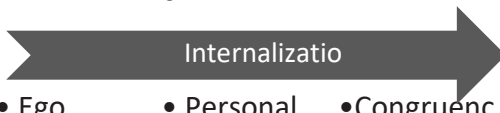
But the focus of these studies has centered on perceived usefulness, perceived ease of use, and other external aspects of user acceptance of information technology. perceived ease of use, external variables, and other external factors that externally influence users' acceptance of information technology, ignoring users' interest, liking, autonomy, and enjoyment. and external variables, ignoring the intrinsic motivational factors such as users' interest, liking, autonomy, and enjoyment. The self-determination theory suggests that each type of intrinsic and extrinsic motivation reflects a different cause of behavior. These reasons also provide a means of evaluating the type of motivation. Nikou and Economides (2017) argue that in the context of knowledge acquisition-oriented (or educational) systems, further research is needed to understand the factors that motivate people to use technology intentionally.

Self-Determination Theory (SDT)

The Self-Determination Theory (SDT), proposed by American psychologists Deci and Ryan in 1985, posits that motivation exists on a continuum from amotivation to intrinsic motivation, with individuals' behavior directly influenced by motivation. Amotivation refers to a lack of behavioral drive, while extrinsic motivation encompasses four aspects: external regulation, introjected regulation, identified regulation, and integrated regulation. Extrinsic motivation involves engaging in activities for outcomes external to the activity itself, such as seeking rewards or avoiding punishment. Intrinsic motivation, on the other hand, involves interest and enjoyment in the task itself. Intrinsic motivation, meanwhile, involves undertaking activities for reasons such as personal interest, enjoyment, or the pleasure derived from the activity itself. SDT argues that intrinsic motivation is supported when the three basic and universal human psychological needs of autonomy, competency and relatedness are satisfied (Deci & Ryan, 1985). Autonomy refers to the desire of people to regulate and self-control their own behavior. Competence refers to the desire to be effective and sufficient when performing an activity. Relatedness refers to the desire of people to feel connected and associated with others. At the core of SDT are extrinsic and intrinsic motivations, as illustrated in Figure 2.

Table 1
Self-Determination Theory's Taxonomy of Motivation (Deci & Ryan, 1985)

Motivation	Amotivation	Extrinsic Motivation			Intrinsic Motivation	
Regulatory Style		External Regulation	Introjection	Identification	Integration	
Attributes	<ul style="list-style-type: none"> • Lack of perceived competence, or • Lack of Value 	<ul style="list-style-type: none"> • External rewards or punishments • Compliance • Reactance 	<ul style="list-style-type: none"> • Ego Involvement • Focus on approval from self and others 	<ul style="list-style-type: none"> • Personal Importance • Conscious valuing of activity • Self endorsement of goals 	<ul style="list-style-type: none"> • Congruence • Synthesis and consistency of identifications 	<ul style="list-style-type: none"> • Interest • Enjoyment • Inherent Satisfaction



Self-determination theory, introduced by Deci et al (1999), provides valuable insights into the motivational drivers behind individual behaviors. In a study conducted by Fan (2023), Chinese college students' acceptance of using social media platforms like WeChat and Bilibili for English language learning was investigated, emphasizing the pivotal role of intrinsic motivation in sustaining learners' enthusiasm for the task. Therefore, factors such as social influence (SI), facilitating conditions (FC), perceived enjoyment (PE), and intrinsic motivation (IM) play crucial roles in shaping the acceptance of utilizing social media to improve speaking skills.

Expanding on the motivational aspect, Nikou and Economides (2017) explored how both extrinsic motivation (perceived usefulness and perceived ease of use) and intrinsic motivation influence university students' intention to engage with mobile technology for English language learning assessments. Similarly, Joo et al (2018), along with Chein et al (2021), delved into the interaction between technology acceptance factors and student motivation in online learning environments. While Chein et al (2021) focused specifically on the ease of use and perceived usefulness of social media platforms, their findings suggested that collaborative learning and social media usage influenced student engagement, although technology acceptance did not have a significant impact. Therefore, this underscores the importance of further investigating the relationship between technology acceptance and motivation. As a result, the intrinsic motivation proposed by self-determination theory is employed as the theoretical framework, elucidating the intention to utilize social media for enhancing English speaking skills. This approach uncovers the intrinsic motivational factors that drive college students to intend to use social media to improve their speaking abilities.

Conceptual Framework and Hypotheses

Based on the Self-Determination Theory (SDT) of Motivation Deci & Ryan (1985) and the Technology Acceptance Model (TAM) Davis (1989), the present study aimed to provide a

combined model of SDT and TAM to explain and predict behavioral intentions to use China-based social media to improve English-speaking skills (BIU). To this end, the following hypotheses were formulated.

Social Influence(SI)

The Theory of Reasoned Action (TRA) suggests that an individual's behavioral intention to perform a behavior is determined by social influences. Social influence relates to how colleagues, institution, course instructors, and others to consider that the student should continue to use social media for learning. Previous studies have documented how social influence contributes to one significant indicator to predict behavioral intentions of technology acceptance (Yueh et al., 2015). Similarly, Yu and Yi (2020) found that these factors significantly influence users' intention to adopt and use technology. Additionally, Shen (2021) agreed that social influence emerged as another significant factor affecting students' behavioral intentions. In this study, it is believed that Chinese college students' use of social media to improve their speaking skills is influenced by their classmates and instructors. Therefore, we hypothesize that:

H1: Social influence(SI) has a significant effect on Behavioral Intention(BI) .

Facilitating Conditions (FC)

According to Yueh, Huang and Chang (2015), facilitating conditions are said to be the crucial determinants of technology adoption. This is because when the users lack in training time, or when they have technical compatibility problem with the system, they will have less intention to use the technology. Yu and Yi's (2020) findings confirmed that facilitating conditions (FC) had a positive and significant effect on the behavioral intention of language learning using WeChat-based Rain classrooms. Lee and Han (2020) explored the relationship between facilitating conditions and the acceptance of mobile language learning applications among Chinese college students. Their findings suggested that favorable facilitating conditions positively influence the acceptance of these applications. Specifically, when facilitating conditions are perceived to be supportive and conducive to usage, Chinese college students are more likely to accept and adopt mobile language learning applications. Therefore, we hypothesize that:

H2: Facilitating Conditions(FC) has a significant effect on Behavioral Intention(BI) .

Perceived Autonomy (AUT)

Autonomy refers to the desire to feel that one's behavior is determined by one's own will and volition (Deci & Ryan, 1985). Zheng and Wang (2021); Kessler (2019) concluded that learner autonomy has a positive effect on perceived usefulness, perceived ease of use, and behavioral intention. However, Tan and Li (2020) concluded that learner autonomy was positively related to perceived usefulness but not significantly related to perceived ease of use. The higher the learners' autonomy, the more they tend to perceive m-learning as useful and easy to use for their language learning and are more willing to accept and use these tools for learning. So we hypothesized that when Chinese college students use China-based social media to improve their speaking skills,

H3. Perceived Autonomy (AUT) has a positive effect on Perceived Usefulness (PU) .

H4. Perceived Autonomy (AUT) has a positive effect on Perceived Ease of Use(PEOU).

H5. Perceived Autonomy (AUT) has a positive effect on Behavioral Intention (BI).

Perceived Competence (COMP)

Competence refers to a student's desire to be productive when engaging in learning activities. He and Li (2023) demonstrated that competence is positively related to perceived ease of use and intention to continue using m-learning for English learning. Alamer and Khateeb (2023) discovered that perceived competence positively influences various motivational factors in language learning through the WhatsApp application. Specifically, learners who perceive themselves as competent in using WhatsApp for language learning tasks show higher levels of intrinsic motivation, identified regulation, and integrated regulation. They exhibit increased interest, enjoyment, and recognition of the value of these activities, along with enhanced autonomy, engagement, and social interaction within WhatsApp groups. Based on the results of previous studies, we propose the following hypotheses for the use of China-based social media to improve the learning of English-speaking skills among Chinese college students:

H6. Perceived Competence (COMP) has a positive effect on Perceived Usefulness (PU) .

H7. Perceived Competence (COMP) has a positive effect on Perceived Ease of Use(PEOU).

H8. Perceived Competence (COMP) has a positive effect on Behavioral Intention (BI).

Perceived Relatedness (REL)

Relatedness refers to feeling connected with peers. Research shows that relatedness significantly correlates with perceived ease of use but is not directly related to learners' continuance intention (He & Li, 2023). Custers et al(2012) found a positive relationship between relatedness and intrinsic motivation. Students who feel related to important people perceive learning as being useful (Venkatesh, 2000). We argue that the feeling of relatedness among classmates increases students' perceived ease of use of the learning activity. Firat, Kılınç, and Yüzer (2018) investigated the level of intrinsic motivation among distance education students in e-learning environments. They found that the level of intrinsic motivation among these students was generally moderate to high. However, the study did not identify specific factors or interventions that significantly influenced intrinsic motivation in this context. Based on the results of previous studies, we propose the following hypotheses for the use of China-based social media to improve the learning of English-speaking skills among Chinese college students:

H9. Perceived Relatedness (REL) has a positive effect on Perceived Usefulness (PU).

H10. Perceived Relatedness (REL) has a positive effect on Perceived Ease of Use (PEOU).

H11. Perceived Relatedness (REL) has a positive effect on Behavioral Intention (BI).

Perceived Usefulness (PU)

Perceived usefulness is a pivotal factor in determining users' acceptance and utilization of information technology, as outlined by the Technology Acceptance Model (TAM). It reflects users' subjective assessment of how a specific system enhances their work performance, as proposed by Davis (1989). Studies such as Li (2019) on college students' acceptance of WeChat mobile learning, Ji et al (2019) on English learning via mobile platforms, and Gao et al (2017) on the adoption of educational apps consistently emphasize the significance of

perceived usefulness. Additionally, Weng and Li (2017) found a positive correlation between learners' perceived usefulness and their behavioral intentions in collaborative mobile language learning contexts. These findings collectively underscore the critical role of perceived usefulness in shaping users' intentions and behaviors towards technology adoption in educational settings. Therefore, this study posits that PU positively influences Chinese college students' behavioral intentions to enhance their English speaking skills using Chinese social media.

H12: Perceived Usefulness(PU)has a significant effect on Behavioral Intention(BI)

Perceived ease of use (PEOU)

Perceived ease of use (PEOU) plays a significant role in users' technology acceptance, according to the Technology Acceptance Model (TAM). It encompasses users' subjective perceptions of the simplicity and convenience of using a system, with Davis (1989) suggesting that systems perceived as easy to use are more likely to be adopted. Studies by Li (2019); Ji et al (2019); Gao et al (2017) underscore the importance of PEU in various educational technology contexts. Building upon this, Balouchi and Samad (2021); Humida et al (2022); Zhao et al (2017); Yu and Yi (2020) demonstrated the positive impact of PEU on users' behavioral intentions towards online learning technologies. Therefore, this study posits that PEOU positively influences Chinese college students' behavioral intentions to enhance their English speaking skills using Chinese social media.

H13: Perceived ease of use (PEOU)has a significant effect on Behavioral Intention(BI)

Perceived Ease of Use(PEOU) and Perceived Usefulness(PU)

Studies have demonstrated that the PEOU of a technology has a direct influence on its PU (Winarno & Putra, 2020). Feng et al (2021) conducted two model-based meta-analytic reviews and found that PEU had a medium positive effect on PU. Huang et al (2021) found that PEU positively impacts higher education teachers' perceptions of the usefulness of information and communications technology. Sun and Gao (2020) showed that those who find smartphones and related applications easier to use tend to view them as more beneficial for English learning activities. Al-Adwan et al (2023) discovered that PEU significantly and positively affects university students' acceptance of metaverse- based learning platforms. Bailey et al (2022) also proved that PEOU positively affects PU with video conference tools among university students. In light of these studies, we propose that PEU has positively affected Chinese university students' use China-based social media to improve their speaking skills. This idea has led to the formulation of the following hypothesis:

H14: Perceived Ease of Use(PEOU) has a significant effect on Perceived Usefulness(PU)

Based on the above discussion, a model of influencing factors on Chinese university students' intention to use social media to improve their speaking skills is constructed based on the Technology Acceptance Model and Self-Determination Theory (see Figure 3). The behavioral intention of Chinese university students to use social media to improve their speaking skills is influenced by social influence, facilitating conditions, and perceived autonomy,perceived competence,perceived relatedness, perceived usefulness and perceived ease of use are affect core measurement indicators .

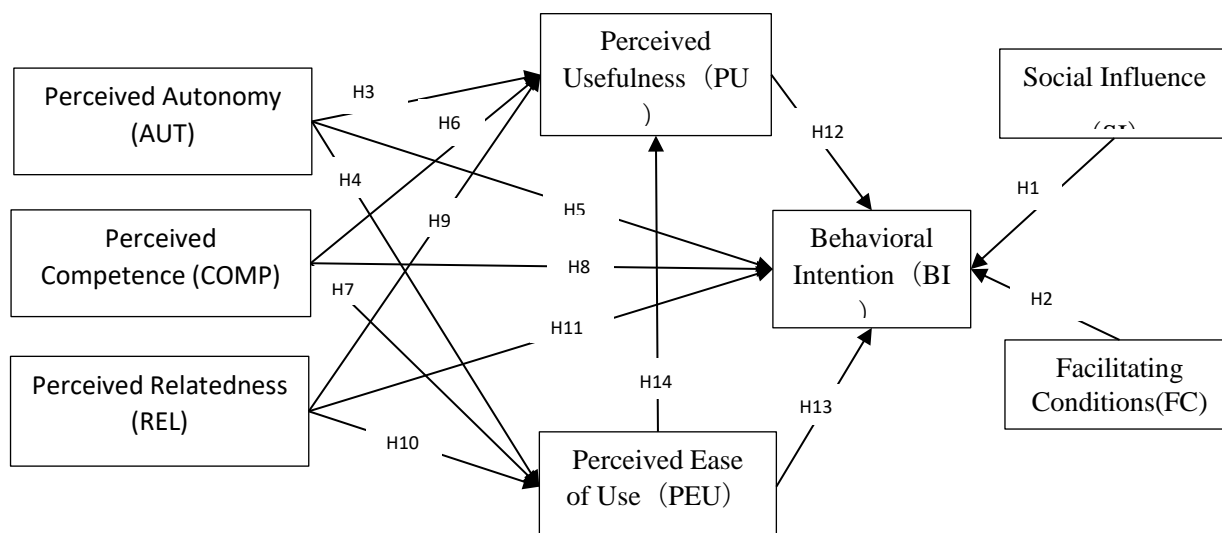


Figure 3. The Research Model

Methodology

Participants

The participants were 140 students from the school of media at a public university in China. The students were enrolled in a college English audiovisual speaking program. All students were taught by the same English teacher. The participants' profiles were analyzed based on the frequency distributions generated by SPSS 24. The gender distribution of the respondents is shown in Table 1. There were 34 male students (24% of the total number of participants) and 106 female students (76% of the total number of participants). The proportion of female university students participating in the survey was significantly higher than that of male students, exceeding two-thirds. This has something to do with the ratio of males to females in the schools where the respondents are located. The overall percentage of females in this school is higher than that of males. The family background of the participating students was categorized into two main types: urban and rural. Students from urban families accounted for 34% of the total number of valid entries, while students from rural families accounted for 66% of the total number of valid entries. This shows that more students from rural families participated in the survey than those from urban families. This may be due to the fact that the rural student population constitutes a larger proportion of the total population. All students had experience using social media, either for communication, information search, entertainment, or self-study (access to educational resources, etc.). Students were informed in advance of the study procedures; their participation was voluntary, and all data were collected anonymously.

When students were asked which social media they used to improve speaking skills, they reported multiple social media sites such as WeChat, Bilibili, Douyin, English Liulishuo, Xiaohongshu, Fun Dubbing, U-campus, and others. The most used social media in terms of speaking and learning skills was Wechat, which was mentioned by 80% of the survey participants. This was followed by Bilibili and Douyin with 71% and 64%, respectively. Xiaohongshu was also used by 68%, English Liulishuo and Fun Dubbing were used by 48% and 41%, respectively, and U-campus was the least used by 21%, which shows that almost all of

the students who participated in this study used more than one social media, and the most popular social media is Wechat.

Table 2

The participants' demographic profile (number = 140)

Measure	Category	Frequency	Percent
Gender	Male	34	24
	Female	106	76
Family Background	Urban	48	34
	Rural	92	66
	WeChat	45	80.0
	Bilibili	40	71.0
	Douyin	36	64.0
The Social Media Currently Use by Students	English Liulishuo	27	48.0
	Xiaohongshu	38	68.0
	Fun Dubbing	23	41.0
	U-campus	12	21.0
	Others	11	20.0

Survey Instrument

Using social media to enhance speaking skills in this study refers to interactive collaboration and informal learning through WeChat groups. The measurement item or measures of the study are adapted from validated constructs in previous literature. Straub (1989) advised reusing previously validated instruments when employing survey methods. Thus, in this study, the wording of each measure was only altered to fit the study context, social influence (SI)(3 items), facilitating conditions (FC)(4 items), perceived autonomy (AUT)(3 items), perceived competence (COMP)(3 items), perceived relatedness (REL) (3 items), perceived usefulness (PU) (4 items), perceived ease of use (PEU)(3 items) and behavioral intention to use (BI)(4 items). Table 2 shows 8 constructs and 27 items utilized for the measurement of factors incorporated in the research model. A 5-point Likert scale of measure was used throughout all these items, going from 'Strongly Disagree' denoted as '1', to 'Strongly Agree' denoted as '5'. Table 3 shows the structure and sources of the items.

Table 3
The Items and Source

Constructs	Items	Source
Social influence (SI)	People who influence my behavior think that I should use social media to enhance my speaking skills.	Venkatesh, et al. (2003), Yu&Yi(2020), Zhao et al (2017)
	People who are important to me think that I should use social media to enhance my speaking skills.	
	In general, the university has supported the use of social media to enhance my speaking skills.	
Facilitating Conditions (FC)	when I enhancing my speaking skills , specialized instruction concerning social media was available to me.	Venkatesh, et al. (2003), Yu&Yi(2020), Yang & Mei (2020)
	when I enhancing my speaking skills , a specific person/ group is available for assistance with system difficulties.	
	when I enhancing my speaking skills , social media helps me create a new group/community based on my interests (e.g., hobby, skills, and subject).	
	when I enhancing my speaking skills , social media can provide a variety of learning styles.	
Perceived Autonomy (AUT)	I feel a sense of choice and freedom while participating in social media based speaking learning.	McAuley, et al. (1989); Baard, et al. (2004) ; Nikou & Economides (2017)
	The social media based speaking learning provide me with interesting options and choices.	
	I have had many opportunities to decide for myself how to use social media to enhance my English-speaking skills.	
Perceived Competence (COMP)	I think I am pretty good at social media-based speaking learning.	McAuley, et al. (1989); Baard, et al. (2004) ; Nikou & Economides (2017)
	I think I did pretty well at the social media based speaking learning, compared to other students.	
	After working at social media-based speaking learning for a while, I felt pretty competent.	
Perceived Relatedness (REL)	I have the opportunity to be close to others when I participate in the social media-based speaking learning.	McAuley, et al. (1989); Baard, et al. (2004) ; Nikou & Economides (2017)
	I feel close to others when I participate in the social media-based speaking learning.	
	I feel connected with my classmates when I participate in the social media-based speaking learning.	
Perceived Usefulness (PU)	Using China-based social media allows me to accomplish speaking and learning tasks quickly.	Venkatesh, et al. (2003) ; Yu& Yi (2020)
	Using China-based social media makes speaking and learning easier.	
	China-based social media keeps me motivated and engaged because I can access speaking learning resources anytime and anywhere.	
	Overall, I think China-based social media is helpful for my speaking learning.	
Perceived Ease of Use (PEOU)	The China-based social media are easy to use when enhancing English speaking skills.	Venkatesh, et al. (2003) ; Yu& Yi (2020)
	The China-based social media are easy to access when enhancing English speaking skills.	
	The China-based social media are convenient when enhancing English speaking skills .	
Behavioral Intention to Use (BI)	I will use China-based social media to support my speaking skills.	Venkatesh et al. (2012); Nikou & Economides (2017)
	I plan to use China-based social media regularly to support speaking.	
	I will use China-based social media as much as possible to improve my speaking skills.	
	I will recommend the use of China-based social media to my classmates to improve their speaking skills.	

Procedure

As shown in the curriculum and teaching plan of the School of Communication, the English Language & Culture course is offered in four semesters during the first and second years of

Chinese media majors. Influenced by the educational principles of constructivism, the multi-dimensional teaching method is designed in which lectures are complemented by various opportunities for students, individually and in teams, to apply the concepts and the theories taught in class to real-world situations.

Data Analysis and Results

Measurement model testing

The validation stage of the measurement model mainly examines the reliability, convergent validity, and discriminant validity of the scales. In order to ensure the reliability and validity of the conclusions of this study, the measurement model was analyzed for reliability, convergent validity, and discriminant validity using SPSS software. The reliability test is generally based on the Cronbach's alpha coefficient and combined reliability (Hair et al., 2010). $\alpha \geq 0.70$ indicates that the reliability of the measurement model is good. > 0.35 and < 0.70 are considered fair; < 0.35 is considered low reliability. In this study, all the items in the questionnaire are from mature questionnaires, and the combined reliability is > 0.70 , which indicates that the measurement items of latent variables have good internal validity.

Convergent validity tests are judged by looking at both factor loadings and mean variance extractions (Hair et al., 2009). It is generally accepted that convergent validity between the items of a measurement variable is acceptable when the factor loadings are > 0.6 and the mean variance extracted is > 0.5 (Fornell & Larcker, 1981). When the factor loadings of individual items are less than 0.6, the measurement model can be corrected by deleting the item. The results of the corrected test showed good convergent validity of the scale.

Distinguishing validity refers to a low correlation and significant difference between latent variables, which can be assessed by comparing the magnitude of the correlation coefficient between the square root of the mean variance extracted and other latent variables. According to the criteria proposed by Fornell & Larcker (1981), if the correlation coefficient of a variable with other variables is less than the square root of the mean variance extracted for that variable, it means that the discriminant validity of that variable is good. By looking at the matrix of correlation coefficients between the square root of the mean variance extracted and other latent variables, the discriminant validity of the measurement model of this study can be considered appropriate.

Test of the structured model and hypotheses

The principle of structural equation modeling is carried out by comparing the degree of difference between the covariance matrix obtained according to the hypothetical model and the true covariance matrix of the sample data; the smaller the difference between the two, the better the fit of the hypothetical model. Research has shown that there are many aspects involved in determining the fit of two covariance matrices, but there is no consensus on which metrics should be used (Sharma et al., 2005).

In this study, the following metrics were used: cardinality to degrees of freedom ratio (CMIN/DF), RMR, GFI, AGFI, NFI, RFI, CFI, RMSEA, where cardinality to degrees of freedom ratio (CMIN/DF), the closer to 0, the better the model fits the data, and CMIN/DF is usually used to be less than 3; RMR, the closer to 0, the better the model fits the data, and RMR, the smaller than 0.05; GFI, the closer to 1, the better the fit, and RMR, the smaller than 0.05; GFI,

the smaller the fit; GFI, the smaller the fit; GFI, the smaller the fit. RFI refers to the relative fitness index; the larger the RFI value, the better the fit between the model and the data; CFI refers to the comparative fit index; the larger the CFI value, the better the fit between the model and the data; RMSEA refers to the square root of the mean squared error; and the RMSEA is usually less than 0.05, which indicates that the model is well-fitted. As can be seen from Table 4, the analyzed data of the model meet the requirements of the indicators, i.e., the model has a good fit.

Table 4

Indicators of Model Fit

Goodness-of-fit index	CMIN/DF	RMR	GFI	AGFI	NFI	RFI	CFI	RMSEA
Required value	< 3	< 0. 05	> 0. 9	> 0. 9	> 0. 9	> 0. 9	> 0. 9	< 0. 05
Model data	1.578	0.059	0.946	0.916	0.937	0.958	0.964	0.033

On the basis of the above research, the standardized regression coefficients, path coefficient β values, and significance P-values of each path were calculated using AMOS software, and the hypothetical model proposed in the article was verified based on the results of the data analysis, as shown in Table 5 and figure 4. Among the factors affecting Chinese college students' use of social media to improve their speaking skills, intention to use was influenced by facilitating conditions ($\beta=0.22$, $P<0.05$), perceived autonomy ($\beta=0.43$, $P<0.001$), perceived competence ($\beta=0.38$, $P<0.1$), perceived usefulness ($\beta=0.55$, $P<0.001$) and perceived ease of use ($\beta=0.28$, $P<0.1$); perceived usefulness was influenced by perceived autonomy ($\beta = 0.51$, $P < 0.05$), perceived competence ($\beta = 0.21$, $P < 0.1$), perceived relatedness ($\beta = 0.20$, $P < 0.05$), and perceived ease of use ($\beta = 0.64$, $P < 0.05$); and perceived ease of use was affected by perceived autonomy ($\beta = 0.19$, $P < 0.1$), perceived competence ($\beta = 0.24$, the $P < 0.1$) and perceived relatedness ($\beta = 0.32$, $P < 0.05$); the effects of social influence and perceived relatedness on behavioral intentions were not confirmed in this study.

Table 5

Path coefficients and hypothesis testing results

Hypothesis	Path	Path Coefficient	Results
H1	Social Influence→Behavioral Intention	0.076	Not Supported
H2	Facilitating Conditions→Behavioral Intention	0.22**	Supported
H3	Perceived Autonomy →Perceived Usefulness	0.51**	Supported
H4	Perceived Autonomy→Perceived Ease of Use	0.19*	Supported
H5	Perceived Autonomy→Behavioral Intention	0.43***	Supported
H6	Perceived Competence →Perceived Usefulness	0.21*	Supported
H7	Perceived Competence →Perceived Ease of Use	0.24*	Supported
H8	Perceived Competence →Behavioral Intention	0.38*	Supported
H9	Perceived Relatedness →Perceived Usefulness	0.20**	Supported
H10	Perceived Relatedness→Perceived Ease of Use	0.32**	Supported
H11	Perceived Relatedness →Behavioral Intention	0.054	Not Supported
H12	Perceived Usefulness→Behavioral Intention	0.55***	Supported
H13	Perceived Ease of Use→Behavioral Intention	0.28*	Supported
H14	Perceived Ease of Use→Perceived Usefulness	0.64**	Supported

*p<0.1, **p<0.05, ***p<0.01

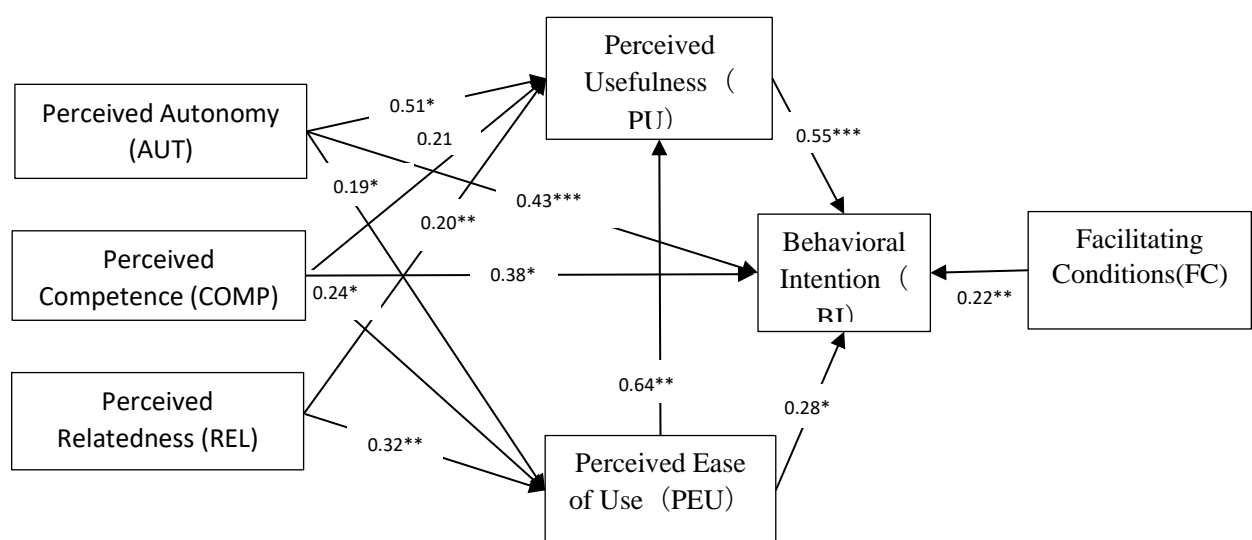


Figure 4. Modified model

Discussions

In this section, we discuss the implication of the key findings in relation to the hypothesized model (As figure 4.).

First, the results of this study indicate that the facilitation condition (FC) is directly and significantly related to behavioral intention to use China-based social media to improve oral language learning ability. This is consistent with the results of Zeng (2019) in her study on user acceptance of mobile language learning based on the UTAUT2 model. Facilitating conditions directly affect learners' behavioral intention for mobile language learning, which in turn indirectly affects usage behavior. Facilitating conditions in this study refer to various factors that can facilitate social media use, such as the discovery of spoken language knowledge and learning skills, device support, the availability of social media apps, and other matters that require the use of social media.

Secondly, autonomy (AUT) and competence (COMP) had positive effects on perceived usefulness (PU), perceived ease of use (PEOU) and behavioral intention (BI) of use China-based social media to enhance learning of speaking skills, which concurs with the findings of other studies (Nikou & Economides, 2017; Huang et al., 2019; He & Li, 2023). For example, Nikou and Economides (2017) examined mobile-based assessments and found that AUT, COMP and REL had a significant and direct impact on PU, PEOU, consequently, influenced BI to use. Similarly, Huang et al (2019) investigated students' experience and motivation in a virtual learning setting and found that autonomy was strongly and positively related to behavioral intention. Additionally, in He and Li (2023)'s finding AUT, COMP and REL had a significant and direct impact on PEOU and continuance intention to use m-learning for second language acquisition. Similarly, in Fan's (2023) study, they found that English learning motivation had positive effects on intention to use social media platforms to learn English. This indicates that when students feel a sense of autonomy and competence in using social media for English speaking learning, they will perceive social media-speaking learning as usefulness and easy to adopt, and at the same time, they will be inclined to continue to use social media for improvement their speaking skills. Motivation, particularly of the intrinsic kind, can be a great aid in the process of L2 learning, as it can help to sustain learners' enthusiasm (Ryan & Deci, 2000).

With one difference, in current study, REL as the mediator between PU and BI, as well as between PEOU and BI of use China-based social media to enhance learning of their speaking skills. This indicates that if students feel connected with important others (teachers, classmates, friends), they will perceive using China-based social media as usefulness and easy to use for improving their speaking skills. However, the findings showed that relatedness did not directly correlate with students' continuance intention to adopt social media for English studies, which is contradictory with the result of the previous study (Huang et al., 2019). A possible explanation for this unexpected result might be that when deciding whether they will intend to continue using social media for English speaking studies or not depends on students' own past using experience rather than their feelings connected with others.

Thirdly, PU and PEOU directly and significantly correlated with BI of use China-based social media to enhance learning of their speaking skills. In Fan's (2023) study, they found that perceived ease of use, perceived usefulness, and English learning motivation had positive effects on intention to use both platforms to learn English. Balouchi and Samad (2021)

determined that PEOU had a positive correlation with behavioral intention to accept online technology for informal English learning. Humida et al (2022) showed that PEOU had a positive impact on behavioral intention to utilize e-learning. This echoes previous research that when a technology is deemed simple to use, it is more likely to be accepted. Conversely, if users find it difficult to become familiar with a new technology, their intention to use it decreases (Teo et al., 2008).

Finally, the results also showed that PEOU positively predicted PU, which is consistent with the prior findings (Nikou & Economides, 2017; Racero et al., 2020). Relatedness may play an important role in the intention of the students who have never used m-learning for English studies before. More empirical evidence is needed on this point. According to the results, PEOU directly and positively correlated with learners' continuance intention to use m-learning, which lends credence to similar findings in the literature (Venkatesh et al., 2003; Racero et al., 2020; Li et al., 2021; Chen & Zhao, 2022). This suggests that when students perceive an social media to be easy to use, they are likely to implement it for second language learning.

Conclusions

The findings show that among the factors influencing Chinese college students' use of social media to improve their speaking skills, intention to use is mainly influenced by perceived usefulness, autonomy, competence, perceived ease of use, and facilitating conditions; perceived usefulness is influenced by autonomy, competence, relatedness, and perceived ease of use; and perceived ease of use is influenced by autonomy, competence, and relatedness. The effects of social influence and perceived relatedness on behavioral intention to use China-based social media to improve communication college students' speaking skills were not confirmed in this study.

This study investigation of Chinese students' behavioral intention to use China-based social media to improvement their English speaking skills. Thus, the results of this study contribute to our knowledge of the factors that predict students' continuance intention to use social media for English acquisition and contribute to the literature in this field. In addition, this study makes a significant contribution to the literature by presenting a new integrated model based on the TAM and SDT, which can be used as a theoretical framework in future studies on social media usage in higher education contexts.

In terms of limitations, as this study was based on a survey of media majors from one public university in China, the findings may have limited generalizability. Thus, future studies should use broader samples from different institutions in China to improve the level of generalization.

Furthermore, the data of this study were collected within a short period of time and convenience sampling method was used. Many respondents would not leave contact information, which makes it difficult for the surveyors to follow up. If conditions are permitted, future study can strive for longitudinal SEM design to assess the direction of causality. In addition, future research should examine whether other factors such as technical and teacher support should be included in the model. Finally, as this study focused solely on Chinese students in higher education, a

comparative study of students in different countries may provide meaningful and valuable results.

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