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Foreign Language Anxiety, Enjoyment, and Classroom Psychological Resilience as Predictors of English Majors' Behavioral Intention to Use Generative AI for English Learning

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Abstract

The rapid development of generative AI (GenAI) has significantly changed language learning. Existing studies on learners' acceptance of GenAI-assisted technologies mostly rely on cognitive-based models, focusing on perceived usefulness and ease of use, while neglecting learners' emotional experiences and psychological resources. Drawing on Control-Value Theory, this study examines how Foreign Language Enjoyment (FLE), Foreign Language Anxiety (FLA), and classroom Psychological Resilience (RES) predict English majors' Behavioral Intention (BI) to use GenAI. Questionnaire data from 433 Chinese undergraduate English majors were analyzed using SPSS 27 and AMOS 26 through correlation, CFA, and SEM. Results showed that FLE, FLA, and RES significantly predicted BI, with language-related emotions stronger than RES. These findings highlight the need to incorporate affective factors into GenAI-supported language learning design.

Keywords: Behavioral Intention; English Majors; Foreign Language Anxiety; Foreign Language Enjoyment; Generative Artificial Intelligence; Psychological Resilience

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Introduction

GenAI has emerged as one of the most transformative technological developments. In comparison to previous educational technology applications, GenAI systems have one advantage in that they can generate coherent texts, carrying on a conversation, and responding intelligently to user feedback. These affordances have created a lot of curiosity in the way they can be used in learning languages especially in assisting in the development of academic writing (Khanh-Quynh & Cong-Lem, 2026; Watson Todd, 2026). Recent research indicates that GenAI has potential to transform the nature of interaction of learners with language input and respondents by dissolving the distinction between implementation devices and interactive learning associates (Yang & Zhao, 2024; Zhang & Derakhshan, 2025). Alongside these technological innovations, scholars have been motivated to learners accepting and using GenAI-assisted tools in more studies. A great part of this has been based on the comprehensible technology approval models including the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) that highlights mental assessment of technology by the learners, like the feeling of usefulness, perceived ease of use and social influence (Davis, 1989; Venkatesh et al., 2003). Such models have found extensive application in the educational scenarios, and they have proven to explain Behavior Intention (BI) with high predictability rates. Nevertheless, there is an emerging level of evidence that purely cognitive explanations can be inadequate in explaining technology adoption in other realms of learning that involve high emotionality. The process of language learning is generally acknowledged to be emotionally defective, barring anxiety, enjoyment, uncertainty, and self-evaluation (MacIntyre, 2017). Consequently, scholars have started to doubt the capacity of the models that pay minimal attention to the affective aspects to capture the interest of learners towards technologies like GenAI that directly relates with language production and identity of learners as language users.

Research studies on SLA have continued to establish that learning of language is not just a cognitive process but a process that is intensively influenced by the emotional experience of the learners. Emotions have a role in the motivation of the learner, their engagement, self-regulation and decisions related to learning, influencing not only the results of learning but also the desire of the learners to engage in the learning process (Dewaele, 2019; MacIntyre, 2017). In this sense, affect does not play a peripheral role in language learning but a key part of the classroom experience of learners. Control Value Theory (CVT) of Achievement Emotions offers an in-depth insight into the role of the appraisal of control and value by learners in developing a certain emotion and how certain emotions impact the learning behavior (Pekrun, 2006; Pekrun et al., 2011). CVT further asserts that the emotions of enjoyment and anxiety will be influenced by how learners perceive that they can advocate the outcome of the learning process and the value they attach to the learning task. Such feelings are then the key determinants of the behavioral options, persistence and engagement of the learners. In this context, the Foreign Language Anxiety (FLA) and Foreign Language Enjoyment (FLE) have been named as two especially vulnerable variables in the classroom. FLA is linked to the fear of negative judgment, fear of communication, and pressure to perform (Horwitz et al., 1986), whereas FLE is connected to positive involvement, interest, and accomplishment among the learners (Dewaele and MacIntyre, 2014). Notably, the recent studies point out that these feelings are not mutually exclusive but partially independent as learners can feel fun and worried about language learning situations at the same time (Dewaele et al., 2018; Teimouri et al., 2019). This rich emotional impact has significant consequences to explain how learners react to GenAI mediated learning conditions.

In addition to emotional scenes, psychological resources of learners can also be significant in influencing their reaction toward difficult learning conditions. Psychological Resilience (RES) that is often defined as the capacity to bounce back and survive stress and adapt to adversity has been acknowledged as one of the main causes that underlies long-lasting engagement and academic persistence (Luthar et al., 2000; Masten, 2014). Research using the educational setting has attributed the phenomenon of RES to adaptive coping patterns, emotional control, and endurance amidst adversity. In classes building language skills, RES can be especially significant as the very process of learning a language requires a lot of mistakes, communicative challenges, and critical assessment. Students who have more advanced degrees of RES might be closer to overcoming these difficulties and be able to stay engaged in the long term. Of more salient position in the context of emerging technologies added as GenAI may be, RES can be. The problem with GenAI tools is that they involve doubt, trial and error, and trial and error to generate an accurate output, which means that the learner has to endure failure and continue with experimentation. Even though its relevance is high, the research on GenAI-assisted language learning is relatively little in terms of its research on RES. The role of broader psychological resources is not yet well-researched whilst most of the existing studies add to the affective or cognitive variables.

Literature review

Theoretical Foundation of Emotions and Learning-Related Behaviors

The present study is grounded in CVT of achievement emotions (Pekrun, 2006; Pekrun et al., 2011), which provides a comprehensive framework for understanding how learners' emotional experiences influence their learning-related behaviors. According to CVT, achievement emotions arise from learners' appraisals of control over learning activities and the value they attach to those activities. These emotions, in turn, shape motivation, engagement, persistence, and behavioral intentions (Pekrun et al., 2011; Tze et al., 2016). Within this theoretical framework, positive emotions such as enjoyment are expected to facilitate approach-oriented behaviors, whereas negative emotions such as anxiety may constrain participation or alter learners' behavioral choices. Importantly, CVT conceptualizes emotions as dynamic and context-dependent rather than fixed traits, meaning that they fluctuate according to situational characteristics and task demands (Pekrun et al., 2011).

Building on CVT, the present study focuses on FLE and FLA as two central achievement emotions in EFL contexts. FLE reflects learners' positive engagement, interest, and sense of accomplishment in language learning, while FLA captures apprehension, fear of negative evaluation, and performance-related tension. From a CVT perspective, these emotions are not merely outcomes of learning but key antecedents of learners' BI. When learners perceive greater control and value in language learning activities, they are more likely to experience enjoyment and demonstrate stronger willingness to engage in related behaviors. Conversely, anxiety may reduce learners perceived control and influence their willingness to participate, thereby shaping their technology-related decisions.

In addition to achievement emotions, psychological resources such as classroom RES may further influence learning-related behaviors. Although RES is not classified as an achievement emotion within CVT, it represents learners' adaptive capacity to cope with stress, recover from setbacks, and remain engaged in challenging learning situations. In emotionally demanding contexts, resilience may support sustained engagement and help learners regulate negative emotions, thereby indirectly contributing to behavioral intentions. In this sense, integrating RES into a CVT-informed framework enables a more comprehensive understanding of how both emotional experiences and psychological resources jointly shape

learners' behavioral choices.

This theoretical framework is particularly relevant in technology-mediated language learning environments such as those supported by GenAI. In GenAI-facilitated contexts, learners are required to operate in uncertain environments, make independent decisions, and engage in emotionally intensive communication with intelligent systems (Zong & Yang, 2025). Such situational characteristics may rapidly influence learners' perceptions of control and value, thereby shaping their emotional experiences and subsequent behavioral intentions. Although CVT-based studies have examined the impact of emotions on academic success and engagement, relatively few have extended this framework to technology-related behavioral intentions in language learning contexts (Botes et al., 2020; Putwain et al., 2018). Given the rapid expansion of GenAI in education, applying CVT to examine how FLE, FLA, and RES predict learners' BI represents a timely and theoretically grounded research direction.

Foreign Language Anxiety in EFL Classrooms

FLA has also been thoroughly investigated as an eminent negative effect in EFL classrooms and understood generally as a contingent figuration of anxiety related to language learning situations (Horwitz et al., 1986; MacIntyre and Gardner, 1991). Contrary to trait anxiety, FLA is a resultant effect of learners' perceptions of communicative demands, their performance expectations and the evaluative pressure that is specific to foreign language classrooms. Controlled-value-wise, it is possible to see FLA as a state that can be caused by the perceived shortage of control in learning activities among learners, which can deter approach-oriented behaviors and decrease their intention to use GenAI-assisted learning tools.

An extensive body of evidence has written about negative implications that FLA has on language learning experiences of learners. Increased anxiety rates are always associated with a lack of participation in the classroom, a decrease in the desire to communicate, and a loss of self-confidence (Gregersen & Horwitz, 2002; MacIntyre et al., 1998; Teimouri et al., 2019). The presence of anxiety can also disrupt cognitive processing because it pulls attentional resources, which have a detrimental impact on the learners in terms of processing the input and accessing linguistic information effectively (Eysenck et al., 2007; MacIntyre, 2017). Recent studies have also emphasized the situational sensitivity of FLA showing that levels of anxiety can change with task modality and interactional requirements and mediation by technology (Teimouri et al., 2019). In digitally mediated spaces, anxiety can be re-structured and not removed, with learners haggling new modes of performance demands and technological ability. The insight into the functioning of FLA in GenAI-assisted situations then demand a transition in thinking beyond the deficit-focused conceptualizations and the investigation of the role of anxiety in driving compensatory learning responses.

In addition to the conventional learning outcomes, the recent studies have started to examine the way in which FLA affects the response of the learners to the educational technologies. Learners who are anxious can find unknown or complicated technologies threatening, which results in the attempt to avoid, or resist (Howard et al., 2016). Simultaneously, certain online tools might offer less face-threatening conditions by lessening immediate social assessment, which might potentially be an attractive offer to learners who are exposed to high classroom anxiety levels (Lee, 2020; Lin and Warschauer, 2015).

Although the role of affective factors in technology-driven language acquisition is receiving

growing interest, there is limited empirical evidence to study how directly FLA is linked to the use of BI by learners to use GenAI. Since GenAI tools can change the dynamics of interaction and decrease evaluative pressure, the study of the ability of FLA to predict the willingness of learners to use it is theoretically and methodologically significant.

Foreign Language Enjoyment and Positive Emotional Experiences

As a reaction to the previous concern on anxiety, new studies in the field of SLA have begun to pay more attention to the importance of positive emotions, especially FLE to influence the classroom experiences of learners (Dewaele and MacIntyre, 2014; MacIntyre et al. 2019). This trend is based on the impact of positive psychology (PP) that emphasizes not only the disadvantages of learners but also their strengths and well-being.

FLE is usually linked to the existence of positive classroom experiences, significant interaction, and a feeling of progress and competence in the learners. The empirical research indicated the positive correlation of FLE with motivation, engagement, and persistence of learners to language learning tasks among various elements (Dewaele et al., 2018; Ogas-Baldwin et al., 2019; Saito et al., 2018). Fun usually crops up when learners consider learning tasks challenging but not insurmountable and when they are provided enough instructional and social help. In addition, FLE has been also associated with the perception of autonomy and agency of the learners in the learning process (Ogas-Baldwin et al., 2019). Such technology-enhanced environments in which learners can dictate the pace of learning, learning material, and interaction can thus be especially supportive of enjoyment (Lin et al., 2025; Wu & Yang, 2025). The presence of GenAI tools, which imply flexible and learner-focused interaction, can enhance pleasure as learners are able to try out the language without social ramifications. This underscores the possibility of FLE being one of the crucial affective elements underlying voluntary technology adoption.

Notably, it has been evidenced that FLE and FLA are not the extreme ends of the same emotional range. Students can feel both pleasure and stress in the same classroom and such experience can be based on the kinds of tasks demanded and situational forces (Boudreau et al., 2018; Dewaele & MacIntyre, 2016). This difference is in line with CVT and the significance of analyzing positive and negative emotions as independent predictors of learning related behaviors.

In reference to technology-supported language learning, the positive, enjoyable emotions have been determined to aid the openness of learners to innovation and experimentation (Scherer & Teo, 2019). Among learners with a greater degree of enjoyment, there are more chances of perceiving the technological challenges as growth avenue not as a threat. Nonetheless, it is important to note that most attention to GenAI applications is paid, yet the BI alteration, especially by FLE, to make learners apply GenAI in language learning is poorly investigated.

Classroom Psychological Resilience as Learning Resource

Psychological resources of learners are also essential in determining the ways of responding to challenges in foreign language classrooms in addition to their emotional experiences. Of these resources, the growing popularity of RES in educational psychology is as an important factor that contributes to favor of adaptive learning behaviors in the conditions of stress and uncertainty (Masten, 2014; Martin & Marsh, 2006).

The ability of the individuals to adjust to adversity, recuperate in the aftermath of an

unfortunate turn of events, and be in efficient operation or reemerge back into efficient functions in a difficult circumstance characterizes the concept of RES (Luthar et al., 2000; Masten, 2014). The conceptualization of RES in the educational setting is becoming more context-dependent and dynamic. It shifts into a conceptualized and variable resource of the learner instead of a given personality attribute, determined by interactions of the learners with the instructional setting and social forms of support (Martin, 2013). This view can be applied especially in the classroom-based research where resilience of learners can vary depending on tasks, courses, along with learning needs.

In the foreign language classrooms, the phenomenon of RES is particularly acute because of the peculiarities of the language learning process: numerous mistakes, risks of communication and evaluations. Empirical research has indicated that the learners with increased academic or classroom RES are more apt to continue in learning activities, managing negative feelings, and being engaged despite challenges (Kim & Kim, 2015; Martin & Marsh, 2006). It has also been discovered that RES is responsive to emotional experiences and may buffer the harmful quality of anxiety, as well as inhibits the harmful impact of anxiety by facilitating the maintenance of engagement and adaptive responses towards anxiety.

Notably, it has become more assumed that RES is conceptualized as flexible and vulnerable to instructional practices and not fixed as an individual difference (Martin, 2013). Emotionally supportive classroom environments with constructive feedback and a chance to experiment safely can be useful because they can help build resilience in the long-term. GenAI, in GenAI-assisted learning scenarios, can be used as a learning device or used as a resource to facilitate adaptive coping in the aspect of GenAI in terms of perceived failure costs and iteration of improvement.

Although accumulated evidence on the concept of RES in a learning context has been documented in learning environments, comparatively few studies have included classroom RES in the models that address technology-related aspects of learning behaviors. Within the framework of fast-changing educational technologies, including GenAI, RES can potentially change the propensity of students to use the new tools, accept the challenges in the beginning, and continue learning via trial and error (Bond et al., 2018; Howard & Gigliotti, 2016). This implies that classroom RES can provide a significant predictor of learners BI to make use of GenAI to learn the language.

Behavioral Intention to use Generative AI to learn English

BI is generally viewed as the closest predecessor of real technology utilization and the cornerstone of technology acceptance studies in educational settings (Ajzen, 1991; Venkatesh et al., 2003). BI is the motivational willingness of learners to interact with the specific technology that depends on cognitive assessment, emotion, and context.

The traditional TAM has laid stress on perceived usefulness and perceived ease of use as vital predictors of BI. Nevertheless, the fact that emotional and psychological nature has no less significance on influencing the decisions on technologies has been building up (Scherer & Teo, 2019; Teo, 2011). Emotions determine the way learners evaluate the issue of technology and psychological resources provide the assurance that they can handle possible hardships.

Affectively-motivationally, BI indicates the willingness of learners to use technology under

conditions that have implications on them emotionally. The history of emotional experiences could influence the perception of learners regarding GenAI empowering or overwhelming them. The incorporation of emotional and psychological variables into the models of BI can therefore enable a more detailed assay of the technology adoption compared to the mere existence of frozen evaluative positions on one side.

GenAI has some unique affordances in the context of language learning, such as a flexible interaction, high-learner-control, and less instantaneous social evaluation (Yang & Zhao, 2024; Zong & Yang, 2025). These characteristics can be especially applicable to the learners whose experiences at the classroom are influenced by FLA, FLE, and RES. GenAI-assisted learning and intelligent tutoring system studies have suggested that the affective state of the learners can determine how they will perceive GenAI-aided tools, as well as how they will incorporate adapted tools in the learning process.

Although GenAI applications are rapid growing in education, there are little studies that empirically research the relationship between classroom feelings and RES, and the predictive value of these factors aimed at predicting the use of GenAI by learners in English learning. The current literature has been largely concentrating on either cognitive perceptions or also moral issues and less emphasis has been given to affective and motivational aspects. This is one of the gaps that lead to a conclusion that studies should be conducted to incorporate emotion variables and psychological resources in GenAI-related learning behavior models.

Indeed, existing literature has found the significance of FLA, FLE and RES in the development of experience and behavior of learners in EFL classrooms. Empirical studies that are based on CVT showed that classroom emotions are the main factors, which affect motivation, engagement, and decisions related to learning (Dewaele & MacIntyre, 2014; Pekrun et al., 2011). In the meantime, research on RES has been able to point to the adaptive abilities of learners to deal with any academic obstacles and emotional pressures (Martin, 2013).

Nevertheless, one can single out several weaknesses in the existing literature. To begin with, emotional variables and psychological resources have been frequently considered, and they have not been discussed and viewed in one integrative theory. Second, with the increasing popularity of technology-enhanced language learning, the affective outlooks on GenAI-assisted language learning are underdeveloped. Third, English majors, as a group facing intensive language learning demands and frequent evaluative situations, have received limited attention in this emerging line of inquiry.

To address these gaps, the present study integrates FLA, FLE, and classroom RES within a unified framework to examine their predictive roles in English majors' BI to use GenAI for English learning.

Rationale and research questions

Al though recent studies have been more interested in GenAI-assisted language learning, there still exist several gaps in the literature. To begin with, emotional factors and psychological resources are typically analyzed individually but not in a single model that represents the complicated experiences of learners. Second, the emotional aspect in the consideration of GenAI is not well developed, especially where English as a Foreign Language (EFL) is involved,

where emotional engagement is the most prominent. Third, little attention has been given to English majors in prior studies on GenAI acceptance in terms of the high language learning requirements and the evaluation requirement often imposed upon them. To fill these gaps, this research will incorporate FLA, FLE, and classroom RES to analyze the predictive values of these theories on the BI of the English majors to apply the GenAI in learning English. The quantitative method and the structural equation modeling (SEM) of choosing a quantitative approach of the study will help shed light on the relative contribution that the emotions and the psychological resources have towards the process of GenAI adoption.

Based on the theoretical framework and research gaps identified above, the present study addresses the following research questions:

RQ1. What are the relationships among FLE, FLA, RES, and BI of English majors to use GenAI to learn English?

RQ2. Do FLE, FLA, and RES significantly predict English majors' BI to use GenAI for English learning?

RQ3. Do the relative predictive strengths of FLE, FLA and RES have any differences on BI in English majors to utilize GenAI?

Methodology

Participants and Sampling

A total of 455 undergraduate English majors from universities in China initially participated in the study. After data screening, 433 valid questionnaires were retained for subsequent analyses. Out of the final population, 232 were female (53.6%) and 201 were male (46.4%). In terms of academic year, 106 of the participants were first-year students (24.5%), 125 were second-year students (28.9%), 98 were third-year students (22.6%), and 104 were fourth-year students (24%), indicating a relatively balanced distribution across undergraduate levels. The reason English majors were chosen is due to the high language learning demands that are usually involved in studying English and high chances of interacting with digital learning tools, such as GenAI during the study of English. The method used to recruit the participants in the study was a non-probability sampling technique which was that of convenience sampling. This sampling strategy might reduce the sample representativeness, but it is widely used in both exploratory research and predictive research in the educational research. All participants reported prior experience using GenAI tools for English learning. Participation was voluntary, informed consent was obtained prior to data collection, and participants were informed of their right to withdraw from the study at any time without penalty.

Instruments

Data were collected using a self-report questionnaire consisting of 42 items, including informed consent, demographic information, background questions on GenAI use, and four main measurement scales assessing FLE, FLA, RES, and BI to use GenAI.

Specifically, the questionnaire included: informed consent, demographic information (5 items), background information on GenAI use (6 items), FLE (10 items), FLA (10 items), RES (6 items), and BI to use GenAI (4 items). Unless otherwise stated, all scale items were rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Reliability was examined using Cronbach's α, while construct validity was supported by reference to prior empirical studies that have established the validity of the original instruments.

Foreign Language Anxiety

FLA was measured using items adapted from the Foreign Language Classroom Anxiety Scale (FLCAS) developed by Horwitz et al. (1986), which conceptualizes foreign language anxiety as a situation-specific construct related to communication apprehension and fear of negative evaluation. In the present study, 10 items were adapted to assess learners' anxiety during English learning activities involving GenAI, and the scale was treated as a unidimensional construct, consistent with common empirical practice. A sample item is: "I feel nervous when using GenAI tools to complete English learning tasks." The construct validity of the FLCAS has been well established in previous research (Horwitz et al., 1986; MacIntyre & Gardner, 1991; Teimouri et al., 2019). Internal consistency reliability was examined using Cronbach's α, with values of 0.70 or above considered acceptable (Nunnally & Bernstein, 1994).

Foreign Language Enjoyment

FLE was measured using items adapted from the Foreign Language Enjoyment Scale (FLES) proposed by Dewaele & MacIntyre (2014), which assesses learners' positive emotional experiences in language learning. The present study employed 10 items to measure overall FLE in GenAI-assisted English learning contexts. Although the original scale includes multiple dimensions, enjoyment was treated as a single global construct in this study. A sample item is: "Using GenAI makes English learning more enjoyable for me." Previous studies have provided strong evidence for the construct validity of the FLES (Dewaele & MacIntyre, 2014; Dewaele et al., 2018). Internal consistency reliability was examined using Cronbach's α, with values of 0.70 or above considered acceptable (Nunnally & Bernstein, 1994).

Psychological Resilience

RES was measured using items adapted from the Brief Resilience Scale (BRS) developed by Smith et al. (2008), which conceptualizes RES as individuals' ability to recover from stress and adapt to adversity. In this study, 6 items were adapted to assess learners' RES in GenAI-assisted English learning contexts, and the scale was treated as a unidimensional construct, consistent with the original scale design. A sample item is: "I tend to recover quickly after difficulties in English learning with GenAI." Previous research has established the construct validity of the BRS (Smith et al., 2008; Windle et al., 2011). In the present study, internal consistency reliability was assessed using Cronbach's α.

Behavioral Intention to Use GenAI

BI to use GenAI was measured using 4 items adapted in accordance with the behavioral intention construct in the TAM (Davis, 1989). Items were worded following standard TAM-based conventions to reflect learners' planned future use of GenAI for English learning. A sample item is: "I intend to continue using GenAI for English learning in the future." The predictive validity of TAM-based BI measures has been established in prior research (Teo, 2011; Venkatesh et al., 2003). In the present study, internal consistency reliability was assessed using Cronbach's α.

Data Collection Procedure

Data were collected over a two-week period using an online questionnaire administered via the Wenjuanxing platform. The survey link was distributed through course-related online platforms and social media groups targeting undergraduate English majors. Participants were required to provide electronic informed consent before completing the questionnaire.

Following data collection, several data-cleaning procedures were conducted to ensure response quality. First, questionnaires with incomplete responses were removed. Second, responses with extremely short completion times (less than 120 seconds) were excluded, as such responses were considered unlikely to reflect careful reading and thoughtful responding. Third, one questionnaire exhibiting straight-line responding across Likert-scale items (standard deviation = 0) was removed. After these procedures, the final dataset consisted of 433 valid questionnaires.

Data Analysis

All statistical analyses were conducted using IBM SPSS Statistics 27 and AMOS 26. Data screening and preliminary analyses, including descriptive statistics, reliability analysis, and Pearson correlation analysis, were performed using SPSS.

Pearson correlation coefficients were calculated to examine the bivariate relationships among FLE, FLA, RES, and BI to use GenAI. To examine the measurement properties of the instruments, confirmatory factor analysis (CFA) was conducted using AMOS to assess the construct validity of the four latent variables. Subsequently, SEM was employed to test the hypothesized predictive relationships among FLE, FLA, RES, and BI to use GenAI. Standardized path coefficients (β) and corresponding significance levels were used to evaluate the strength and significance of the hypothesized paths.

Results

Descriptive statistics

Table 1 provides descriptive statistics of all the variables of the study and also gives their reliability estimate. As shown in the table, the mean scores of all four constructs were above the midpoint of the five-point Likert scale, indicating that participants generally reported moderate to relatively high levels of FLE, FLA, RES and BI to use GenAI for English learning.

Regarding reliability, the Cronbach's α coefficients ranged from 0.879 to 0.95, exceeding the commonly accepted threshold of 0.70, which indicates satisfactory internal consistency (DeVellis, 2017; Nunnally & Bernstein, 1994). Specifically, the BI scale demonstrated good reliability (α = 0.879), which is considered adequate for research purposes, particularly for short scales with a limited number of items (Tavakol & Dennick, 2011). Overall, these results provide initial support for the adequacy of the measurement instruments used in the study.

Table 1 Descriptive statistics and reliability of the main variables

Variables	N	Mean	SD	Cronbach's α
FLE	433	3.464	1.142	0.949
FLA	433	3.435	1.158	0.950
RES	433	3.512	1.149	0.917
BI	433	3.540	1.298	0.879

Correlation analysis

Pearson correlation coefficients among the main variables are presented in Table 2. As shown in the table, all variables were significantly correlated with each other at the 0.01 level, indicating systematic associations among FLE, FLA, RES and BI.

According to Cohen's (1988) conventional benchmarks, correlation coefficients of approximately 0.10, 0.30, and 0.50 represent small, medium, and large effect sizes, respectively. In the present study, the observed correlation coefficients ranged from 0.81 to 0.92, far exceeding the threshold for large effects. The strongest association was observed between FLE and FLA ($r = 0.924$, $p < 0.01$), followed by the relationship between FLE and RES ($r = 0.916$, $p < 0.01$). BI was also strongly correlated with FLE ($r = 0.840$, $p < 0.01$), FLA ($r = 0.853$, $p < 0.01$), and RES ($r = 0.814$, $p < 0.01$).

These results indicate that learners' emotional experiences and RES are closely intertwined with their intention to use GenAI for English learning. The consistently high correlation coefficients further justify the subsequent use of multivariate modeling techniques to examine the relative predictive effects of the independent variables.

Table 2 Pearson correlations coefficients among the main variables

Variables	FLE	FLA	RES	BI
FLE	–			
FLA	0.924**	–		
RES	0.916**	0.887**	–	
BI	0.840**	0.853**	0.814**	–

Note. ** $p < 0.01$.

Measurement model evaluation

CFA was conducted to evaluate the measurement model comprising four latent constructs: FLE, FLA, RES, and BI to use GenAI. Model fit was assessed using multiple goodness-of-fit indices, including the chi-square to degrees of freedom ratio (χ^2/df), the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), and the Root Mean Square Error of Approximation (RMSEA). Following widely accepted criteria, χ^2/df values below 3.0 indicate acceptable model fit (Kline, 2016), CFI and TLI values above 0.90–and preferably above 0.95–suggest good to excellent fit (Hu & Bentler, 1999), and RMSEA values below 0.05 indicate excellent approximation of the data (Browne & Cudeck, 1992).

The results indicated that the measurement model demonstrated an excellent fit to the data, with χ^2/df = 1.33, CFI = 0.99, TLI = 0.99, and RMSEA = 0.028 (see Table 3 and Figure 1). All fit indices met or exceeded the recommended thresholds, providing support for the adequacy of the measurement model.

Prior to testing the overall measurement model, separate single-factor CFAs were conducted for each construct to examine unidimensionality. The results showed that the single-factor models for FLE, FLA, RES, and BI each demonstrated acceptable to excellent fit based on the same criteria (see Table 3). These findings support the treatment of each construct as a unidimensional latent factor and provide empirical justification for their inclusion in the subsequent structural model analysis.

Table 3 Goodness-of-fit indices for the structural model

	χ^2/df	CFI	TLI	RMSEA
FLE	1.258	0.997	0.996	0.024
FLA	1.045	1.000	0.999	0.010
RES	1.677	0.996	0.994	0.040
BI	2.065	0.998	0.993	0.050
Overall measurement model	1.336	0.989	0.988	0.028

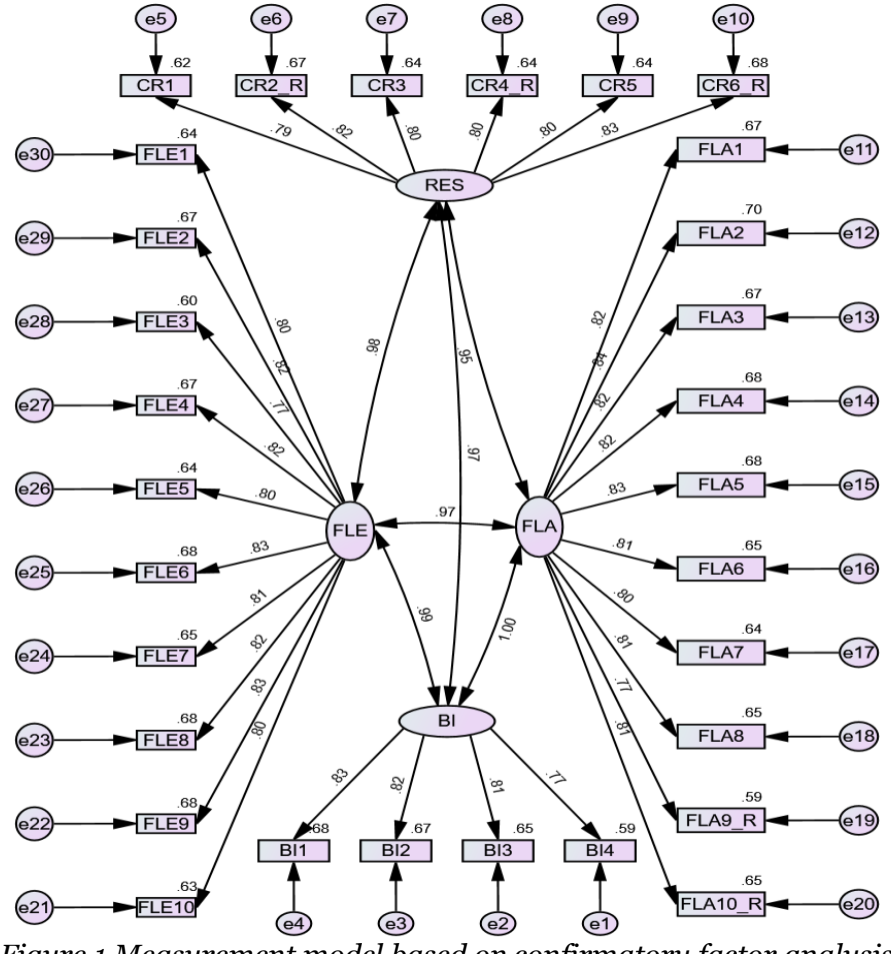


Figure 1 Measurement model based on confirmatory factor analysis

Structural model

Structural equation modeling (SEM) was conducted to examine the predictive effects of FLE, FLA, and RES on BI to use GenAI. The structural model demonstrated an excellent fit to the data, with χ^2/df = 1.33, CFI = 0.99, TLI = 0.99, and RMSEA = 0.028 (see Table 3).

The standardized path coefficients of the structural model are presented in Table 4. The results showed that FLE significantly predicted BI (β = 0.539, $p < 0.001$). FLA also exhibited a strong and significant predictive effect on BI (β = 0.812, $p < 0.001$). In addition, RES had a positive and significant effect on BI (β = 0.226, $p < 0.001$). Overall, the findings indicate that all three affective variables exert significant predictive effects on EFL learners' intention to use GenAI.

With all these combined, the SEM results demonstrate that all three predictors exert statistically significant effects on English majors' intention to use GenAI. In addition to that, the standardized coefficients indicate substantial differences in the relative strength of these effects, laying the groundwork for further interpretation in the discussion section.

Table 4 Standardized path coefficients of the structural model

Path	β	*p*
FLE → BI	0.539	***
FLA → BI	0.812	***
RES → BI	0.226	***

Note. *** $p < 0.001$

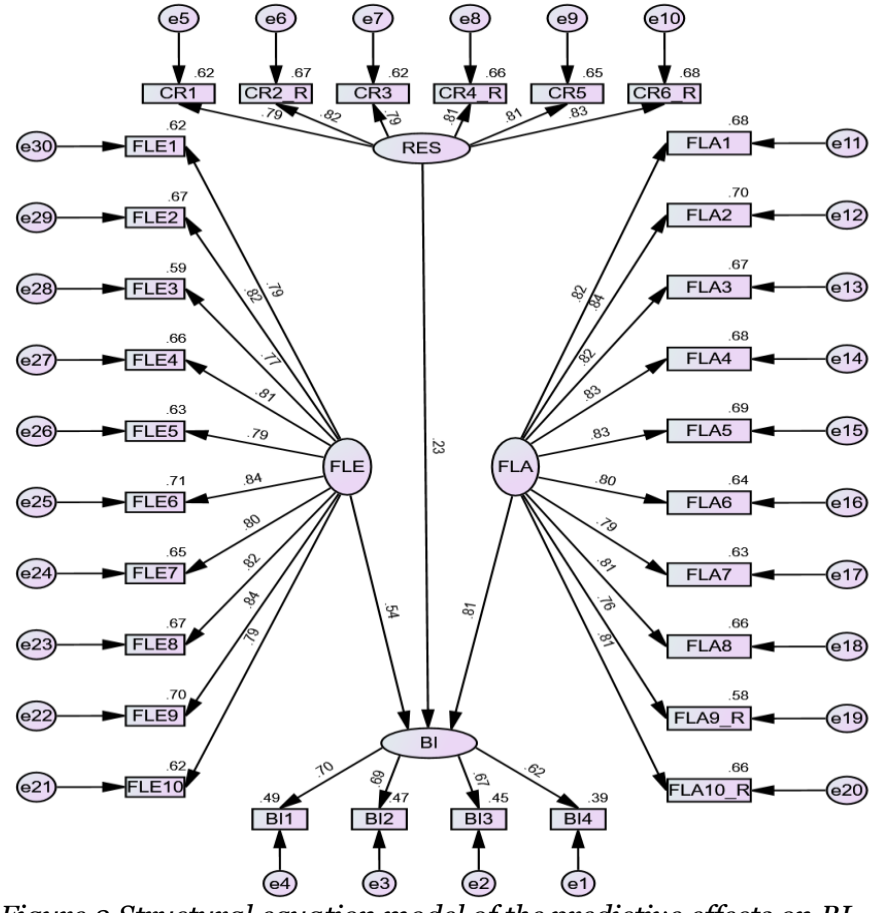


Figure 2 Structural equation model of the predictive effects on BI

Discussion

General Presentation of the Results

The current research attempted to determine the relationship and predictive value of FLE, FLA, and RES on English majors to commit to English learning through GenAI. It is possible

to note that the combination of correlational analysis and SEM allow the study to offer an in-depth insight into the emotional and psychological processes behind the agreement of the learners to the emergent technologies of GenAI in the language learning settings. As opposed to interpreting the acceptance of GenAI by learners as a cognitive or instrumental choice, this study places the adoption of GenAI in the emotional and psychological context of language learning in learners.

From a broader theoretical perspective, the findings resonate with recent calls to move beyond traditional technology acceptance models that prioritize cognitive beliefs (e.g., perceived usefulness) while under-theorizing affective dimensions (Davis, 1989; Venkatesh et al., 2003). The current study proves a more emotion-sensitive explanation of technology adoption in language learning settings because it shows that affective variables have significant predictive value, even when other crucial elements of the technology adoption concept are considered.

In general, the prediction strength of the three variables is very significant in predicting BI, but the strength varies widely. Emotions connected with the language, especially FLA and FLE became more significant predictors compared to RES. This pattern suggests that learners' immediate affective experiences in language learning contexts play a more central role in shaping GenAI adoption than more general psychological traits. The findings indicate the need to contextualize the technology acceptance within emotional ecology of language acquisition. From the perspective of CVT (Pekrun, 2006), learners' emotional experiences are shaped by their perceived control over learning activities and the value they attach to these activities, which subsequently guide behavioral decisions. For English majors, the academic identity and learning objectives are directly connected to the English proficiency and performance meaning so that GenAI tools might be viewed as an instrumentally valuable learning tool. That is why the presence of language-related emotions and their specific role in influencing their intention to use GenAI might explain this very situation.

Interrelationships among FLE, FLA, RES and BI

On the bivariate relationships level, the findings showed uniform high levels of association between BI and all the three predictors. The size of these associations, which was higher than traditional significance levels of large effect size, demonstrates that the BI of learners to use GenAI is interwoven with both emotional and psychological learning experience in English. This high degree of correlations supports the idea that BI does not appear as a vacuum but is embedded into a web of affective and psychological events.

FLE represents learners' positive emotional engagement with language learning, encompassing interest, satisfaction, and a sense of accomplishment (Dewaele & MacIntyre, 2014). The high level of association between FLE and BI suggests that learners who find the process of learning English to be an enjoyable and meaningful experience are more likely to make GenAI one of the learning strategies. This finding is consistent with previous research highlighting the facilitating role of enjoyment in promoting learner engagement and openness toward innovative learning tools in language learning contexts (Dewaele & MacIntyre, 2014; Pekrun, 2006). This may reflect a tendency for positively engaged learners to explore and integrate new learning tools that align with their existing motivation and curiosity (Fredrickson, 2001; Pekrun, 2006).

At the same time, the strong association between FLA and BI highlights the complex role of

negative emotions in shaping learners' technology-related decisions. FLA is commonly associated with concerns about performance, evaluation, and linguistic inadequacy (Horwitz et al., 1986). The intention had a strong correlation with the anxiety implying that those learners who showed more stress and tension in their English language learning have a higher tendency to seek external support. GenAI, that provides privacy in interaction, instant feedback, and the minimization of social assessment, can be viewed as a helpful tool in dealing with these emotional issues. This pattern aligns with earlier studies suggesting that anxiety may motivate learners to seek alternative or supportive learning resources when facing performance pressure and evaluative concerns (Horwitz et al., 1986; MacIntyre, 2017).

RES was also strongly associated with BI, indicating that learners who perceive themselves as capable of recovering from difficulties tend to express stronger intentions to use GenAI. RES reflects a general capacity to adapt to stress and persist in the face of challenges (Smith et al., 2008). Resilient learners might be more comfortable with such tools when interacting with the context of GenAI where the process mostly includes experimentation, trial, and error and uncertainty. This result is corroborated by the results of earlier studies that highlight the importance of resilience as a facilitating psychological variable that motivates learners to survive uncertainty and continue the learning process even in difficult circumstances (Smith et al., 2008; Windle et al., 2011).

Predictive Effects in the Structural Model

Although the correlational results indicate high levels of relationships between the variables, the SEM offers a better idea on which variable is more important by explaining the shared variance. The outcome of SEM revealed that FLE, FLA, and RES had statistically significant predictive measures on BI with highly different effect measures.

FLA proved to be the most powerful forecast in the model. The study finding implies that the desire by learners to use GenAI is closely correlated to the necessity to cope with the stress and uncertainty in language. Functionally, anxiety may heighten learners' awareness of their linguistic limitations and increase their motivation to seek tools that offer support and reduce perceived risk (MacIntyre, 2017). GenAI will be able to fulfill this role by offering prompt feedback, a way to rehearse privately and an anxiety-free space of interaction, thus covering the anxiety-related issues of learners.

FLE also demonstrated a substantial predictive effect, though weaker than anxiety. This indicates that enjoyment is also a key factor in maintaining the interest of learners to continue to use GenAI especially in increasing openness, curiosity and intrinsic motivation. It is possible that enjoyment will make learners perceive GenAI not only as a remedial activity but as a more interesting and an exciting part of their learning process.

RES, although significant, exhibited a comparatively smaller effect. This suggests that RES contributes to BI indirectly by enabling learners to persist in the face of challenges rather than directly motivating technology adoption. Resilient learners may be better equipped to tolerate initial frustration or uncertainty associated with GenAI use, which supports continued engagement but does not, by itself, strongly drive intention.

According to the findings, the results are that language emotions, especially FLA and FLE,

have stronger predictive powers on their BI to use GenAI than RES. It indicates that the situational emotional experiences of the language learning situations have a more direct influence on contributing to the technology-related decisions, but subsequently, the RES can be a more distant psychological resource that facilitates the engagement indirectly. For English majors, whose learning experiences are closely linked to language performance and self-evaluation, emotions experienced in GenAI-mediated learning contexts are likely to be especially salient.

Interpretation of the Predictive Patterns

Combined, the findings indicate that BI by learners towards using GenAI should be seen as an affectively motivated choice and not necessarily a rational or cognitive one. The prevalence of emotional predictors reveals that learners resort to GenAI in order to improve the performance as well as to control the emotional experience of language learning (Yang & Zhao, 2024).

The strong role of anxiety implies that GenAI may function as an emotional coping tool, helping learners manage stress, fear of negative evaluation, and perceived linguistic inadequacy. Simultaneously, the high importance of enjoyment underlines the significance of positive emotional involvement in maintaining voluntary and further GenAI use. Meanwhile, the psychological basis offered by RES gives engagement a chance to work but is not the motivating factor.

Conclusion

To conclude, the given research has shown that the willingness of English majors to use GenAI to learn the English language can be described as the product of a complex interaction between emotional and psychological variables. Emotions of learners associated with language, FLA and FLE turned out to be particularly a good predictor, and RES was supported in a minor, but relatively weak way. This pattern underscores the centrality of affect in technology-related decisions within language learning contexts, a perspective increasingly emphasized in contemporary SLA research (Dewaele, 2019; MacIntyre, 2017).

Theoretically, the research adds to the evidence of the work on the GenAI-assisted language learning as foregrounding affective variables are considered the key elements of the GenAI adoption. Although the classical models of technology acceptance have focused mainly on cognition, i.e., on perception of usefulness and perceived ease of use (Davis, 1989; Venkatesh et al., 2003), the current results indicate that even in the context of the expanded psychological resources, emotional experiences can still explain quite a lot of variation. This research by combining FLE, FLA and RES in one predictive model gives deeper insights into the interactions of the learner with GenAI within a language learning environment (Fredrickson, 2001; Pekrun, 2006).

The findings also carry important pedagogical implications. The prominent role of FLA suggests that GenAI may function as an affective support tool for learners who experience stress, fear of negative evaluation, or linguistic insecurity (Horwitz et al., 1986). Teachers may therefore consider leveraging GenAI to provide low-stakes practice opportunities, individualized feedback, and private rehearsal spaces that reduce emotional pressure. In addition, the significant influence of FLE highlights the importance of designing GenAI-mediated learning activities that foster interest, autonomy, and positive engagement, which are known to support sustained motivation and persistence (Dewaele & MacIntyre, 2014; Pekrun et al., 2017). Although RES played a more modest role, its significance indicates that

learners' general coping capacity may indirectly facilitate engagement with GenAI-assisted learning, particularly in challenging or uncertain learning environments (Smith et al., 2008; Windle et al., 2011).

Despite the pedagogical implications discussed above, the interpretation of the present findings should be situated within the methodological and contextual boundaries of the study. Accordingly, several limitations need to be acknowledged. First, the cross-sectional research design limits causal interpretations of the observed relationships, as emotional experiences, RES, and BI may influence one another dynamically over time (Pekrun, 2006). Longitudinal or experimental studies are therefore needed to examine how learners' emotions and GenAI use intentions co-develop. Second, the reliance on self-report questionnaire data may introduce common method bias and subjective response tendencies (Podsakoff et al., 2003). Future research could incorporate behavioral indicators, usage logs, or learning analytics to complement self-reported intentions. Finally, as the sample consisted exclusively of Chinese English majors, caution is warranted in generalizing the findings to learners from other disciplinary, institutional, or cultural backgrounds. Further research involving more diverse populations would enhance the external validity of the conclusions.

Overall, by highlighting the emotional and psychological foundations of GenAI use in language learning, this study advances current understanding of why learners adopt GenAI technologies and offers empirically grounded directions for both theory development and pedagogical practice.

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Declaration of Interest Statement

There is no potential conflict of interest.

References

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179‑211. https://doi.org/10.1016/0749-5978(91)90020-T

Bond, M., Zawacki-Richter, O., & Nichols, M. (2018). Revisiting five decades of educational technology research: A content and authorship analysis of the British Journal of Educational Technology. *British Journal of Educational Technology, 50*(1), 12‑63. https://doi.org/10.1111/bjet.12730

Botes, E., Dewaele, J.-M., & Greiff, S. (2020). The foreign language classroom anxiety scale and academic achievement: An overview of the prevailing literature and a meta-analysis. *Journal for the Psychology of language Learning, 2*(1), 26‑56. https://www.jpll.org/index.php/journal/article/view/botesetal

Boudreau, C., MacIntyre, P. D., & Dewaele, J.-M. (2018). Enjoyment and anxiety in second language communication: An idiodynamic approach. *Studies in Second Language Learning and Teaching, 8*(1), 149-170. https://doi.org/10.14746/ssllt.2018.8.1.7

Browne, M. W., & Cudeck, R. (1992). Alternative ways of assessing model fit. *Sage Journals, 21*(2), 230-258. http://doi.org/10.1177/0049124192021002005

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319-340. https://doi.org/10.2307/249008

DeVellis, R. F. (2017). *Scale Development: Theory and Applications* (4th ed.). Sage.

Dewaele, J.-M. (2019). The effect of classroom emotions, attitudes toward English, and teacher behavior on willingness to communicate among English foreign language learners. *Journal of Language and Social Psychology, 38*(4), 523-535 https://doi.org/10.1177/0261927X19864996

Dewaele, J.-M., & MacIntyre, P. D. (2014). The two faces of Janus? Anxiety and enjoyment in the foreign language classroom. *Studies in Second Language Learning and Teaching, 4*(2), 237-274. https://doi.org/10.14746/ssllt.2014.4.2.5

Dewaele, J.-M., & MacIntyre, P. D. (2016). Foreign language enjoyment and foreign language classroom anxiety: The right and left feet of FL Learning?. In P. MacIntyre et al. (Eds.), *Positive psychology in SLA* (pp. 215-236). Multilingual Matters. https://doi.org/10.21832/9781783095360-010

Dewaele, J.-M., Witney, J., Saito, K., & Dewaele, L. (2018). Foreign language enjoyment and anxiety: The effect of teacher and learner variables. *Language Teaching Research, 22*(6), 676-697. https://doi.org/10.1177/1362168817692161

Eysenck, M. W., Derakshan, N., Santos, R., & Calvo, M. G. (2007). Anxiety and cognitive performance: Attentional control theory. *Emotion, 7*(2), 336-353. https://doi.org/10.1037/1528-3542.7.2.336

Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist, 56*(3), 218-226. https://doi.org/10.1037/0003-066X.56.3.218

Gregersen, T., & Horwitz, E. K. (2002). Language learning and perfectionism: Anxious and non-anxious learners' reactions to their own oral performance. *The Modern Language Journal, 86*(4), 562-570. https://doi.org/10.1111/1540-4781.00161

Horwitz, E. K., Horwitz, M. B., & Cope, J. (1986). Foreign language classroom anxiety. *The Modern Language Journal, 70*(2), 125 - 132. https://doi.org/10.1111/j.1540-4781.1986.tb05256.x

Howard, S. K., & Gigliotti, A. (2016). Having a go: Looking at teachers' experience of risk-taking in technology integration. *Education and Information Technologies, 21*(5), 1351-1366. https://doi.org/10.1007/s10639-015-9386-4

Howard, S. K., Ma, J., & Yang, J. (2016). Student rules: Exploring patterns of students' computer-efficacy and engagement with digital technologies in learning. *Computers & Education,* 101, 29-42. https://doi.org/10.1016/j.compedu.2016.05.008

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis. *Structural Equation Modeling, 6*(1), 1-55. https://doi.org/10.1080/10705519909540118

Khanh-Quynh, T. T., & Cong-Lem, N. (2026). The new writing partner? EFL students' real-time use of GenAI tools in academic composing. *Applied Language Sciences, 2,* 260107. https://doi.org/10.65553/ALS.260107

Kim, T.-Y., & Kim, Y.-K. (2015). Elderly Korean learners' participation in English learning through Lifelong Education: Focusing on Motivation and Demotivation. *Educational Gerontology, 41*(2), 120-135. https://doi.org/10.1080/03601277.2014.929345

Kline, R. B. (2016). *Principles and practice of structural equation modeling* (4th ed.). Guilford Press.

Lee, J. S. (2020). The role of informal digital learning of English and L2 motivational self

system in foreign language enjoyment. *British Journal of Educational Technology, 52*(1), 358-373. https://doi.org/10.1111/bjet.12955

Lin, C.-H., & Warschauer, M. (2015). Online foreign language education: What are the proficiency outcomes? *The Modern Language Journal, 99*(2), 394 - 397. https://doi.org/10.1111/modl.12234_1

Lin, Y., Yang, L., & Proietti Ergün, A. L. (2025). EFL learners' learning involvement and emotions in the integration of technology in their classrooms. *Porta Linguarum, XIII,* 89-110. https://doi.org/10.30827/portalin.vixiii.33529

Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development, 71*(3), 543 - 562. https://doi.org/10.1111/1467-8624.00164

MacIntyre, P. D. (2017). An Overview of Language Anxiety Research and Trends in its Development. In C. Gkonou, M. Daubney & J.-M. Dewaele (Eds.), *New Insights into Language Anxiety: Theory, Research and Educational Implications* (pp. 11-30). Bristol, Blue Ridge Summit: Multilingual Matters. https://doi.org/10.21832/9781783097722-003

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*(1), 85 - 117. https://doi.org/10.1111/j.1467-1770.1991.tb00677.x

MacIntyre, P. D., Clément, R., Dörnyei, Z., & Noels, K. A. (1998). Conceptualizing willingness to communicate in a L2: A situational model of L2 confidence and affiliation. *The Modern Language Journal, 82*(4), 545-562. https://doi.org/10.1111/j.1540-4781.1998.tb05543.x

MacIntyre, P. D., Gregersen, T., & Mercer, S. (2019). Setting an agenda for positive psychology in SLA: Theory, practice, and research. *Modern Language Journal, 103*(1), 262-274. https://doi.org/10.1111/modl.12544

Martin, A. J. (2013). Academic buoyancy and academic resilience: Exploring everyday and classic resilience in the face of academic adversity. *School Psychology International, 34*(5), 488-500. https://doi.org/10.1177/0143034312472759

Martin, A. J., & Marsh, H. W. (2006). Academic resilience and its psychological and educational correlates: A construct validity approach. *Psychology in the Schools, 43*(3), 267-281. https://doi.org/10.1002/pits.20149

Masten, A. S. (2014). *Ordinary magic: Resilience in development*. Guilford Press.

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). McGraw-Hill.

Oga-Baldwin, W. L. Q., Fryer, L. K., & Larson-Hall, J. (2019). The critical role of the individual in language education: New directions from the learning sciences Introduction to the Special Issue. *System, 86*(4), 102118. https://doi.org/10.1016/j.system.2019.102118

Pekrun, R. (2006). The control-value theory of achievement emotions: Assumptions, corollaries, and implications for educational research and practice. *Educational Psychology Review, 18*(4), 315-341. https://doi.org/10.1007/s10648-006-9029-9

Pekrun, R., Goetz, T., Frenzel, A. C., Barchfeld, P., & Perry, R. P. (2011). Measuring emotions in students' learning and performance: The Achievement Emotions Questionnaire (AEQ). *Contemporary Educational Psychology, 36*(1), 36-48. https://doi.org/10.1016/j.cedpsych.2010.10.002

Pekrun, R., Lichtenfeld, S., Marsh, H. W., Murayama, K., & Goetz, T. (2017). Achievement emotions and academic performance: Longitudinal models of reciprocal effects. *Child development, 88*(5), 1653-1670. https://doi.org/10.1111/cdev.12704

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879-903. https://doi.org/10.1037/0021-9010.88.5.879

Putwain, D. W., Becker, S., Symes, W., & Pekrun, R. (2018). Reciprocal relations between students' academic enjoyment, boredom, and achievement over time. *Learning and Instruction, 54,* 73-86. https://doi.org/10.1016/j.learninstruc.2017.08.004

Saito, K., Dewaele, J. - M., Abe, M., & In'nami, Y. (2018). Motivation, emotion, learning

experience, and second language comprehensibility development in classroom settings: A cross-sectional and longitudinal study. *Language Learning, 68*(3), 709-743. https://doi.org/10.1111/lang.12297

Scherer, R., & Teo, T. (2019). Unpacking teachers' intentions to integrate technology: A meta-analysis. *Educational Research Review,* 27, 90-109. https://doi.org/10.1016/j.edurev.2019.03.001

Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The brief resilience scale: Assessing the ability to bounce back. *International Journal of Behavioral Medicine, 15*(3), 194-200. https://doi.org/10.1080/10705500802222972

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education, 2,* 53-55. https://doi.org/10.5116/ijme.4dfb.8dfd

Teimouri, Y., Goetze, J., & Plonsky, L. (2019). Second language anxiety and achievement: A meta-analysis. *Studies in Second Language Acquisition, 41*(2), 363 - 387. https://doi.org/10.1017/S0272263118000311

Teo, T. (2011). Factors influencing teachers' intention to use technology : Model development and test. *Computers & Education, 57*(4), 2432-2440. https://doi.org/10.1016/j.compedu.2011.06.008

Tze, V. M. C., Daniels, L. M., & Klassen, R. M. (2016). Evaluating the relationship between boredom and academic outcomes: A meta-analysis. *Educational Psychology Review, 28,* 119-144. https://doi.org/10.1007/s10648-015-9301-y

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly, 27*(3), 425 - 478. https://doi.org/10.2307/30036540

Watson Todd, R. (2026). Using generative AI to revise articles: How much is too much? *Applied Language Sciences, 2,* 260108. https://doi.org/10.65553/ALS.260108

Windle, G., Bennett, K. M., & Noyes, J. (2011). A methodological review of resilience measurement scales. *Health and Quality of Life Outcomes, 9,* Article 8. https://doi.org/10.1186/1477-7525-9-8

Wu, H., & Yang, L. (2025). GenAI literacy and well-being of pre-service L2 teachers in under-resourced regions: A psychometric revisit using ESEM. *Journal of Education for Students Placed at Risk (JESPAR),* 1-22. https://doi.org/10.1080/10824669.2025.2601758

Yang, L., & Zhao, S. (2024). AI-induced emotions in L2 education: Exploring EFL students' perceived emotions and regulation strategies. *Computers in Human Behavior, 159,* 108337. https://doi.org/10.1016/j.chb.2024.108337

Zhang, J., & Derakhshan, A. (2025). Integrating 'GPT-4o' as an AI tool into K-12 contexts: Assessing its long-term effects on students' self-regulated learning and task engagement through latent growth curve modelling. *European Journal of Education, 60*(4), e70329. https://doi.org/10.1111/ejed.70329

Zong, Y., & Yang, L. (2025). How AI-enhanced social-emotional learning framework transforms EFL students' engagement and emotional well-being. *European Journal of Education, 60*(1), 1-12. https://doi.org/10.1111/ejed.12925

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