ISSN 1798-4769
Journal of Language Teaching and Research, Vol. 16, No. 6, pp. 1848-1859, November 2025
DOI: https://doi.org/10.17507/jltr.1606.06

The Effect of Chinese-Related Short Videos on Thai Students' Chinese Language Learning Motivation and Self-Efficacy

Yan Ye
Stamford International University, Bangkok, Thailand

Li Pan*
Shandong Xiehe University, Jinan, China

Qizhen Gu
Assumption University, Bangkok, Thailand

***Abstract*—Chinese language learning is undoubtedly vital in Thai education, and most Thai students start learning it through their primary education. However, many Thai students still encounter substantial challenges in their Chinese learning journey, such as loss of interest and lack of self-confidence. Short videos are more conducive to delivering language input to learners during their fragmented time and boosting their language learning interests. This study investigated the impact of Thai high school students' behavior of watching short videos on their motivation and self-efficacy in Chinese language learning. This study employs a quasi-experimental design, where participants are divided into three groups: a control group (n = 76) that does not receive any intervention, an experimental group 1 (n = 32) that engages with short videos directly related to Chinese language learning, and an experimental group 2 (n = 45) that watches other types of Chinese-related short videos. The study revealed that the weekly watching hours of short videos significantly impacted participants' intrinsic motivation and self-efficacy in Chinese language learning, whereas the interaction ratio could only impact intrinsic motivation. Furthermore, short videos specifically focused on Chinese language learning significantly outperform other short videos in enhancing Thai learners' Chinese reception self-efficacy. However, they showed significantly lower effects in boosting intrinsic motivation. Different types of short videos and distinct viewing behaviors influence Chinese learners' motivation and self-efficacy. Educators could strategically choose appropriate short videos according to specific learning objectives to maximize the effectiveness of language learning.**

***Index Terms*—Chinese learning, motivation, self-efficacy, Thai students, short videos**

I. Introduction

Thailand has the highest number of Chinese as a Foreign Language (CFL) learners among less developed countries due to the close economic, cultural, and educational ties between the two countries (Xu et al., 2022). Since 2001, when foreign languages were established as core subjects in Thai basic education, Chinese, as an optional language, has garnered increasing attention from Thai students (Duangmanee & Waluyo, 2024). Numerous Thai schools provide weekly Chinese language classes to Thai students from elementary school to enhance their cross-cultural communication abilities and future professional competitiveness. Nonetheless, even among high school or university Thai CFL learners, proficiency in the Chinese language remains inadequate, attributable to their persistently high level of foreign language anxiety (FLA) and low level of learning motivation (Pan et al., 2025; Xu et al., 2022).

Chinese is widely recognized as an extremely challenging language due to its unique Chinese character writing system, complex tonal patterns, and profound cultural heritage embedded within its linguistic framework (Chai & Ma, 2022; Hu, 2010). Ning and Tananuraksakul (2024) reported that Thai students frequently experience a higher level of FLA due to their apprehension regarding being interrogated by their CFL teachers or prompted to speak. Furthermore, Ning and Tananuraksakul (2024) found that many Thai students experienced frustration while studying Chinese due to the "cultural gap" between China and Thailand, which reduced their motivation and self-efficacy in language acquisition. Thus, enhancing the learning experience of Thai CFL learners in the process of Chinese language acquisition is of utmost importance.

Due to their rich and diverse content, coupled with flexible and convenient formats, short videos have gained widespread popularity among a large number of users in recent years (He & Li, 2024). Numerous Chinese-related short videos have emerged on prominent short-form video platforms, including TikTok, Instagram Reels, and YouTube Shorts (Zhao, 2022). These short videos encompass not only those related to Chinese language learning and teaching

* Corresponding Author. Email: panl179411503@gmail.com

but also a wide range of content on Chinese culture, tourism, cuisine, gaming, and live streaming, which have gained substantial popularity among users in numerous other countries. Short videos are regarded as an essential tool in foreign language learning because they successfully boost learners' commitment, maximize language input, foster innovative teaching resources, and enhance teaching interaction (Zhang et al., 2022). Short videos can establish an immersive learning environment for language learners by incorporating multimodal materials, including visuals, audio, text, etc. (Lee, 2023).

While several studies have established that short videos can enhance learners' motivation and self-efficacy, most of these investigations took place within the context of English as a Foreign Language (EFL). Currently, there is no research regarding the potential of short videos to enhance Chinese language learning among CFL learners. In the Thai context, CFL learners often suffer from a lack of learning motivation and self-efficacy (Xu et al., 2022). However, most Thai students demonstrate high levels of interest in Chinese-related short videos. Thus, this study seeks to investigate the impact of Chinese-related short videos on Thai students' learning motivation and self-efficacy. The researchers posed the following three research questions.

RQ1: Are there any significant differences in motivation and self-efficacy for Chinese language learning among Thai CFL learners under different short video viewing behaviors (weekly viewing hours and interaction ratios)?

RQ2: Does watching Chinese language learning related videos significantly enhance motivation and self-efficacy among Thai CFL learners?

RQ3: Does watching other Chinese-related short videos significantly enhance motivation and self-efficacy among Thai CFL learners?

RQ4: Is there a significant difference between Chinese language learning related videos and other Chinese-related short videos in enhancing the motivation and self-efficacy of Thai CFL learners?

II. Literature Review

A. Language Learning Motivation

Language learning motivation refers to the learners' drive to learn a new language, which is closely related to their effort and the desire to learn, and their favorable attitude toward learning a new language (Gardner, 2006). As a key factor in predicting learners' success in language learning, language learning motivation has its core rooted in learners' value judgments of the learning activity itself and its success, as well as their emotional engagement (Ushioda, 2020). Researching language learning motivation enables educators to thoroughly understand the core mechanisms of various driving factors in the language learning process, therefore refining their instructional designs and strategies to boost learners' language learning effectiveness (Lamb, 2017). Numerous empirical studies have confirmed that language learning motivation is closely related to classroom engagement, academic performance, and learning persistence (Nagle, 2021; Pawlak, 2012; Zhang & Wang, 2023).

Self-determination theory (SDT), a theoretical framework of motivation proposed by Deci and Ryan (1985), underscores that motivation exists as a continuum from non-autonomous to fully autonomous while highlighting the forms of intrinsic and extrinsic motivation. Intrinsic motivation (IM) refers to learners who persist in their educational pursuits due to their interest in or enjoyment of the learning activity itself, such as deriving a sense of accomplishment or pleasure from the language learning process. Extrinsic motivation refers to the driving force generated by external rewards or pressures, which can be categorized into multiple distinct levels, such as external regulation (ER) and introjected regulation (IR). Additionally, SDT postulates three basic psychological needs that promote individual psychological health and well-being: autonomy, competence, and relatedness (Deci & Ryan, 1985). Autonomy refers to the individual's perception that their behaviors are in accordance with their own inner will and not due to external control; Competence refers to an individual's feeling that they are able to complete tasks and receive positive feedback; Relatedness refers to an individual's desire to feel genuine and supportive connections with others and to attain a sense of belonging. SDT posits that satisfying learners' three psychological needs can shift language learning motivation from extrinsic to intrinsic, thereby promoting sustained engagement in language learning (Printer, 2023).

Numerous studies have been carried out on how short videos affect language learners' learning motivation. Meirbekov et al. (2024) argue that the visual appeal and interactivity of short-video platforms such as TikTok and Instagram are core factors driving learning motivation. Additionally, learners can filter learning content according to their own proficiency levels and interests, an autonomous learning approach that enhances their intrinsic motivation. Gao et al. (2023) found that TikTok can significantly enhance learners' learning motivation due to its rich and engaging video resources that cater to the needs of young people and encourage autonomous learning and personalized learning experiences. Hamsia (2022) asserted that short videos could improve learners' engagement and interest by fostering a relaxing environment, hence significantly enhancing intrinsic motivation for English learning. Hu and Du (2022) found that TikTok can enhance both learners' intrinsic and extrinsic motivation in the short term; however, intrinsic motivation and the willingness to communicate are diminished in the long term, potentially due to the conflict between the entertainment features of short videos and learners' educational goals.

B. Language Learning Self-Efficacy

Self-efficacy is defined as an individual's beliefs about their capacity to execute a specific action and achieve designated attainments in a specific domain (Bandura & Wessels, 1997). In language learning, self-efficacy denotes a learner's confidence and expectations for the achievement of language goals or tasks, including listening, speaking, reading, and writing (Graham, 2022). Language learners possessing higher self-efficacy are inclined to engage with more complex language tasks and exhibit more perseverance when faced with challenges (Mills, 2014). Self-efficacy has been demonstrated to reduce FLA and enhance achievement motivation significantly, hence improving performance (Chen & Lin, 2009; Zhou et al., 2023).

According to Bandura's Social Cognitive Theory (SCT), learning involves acquiring new behaviors through observing and imitating others' actions and their outcomes (Anderson et al., 2007). SCT also pointed out that individuals are not completely passive to stimuli from the outside world; rather, they actively shape their behavior and environment through self-reflection and self-regulation (Usher & Schunk, 2017). Based on SCT, Kutuk et al. (2023) proposed two core dimensions: L2 reception self-efficacy and L2 production self-efficacy. L2 reception self-efficacy refers to learners' perceptions of their ability to understand and process L2 input, while L2 production self-efficacy relates to their perceptions of the ability to produce and express L2 output.

The research on the effect of short videos on language learners' self-efficacy remains inadequate. Fan (2022) stated that short videos on social media can reduce anxiety as well as enhance self-efficacy by providing mastery experiences, facilitating vicarious experiences, and supporting learner autonomy. Alhamami (2014) indicated that YouTube short videos can provide language learners with practical resources containing vocabulary, pronunciation, and cultural content, which help them visualize the effectiveness of their own learning and thus strengthen their sense of self-efficacy. Baothongchan (2024) posited that TikTok provides users with authentic language input scenarios, where they can apply language through interaction and receive immediate feedback, thereby enhancing their confidence and self-efficacy in language learning. Hasumi and Chiu (2024) argue that online short video resources and digital multimodal composition integrate substantial content related to listening, speaking, reading, and writing while offering learners immersive learning experiences, enabling them to gain a sense of achievement in the process of completing learning goals and thereby enhancing their self-efficacy in language learning.

III. Research Methods

A. Research Designs

This research investigated Thai high school students' use of electronic devices to watch Chinese-related short videos and their effects on motivation and self-efficacy in Chinese language learning. The participants were CFL learners enrolled in three high schools located within the urban area of Bangkok, Thailand. During the two-month intervention, participants were required to watch Chinese-related short videos for at least 30 minutes per week. Importantly, it should be noted that participation in watching Chinese-related videos was entirely voluntary, and participants were permitted to withdraw from the study at any point during the intervention. The researchers would like to express their gratitude to the five CFL teachers working in Thai high schools and a language training company. Thanks to their assistance, the researchers successfully collected the data for this study. Additionally, to express our gratitude to all Thai CFL learners who participated in the study's intervention, the researchers prepared small gifts from China for them. The participants were classified into three groups according to their willingness to participate in a short video intervention trial and the kind of videos they wanted to watch.

The first group comprised Thai students who declined to engage in the Chinese short video intervention but volunteered for the questionnaire collection process. This group was designated as the control group (CG), which originally included 100 participants. Following the withdrawal of 24 individuals, the final CG comprised 76 participants.

The second group included Thai students who decided to engage in the Chinese short video intervention with the option of watching Chinese learning-related videos, designated as Experimental Group I (EG1). Chinese teachers provide these videos and include vocabulary teaching clips with vivid animations, short dialogues demonstrating daily Chinese expressions, and cultural introduction videos that combine language learning with Chinese traditions, all aimed at enhancing their language proficiency and cultural understanding. 52 participants were initially enrolled in the EG1 group, of which 20 dropped out, resulting in 32 final participants in the EG1 group.

The third group included Thai students who consented to engage in the Chinese short video intervention and chose to watch other types of Chinese-related short videos; therefore, they were classified as Experimental Group II (EG2). These videos are provided by Chinese teachers to Thai students on a weekly basis and include cultural immersion content (e.g., Chinese folk customs, Chinese cuisine), real-scene audiovisual materials (e.g., excerpts from Chinese films and variety shows), and narrative-based Chinese videos (e.g., micro-dramas, Chinese skits). Besides, participants in EG2 were permitted to independently search for and view any short videos of their choice on the condition that such videos were either China-related or produced in the Chinese language. Initially, there were 61 members in the EG group; however, 16 withdrew, resulting in a final count of 45 individuals in EG2.

Questionnaire data collection for this study was conducted at two specific time points: prior to the intervention (T1) and following the intervention (T2), with the entire process implemented online via Google Forms. To maintain data

completeness, researchers configured the forms to require respondents to answer all questions before submission, thereby ensuring no missing data in the final dataset. Table 1 presents the demographic information of all participants in the entire sample of this study. Among them, 66 participants (43.14%) were male, and 87 (56.86%) were female. None of the participants had less than one year of Chinese language learning experience, 4 participants (2.61%) had 1 to 3 years of Chinese language learning experience, 27 participants (17.65%) had 3 to 5 years of experience, and 122 participants (79.74%) had more than 5 years of Chinese language learning experience.

TABLE 1
DEMOGRAPHIC INFORMATION

Demographic Information		Frequency	Percent
Gender	Male	66	43.14%
	Female	87	56.86%
Chinese Learning Experience	Less than 1 year	0	0%
	1 - 3 years	4	2.61%
	3 - 5 years	27	17.65%
	Over 5 years	122	79.74%

B. Research Instruments

As the primary instrument of this study, the questionnaire was divided into three sections: demographic questions, inquiries about short video watching, and measurement scales. Participants were not required to answer inquiries about short video watching at T1 and demographic questions at T2.

Demographic questions were used to collect three main types of information, including participants' gender and Chinese learning experience. The second section comprised questions related to participants' short video watching over the two months, specifically asking about their watching duration of China-related short videos and their interaction behaviors while watching them.

The final section of the questionnaire consisted of measurement scales comprising the Chinese Language Learning Motivation Scale and the self-efficacy scale. The Chinese Language Learning Motivation Scale was adapted from Ardasheva et al.'s (2012) English Language Learner Motivation Scale (ELLMS), which contains three sub-dimensions and 12 items. Among them, the sub-dimension "Intrinsic Motivation (IM)" contains six items, "Introjected Regulation (IR)" contains two items, and "External Regulation (ER)" contains four items. In a pilot test with fifty participants, Cronbach's alpha coefficients for the three sub-dimensions were calculated between 0.779 and 0.872, indicating sufficient internal consistency and reliability for each subscale. The Chinese Learning Self-Efficacy Scale was adapted from Kutuk et al. (2023) Foreign Language Learning Self-Efficacy Scale, which consists of two sub-dimensions and 11 items. The sub-dimension "Chinese Reception Self-Efficacy (CRSE)" contains six items, and "Chinese Production Self-Efficacy (CPSE)" contains five items. The Cronbach's coefficients for these two sub-dimensions in the pretest ranged from 0.802 to 0.840, proving sufficient internal consistency.

C. Data Analysis

This study utilized SPSS 24 for data analysis and employed GraphPad Prism 10 to assist in data visualization. First, the researchers began with a descriptive analysis of the study data. The researchers initially examined the demographic data alongside the short video viewing behavior data, focusing on frequency and percentage. Subsequently, the researchers used means and standard deviations to analyze the basic data of each scale item and sub-dimension. Skewness, kurtosis, and Q-Q plots were employed to examine whether the data in this study generally conformed to a normal distribution to determine whether to use parametric or non-parametric analyses for subsequent steps. Next, the researchers employed analysis of covariance (ANCOVA), using the data at Time T1 as covariates, to analyze differences in participants' learning motivation and self-efficacy at Time T2 under different short-video viewing behaviors (weekly viewing hours and interaction ratios). Finally, after using one-way ANOVA to confirm no significant differences in learning motivation and self-efficacy across the three groups at T1, the researchers employed ANCOVA again to analyze differences in learning motivation and self-efficacy between the experimental groups at T2 while excluding the influence of T1 data.

IV. RESULTS

A. Descriptive Analysis

The researchers initially performed a descriptive analysis of the short video viewing behavior of participants in experimental groups (EGs), with the results presented in Table 2. In the EG1 group, ten participants (31.25%) viewed Chinese-related short videos for 10 to 30 minutes weekly, eight participants (25.00%) for 30 to 60 minutes, eight participants (25.00%) for 1 to 2 hours, and six participants (18.75%) for over two hours. In contrast, among the EG2 group, nine participants (20.00%) spent 10 to 30 minutes weekly watching Chinese short videos, nine participants (20.00%) spent 30 to 60 minutes, seventeen participants (37.78%) spent 1 to 2 hours, and ten participants (22.22%) spent more than 2 hours. Regarding the frequency of interaction (like, sharing, etc.) while watching short videos,

fourteen participants (43.75%) in the EG1 group rarely interacted, twelve participants (37.50%) occasionally interacted, three participants (9.38%) sometimes interacted, and three participants (9.38%) frequently interacted. In contrast, in the EG2 group, ten participants (22.22%) rarely interacted, eight participants (17.78%) occasionally interacted, sixteen participants (35.56%) sometimes interacted, and eleven participants (24.44%) frequently interacted.

TABLE 2
DESCRIPTIVE ANALYSIS OF SHORT VIDEO VIEWING BEHAVIOR

Questions	Options	EG1 (n = 32)		EG2 (n = 45)	
		Frequency	Percent	Frequency	Percent
How much time do you spend watching Chinese-related short videos per week?	10 – 30 minutes	10	31.25	9	20.00
	30 – 60 minutes	8	25.00	9	20.00
	1 – 2 hours	8	25.00	17	37.78
	Over 2 hours	6	18.75	10	22.22
How often do you interact with others on Chinese-related short video content?	Rarely (< 5%)	14	43.75	10	22.22
	Occasionally (5% ~ 30%)	12	37.50	8	17.78
	Sometimes (30% ~ 60%)	3	9.38	16	35.56
	Frequently (> 60%)	3	9.38	11	24.44

Figure 2 illustrates the mean values for each sub-dimension. The means and standard deviations of the scale items for CGs and EGs at T1 and T2 are shown in Table 3. Additionally, the researchers also analyzed the skewness and kurtosis of each item across different groups and time points. Figure 1 presents the mean values of each sub-dimension at T1 and T2 in this study. George and Mallery (2019) and Hair (2010) stated that when skewness and kurtosis values fall within the range of ±2, the data can be considered to approximately follow a normal distribution. In this study, the skewness values for all items ranged from -1.601 to +1.760, and kurtosis values ranged from -1.939 to +1.828. This indicates that across different time points and groups, the items in this study generally fell within the normal distribution range. Additionally, the researchers utilized quantile-quantile (QQ) plots to conduct a more visual analysis of data distribution. As shown in Figure 2, all sub-dimensions across different groups and time points generally conformed to a normal distribution.

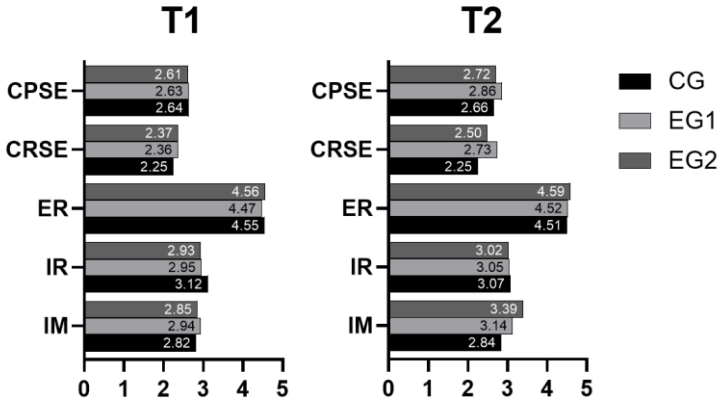

Figure 1. Mean Plot of Each Subdimension

TABLE 3
DESCRIPTIVE ANALYSIS OF SCALE ITEMS

Dimensions		Items	Pre-intervention (T1)						Post-intervention (T2)					
			CG		EG1		EG2		CG		EG1		EG2	
			M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Motivation	IM	IM1	3.01	0.76	3.09	0.69	3.00	0.67	3.04	0.64	3.06	0.62	3.68	0.75
		IM2	2.76	0.65	2.88	0.66	2.84	0.74	2.71	0.63	3.16	0.68	3.46	0.67
		IM3	2.39	0.73	2.69	0.64	2.44	0.50	2.41	0.66	2.63	0.66	3.43	0.66
		IM4	3.20	0.69	3.28	0.77	3.27	0.65	3.30	0.63	3.50	0.67	3.48	0.68
		IM5	3.16	0.59	3.25	0.62	3.18	0.61	3.16	0.71	3.34	0.70	3.48	0.53
		IM6	2.42	0.74	2.44	0.62	2.38	0.65	2.43	0.72	3.13	0.61	2.81	0.66
	IR	IR1	3.18	0.74	3.13	0.83	3.00	0.67	3.21	0.68	3.16	0.85	3.18	0.58
		IR2	3.05	0.69	2.78	0.83	2.87	0.66	2.93	0.64	2.94	0.88	2.87	0.63
	ER	ER1	4.07	0.74	4.09	0.78	4.07	0.62	4.13	0.66	4.13	0.71	4.22	0.70
		ER2	4.64	0.58	4.44	0.62	4.73	0.45	4.50	0.58	4.66	0.60	4.67	0.48
		ER3	4.93	0.25	4.88	0.34	4.87	0.34	4.89	0.31	4.88	0.42	4.87	0.34
Self-Efficacy	CRSE	CRSE1	2.32	0.77	2.53	0.92	2.31	0.76	2.31	0.76	2.94	0.72	2.80	0.73
		CRSE2	2.05	0.65	2.25	0.72	2.24	0.77	2.07	0.65	2.56	0.67	2.33	0.74
		CRSE3	2.67	0.66	2.63	0.79	2.93	0.65	2.60	0.80	2.97	0.82	2.80	0.76
		CRSE4	2.33	0.79	2.34	0.48	2.33	0.71	2.35	0.75	2.84	0.68	2.42	0.84
		CRSE5	1.87	0.74	2.06	0.56	2.04	0.74	1.92	0.57	2.34	0.87	2.13	0.84
	CPSE	CPSE1	2.87	0.69	2.75	0.72	2.77	0.75	2.96	0.76	3.06	0.76	3.00	0.72
		CPSE2	2.70	0.77	2.91	0.71	2.70	0.87	2.75	0.75	3.11	0.56	2.82	0.70
		CPSE3	3.03	0.60	2.97	0.62	3.01	0.76	3.07	0.70	3.22	0.68	3.13	0.79
		CPSE4	2.74	0.75	2.84	0.83	2.83	0.77	2.80	0.78	2.98	0.73	2.80	0.92
		CPSE5	2.39	0.76	2.28	0.71	2.30	0.69	2.30	0.69	2.56	0.76	2.38	0.70
		CPSE6	2.09	0.77	2.00	0.67	2.06	0.81	2.07	0.75	2.22	0.85	2.18	0.78

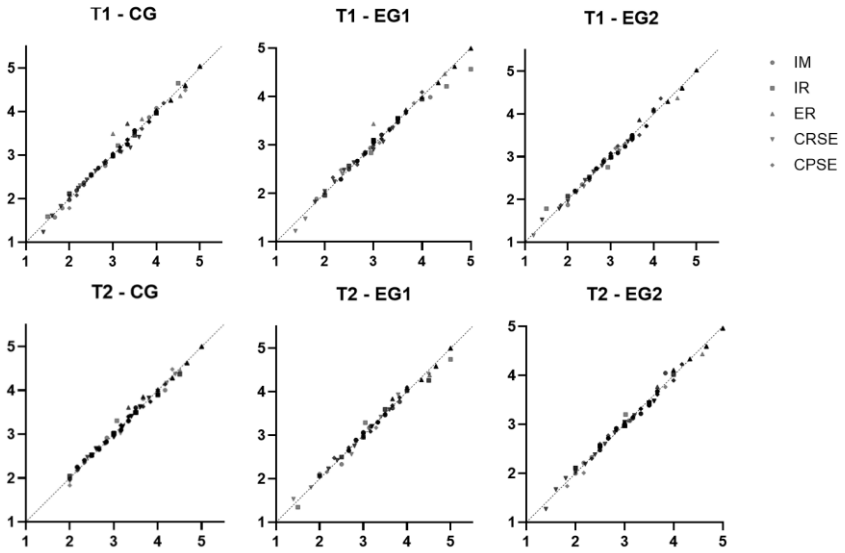

Figure 2. Normality (QQ plots)

B. Variation Analysis of Motivation and Self-Efficacy in Different Short Video Viewing Behaviors (RQ1)

Subsequent to the completion of the descriptive statistical analysis, the researchers examined the variations in Chinese learning motivation and self-efficacy in relation to diverse short video viewing behaviors, specifically weekly viewing hours and interaction ratios. To mitigate the influence of participants' pre-existing learning motivation and self-efficacy on experimental outcomes, the research employed Analysis of Covariance (ANCOVA), incorporating T1 data as covariates to examine subdimension differences at T2 across varying weekly viewing hours and interaction rates of Chinese-related short videos.

Table 4 presents the sub-dimension differences across different weekly viewing hours of Chinese-related video viewing. IM showed significant differences by weekly viewing hours ($p = 0.003$, $\eta^2 = 0.175$). Post hoc tests revealed that participants who watched more than three hours weekly had significantly higher IM scores than those who watched 10–30 minutes weekly ($p = 0.002$). CRSE also demonstrated significant differences by weekly viewing hours ($p = 0.007$, $\eta^2 = 0.155$). Post hoc analyses indicated that the group with weekly viewing over two hours had significantly higher

CRSE scores than both the 10–30-minute group (p = 0.006) and the 30–60-minute group (p = 0.031). Additionally, CPSE significant differences by weekly viewing hours were observed (p = 0.006, η^2 = 0.157). Post hoc tests showed that participants with weekly viewing exceeding two hours had significantly higher CPSE scores than those in the 10–30-minute group (p = 0.005). IR and ER did not differ significantly throughout the weekly viewing hours.

TABLE 4
DIFFERENCES AMONG DIMENSIONS FOR DIFFERENT WEEKLY VIEWING HOURS OF CHINESE-RELATED SHORT VIDEOS (ANCOVA)

Dimensions	Group	Estimated Margin Means	F	Sig.	Partial Eta Squared	Post Hoc. (Bonferroni)
IM	10 – 30 minutes ①	2.939	5.087	0.003	0.175	④ > ①**
	30 – 60 minutes ②	3.127				
	1 – 2 hours ③	2.124				
	Over 2 hours ④	3.265				
IR	10 – 30 minutes ①	3.137	0.462	0.71	0.019	-
	30 – 60 minutes ②	2.979				
	1 – 2 hours ③	3.005				
	Over 2 hours ④	3.009				
ER	10 – 30 minutes ①	4.598	0.771	0.514	0.031	-
	30 – 60 minutes ②	4.565				
	1 – 2 hours ③	4.481				
	Over 2 hours ④	4.627				
CRSE	10 – 30 minutes ①	2.645	4.389	0.007	0.155	④ > ①** ④ > ③**
	30 – 60 minutes ②	2.693				
	1 – 2 hours ③	2.635				
	Over 2 hours ④	2.868				
CPSE	10 – 30 minutes ①	2.724	4.476	0.006	0.157	④ > ①**
	30 – 60 minutes ②	2.762				
	1 – 2 hours ③	2.841				
	Over 2 hours ④	2.941				

Table 5 presents the differences in participants' learning motivation and self-efficacy across interaction rates with Chinese-related short videos. Results showed that only the IM exhibited significant differences by interaction rate (p < 0.001, η^2 = 0.335). Specifically, participants who sometimes interacted with the videos had significantly higher IM scores than those who rarely interacted (p = 0.001). Additionally, participants who frequently interacted had significantly higher IM scores than both the rarely interacting group (p < 0.001) and the occasionally interacting group (p = 0.007). None of the remaining sub-dimensions were significantly different across interaction ratios.

TABLE 5
DIFFERENCES AMONG DIMENSIONS FOR DIFFERENT INTERACTION RATIOS OF CHINESE-RELATED SHORT VIDEOS (ANCOVA)

Dimensions	Group	Estimated Margin Means	F	Sig.	Partial Eta Squared	Post Hoc. (Bonferroni)
IM	Rarely (< 5%) ①	2.905	12.066	< 0.001	0.335	③ > ①** ④ > ①*** ④ > ②**
	Occasionally (5% ~ 30%) ②	3.069				
	Sometimes (30% ~ 60%) ③	3.168				
	Frequently (> 60%) ④	3.324				
IR	Rarely (< 5%) ①	2.863	1.618	0.194	0.063	-
	Occasionally (5% ~ 30%) ②	3.067				
	Sometimes (30% ~ 60%) ③	3.056				
	Frequently (> 60%) ④	3.081				
ER	Rarely (< 5%) ①	4.518	0.277	0.842	0.011	-
	Occasionally (5% ~ 30%) ②	4.538				
	Sometimes (30% ~ 60%) ③	4.568				
	Frequently (> 60%) ④	4.621				
CRSE	Rarely (< 5%) ①	2.463	2.607	0.058	0.098	-
	Occasionally (5% ~ 30%) ②	2.485				
	Sometimes (30% ~ 60%) ③	2.687				
	Frequently (> 60%) ④	2.741				
CPSE	Rarely (< 5%) ①	2.752	1.239	0.302	0.049	-
	Occasionally (5% ~ 30%) ②	2.809				
	Sometimes (30% ~ 60%) ③	2.918				
	Frequently (> 60%) ④	2.887				

C. Analysis of Differences in Motivation and Self-Efficacy Before and After the Intervention (RQ 2&3)

The researchers analyzed the differences in learning motivation and self-efficacy between the two experimental groups at two time points to understand the effectiveness of two different types of Chinese-related short videos in enhancing learners' learning motivation and self-efficacy. Paired samples t-tests were utilized to analyze the differences before and after the intervention. As shown in Table 6, post-intervention scores for IM (t = -3.881, p < 0.001), CRSE (t = -6.453, p < 0.001), and CPSE (t = -3.710, p = 0.001) in EG1 were significantly higher than pre-intervention levels, while IR and ER showed no significant improvement during the intervention. Similarly, EG2 also demonstrated significantly higher post-intervention scores in IM (t = -8.201, p < 0.001), CRSE (t = -2.168, p = 0.036), and CPSE (t = -2.200, p = 0.033) compared to pre-intervention, with no significant enhancement in IR and ER throughout the intervention period.

TABLE 6
DIFFERENCES IN LEARNING MOTIVATION AND SELF-EFFICACY BEFORE AND AFTER INTERVENTION IN THE EXPERIMENTAL GROUPS

Dimensions	Time	EG1				EG2			
		M	SD	t	Sig.	M	SD	t	Sig.
IM	T1	2.938	0.484	-3.881	0.000	2.852	0.429	-8.201	0.000
	T2	3.135	0.474			3.385	0.396		
IR	T1	2.953	0.743	-1.274	0.212	2.933	0.501	-1.211	0.232
	T2	3.047	0.784			3.022	0.494		
ER	T1	4.469	0.478	-0.844	0.405	4.556	0.378	-0.533	0.597
	T2	4.521	0.440			4.585	0.405		
CRSE	T1	2.363	0.525	-6.453	0.000	2.373	0.531	-2.168	0.036
	T2	2.731	0.554			2.498	0.609		
CPSE	T1	2.625	0.514	-3.710	0.001	2.611	0.619	-2.200	0.033
	T2	2.859	0.564			2.722	0.549		

D. Variance Analysis of Motivation and Self-Efficacy Across Intervention Trials (RQ4)

Before comparing the differences in learning motivation and self-efficacy between the two EG groups under different intervention trials, the researchers first employed one-way analysis of variance (ANOVA) to examine whether there were significant differences in the levels of different sub-dimensions across groups at T1. As shown in Table 4, none of the sub-dimensions were significantly different across groups at T1, meaning that participants in each group had similar levels of motivation and self-efficacy before the intervention trial was conducted.

TABLE 7
ANALYSIS OF DIFFERENCES ACROSS VARIOUS DIMENSIONS BETWEEN GROUPS BEFORE INTERVENTION (ONE-WAY ANOVA)

Dimensions		M	SD	F	Sig.
IM	CG	2.825	0.508	0.616	0.541
	EG1	2.938	0.491		
	EG2	2.852	0.434		
IR	CG	3.118	0.621	1.559	0.214
	EG1	2.953	0.755		
	EG2	2.933	0.507		
ER	CG	4.548	0.428	0.471	0.625
	EG1	4.469	0.485		
	EG2	4.556	0.383		
CRSE	CG	2.247	0.526	1.004	0.369
	EG1	2.363	0.534		
	EG2	2.373	0.537		
CPSE	CG	2.636	0.548	0.027	0.973
	EG1	2.625	0.522		
	EG2	2.611	0.626		

Although the previous analysis had revealed no significant differences in sub-dimensions across groups before the trial, the researchers used the data at T1 as a covariate and employed ANCOVA to test the differences in each sub-dimension between the experimental groups at T2. As shown in Table 7, at the T2 stage, the IM of EG1 was significantly lower than that of EG2 (p < 0.001, η^2 = 0.175), while the CRSE of EG1 was significantly higher than that of EG2 (p = 0.005, η^2 = 0.101).

TABLE 8
ANALYSIS OF DIFFERENCES IN SUB-DIMENSIONS IN THE EXPERIMENTAL GROUPS AFTER THE INTERVENTION (ANCOVA)

Dimensions	Group	Estimated Marginal Mean	Std. Error	*F*	Sig.	Partial Eta Squared
IM	EG1	3.106	0.061	14.022	< 0.001	0.159
	EG2	3.406	0.052			
IR	EG1	3.038	0.079	0.009	0.923	0.001
	EG2	3.028	0.067			
ER	EG1	4.552	0.060	0.020	0.888	0.001
	EG2	4.563	0.050			
CRSE	EG1	2.737	0.065	8.213	0.005	0.101
	EG2	2.494	0.055			
CPSE	EG1	2.853	0.059	2.688	0.105	0.035
	EG2	2.727	0.050			

V. DISCUSSION AND IMPLICATIONS

This study aims to investigate the differences in Chinese learning motivation and self-efficacy among Thai learners of CFL based on their viewing behaviors and the content of Chinese-related short videos. The following sections present a detailed discussion of the research findings and explore their practical implications for Thai CFL learners and educators.

First, in the analysis of RQ1, the researchers found significant differences in motivation and self-efficacy of Thai CFL learners under different weekly viewing hours and interaction ratios of Chinese-related short videos. Specifically, the longer the weekly viewing hours, the higher the Thai students' IM, CRSE, and CPSE. Short videos can build an immersive learning environment for learners by virtue of their multimodal features. When learners spend more time watching Chinese-related short videos, they are likely to pick the short video content they are interested in (e.g., Chinese food, movie clips, etc.), which undoubtedly satisfies the need for "autonomy" and "relatedness" mentioned in the SDT, and leads to continuous intrinsic motivation. Also, when Thai CFL learners spend more time watching Chinese-related short videos, they have more opportunities to be exposed to a large amount of Chinese language materials, thereby diminishing their unfamiliarity with the language and enhancing their proficiency in Chinese, which subsequently elevates their CRSE and CPSE. Furthermore, it was also found that Thai CFL learners who watched short videos with higher interaction (liking, commenting, sharing, etc.) ratios had higher IM. When watching Chinese-related short videos, Thai CFL learners' active use of Chinese to express opinions or ask questions to video creators simultaneously satisfies the three needs of "autonomy", "competence", and "relatedness" mentioned in SDT, thereby enhancing their intrinsic motivation. When learners engage in sharing, liking, and forwarding short video content, they perceive themselves as part of a "virtual community" that learns and uses Chinese, thereby further satisfying the "relatedness need" and enhancing their intrinsic motivation.

CFL learners can consciously extend the duration of their viewing of Chinese-related short videos and focus on content that aligns with their interests and competence level, thereby augmenting their Chinese "input" while maintaining high motivation. Additionally, CFL learners are recommended to actively engage in short video interactions, particularly by expressing their opinions in Chinese within comment sections or posing questions to video creators. This practice enables them to develop a sense of belonging in Chinese learning and enhance their Chinese language "output". Educators may choose high-quality short videos aligned with their instructional objectives and integrate them into classroom instruction, dedicating 5-10 minutes of class time to present exciting short videos that will engage CFL learners. Educators are also recommended to participate in creating Chinese-related short videos and interact with CFL learners on the short video platform. This practice not only enhances learners' perception of language learning as engaging and enjoyable but also improves their Chinese proficiency through integrated "input" and "output" exercises, aligning with the principles of interactive language pedagogy.

After that, the researchers analyzed RQ2 and RQ3 and found that Chinese language learning short videos and other types of Chinese-related short videos were able to significantly increase Thai CFL learners' IM as well as self-efficacy (CRSE and CPSE). Additionally, the analysis of RQ4 revealed that Chinese language learning short videos were more effective in enhancing Thai CFL learners' CRSE compared to other types of Chinese-related short videos, while they were less effective in boosting learners' IM. Chinese language learning short videos provide CFL learners with a wealth of practical and interesting learning resources, and fulfill the need for "competence" through online interaction. However, the instructional-oriented content (e.g., grammar and vocabulary exercises) of the Chinese language learning short videos is less entertaining and may make students feel compelled, which does not satisfy their need for "autonomy". In contrast, other types of Chinese-related short videos fulfill the need for "autonomy" and "relatedness" by allowing learners to independently explore their interest areas and establish their links to Chinese culture. Moreover, due to the fact that other types of Chinese-related short videos incorporate abundant content with higher entertainment value and novelty, viewers of such videos exhibit significantly higher IM for Chinese language learning. Chinese language learning short videos are more focused on providing a series of mastery experiences, such as Chinese character writing, grammar, etc., which in turn enhance learners' self-efficacy. Furthermore, other types of Chinese-related videos excel at creating authentic language environments and operating through vicarious experiences. For

instance, Thai CFL learners can observe how Chinese is used in real-life situations, thereby reducing anxiety and enhancing their perceived self-efficacy in language application. Thai CFL learners who watch Chinese language learning short videos are exposed to more targeted Chinese content appropriate for their proficiency level, suggesting that the structured content contained in such videos may be more conducive to improving specific language skills, particularly listening and reading (CRSE).

CFL learners should purposefully engage with Chinese-related short videos based on their specific learning needs. If learners aim to improve a particular language skill within a short timeframe, they should opt for Chinese language learning short videos. However, for maintaining long-term motivation, non-instructional and more entertaining Chinese-related videos may constitute a more suitable choice. Educators may enhance the motivation and self-efficacy of CFL learners by creating short videos that blend language-teaching material with authentic, engaging content. Moreover, educators should motivate learners to engage with a variety of Chinese-related short videos, integrating structured language instruction with authentic cultural context videos in alignment with learning objectives, to achieve a balance between skill development and sustained motivation.

VI. Conclusion

The purpose of this study was to investigate the effects of the types of Chinese-related short videos viewed and the behaviors of Thai CFL learners on their motivation and self-efficacy. It was found that participants with longer weekly viewing durations exhibited higher intrinsic motivation and self-efficacy, while those with higher short video interaction rates demonstrated greater intrinsic motivation. Additionally, regardless of the intervention type, Thai CFL learners demonstrated significant improvements in intrinsic motivation and self-efficacy after the intervention compared to baseline measurements. Lastly, the researchers also found that the Chinese language learning short videos were significantly higher in enhancing participants' intrinsic motivation than other types of Chinese-related short videos, but significantly lower in enhancing participants' Chinese reception self-efficacy than other types of Chinese-related short videos.

This study also has certain limitations, and the researchers hereby provide suggestions for subsequent studies. First, the data for this study heavily relied on participants' self-assessments. For example, information on weekly viewing hours and interaction behaviors depended on self-reported data by participants, which may have been susceptible to recall bias or social desirability bias. Future research may use contemporary technology methods (e.g., platform backend data extraction) to acquire objective viewing behavior data, thereby mitigating the influence of subjective bias on the findings. Second, the sample of this study is relatively limited, targeting high school CFL learners in Thailand, which may result in the findings not being generalizable to other populations. Thus, future research could investigate CFL learners across different regions, age groups, and Chinese language proficiency levels to enhance the findings' generalizability and expand the results' applicability to broader populations. Third, the relatively short duration of the intervention in this study may not have captured long-term changes in the motivation and self-efficacy of CFL learners. Also, the intervention for EG2 lacked standardization, failing to control for the confounding effects of variations in short video content quality, linguistic difficulty, and cultural themes. Future research would recommend increasing the duration of the intervention and applying a more rigorous standardized selection of the short video content to assess the effectiveness of the intervention more accurately.

Appendix. Measurement Scales

Motivation Scales

Intrinsic Motivation (IM)
IM1: Learning Chinese is fun.
IM2: I love learning new things about Chinese.
IM3: I like to learn about the Chinese people and how they live.
IM4: I like it when I do well in the Chinese language learning.
IM5: I like it when I can understand difficult things in Chinese.
IM6: I like doing difficult things in Chinese.

Introjected Regulation (IR)
IR1: I'll feel bad about myself if I can't speak Chinese at school.
IR2: I'll feel bad about myself if I can't speak Chinese to my friends.

External Regulation (ER)
ER1: I want to show my teachers that I can learn Chinese.
ER2: My parents and teachers want me to learn Chinese.
ER3: Everybody in school has to learn Chinese.

Self-Efficacy Scales

Chinese Reception Self-Efficacy (CRSE)
CRSE1: I can listen to and understand the main point of a Chinese conversation.
CRSE2: I can understand Chinese TV news programs without Chinese subtitles.
CRSE3: I can understand Chinese films and TV series without Chinese subtitles.
CRSE4: I can understand the main points of Chinese articles without using dictionaries.
CRSE5: I can understand most long and complex Chinese literary texts without using dictionaries.

Chinese Production Self-Efficacy (CPSE)
CPSE1: I can converse with my classmates and instructors on familiar and daily topics in Chinese without preparation.
CPSE2: During Chinese class, I can ask my instructors questions and answer their questions verbally in Chinese.
CPSE3: I can verbally state my opinions about the contemporary issues or my plans for the future in Chinese.
CPSE4: I can write a personal letter describing my experiences and impressions in Chinese without using dictionaries.
CPSE5: I can write a Chinese essay giving reasons for or against a particular point of view without using dictionaries.
CPSE6: I can express myself in a clear and well-structured written Chinese text without using dictionaries.

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Yan Ye was born in Zhejiang Province, China, in 1981. Currently, she serves as an assistant professor and holds the position of director of the PG Education Program at the Graduate School of Stamford International University of Thailand. Yan Ye obtained a Ph.D. in Educational Administration and Leadership from Assumption University, Thailand. With years of dedicated academic and professional experience, she has developed a profound expertise in the educational domain. Currently, her research focuses on Educational Administration and Management, Educational Leadership, and cross-cultural studies in education.

Li Pan was born in Zhejiang Province, China, in 1995. He obtained a Ph.D. in Technology, Education, and Management and an M.A. in English Language Teaching (ELT) from Assumption University, Thailand. He has over seven years of teaching experience in international schools, with expertise in English and Chinese instruction. Currently, he is an associate professor at Shandong Xiehe University, China. Dr. Pan's research interests include second language acquisition (SLA), Educational technology, and technology-enhanced language learning (TELL).

Qizhen Gu, born in Shanghai, China, in 1992, is a distinguished academic with expertise in innovative technology management. He holds a Ph.D. in innovative technology management and an MBA in general management from Assumption University, Thailand. With over two years of experience as a simultaneous interpreter at an international university and a year of teaching experience, Gu brings a wealth of knowledge to his role as a faculty member at the Graduate School of Business and Advanced Technology Management, Assumption University, Thailand. His research focuses on innovation in mobile technology for business and biometric technology adoption, showcasing his commitment to advancing technological solutions for modern business challenges.