



Do self-efficacy belief and emotional adjustment matter for social support and anxiety in online English learning in the digital era?

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Abstract

The advent of digital technologies has revolutionized the education landscape, ushering in a new era of online learning. This transformative shift has opened unprecedented opportunities for learners in a foreign language context, redefining the boundaries of traditional classroom settings. Emotional adjustment, social support, self-efficacy belief, and anxiety are four important constructs to traditional foreign language classroom settings. The present study aimed at exploring the mediating roles of self-efficacy belief and emotional adjustment on the relationship between social support and anxiety related to online English learning. A total of 585 university students in mainland China participated in this study. They completed surveys on self-efficacy, emotional adjustment, social support, and foreign language anxiety. Structural Equation Modelling (SEM) was adopted to explore the relationships among the four variables. Results lent support to the mediating role of self-efficacy belief on the effects of social support on foreign language learning anxiety. Findings shed light on the importance of self-efficacy belief on reducing students' English learning anxiety. In addition, social support predicted emotional adjustment and self-efficacy belief. Relevant implications based on the findings were discussed.

Keywords: emotional adjustment; social support; self-efficacy; foreign language learning anxiety; digital learning; online learning

Introduction

Digital technology has profoundly transformed many aspects of human life, particularly in education. Information and Communication Technology (ICT) has enabled the development of more flexible, interactive, and accessible learning methods that are no longer constrained by time or location. One of the most notable changes is in online learning, where digital technology

is essential for delivering course materials, facilitating interactions with instructors, and promoting collaboration among students.

Online learning has become increasingly important in recent years, particularly with the rise of ICT. In the United States, online learning has become a widely accepted and prevalent method to promote equal and inclusive education, particularly for individuals who work full-time or face financial limitations (Kentnor, 2015). However, in China, online learning is relatively new, as students and teachers have long been accustomed to traditional classroom teaching and learning methods. Chinese educational stakeholders are only just beginning to embrace online instruction and learning, leading to a lack of understanding regarding effective implementation of online education within the Chinese context (Ting et al., 2018).

College English, a compulsory course for all non-English majors from higher education institutes, encountered greatest challenges in terms of online learning. Firstly, despite being a compulsory course, there have been criticisms regarding the large class sizes, often exceeding 100 students per class. Such an unusual class size poses challenges for both teachers and students in effectively carrying out the learning process in both offline and online settings. Secondly, previous studies have pointed to that the negative impacts of online education in China. Results suggest that lower levels of emotional adjustment and self-efficacy belief in online mode of learning impact students' adoption of metacognitive strategies (Wang et al., 2023), leading to lack of readiness for online English learning and unsatisfactory English learning outcome (Teng et al., 2023). Third, without a sense of belonging to the community, many students may need social support to build strong self-efficacy and overcome the emotional turmoil associated with online English learning (Teng & Yang, 2023). Such psychological problems undoubtedly influenced their self-efficacy belief and motivation for language learning.

The present study seeks to gain a better understanding of four key learning-related variables (i.e., social support, self-efficacy, emotional adjustment, and foreign language anxiety) in the context of university English teaching. We chose to focus on Chinese university students' English learning, as this is a compulsory subject for all university students, and it has the largest number of students than other subjects. Rationale on the four variables were as follows. First, there were significant correlation among social support, self-efficacy, emotional adjustment, and foreign language anxiety (FLA) (Wang et al., 2023). Second, the importance of social support in helping individuals alleviate anxiety around foreign language learning has been widely acknowledged. The beneficial effects of social support on psychological well-being have also been studied and well documented (e.g., Berkman & Glass, 2000). According to Benight and Bandura (2004), social support determines individuals' emotional adjustment outcomes because social support enhances individuals' self-efficacy beliefs. Third, research has also demonstrated the mediational role of self-efficacy belief on individuals' emotional adjustment because the strong and positive belief protects learners against negative experience and emotion (Yusoff, 2012). However, there is lack of evidence in exploring the mediator of self-efficacy belief. Fourth, students who receive social support from friends, family, and other sources tend to experience better emotional adjustment and have lower levels of stress, anxiety, and depression. Social support can provide individuals with a sense of belonging, self-esteem, and purpose, which are important factors in promoting emotional well-being. However, such assumption lacks empirical support. Finally, foreign language learners often encounter anxiety, apprehension, and nervousness, particularly when situated in a stressful environment (Dewaele, 2017). Anxiety in English learning can originate from learners' own sense of self, cognitions, negative experiences, emotional awareness, and their associated actions in coping with intensified environmental stress (MacIntyre & Gardner, 1991). An examination of

language learners' anxiety is deemed highly important for achieving the intended performance goals in learning English (Huang, 2018). Language learning anxiety is not just a cause of insufficient command of the target language (Horwitz, 2001), it is also a result of the changing social environment (Scovel, 1991).

The findings can provide implications to educators and policy makers alike. Regarding online learning, learners may have to cope with intensified emotions. Their strategies in adjusting emotions and their perceptions of self-regulated capacities may determine their emerging levels of anxiety in foreign language learning because a changing sense of self, cognition, experience, emotion, and the willingness to learn plays a role in language learning (MacIntyre & Gardner, 1991), including online settings (Gok et al., 2023). Therefore, given the interconnection of the four variables and the fact that FLA is a dynamic construct essential to foreign language learning (Pan & Zhang, 2023), the present study focused on the mediating roles of emotional adjustment and self-efficacy on the relationship between social support and anxiety in English learning. This research aims to draw implications for digital English learning through measuring how learners' self-efficacy belief and emotional adjustment can mediate social support and foreign language learning anxiety.

Literature Review

Social Support

Social support may provide learners with opportunities to develop an understanding of their situated community. Social support, interpreted within the stress-coping framework, has been determined as an important predictor in psychological adaptation (Mak et al., 2009). Social support has also been recognized as a relational transaction between individuals. Shumaker and Brownell (1984) characterized social support as "an exchange of resources between at least two individuals perceived by the provider or the recipient to be intended to enhance the well-being of the recipient" (p. 13). Lin (1986) used a subjective-objective dimension in framing social support as "perceived or actual instrumental and/or expressive provisions supplied by the community, social networks, and confiding partners" (p. 18). These studies provided a foundation for understanding social support. We adopted Uchino et al.'s (2018) conceptualization of social support as an individual's perceived or actual receipt of social resources (e.g., tangible, emotional help from family, friends, school, or the community) derived from a social network.

Social support is essential to strengthen individuals' self-efficacy in coping with anxiety. The beneficial effects of social support on psychological well-being have been widely studied in different domains. Brisset et al. (2010) examined the relationship between six variables, i.e., trait anxiety, adult attachment, psychological distress, social support, cultural identification, and sociocultural adaptation. The participants were 112 Vietnamese students who were adapting to a new environment in France. Results supported the relationship between satisfaction with social support and psychological distress. Similar findings were detected in Sumer et al. (2008), wherein social support, English proficiency, and depression and anxiety were examined. Again, students with lower levels of social support reported higher levels of depression and anxiety and achieved lower levels of English proficiency. The findings may provide implications for the need of social support for EFL learners. However, in a study on perceived social support in a foreign language context (Jin & Dewaele, 2018), the findings supported that perceived teacher emotional support did not significantly predict FLA while perceived student support was shown to significantly negatively predict FLA levels. Research has not reached to a consensus about the impact of social support in a foreign language context.

Self-efficacy Beliefs

Self-efficacy, a notion grounded in social cognitive theory, influences the determinants of behavior change (Bandura, 1977). Self-efficacy refers to “beliefs in one’s capabilities to organize and execute the courses of action required to manage prospective situations” (Bandura, 1997, p. 2). Based on Bandura (1995), people may not form an objective assessment of the situation. What they believe can influence their motivation, affective states, and actions for coping with stressful or threatening environmental demands (Teng & Wu, 2024). Bandura (1995) also stated that perceived efficacy is the fundamental basis of human motivation because efficacy can help an individual facilitate goal setting, effort investment, persistence under stress, recovery from setbacks, and emotional adjustment.

Self-efficacy belief refers to an individual’s assessment of their ability to successfully accomplish a task in a specific context (Waddington, 2023). It plays an important role in protecting against negative emotions. People who employ strategies to mitigate emotional stress generally attribute successful outcomes to an enhanced sense of confidence in language learning (Jin et al., 2021). Essentially, individuals who use self-efficacy strategies may have a strong sense of confidence for language learning, whereas those who do not use such strategies may have a weak sense of confidence (Graham, 2022). Based on Bandura’s (1997) social cognitive theory, we defined self-efficacy in online English learning as an individual’s beliefs and judgments about their own capabilities to successfully engage in and complete English language learning tasks and activities in online or technology-mediated learning environments.

Previous studies support the importance of self-efficacy in psychological outcomes. Benight et al. (1999) explored four variables, self-efficacy, lost resources, social support, and optimism in predicting stress. Results showed that self-efficacy was the strongest predictor of general distress and trauma-related distress. Results also revealed that self-efficacy mediated the relationships between loss of resources and distress, social support and distress, and optimism and distress. Lev and Owen’s (1996) study also highlighted the importance of one’s perceived ability to conduct self-care activities. For example, the strategies on coping and managing stress, e.g., relaxation and positive reframing, reduce one’s anxiety level. In a recent study focusing on self-efficacy belief in a foreign language writing context (Kong & Teng, 2020; Teng & Teng, 2024), results suggested that self-efficacy was correlated with individuals’ quality of writing outcome. Teng and Yang (2023), based on questionnaire data of language learners’ metacognition, motivation, and self-efficacy beliefs in the online learning setting, proposed a proactive agentic framework that highlights the important role that self-efficacy beliefs in online English learning. In this proposed framework, self-efficacy beliefs deliver up information for EFL learners’ motivation and metacognitive awareness for online English learning. One implication was the need to improve individuals’ quality of EFL learning through encouraging individuals’ self-efficacy belief.

In a recent study by Zadorozhnyy and Lee (2023), the researchers explored the relationship between Informal Digital Learning of English (IDLE) and willingness to communicate in a second language (L2WTC). The results indicated that self-efficacy beliefs fully mediate the connection between IDLE and L2 WTC. This suggests that EFL students who engage more frequently in IDLE activities tend to have higher confidence in their English language abilities, which in turn enhances their willingness to communicate. Again, in a recent study, Liu, Zhao, and Yang (2024) investigated the role of self-efficacy beliefs within the context of informal digital language learning (IDLL). The researchers focused their examination on learners of German and French in China. The findings from this research provide valuable insights into the dynamics of IDLL. The study confirmed that both enjoyment and self-efficacy can exert significant and direct influences on individuals’ engagement in informal digital language

learning practices. Furthermore, the study unveils an intriguing mediating mechanism. Enjoyment and self-efficacy were found to respectively act as full mediators, channeling the indirect effects of motivation on IDLL. In a recent investigation focusing on online English learning (Teng, 2024), 420 university students in China participated in two assessments of self-efficacy beliefs, motivation, and anxiety, spaced eight months apart. The results indicated that self-efficacy serves as a mediator in the relationship between motivation and anxiety within the context of online English learning. Additionally, anxiety was found to mediate the connection between self-efficacy beliefs and students' motivation. In a follow-up study, Teng (2025) examined the interactions among students' metacognitive strategies (MS), self-efficacy beliefs (SEB), language learning motivation (LLM), and perceived progress in online English learning. Employing a cross-lagged analysis, the research analyzed survey data gathered from 627 university students in China over two time points. The findings shed light on the evolving dynamics of learners' metacognition, motivation, and self-efficacy beliefs. Notably, a reciprocal relationship was identified between SEB and MS, suggesting that these elements mutually influence one another. Furthermore, MS was shown to predict LLM and perceived progress in online English learning, indicating that metacognitive strategies play a significant role in motivating students and enhancing their learning outcomes.

Collectively, the above studies suggest that individuals' self-efficacy belief is important for positive psychological reactions. Self-efficacy determines individuals' behavior or emotional reactions to stress. More empirical data are needed for supporting how a high level of self-efficacy is conducive to better psychological well-being and English language learning outcome in the digital era.

Emotional Adjustment

Emotional adjustment refers to the cognitive processes of acceptance and adaptation to one's circumstances through maintaining emotional equilibrium in the face of internal and external stressors (Thorlacius & Gudmundsson, 2014). The process of emotional adjustment is a way in which the individual attempts to deal with stress, tensions, and conflicts to meet his or her needs. Emotional adjustment was thus conceptualized as the degree of psychological adjustment experienced by the individual or the degree of comfort, familiarity, and ease that the individual feels when being forced to adapt to a sudden changed situation (Yusoff, 2012). Emotional adjustment is perceived as general feelings of well-being and satisfaction an individual comes to experience when situated in an environment. It is affected by personality, life changes, coping strategies, and social support (Ward & Kennedy, 1999).

Our emphasis on individuals' emotional adjustment coincides with a need to underscore the fundamental role of self-regulation in cognitive development and mental health. Thorlacius and Gudmundsson (2014) defined emotional adjustment as one's ability to "tolerate and manage negative emotional reactions, as well as their confidence in social situations" (pp. 762–763). We concur that emotional adjustment is crucial to individuals' emotional regulation. The requisite skills, which are also tied to psychological adjustment, can either promote or constrain emotional growth and adaptation. The more adaptive regulation strategies an individual develops, the less likely the person is to experience psychological problems. Emotion is related to online English learning. As supported by Resnik and Dewaele (2023), more autonomous and emotionally intelligent students tend to enjoy online foreign language classes more, especially in particularly challenging situations.

In an early study (Cao et al., 2020), data were collected from 7,143 university students. The participants completed a survey called Generalized Anxiety Disorder Scale (GAD-7). Results showed that the COVID-19 epidemic took a toll on the psychological well-being and emotional

adjustment of university students. Not only did they have to adjust emotions with minimal support, but they also had to overcome anxiety, panic disorders, and depression on their own. In another study (Shigemura et al., 2020), Japanese public's emotional responses toward sudden online learning might include extreme fear and uncertainty. Fear and distorted perceptions of risk may lead to negative societal behaviors. These experiences might evolve to include a broad range of public mental health concerns, including emotional stress and anxiety. In a recent study about emotional adjustment related to online English learning (Wang et al., 2023), results based on latent profile analysis revealed three profiles: high adaptation, moderate adaptation, and low adaptation. The students with high adaptation ($n = 276$, 47.1%) demonstrated better levels of emotional adjustment, possessed a more positive self-efficacy belief, and had lower levels of anxiety. In contrast, the students with low adaptation ($n = 82$, 14%) possessed a less positive self-efficacy belief, demonstrated higher levels of anxiety, and thus lower levels of emotional adjustment. Emotional adjustment is thus expected to become an emerging issue for students in coping with anxiety in online English learning.

Foreign Language Anxiety

Anxiety is an important dimension that influences the learning of foreign languages (Liu, 2012). Foreign language learning anxiety refers to “a distinct complex of self-perceptions, beliefs, feelings and behaviors related to classroom language learning arising from the uniqueness of the language learning process” (Horwitz et al., 1986, p. 128). Anxiety in English learning exemplifies a situation-specific form of anxiety. According to Horwitz (2001), anxiety determines learners' foreign language learning performance. One of the reasons was related to learners' constantly changing beliefs and perceptions towards foreign language learning (Trang et al., 2013). Researchers state that anxiety in learning a foreign language is “dynamic” (MacIntyre & Legatto, 2010, p. 150) or “ongoing and nonstatic” (Horwitz et al., 1986, p. 126). The dynamic nature of language learning anxiety echoes the essential properties of a dynamic system featuring the variations of the language learning process and interrelations among various subsystems, e.g., emotion (MacIntyre, 2002), enjoyment (Liu, Zhang, & Zhang, 2024), social support (Jin & Dewaele, 2018), and self-efficacy (Fallah, 2017).

In the present study, we defined anxiety in online English learning as the feelings of worry, apprehension, and unease that learners may experience when engaging with English language learning tasks and activities in digital learning environments. An exploration of anxiety is critical as Chinese students have been accustomed to the traditional face-to-face learning and this new mode of learning can pose potentially debilitating effects on students' learning, performance, motivation, and educational outcomes. Learners who experience anxiety may engage in avoidance behaviors, such as being resistant to focusing on learning (Horwitz et al., 1986). In online foreign language learning settings, anxiety may evoke low self-confidence and self-efficacy (Li et al., 2024).

Anxiety in language learning is context specific (MacIntyre & Gardner, 1991). Anxiety in language learning may have negative academic, cognitive, and social effects on learners. Anxiety may also hinder learner's proficiency development and decrease their level of self-efficacy (Jin & Dewaele, 2018). To better facilitate students' English learning, researchers suggested a need to dig into learners' personality traits to decipher the reasons for different anxiety levels (e.g., Dewaele, 2017; Liu & Zhang, 2008).

Several empirical studies have examined anxiety in foreign language classrooms. Yuan (2023) investigated the foreign language anxiety experienced by 492 Chinese students in online language learning environments. The findings revealed that anxiety was primarily influenced by internal learner variables, such as students' relative standing among peers and their

interactions with the teacher. Interestingly, participants reported feeling more enjoyment than anxiety during their online learning experiences. In another study, Zhao et al. (2023) assessed the predictive roles of foreign language enjoyment (FLE) and foreign language classroom anxiety (FLA) on the online learning of L2 Chinese among 169 Arabic multilingual learners. The results showed that (i) enjoyment, rather than anxiety, significantly predicts success in online L2 Chinese learning; (ii) enjoyment serves as a positive mediator between grit and online learning outcomes; and (iii) enjoyment plays a crucial role in enhancing individual success in learning Chinese online. Additionally, Shao et al. (2023) emphasized the importance of online teaching quality in shaping students' perceptions and emotions regarding L2 learning. Data collected from 1,503 Chinese university students indicated that perceived teacher competence in internet and communication technologies positively influenced enjoyment while negatively affecting anxiety and boredom. These relationships were fully mediated by students' perceptions of control and value in the learning process. However, there is a lack of empirical research that examines learners' anxiety in online English learning, particularly regarding social support, anxiety, and emotional adjustment.

The Present Study

Increasing attention has been paid to the four variables, i.e., social support, self-efficacy, emotional adjustment, and foreign language anxiety. The present study aims to connect and examine the four variables. First, social support is essential to one's self-efficacy belief and emotional adjustment. Emotional adjustment relates to someone's tendency to deal with negative emotions and irrational thoughts or control the impulses when facing a stressful situation (Rubio et al., 2007). Emotional adjustment is a moody, unstable, and dynamic process. Including this variable can help better understand anxiety features as emotional adjustment determines learners' anxiety level. Second, findings on understanding self-efficacy belief can shed light on the underlying psychological and cognitive patterns associated with students' anxiety mechanisms in seeking efforts towards learning English under a stressful environment. Self-efficacy belief is essential to learners' psychological well-being. In online learning settings, learners' self-efficacy belief may serve as a mediator between social support and anxiety in foreign language learning. For example, based on Teng and Yang's (2023) proactive agentic model, learners' metacognition and motivation can be supported by enhancing their self-efficacy beliefs. The proactive agentic model highlights the importance of self-efficacy beliefs on regulating human functioning through cognitive, motivational, affective, and decisional processes. The self-efficacy belief system is embedded in the agentic perspective of social cognitive theory that directs individuals to motivate, enable, and guide personal change (Bandura, 1997). The self-efficacy belief system influences individuals' enactive attainments, effective coping and recovery strategies, reappraisals of traumatic experiences and coping capabilities, and a sense of personal control (Bandura, 2002).

However, to the best of my knowledge, researchers have not paid full attention to the chain mediators of emotional adjustment and self-efficacy on social support and anxiety in EFL online learning context. The chain mediators of emotional adjustment and self-efficacy, as shown in the hypothesized model (Figure 1), may contribute to the proactive agentic model of highlighting the important role of social support for self-efficacy belief (Benight & Bandura, 2004). In addition, the findings inform researchers and practitioners in preparing for and handling future EFL education. The findings provide implications on the chain mediators of emotional adjustment and self-efficacy belief in the relationship between support from both informal and formal sources (i.e., support from family, friends, and healthcare professionals) and individuals' foreign language learning anxiety.

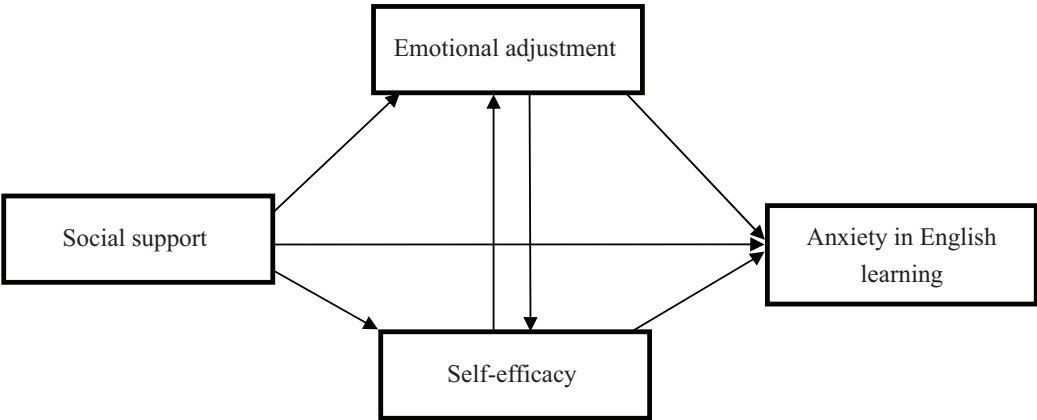


Figure 1 *The proposed framework on the chain mediators of emotional adjustment and self-efficacy belief.*

The following research questions guided our study:

- 1. What are the relationships between social support, self-efficacy, emotional adjustment, and foreign language anxiety?
- 2. To what extent do the roles of emotional adjustment and self-efficacy belief mediate the relationship between social support and foreign language anxiety?

Method

Research Design, Participants, and Data Collection Procedure

This research involved a cross-sectional survey. Our sample consisted of 585 Chinese university students, all of whom resided in mainland China. The mean age of participants was 19.4 (*SD* = 1.4); 262 of the students were male and 323 were female. English was a compulsory subject for all the participants. We used an online data collection service to administer an online survey, which allowed us to control response quality by referring to participants’ response times, response rates, and response incentives. An informed consent page presented prior to beginning the survey ensured that participants were familiarized with the details and requirements of the questionnaire.

In total, 912 students were contacted online, 834 of whom participated in the survey (response rate: 91.4%). Some surveys were excluded based on the following criteria: missing responses (*n* = 25, 2.9%); total response time of less than 120 seconds (*n* = 201, 24.1%); and other reasons (e.g., answering every question with the same option; *n* = 23, 2.7%). Ultimately, 585 valid questionnaires were retained for data analysis.

Measures

The author translated the survey into Chinese fore the participants’ better understanding. Participants also entered their demographic information before completing the survey. In terms of emotional adjustment, perceived social support, self-efficacy, and anxiety in online English learning, survey items were scored on a 6-point Likert-type scale (1 = Not at all; 2 = Just a little; 3 = Somewhat; 4 = Moderately; 5 = Quite a lot; 6 = Very much). The data demonstrated satisfactory internal consistency (see details in the results section).

Demographics

The first section of the questionnaire, prior to the formal survey, was used to collect participants' demographic information (e.g., age, gender, educational level, major, and residential region or province).

Perceived Social Support for Online English Learning

Items related to perceived social support were adapted from the Multidimensional Scale of Perceived Social Support (Zimet et al., 1988). The validity of this instrument was reported in previous studies (Basol, 2008). The scale has also been validated in the Chinese context (Chou, 2000). Specifically, we adapted 10 items to explore multiple domains of perceived social support, including support from friends, family, school, and the community. Items were modified slightly to measure perceived social support during online education, such as by the statement, "There is a special person who is available when I am in need for my online English learning."

Self-efficacy Belief for Online English Learning

Self-efficacy was assessed by a 12-item measure adapted from Lev and Owen (1996). The original scale focused on general environments, including coping, stress reduction, and making decisions. Items were adapted to uncover individuals' confidence in engaging in specific behaviors for online learning. A sample item is "I can keep my stress within healthy limits for my online English learning."

Emotional Adjustment for Online English Learning

A total of 12 items were included for measuring emotional adjustment. Items were adapted from the Brief Adjustment Scale-6 (BASE-6) that focuses on college students (Cruz et al., 2020). The BASE-6 is a six-item self-report measure of general psychological adjustment. For example, adapted items focused on individuals' temper control, anxiety control, and mood management for online learning. Temper control referred to one's capacity to tolerate and manage feelings of anger and frustration (in this case, amidst the stress for online learning). Anxiety control captured one's ability to cope with worry, fear, and guilt. Mood management reflected one's competency and confidence in dealing with sadness and stress. A sample adapted item is "I can control myself when feeling depressed for my online English learning". In addition to the BASE-6, we also referred to the Emotional Adjustment Survey on children (Goodman, 2001; Thorlacius & Gudmundsson, 2014), a 47-item scale designed to capture emotional functioning. Although the focus was on young learners, specific focus on temper control (e.g., "Keeps calm if changes are made to his or her arrangements" and anxiety control (e.g., "Controls his or her worries with ease") are still relevant here. Overall, items across these domains were intended to cover important aspects of emotionality related to the execution and maintenance of emotional adjustment during online learning.

Anxiety for Online English Learning

Anxiety for online English learning was measured by a 10-item instrument adapted from Horwitz et al.'s (1986) Foreign Language Classroom Anxiety Scale. Items in this study were adapted to explore participants' anxiety around learning English for online learning (e.g., "I don't feel pressure in isolating from surroundings and focusing on my online English learning.").

Data Analysis

First, we provided descriptive statistics for responses to the surveys, using variables’ means as indicators; for instance, higher scores on the social support scale indicated greater social support. Second, mediation analysis was conducted through Structural Equation Modelling (SEM). Mplus was employed to run the analyses. The gender and age were the control variables while social support was independent variable. Including gender and age was necessary because variations in social support were correlated with gender and age (Vaux, 1985). The emotional adjustment and self-efficacy belief were the mediators. The outcome variable was the foreign language learning anxiety. All the variables were standardized before analysis. Bootstrapping, an increasingly popular method to determinate the mediation effect, was adopted. Bootstrapping can eliminate the assumptions of the normality of sampling distribution, leading to bias-corrected confidence intervals (Hayes, 2009). In addition, bootstrapping enables a limited test of generalizability of the data to the whole population by sampling the data randomly. It can reduce the possibility of making Type II errors. According to Hayes (2009), mediation effect is significant if there is no zero between the lower and upper bound at the 95% confidence interval. Finally, regression analysis with PROCESS Model 4 through SPSS version 26 was performed to further understand the coefficient estimates.

Results

Results on the reliability of the four variables are in Table 1. According to Table 1, the four scales (i.e., social support, self-efficacy, emotional adjustment, and foreign language anxiety) demonstrated excellent internal consistency. The means, standard deviations, and correlations for all indicator measures were also listed in Table 1.

As shown in Table 1, nearly all indicators correlated with each other in a way that supported the hypothesized interrelationships among the factors they represented. All indicators were significantly and positively correlated (ranging from .48 to .81). These findings support the hypothesized associations among variables and further analyses examining the hypothesized effects. Figure 2 presents the SEM results.

The model was a good fit for the data in this study, if compared to the saturated model, with $\chi^2(2) = 2.496$ ($p > .05$), CFI = .998, TLI = .982, IFI = .998, RFI = .970, NFI = .996, RMSEA = .051.

As shown in the results, social support had a significantly positive effect on anxiety ($\beta = .19$, $p < .001$), explaining approximately 19% of the total variance. Social support also had a

Table 1 Descriptive statistics and correlation results of the variables.

Variables	Reliability Cronbach’s α	<i>M</i>	<i>SD</i>	SS	EA	SCSE
SS (10 items)	.90	4.16	1.01	1		
EA (12 items)	.91	4.30	0.78	.60**	1	
SEB (12 items)	.92	4.44	0.80	.55*	.81**	1
AEL (10 items)	.91	4.01	0.95	.48*	.55*	.62**

Note. (a) SS = social support; EA = emotional adjustment; SEB = self-efficacy belief; AEL = anxiety in English learning; (b) * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

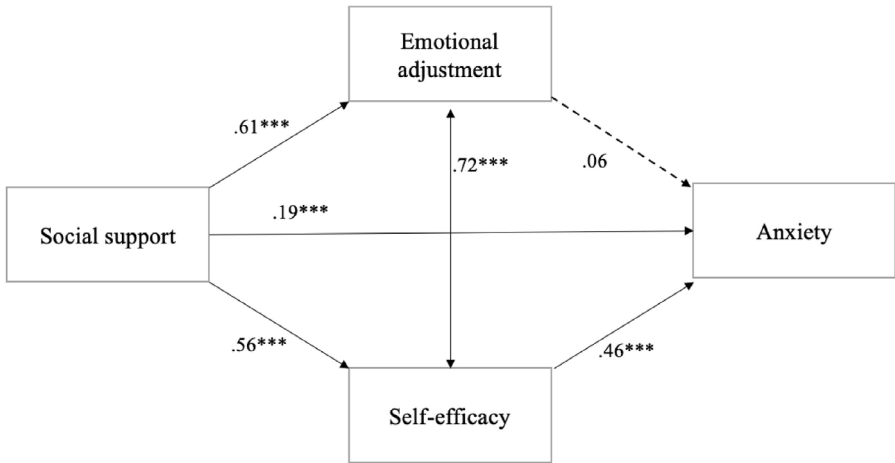


Figure 2 Structural model of the relationships between social support, self-efficacy, emotional adjustment, and foreign language anxiety ****p* < .001.

Table 2 Regression analysis results.

Variables		<i>b</i>	<i>SE</i>	<i>t</i>	<i>p</i>	95% confidence interval CI	
						Lower	Upper
Influence of social support on emotional adjustment	Gender	.2620	.0613	4.2755	.0000	.1416	.3823
	Age	−.0822	.0804	−1.0224	.3070	−.2401	.0757
	Social support	.7085	.0373	18.9917	.0000	.6352	.7817
	<i>F</i>	124.6187**					
	<i>R</i> ²	.3915					
Influence of social support on self-efficacy belief	Gender	.0650	.0416	1.5627	.1187	−.0167	.1467
	Age	−.0969	.0546	−1.7752	.0764	−.2041	.0103
	Social support	.8502	.0253	33.5811	.0000	.8005	.8999
	<i>F</i>	386.7237**					
	<i>R</i> ²	.6663					
Influence of social support (direct), emotional adjustment and self-efficacy belief (indirect) on foreign language learning anxiety	Gender	−.0452	.0574	−.7878	.4311	−.1580	.0675
	Age	−.1207	.0743	−1.6229	.1051	−.2667	.0254
	Social support	.0667	.0627	1.0642	.2877	−.0564	.1899
	Emotional adjustment	.1812	.0385	4.7026	.0000	.1055	.2569
	Self-efficacy belief	.4657	.0568	8.2041	.0000	.3542	.5772
	<i>F</i>	83.0858**					
	<i>R</i> ²	.4178					

Table 3 Coefficient for direct and indirect effects.

Variables	Effect	SE	95% CI	
			Lower	Upper
Direct	.178	.038	.104	.253
Indirect	.279	.033	.210	.344
Mediation (emotional adjustment)	.039	.048	−.051	.133
Mediation (self-efficacy)	.240	.045	.152	.334

significantly positive effect on emotional adjustment ($\beta = .61, p < .001$) and self-efficacy ($\beta = .56, p < .001$). The results did not support the significant effects of emotional adjustment on students’ foreign language learning anxiety but supported the significant effects of self-efficacy beliefs on students’ foreign language learning anxiety ($\beta = .46, p < .001$). There were significant correlation effects between emotional adjustment and self-efficacy belief ($\beta = .72, p < .001$).

We then tried regression analysis to explore the possible significant effect of each variable while controlling gender and age. Table 2 presents the regression analysis results.

Results in Table 2 showed the overall regression relations between social support, emotional adjustment, self-efficacy, and anxiety in online English learning. The standard estimate values (.373) and bootstrapping 95% CI (from .635 to .781) convey the significant effects of social support on students’ emotional adjustment. The standard estimate values (.025) and bootstrapping 95% CI (from .800 to .899) suggest the significant effects of social support on students’ self-efficacy belief. The variable of support did not have a significant direct effect on learners’ foreign language learning anxiety. The standard estimate values (.385) and the bootstrapping 95% confidence interval (CI), from .105 to .256, convey the indirect significant effects of emotional adjustment on students’ anxiety related to English learning. The standard estimate values (.056) and the bootstrapping 95% confidence interval (CI), from .354 to .577, convey the indirect significant effects of self-efficacy beliefs on students’ foreign language learning anxiety. Table 3 presents the coefficient for the overall direct and indirect effects.

Results on Table 3 documented the direct effect (effect size = .178, standard estimate = .038, bootstrapping 95% CI: from .104 to .253), and indirect effect (effect size = .279, standard estimate = .033, bootstrapping 95% CI: from .210 to .344). The analyses affirmed the mediating effects of self-efficacy on the effect of social support on anxiety in online English learning. However, the results did not support the mediating effects of emotional adjustment on the effect of social support on anxiety in English learning (CI: from −.051 to .133).

Discussion

In the present study, the focus was on exploring social support, self-efficacy, emotional adjustment, and FLA in relation to online English learning. The regression estimates highlight the mediating roles of self-efficacy belief on the relationship between social support and anxiety. The mediating effects were positive and significant, indicating that stronger levels of self-efficacy belief are essential to online EFL teaching and learning.

In coping with anxiety, the findings supported the direct effects of social support on FLA. In line with previous studies (Dewaele, 2017; Jin & Dewaele, 2018; Resnik & Dewaele, 2023),

support from peers can reduce anxiety. The findings further suggest that social support significantly predicted FLA. One reason could be because unlike the traditional face-to-face learning context, interactions in online language learning are sometimes difficult to achieve and sustain, leading to an increased level of FLA. Thus, adequate social support in a stressful situation can help learners cope with FLA. The findings also suggest that due to the lack of affective communication in online learning (Teng & Wu, 2024), social support appeared essential for effective emotional adjustment and possible enhancement of self-efficacy belief. Consistent with Yuan (2023), the findings pointed to the importance of social support from school and community in helping language learners adjust their emotions and strengthen self-efficacy belief around online English learning.

Our findings did not support the mediating role of emotional adjustment. However, considering the role of emotional adjustment in foreign language learning anxiety, there is still a need to reflect on the fundamental role of emotional adjustment in cognitive development, in line with Wang et al. (2023). We argue that emotional adjustment is crucial to individuals' FLA. In particular, the psychological adjustment can either promote or constrain anxiety, particularly in foreign language learning. Individuals who can adjust emotions are less likely to experience anxiety issues, particularly in an online learning context, where they receive limited social support. The findings partially supported Zhao et al. (2023), for which emotion, rather than anxiety, predicted online language learning outcome.

Our findings also revealed the mediating role of self-efficacy between social support and anxiety in online English learning. The relationship between increased self-efficacy and reduced anxiety, as shown in our results, corroborates research on the need of strengthening self-efficacy for online foreign language learning context (Liu, Zhao, & Yang, 2024; Teng, 2024; Teng et al., 2021; Teng & Yang, 2022). We thus contend that low self-efficacy was likely generally accompanied by high trait FLA. Self-efficacy beliefs reflect a core cognitive behavioral technique in seeking meaning behind social cognitive processes congruent to one's needs to alleviate anxiety (Wang et al., 2023). As supported in previous literature, Self-efficacy beliefs acted as a full mediator between informal digital learning and willingness to communicate in a second language (Zadorozhnyy & Lee, 2023), or a mediator between indirect effect of motivation and IDLL (Liu, Zhao, & Yang, 2024). Teng (2025) explained self-efficacy from a metacognitive perspective, adding the point that learners' awareness and regulation of their cognitive processes significantly influence their beliefs in their abilities. This perspective emphasizes that when students effectively utilize metacognitive strategies, such as planning, monitoring, and evaluating their learning, they are more likely to develop stronger self-efficacy beliefs. Consequently, these enhanced beliefs can lead to increased motivation and improved academic performance, creating a positive feedback loop where greater self-efficacy further encourages the use of metacognitive strategies.

Based on the findings, we propose a framework that emphasizes the mediating role of self-efficacy beliefs in the relationship between social support and foreign language anxiety. Drawing from social cognitive theory, which posits that individuals develop self-efficacy beliefs through four primary sources—mastery experiences, vicarious experiences, social persuasion, and physiological cues—we can better understand this dynamic (Bandura, 1995). Social support, including encouragement from peers, family, and instructors, can facilitate vicarious experiences by allowing individuals to observe the successes of others (Resnik & Dewaele, 2023). This observation can enhance their belief in their own capabilities. Additionally, social persuasion, through positive affirmations and constructive feedback, further bolsters self-efficacy beliefs. When learners perceive themselves as more capable due to these supportive interactions, they are likely to approach online language learning tasks with greater confidence, which in turn

reduces feelings of anxiety associated with online foreign language use. Furthermore, self-efficacy acts as a psychological mechanism that mediates the influence of external factors, such as social support, on foreign language achievement in online learning environments (Teng, 2024, 2025). As learners gain confidence in their abilities, they become more resilient to the challenges posed by language learning, leading to lower levels of anxiety. This framework underscores the importance of fostering a supportive social environment to enhance self-efficacy beliefs, ultimately contributing to improved online foreign language learning outcomes. By highlighting this pathway, we advocate for interventions that not only provide academic support but also cultivate a strong network of social encouragement to mitigate anxiety and promote success in online English language learning.

Limitations and Implications

Overall, this research highlights a need to pay attention to foreign language learning anxiety through considering social support, emotional adjustment, and self-efficacy belief. Several limitations must be acknowledged in this study. First, a cross-sectional design in the present study may prevent us from exploring longitudinal changes in individuals' social support, self-efficacy, emotional adjustment, and FLA. Second, the present study focused on the impacts of emotional adjustment and self-efficacy on the relationship between social support and anxiety in online English learning. Future studies should explore individuals' psychological reactions or adjustment to new ways of learning in greater details through adding qualitative analysis. Finally, the sample was recruited via convenience sampling. Although the original aim was to include a large population, we encountered obstacles to obtaining sufficient data from various regions. The sample composition may thus have been prone to over-sampling, such as by identifying stronger self-efficacy in some regions compared to others. Future studies could also compare data collected in other contexts.

The above limitations notwithstanding, this study provides pedagogical implications in exploring mechanisms related to social support, self-efficacy, emotional adjustment, and anxiety in online English learning. First, the findings suggest a need to enhance self-efficacy beliefs to respond to the perilousness of the environment, catastrophic outcome expectations, and distrust of personal capabilities to foreign language learning. Second, it is essential for educators and policy makers to reconsider how to strengthen learners' self-efficacy belief and provide adequate support for online language learning. Finally, as students' self-efficacy belief is a potent mediator between social support and anxiety in online English learning, it is noteworthy to foster students' skills to enhance such beliefs. In addition, it is essential to help learners adjust their emotions.

The theoretical implications in the present study extend to the understanding of how social cognitive theory can be applied in online learning settings in the digital era. It emphasizes the interconnectedness of self-efficacy, social support, and emotional well-being, suggesting that a holistic approach to language learning can lead to better language learning outcomes. This framework can guide future research and practice in developing comprehensive strategies to enhance language learning experiences in digital contexts. Moreover, this study highlights the importance of viewing learners as active agents in their educational journeys. By recognizing that self-efficacy beliefs can be influenced by external factors such as social support, educators can create environments that empower students to take ownership of their learning. This aligns with the principles of social cognitive theory, which posits that personal, behavioral, and environmental factors interact to shape learning outcomes. Additionally, the findings advocate for the integration of emotional intelligence into language curricula. Understanding the emotional aspects of learning can lead to improved self-regulation and resilience among

learners. By fostering an environment that promotes emotional awareness and coping strategies, educators can help students navigate the complexities of online English learning while maintaining motivation and engagement. Furthermore, this study suggests avenues for further exploration within the framework of social cognitive theory. Future research could investigate how different types of social support—such as emotional, informational, and instrumental—affect self-efficacy and anxiety levels in online learning contexts. Additionally, examining the role of metacognition in shaping self-efficacy beliefs and emotional responses could provide deeper insights into the dynamics of online language learning against the digital era.

Compliance with Ethical Standards

Conflict of Interest: The author declares that there is no conflict of interest.

References

- Bandura, A. (1995). Exercise of personal and collective efficacy in changing societies. In A. Bandura (Ed.), *Self-efficacy in changing societies* (pp. 1–45). Cambridge University Press.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. Freeman.
- Bandura, A. (2002). Environmental sustainability by sociocognitive deceleration of population growth. In P. Schmuck & W. Schultz (Eds.), *The psychology of sustainable development* (pp. 209–238). Kluwer.
- Basol, G. (2008). Validity and reliability of the Multidimensional Scale of Perceived Social Support—Revised, with a Turkish sample. *Social Behavior and Personality*, 36, 1303–1314. <https://orcid.org/10.2224/sbp.2008.36.10.1303>
- Benight, C. C., Swift, E., Sanger, J., Smith, A., & Zeppelin, D. (1999). Coping self-efficacy as a mediator of distress following a natural disaster. *Journal of Applied Social Psychology*, 29(12), 2443–2464. <https://orcid.org/10.1111/j.1559-1816.1999.tb00120.x>
- Benight, C. C., & Bandura, A. (2004). Social cognitive theory of posttraumatic recovery: The role of perceived self-efficacy. *Behavior Research and Therapy*, 42, 1129–1148. <https://orcid.org/10.1016/j.brat.2003.08.008>.
- Berkman, L. F., & Glass, T. (2000). Social integration, social networks, and health. In L. F. Berkman & I. Kawachi (Eds.), *Social epidemiology* (pp. 137–173). Oxford University Press.
- Brisset, C., Safdar, S., Lewis, J. R., & Sabatier, C. (2010). Psychological and sociocultural adaptation of university students in France: The case of Vietnamese international students. *International Journal of Intercultural Relations*, 34, 413–426. <https://orcid.org/10.1016/j.ijintrel.2010.02.009>
- Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J., & Zheng, J. (2020). The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry Research*, 289, 112934. <https://orcid.org/10.1016/j.psychres.2020.112934>
- Chou, K. L., (2000). Assessing Chinese adolescents' social support: the multidimensional scale of perceived social support. *Personality and Individual Differences*, 28(2), 299–307. [https://orcid.org/10.1016/S0191-8869\(99\)00098-7](https://orcid.org/10.1016/S0191-8869(99)00098-7)
- Cruz, R. A., Peterson, A. P., Fagan, C., Black, W., & Cooper, L. (2020). Evaluation of the Brief Adjustment Scale–6 (BASE-6): A measure of general psychological adjustment for measurement-based care. *Psychological Services*, 17(3), 332–342. <https://orcid.org/10.1037/ser0000366>
- Dewaele, J.-M. (2017). Psychological dimensions and foreign language anxiety. In S. Loewen, & M. Sato (Eds.), *The Routledge handbook of instructed second language acquisition* (pp. 433–450). Routledge.
- Fallah, N. (2017). Mindfulness, coping self-efficacy and foreign language anxiety: A mediation analysis. *Educational Psychology*, 37(6), 745–756. <https://orcid.org/10.1080/01443410.2016.1149549>
- Gok, D., Bozoglan, H., & Bozoglan, B. (2023). Effects of online flipped classroom on foreign language classroom anxiety and reading anxiety. *Computer Assisted Language Learning*, 36(4), 840–860. <https://doi.org/10.1080/09588221.2021.1950191>
- Goodman, R. (2001). Psychometric properties of the strengths and difficulties questionnaire. *Journal of the American Academy of Child & Adolescent Psychiatry*, 40, 1337–1345. <https://orcid.org/10.1097/00004583-200111000-00015>

- Graham, S. (2022). Self-efficacy and language learning—what it is and what it isn't. *The Language Learning Journal*, 50(2), 186–207. <https://doi.org/10.1080/09571736.2022.2045679>
- Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monograph*, 76, 408–420. <https://orcid.org/10.1080/03637750903310360>
- Horwitz, E. K. (2001). Language anxiety and achievement. *Annual Review of Applied Linguistics*, 21(1), 112–126. <https://doi.org/10.1017/S0267190501000071>
- Horwitz, E. K., Horwitz, M. B., & Cope, J. (1986). Foreign language classroom anxiety. *Modern Language Journal*, 70(2), 125–132. <https://orcid.org/10.1111/j.1540-4781.1986.tb05256.x>
- Huang, H.-T. D. (2018). Modeling the relationships between anxieties and performance in second/foreign language speaking assessment. *Learning and Individual Differences*, 63, 44–56. <https://orcid.org/10.1016/j.lindif.2018.03.002>
- Jin, Y. X., & Dewaele, J. (2018). The effect of positive orientation and perceived social support on foreign language classroom anxiety. *System*, 74, 149–157. <https://orcid.org/10.1016/j.system.2018.01.002>
- Jin, Y., Dewaele, J. M., & MacIntyre, P. D. (2021). Reducing anxiety in the foreign language classroom: A positive psychology approach. *System*, 101, 102604. <https://doi.org/10.1016/j.system.2021.102604>
- Kentnor, H. E. (2015). Distance education and the evolution of online learning in the United States. *Curriculum and Teaching Dialogue*, 17(1), 21–34.
- Kong, A., & Teng, F. (2020). The operating mechanisms of self-efficacy and peer feedback: An exploration of L2 young writers. *Applied Linguistics Review*. <https://orcid.org/10.1515/applirev-2020-0019>
- Lev, E. L., & Owen, S. V. (1996). A measure of self-care self-efficacy. *Research in Nursing & Health*, 19, 421–429.
- Li, X., Zhang, F., Duan, P., & Yu, Z. (2024). Teacher support, academic engagement and learning anxiety in online foreign language learning. *British Journal of Educational Technology*, 55(5), 2151–2172. <https://doi.org/10.1111/bjet.13430>
- Lin, N. (1986). Conceptualizing social support. In N. Lin, A. Dean, & W. M. Ensel (Eds.), *Social support, life events, and depression* (pp. 17–30). Academic.
- Liu, G. L., Zhang, Y., & Zhang, R. (2024). Examining the relationships among motivation, informal digital learning of English, and foreign language enjoyment: An explanatory mixed-method study. *ReCALL*, 36(1), 72–88. <https://doi.org/10.1017/S0958344023000204>
- Liu, G. L., Zhao, X., & Yang, B. (2024). Unpacking the predictive effects of motivation, enjoyment, and self-efficacy on informal digital learning of LOTE: Evidence from French and German learners in China. *System*, 103504. <https://doi.org/10.1016/j.system.2024.103504>
- Liu, H. (2012). Understanding EFL undergraduate anxiety in relation to motivation, autonomy, and language proficiency. *Electronic Journal of Foreign Language Teaching*, 9, 123–139.
- Liu, M. H., & Zhang, W. X. (2008). An exploration of Chinese EFL learners' foreign language anxiety, personality and self-esteem. *Journal of Applied Linguistics*, 5, 181–203. <https://doi.org/10.1558/japl.v5i2.181>
- MacIntyre, P. D. (2002). Motivation, anxiety and emotion in second language acquisition. In P. Robinson (ed.), *Individual differences and instructed language learning* (pp. 45–69). John Benjamins.
- MacIntyre, P. D., & Gardner, R. C. (1991). Methods and results in the study of anxiety and language learning: A review of the literature. *Language Learning*, 41(4), 513–534. <https://orcid.org/10.1111/j.1467-1770.1991.tb00677.x>
- MacIntyre, P. D., & Legatto, J. J. (2010). A dynamic system approach to willingness to communicate: Developing an idiodynamic method to capture rapidly changing affect. *Applied Linguistics*, 32(2), 149–171. <https://orcid.org/10.1093/applin/amq037>
- Mak, W. S., Law, R. W., Woo, J., Cheung, F. M., & Lee, D. (2009). Social support and psychological adjustment to SARS: The mediating role of self-care self-efficacy. *Psychology and Health*, 24(2), 161–174. <https://orcid.org/10.1080/08870440701447649>
- Pan, C., & Zhang, X. (2023). A longitudinal study of foreign language anxiety and enjoyment. *Language Teaching Research*, 27(6), 1552–1575. <https://doi.org/10.1177/1362168821993341>
- Resnik, P., & Dewaele, J. M. (2023). Learner emotions, autonomy and trait emotional intelligence in 'in-person' versus emergency remote English foreign language teaching in Europe. *Applied Linguistics Review*, 14(3), 473–501. <https://doi.org/10.1515/applirev-2020-0096>

- Rubio, V. J., Aguado, D., Hontangas, P. M., & Hernández, J. M. (2007). Psychometric properties of an emotional adjustment measure: An application of the graded response model. *European Journal of Psychological Assessment*, 23, 39–46. <https://orcid.org/10.1027/1015-5759.23.1.39>
- Scovel, T. (1991). The effect of affect on foreign language learning: A review of the anxiety research. In E. K. Horwitz, & D. J. Young (Eds.), *Language anxiety: From theory and research to classroom implications* (pp.15–24). Prentice Hall.
- Shao, K., Kutuk, G., Fryer, L. K., Nicholson, L. J., & Guo, J. (2023). Factors influencing Chinese undergraduate students' emotions in an online EFL learning context during the COVID pandemic. *Journal of Computer Assisted Learning*, 39(5), 1465–1478. <https://doi.org/10.1111/jcal.12791>
- Shumaker, S. A., & Brownell, A. (1984). Toward a theory of social support: Closing conceptual gaps. *Journal of Social Issues*, 40(4), 11–36. <https://doi.org/10.1111/j.1540-4560.1984.tb01105.x>
- Sumer, S., Poyrazli, S., & Grahame, K. (2008). Predictors of depression and anxiety among international students. *Journal of Counselling and Development*, 86, 429–437. <https://orcid.org/10.1002/j.1556-6678.2008.tb00531.x>
- Teng, M. F. (2024). Understanding anxiety, self-efficacy, and motivation in online English learning. *TESL-EJ*, 27(4), n4. <https://doi.org/10.55593/ej.27108int>
- Teng, M. F. (2025). Metacognition, self-efficacy belief, language learning motivation, and perceived progress in online English learning: A cross-lagged analysis. *International Journal of TESOL Studies*, 7, 4–29. <https://doi.org/10.58304/ijts.20250102>
- Teng, M. F., & Teng, L. S. (2024). Validating the multi-dimensional structure of self-efficacy beliefs in peer feedback for L2 writing: A bifactor-exploratory structural equation modeling approach. *Research Methods in Applied Linguistics*, 3(3), 100136. <https://doi.org/10.1016/j.rmal.2024.100136>
- Teng, M. F., Wang, C., & Wu, G. (2023). Metacognitive strategies, language learning motivation, self-efficacy belief, and English achievement: A structural equation modeling approach. *RELC Journal*, 54(3), 648–666. <https://doi.org/10.1177/00336882211040268>
- Teng, M. F., & Wu, J. G. (2024). An investigation of learners' perceived progress during online education: Do self-efficacy belief, language learning motivation, and metacognitive strategies matter? *The Asia-Pacific Education Researcher*, 33(2), 283–295.
- Teng, M. F. & Yang, Z. (2023). Metacognition, motivation, self-efficacy belief, and English learning achievement in online learning: Longitudinal mediation modeling approach. *Innovation in Language Learning and Teaching*, 17(4), 778–794. <https://orcid.org/10.1080/17501229.2022.2144327>
- Thorlacius, Ö., & Gudmundsson, E. (2014). Assessment of children's emotional adjustment: Construction and validation of a new instrument. *Child Care Health and Development*, 41(5), 762–771. <https://orcid.org/10.1111/cch.12214>
- Trang, T., Moni, K., & Baldauf, R. B. (2013). Foreign language anxiety: Understanding its sources and effects from insiders' perspectives. *Journal of Asia TEFL*, 10, 95–131.
- Uchino, B. N., Bowen, K., de Grey, R. K., Mikel, J., & Fisher, E. B. (2018). Social support and physical health: Models, mechanisms, and opportunities. In E. B. Fisher (ed.), *Principles and concepts of behavioral medicine* (pp. 341–372). Springer.
- Vaux, A. (1985). Variations in social support associated with gender, ethnicity, and age. *Journal of Social issues*, 41(1), 89–110. <https://doi.org/10.1111/j.1540-4560.1985.tb01118.x>
- Waddington, J. (2023). Self-efficacy. *ELT Journal*, 77(2), 237–240. <https://doi.org/10.1093/elt/ccac046>
- Wang, C., Teng, M. F., & Liu, S. (2023). Psychosocial profiles of university students' emotional adjustment, perceived social support, self-efficacy belief, and foreign language anxiety during COVID-19. *Educational and Developmental Psychologist*, 40(1), 51–62. <https://doi.org/10.1080/20590776.2021.2012085>
- Ward, C., & Kennedy, A. (1999). The measurement of sociocultural adaptation. *International Journal of Intercultural Relations*, 23, 659–677. [https://doi.org/10.1016/S0147-1767\(99\)00014-0](https://doi.org/10.1016/S0147-1767(99)00014-0)
- Yuan, R. (2023). Chinese university EFL learners' foreign language classroom anxiety and enjoyment in an online learning environment during the COVID-19 pandemic. *Asia Pacific Journal of Education*. 1–17. <https://doi.org/10.1080/02188791.2023.2165036>

- Yusoff, Y. M. (2012). Self-efficacy, perceived social support, and psychological adjustment in international undergraduate students in a public higher education institution in Malaysia. *Journal of Studies in International Education*, 16(4), 353–371. <https://doi.org/10.1177/1028315311408914>
- Zadorozhnyy, A., & Lee, J. S. (2023). Informal digital learning of English and willingness to communicate in a second language: Self-efficacy beliefs as a mediator. *Computer Assisted Language Learning*, 1–21. <https://doi.org/10.1080/09588221.2023.2215279>
- Zhao, X., Sun, P. P., & Gong, M. (2024). The merit of grit and emotions in L2 Chinese online language achievement: A case of Arabian students. *International Journal of Multilingualism*, 21(3), 1653–1679. <https://doi.org/10.1080/14790718.2023.2202403>
- Zimet, G., Dahlem N., Zimet, S., & Farley, G. (1988). The multidimensional scale of perceived social support. *The Journal of Personality Assessment*, 52, 30–41. https://doi.org/10.1207/s15327752jpa5201_2

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Appendix

Survey on Social support, emotional adjustment, self-efficacy belief, and foreign language anxiety

Gender

_____ Female

_____ Male

Regions:

Age

_____ 18–20

_____ 21–25

_____ 26–30

_____ 31–35

_____ 36–40

Academic level

_____ Bachelor students

_____ Master students

_____ Doctoral students

Major

To what extent do the following statements apply to you?

Please rate each statement using a 1–6 scale (1 = Not at all; 2 = Just a little; 3 = Somewhat; 4 = Moderately; 5 = Quite a lot; 6 = Very much).

Part I Social support for online English learning

1. There is a special person who is available when I am in need for my online English learning.
2. There is a special person with whom I can share my feelings (joys and/or sorrows) for my online English learning.
3. My family tries to help me for my online English learning.
4. I get the emotional support I need from my family for my online English learning.
5. My friends try to provide support or my online English learning.
6. I can count on my friends when things go wrong for my online English learning.
7. I can talk about my problems with my family for my online English learning.
8. I can talk about my problems with my friends for my online English learning.
9. My school gives me support for my online English learning.
10. My teacher tries to provide help for my online English learning.

Part II Self-efficacy belief for online English learning

1. I can keep my stress within healthy limits for my online English learning.
2. I can convince myself I'll be OK for my online English learning.
3. I can practice stress reduction techniques even when I'm feeling sick for my online English learning.
4. I can use relaxation techniques to decrease my anxiety for my online English learning.
5. I can find out a solution for me for my online English learning.
6. I can make decisions for myself for my online English learning.
7. I can stand pressure in my life for my online English learning.
8. I can do special things for myself to make me feel better for my online English learning.
9. I can cope with difficulties for my online English learning.
10. I can learn on my own for online English learning.
11. I can find materials for my online English learning.
12. I can participate actively in my online English learning.

Part III Emotional adjustment for online English learning

1. I can control myself when feeling depressed for my online English learning.
2. I can keep calm if things do not go well for my online English learning.
3. I can control myself if something is upsetting for my online English learning.
4. I can keep calm if changes are made to my arrangements for my online English learning.
5. I can seek solutions to my problems for my online English learning.
6. I am able to think about negative events from different perspectives for my online English learning.
7. I am able to reflect on own strengths rather than weaknesses for my online English learning.
8. I am good at finding ways to feel better for my online English learning.
9. I believe that things may go better next time for my online English learning.
10. I am good at finding rational explanations for negative events for my online English learning.
11. I can brush off scary thoughts for my online English learning.

Part IV Anxiety for online English learning

1. I don't feel pressure in isolating from surroundings and focusing on my online English learning.
2. I don't feel pressure in preparing for my online English learning.
3. I feel more nervous and anxious than usual for my online English learning.
4. I get upset easily or feel panicky at thinking of my online English learning.
5. I am scared of learning English online for no reasons at all.
6. I can listen intently to an English lecture online without getting distracted by unwanted thoughts.
7. I feel weak and get tired at online English learning because I think there would be no job opportunities.
8. I feel panicky because the number of people attending the online English class was not full.
9. I feel tired because my classmates have no mood to take online English classes.
10. I feel upset at thinking of doing any after online class English assignment.