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Unpacking Chinese EFL Students' Academic Engagement and Psychological Well-Being: The Roles of Language Teachers' Affective Scaffolding

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Abstract

Over the past decade, there has appeared a surge of research interest in language learners' academic engagement and psychological well-being as important factors in improving the quality of education. However, research on the roles of English as a foreign language (EFL) teachers' affective scaffolding in enhancing the academic engagement and psychological well-being of their students is relatively scant. Inspired by this gap, the current study aimed to investigate the impact of Chinese EFL teachers' affective scaffolding on their learners' academic engagement and psychological well-being. To this end, a total number of 1968 Chinese EFL learners participated in this questionnaire survey. The results of the study showed that EFL teachers' affective scaffolding positively and significantly predicted students' academic engagement and psychological well-being. More specifically, it was found that teachers' affective scaffolding explained about 73% and 65% of variances in EFL students' academic engagement and psychological well-being. Moreover, it was found that psychological well-being and academic engagement were positively correlated and predicted 56% of each other's variances. In accordance with these findings, educators are recommended to build up a harmonious teacher-student relationship to foster students' psychemotional development.

Keywords Academic engagement · EFL students · EFL teacher · Psychological well-being · Teachers · Affective scaffolding

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Introduction

One of the goals of educational systems is to develop professional and knowledgeable teachers, increase the quality of education and learning, and design effective educational systems (Acton & Glasgow, 2015; Han & Wang, 2021; Romano et al., 2020). The development of teachers' professional knowledge is done through meeting the needs of students and knowing their individual differences (Al-Hoorie, 2016; Burić & Macuka, 2018; Ryan & Patrick, 2001). Teachers' knowledge of learners' individual differences covers two areas of students' academic engagement and basic psychological needs (Ryan & Deci, 2017; Ryff, 1989; Shakki, 2022). It is asserted that students' basic psychological needs vary across cultures and educational systems (Jang et al., 2010; Ryff & Keyes, 1995). Depending on what beliefs exist in a culture, students' basic needs and expectations will vary (Kalokerinos et al., 2015). However, satisfying such needs and establishing a caring environment are pivotal for students' social functioning and growth (Carmeli et al., 2009; Chen & Kent, 2020; Ryff, 2014). One of the most essential needs that teachers must consider in second/foreign language education is students' psychological well-being (PWB), which can serve as a source of excellence (Warr et al., 2018). It refers to one's perception of how well his/her life is going, feeling good, and functioning efficiently (Huppert, 2009). It also concerns a person's prime psychological functioning and experience (Tang et al., 2019). PWB is the consequence of several positive attributes inundated in one's functioning (Ryff & Keyes, 1995). With the growth of positive psychology (PP) and the emergence of innovative approaches to scrutinize the roles of emotions in the teaching and learning process (Derakhshan, 2022a; Derakhshan, Wang, et al., 2023; Wang et al., 2021; Wang, Derakhshan, & Pan, 2022), PWB enshrined and research approved its relationship with metacognitive development (Naeem et al., 2021), work engagement (Greenier et al., 2021), L2 grit (Derakhshan, Dewaele, et al., 2022; Derakhshan, Solhi, et al., 2023), emotional intelligence (Guerra-Bustamante et al., 2019), success (Fan & Wang, 2022), immunity (Wang et al., 2022), and emotion self-regulation (Freire & Tavares, 2011).

Another construct that PWB can affect or interact with is students' academic engagement (Ainsworth & Oldfield, 2019; Ryff et al., 2007). When the psychological needs of students are met in a learning environment, they engage constructively in classroom activities (Al-Murtadha, 2019; Sasaki et al., 2020). Otherwise, they retreat and get frustrated in academia. Therefore, academic engagement best flourishes in a positive motivational growth model as posited by self-determination theory (SDT) (Lee et al., 2020; Schenke et al., 2015). Teachers are claimed to play a significant role in providing this opportunity (Lee et al., 2020; Vesely et al., 2013; Wang, Derakhshan, & Azari Noughabi, 2022; Wang, Derakhshan, & Rahimpour, 2022). Their attention to students' PWB and active engagement in learning content enhances students' skills and talents and paves the way for collaborative learning (Mikus & Teoh, 2021).

Nevertheless, these positive outcomes do not occur without appropriate scaffolding and affective support by the teachers. Scaffolding, as an instructional technique, grew out of Vygotsky's sociocultural theory to generate growth and independence in learners. It can take many forms including individualistic, collective, synchronic, diachronic, cognitive, and affective (Saarinen, 2020). Of these, the affective form of teacher scaffolding is contended to be more penetrating given its utilization of environmental adjustment to support emotions, moods, bodily affective styles, and background feelings (Colombetti & Krueger, 2015; Saarinen, 2020). In education, affective scaffolding (AS) can represent different ways through which a teacher (or an expert) manipulates the environment to affect his/

her students' emotional lives. It can improve students' classroom involvement and activate many motivational patterns (Ainsworth & Oldfield, 2019; Alavi et al., 2021; Eysenck et al., 2007; Wellborn, 1992). Likewise, teachers' AS can create a space to meet students' basic psychological needs including their PWB (Aubrey et al., 2020; Wilson et al., 2010). The quality of teaching and learning also increases when EFL teachers provide enough AS (Chao et al., 2017; Wolters, 2004).

This interplay among academic engagement, PWB, and AS is a cause for concern because effective education happens only in case students' psycho-emotional factors are cared about via suitable teacher assistance (Bowling et al., 2010; Derakhshan, 2022b; Xie & Derakhshan, 2021). The quality of teachers' affective support or scaffolding has been scientifically found to increase students' attachment and reduce their burnout (Henry & Thorsen, 2018; Zee & Koomen, 2016). Despite previous studies that provided insightful ideas about the significance of scaffolding in L2 education, the mediating role of teachers' AS in satisfying EFL students' PWB and academic engagement has not been applied in practice. Against this gap, the present study intended to investigate the impact of Chinese EFL teachers' AS on students' academic engagement and PWB.

Review of Literature

Teachers' Affective Support and Scaffolding

It is claimed that emotional relationships between teachers and students are a critical issue in education that influences various aspects of teaching and learning in the class (Derakhshan et al., 2020; Zhang, 2020). Affective support and scaffolding is an aspect of interpersonal relationships that is very significant for fostering L2 learning (Dörnyei & Ushioda, 2021; Paris, 2013). AS largely depends on the nature of classroom rapport and the context in which it is given (Burke-Smalley, 2018). It is a philosophy of mind that underscores the externalist source of affective states (Saarinen, 2020). It argues that one's inner states and emotions are supported and regulated by contextual factors and other people (Colombetti & Krueger, 2015; Maiese, 2016; Saarinen, 2020). AS challenges the internalist hypothesis that emotions and moods appear exclusively on intra-person states and processes (Tirado-Morueta et al., 2021). Hence, it shifts from brain-centric descriptions of affectivity to those that endorse the dependency of affective states on social contexts and interactions (Saarinen, 2020). AS reflects different theories such as sociocultural theory, situatedness theory, and niche construction theory. Sociocultural theory and situatedness theory of mind respectively acknowledge the role of social context in one's the development and mental activity (Robbins & Aydede, 2009; Vygotsky, 1978). However, niche construction theory concerns activities that one uses to modify his/her environment and affect self and others' behaviors (Laland et al., 2016). These theories emphasize self-activeness in influencing one's environment and building niches for how to think and feel (Saarinen, 2020).

Given the reciprocal impact that teachers and students have on each other, AS can reveal thoughts, feelings, and emotions in the class for a better understanding of each other, support each other, or create a sense of togetherness (Cornelius–White, 2007; Kalokerinos et al., 2015). In such a supportive context, educators can show their thoughts and positive parts of their personalities to each other (Oppermann & Lazarides, 2021; Wang et al., 2021). Teacher's AS is one of the most well-known classroom factors that explicitly emphasizes the direct role of the teacher in classroom interactions (Pawlak et al., 2016).

It refers to teachers' attempts to modify and influence students' affectivity by influencing their learning environment (Saarinen, 2020).

Students' Academic Engagement

Emotional, cognitive, and behavioral engagements are three dimensions of academic engagement (Jang et al., 2010; Phung, 2017). The act of engagement has different consequences in interacting with the social context and answers the question of how students perceive their learning environments and how they satisfy their basic needs such as self-discipline, competence, and connection (Dao et al., 2019; Derakhshan, Doliński, et al., 2022; Richards et al., 2019). Academic engagement is one of the most important indicators of the quality of education, which functions as a psychological investment (Derakhshan, Fathi, et al., 2022; Martínez et al., 2019; Patall, 2013). It concerns students' participation in the class and the existence of a positive and satisfactory state of mind with three dimensions energy, commitment, and fascination (Al-Hoorie, 2016; Wang et al., 2021). Another meaning of academic engagement is that students commit to the task or activity in such a way that they mobilize all their energy and internal resources to do it and will be able to insist on the task (Oppermann & Lazarides, 2021). The term is also defined as the interaction between attention and commitment (Froiland & Worrell, 2016). Students who get involved have a lot of attention and commitment because they value homework and activities (Hiver et al., 2021).

Students' Psychological Well-Being

One of the factors related to language learners' academic engagement is their basic psychological requirements. If these learners' needs in the educational environment are met, their academic engagement will also increase (Burić & Macuka, 2018). This sense of well-being is obtainable when students are mentally and physically fit and have the motivation and energy to plan and strive for success (Dodd et al., 2021; Reeve & Tseng, 2011). These needs reflet SDT which vigorously assists one's involvement in the environment, development of language skills, and staying healthy (Reyes et al., 2012).

Recently, the proponents of PP have taken a diverse approach to explaining students' PWB (Burić & Macuka, 2018; Mikus & Teoh, 2021; Perera et al., 2018). They equate mental health with the affirmative function of psychology and conceptualize it in the notion of PWB (Mystkowska-Wiertelak, 2020). PP researchers pinpoint that the lack of disease is not enough for feeling fit. Conversely, they argue that having life satisfaction, adequate improvement, well-organized and affective communication with the world, optimistic liveliness, good association with the community, and affirmative development are the characteristics of a healthy student (Schenke et al., 2015). Research evidence offers that language learners, who are satisfied with their lives, receive enough stroke and credibility, and experience positive feelings have a high stage of PWB (Pishghadam et al., 2021; Shao et al., 2013). PWB includes one's self-confidence and ability to see and accept strengths and weaknesses, form positive relationships with others, pursue desires, and act on personal principles that give meaning to life (Aubrey et al., 2020; Mikus & Teoh, 2021).

Empirical Studies

With the rise of PP and emotion-based education, several studies have empirically examined the mediating role of teachers' and students' psycho-emotional factors in their academic performance and engagement (Derakhshan, 2021; Wang et al., 2021). As for teacher AS, previous studies indicate that the construct is associated with superior success and less failure among students (Oppermann & Lazarides, 2021; Peng, 2020; Saarinen, 2020). It also reduces learners' apathy and boredom, (Fathi et al., 2020; Pianta et al., 2012). AS can be implemented in L2 classes through building positive teacher-students interactions (Reeve & Tseng, 2011) and scaffolding L2 learners' emotions by setting particular educational goals that echo their competence and values (Phung, 2017; Wang et al., 2021). Despite a mounting interest in language teaching and learning to scaffolding and affectivity, there is still little literature on teacher's AS and its interplay with other critical constructs. One such construct is academic engagement, which has been found to create high levels of energy, classroom rapport, mental resilience, energy, or passion, a sense of commitment, complete concentration, and joyful absorption during the study (Derakhshan, Doliński, et al., 2022; Mystkowska-Wiertelak, 2020). (Figs. 1, 2, 3, 4).

Research also shows that there is a positive relationship between academic engagement and academic grades, academic achievement, subject matter proficiency, successful handling of administrative barriers, and staying in educational settings (Aubrey et al., 2020; Mikus & Teoh, 2021). As a result, knowing the prerequisites of academic engagement is important to improve academic performance (Chow et al., 2017). Many psychological, social, environmental, educational, and cultural factors are predictive and effective in the engagement of students (Derakhshan, 2021; Kokkinos, 2007; Lee, 2017; Simbula, 2010).
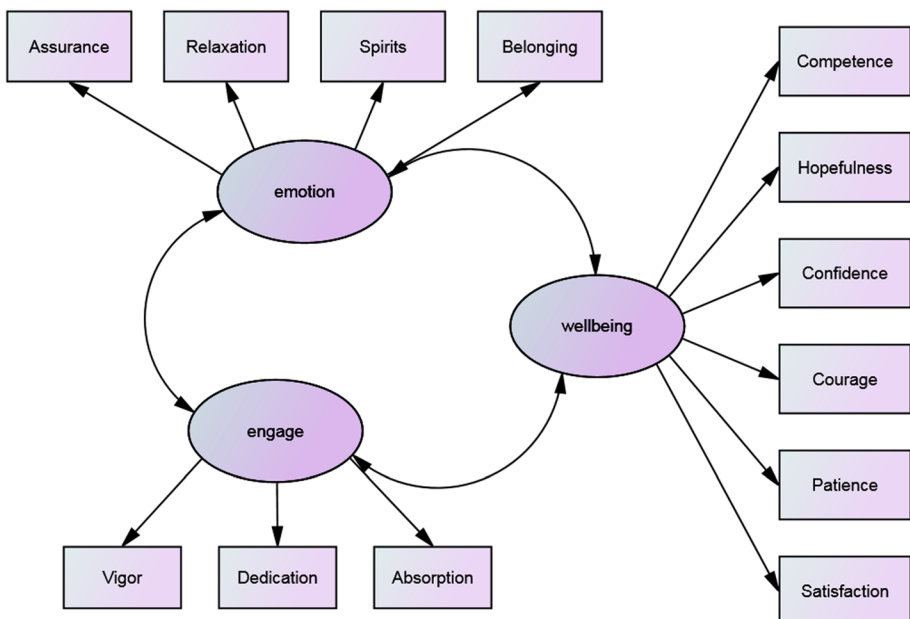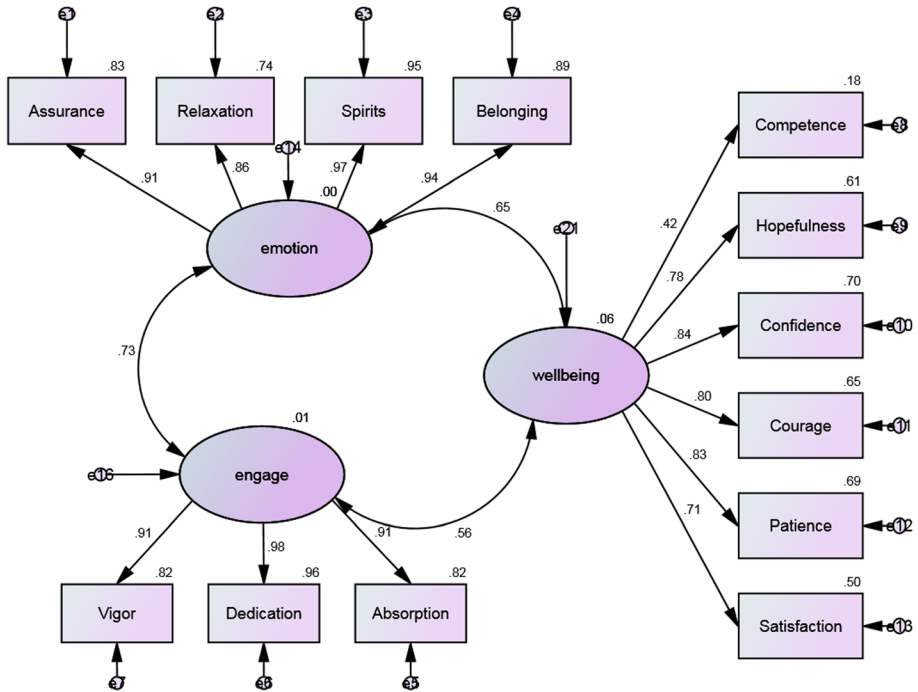

Fig. 1 The research model

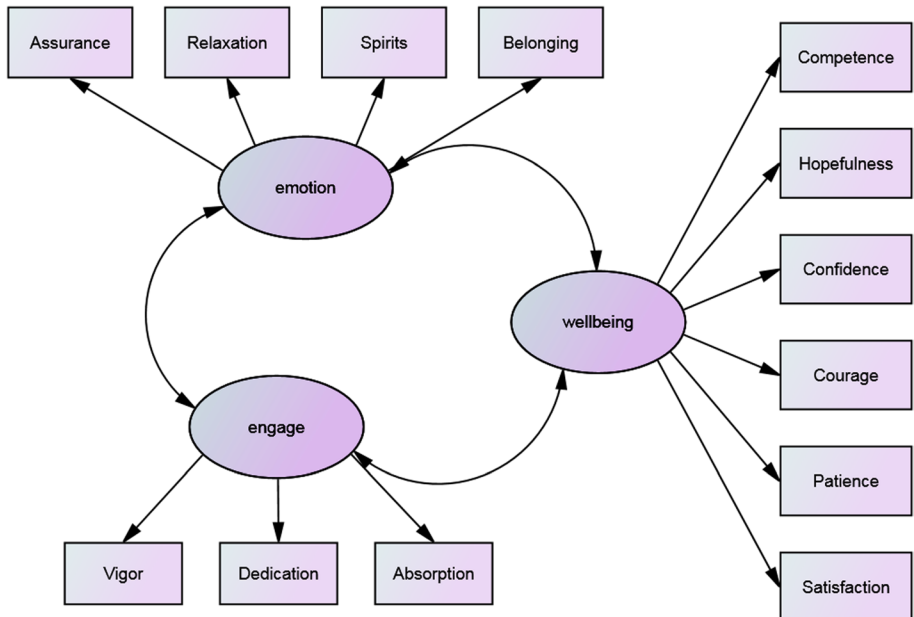**Fig. 2** Model fit in the standardized estimation mode
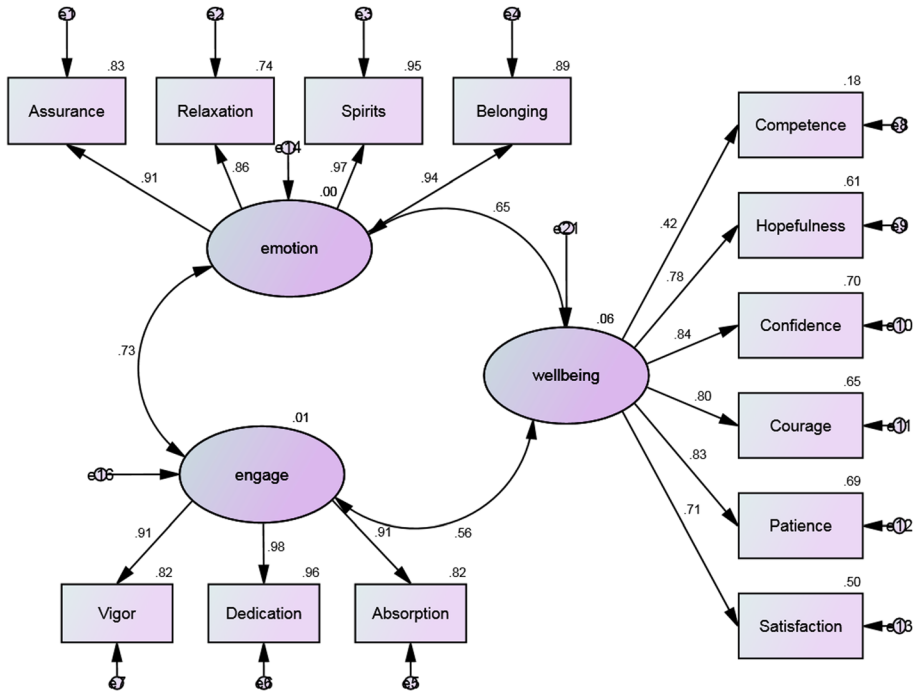

Fig. 3 The research model

Fig. 4 Model fit in the standardized estimation mode

One of the most pivotal educational factors influencing students' engagement and learning is teachers' interaction and rapport with students (Perera et al., 2018; Wilson et al., 2010). These outcomes are only achieved in a favorable atmosphere, where teachers meet students' psychological needs in the class using different scaffolding that ultimately generates higher well-being and vitality (Conley & You, 2009; Derakhshan et al., 2021; Perera et al., 2018).

Another area that academic engagement can positively influence is students' PWB, which may be associated with depressive symptoms, violent behaviors, and social and psychological problems (Lee, 2017). To address such problems, teachers and educators must consider the psychological side of education (Simbula, 2010). Otherwise, all attempts, innovations, and reforms will lead to failure in academia (Friedman & Kern, 2014). Despite its importance, the interplay of academic engagement and PWB among L2 students has been limitedly conducted (Perera et al., 2018; Wilson et al., 2010). Besides, the role of other mediators like teacher scaffolding has been neglected in such an interaction (Proietti et al., 2021). This might be due to the absence of a model on the interplay of academic engagement, PWB, and AS. Teachers' AS is highlighted because it is a metaphorical scaffolding that serves as an assistance to EFL learners' language acquisition. However, scant literature exists on this construct in L2 education. To fill this gap, this study aimed to develop a model on the mediating role of teachers' AS and support in the development of EFL students' academic engagement and PWB. More specifically, the following research questions were sought out:

A) How much variance in the perceived academic engagement can be predicted by Chinese EFL teachers' affective support and learners' psychological well-being?

B) How much variance in perceived psychological well-being can be predicted by Chinese EFL teachers' affective support and learners' academic engagement?

Method

Participants

To minimize the sample selection bias, the present study adopted a random sampling technique to gather the data from the participants. As put by Dörnyei and Csizér (2012), random sampling is "a probability sampling method that provides a truly representative sample" (p. 81). This sampling led to the recruitment of a total of 1968 EFL students (1942 valid cases) with different academic qualifications (BA = 1441, MA = 421, PhD = 80) and proficiency levels (Elementary = 614, Intermediate = 1031, Upper-intermediate = 241, Advanced = 56) including both genders (male = 443, female = 1499). The age of the participants ranged from 16 to 50. They were selected from different colleges and universities of more than 20 majors across 77 cities in 22 provinces, 4 autonomous regions, 4 municipalities, and 1 special administrative region. Informed consent was given to participants in this research before they were selected via Wechat by means of Wenjuanxing. Further demographic information is demonstrated in Table 1.

Table 1 Demographic information of the patient

Demographic information category	N	%
Gender		
Male	443	22.8
Female	1499	77.2
Age		
16–27	1880	96.8
28–39	58	2.98
40–50	4	0.22
Level of education		
Bachelor's degree	1441	74.2
Master's degree	421	21.6
Doctoral degree	80	4.2
Proficiency level		
Elementary	614	31.6
Intermediate	1031	53.1
Upper- Intermediate	241	12.4
Advanced	56	2.9

Instruments

Teacher Affective Support (Scaffolding) Scale

To measure language learners' perception of teachers' AS and support, the scale developed by Romano et al. (2020) was adapted in this study. It included 14 items following a 5-point Likert scale ranging from 1 (Not at all true) to 5 (Very true). The scale had three components of "positive climate", "teacher sensitivity", and "adolescent perspective". Concerning the reliability of the questionnaire, Romano et al. (2020) calculated Cronbach's alpha scores for each component as a measure of internal consistency. The results indicated that positive climate, teacher sensitivity, and adolescent perspective had a reliability index of *0.7*4, 0.90, and 0.81, respectively that suggesting an acceptable validity. In this study, the reliability was re-examined and the results of internal consistency showed a reliability of 0.96 for the whole scale.

Academic Engagement Scale

The scale we used to assess students' levels of academic engagement was adapted from the work by Reeve and Tseng (2011). It included four components of behavioral, affective, cognitive, and agentic engagement. The scale consisted of 19 items on a 5-point Likert scale ranging from 1, representing "strongly disagree" to 5, representing "strongly agree". With regard to the reliability index of the scale, it should be noted that the results of Cronbach's alpha revealed reliability of 0.98.

Psychological Well-Being Questionnaire

The present research employed a modified version of Ryff's (2007) 42-item PWBS to help the target sample group better understand the contents. It measures six aspects of well-being and happiness, namely "autonomy", "environmental mastery", "personal growth", "positive relations with others", "purpose in life", and "self-acceptance". The questionnaire uses a 7-point scale (1 = strongly agree; 7 = strongly disagree). 21 items are reversely scored so that higher scores indicate greater well-being. The reliability of the scale was also calculated by Cronbach's alpha, whose results indicated an index of 0.89, which is a high level of reliability.

Data Collection Procedure

From early March to late May, 2022, our research team administered the national wide questionnaire survey with the help of our colleagues in China. There were two phases involved in our data collection. In the first phase, the questions were translated into Chinese to ensure the trustworthiness of the data collection and then the translated version was double-checked by two experts in applied linguistics. In doing so, we assumed that not all of the participants were adequately proficient in conceptualizing the questions in the questionnaire. Prior to distributing the subsequent scales, a consent form was sent to those participants in terms of ethical considerations (British Education Research Association,

2011) and then the e-version of the questionnaire was administered through WeChat (a popular communicative App in China) to 1968 participants, who demonstrated their agreement by completing the consent forms after they had been informed about the research purpose and instructions for the questionnaire. They were aware that the questionnaire was anonymous and that the data would be kept confidential. Moreover, the researchers offered some academic textbooks and resources related to L2 education to the participants as compensation for their precious time and consideration in the study. They completed it before their class, which allowed them to be more preoccupied with filling in the questionnaire. Each participant took approximately 15 min to complete the questionnaire. A total of 1968 students participated in this survey and after gleaning the collected data, 1942 valid cases were obtained.

Data Analysis

The data of this quantitative study were analyzed using different statistical techniques. First, descriptive statistics and inferential statistics were estimated using SPSS (v.25) and Amos software (v.24). After checking the assumptions, in both research questions, correlation coefficient, regression, Structural Equation Modeling (SEM), path analysis, and Chi-square test were used to analyze the data.

Results

The First Research Question

Before answering the research questions, which examined the variance in the perceived academic engagement of Chinese EFL teachers in light of affective support and learners'

Table 2 Central indicators and dispersion of research variables

		Affective Scaffolding	Academic Engagement	Psychological Well-being
N	Valid	1964	1964	1964
	Missing	0	0	0
Mean		63.34	74.89	139.84
Std. error of mean		.193	.308	.629
Std. Deviation		8.561	13.660	27.874
Variance		73.298	186.595	776.961
Skewness		-1.648	-.646	-1.532
Std. error of skewness		.055	.055	.055
Kurtosis		3.779	.012	2.737
Std. error of kurtosis		.110	.110	.110
Minimum		14	18	42
Maximum		70	90	252

PWB, descriptive statistics were calculated to present the central indicators and the dispersion of research variables. The results are shown in the following tables.

The descriptive statistics in Table 2 show that the mean variables of the AS, Academic Engagement, & PWB Questionnaire are equal to 63.34, 74.89, and 139.84 with deviations of 8.561, 13.660, and 27.874, respectively. Also, the Skewness and Kurtosis indices are in the range (2- and 2) for all except for Emotional Support and show that the distribution of variables is almost expected. One of the main assumptions of the Structural Equation Methods is the normality of the research variables. To check the normality of the research variables, the researcher used the Kolmogorov–Smirnov normality test, the results of which are as follows:

While the results show that the normality of the data is violated, it is acceptable for a sample size of more than 200. The next assumption of the Structural Equation Methods is the correlation of research variables. To investigate the correlation of research variables, the researcher used the Pearson test, the results of which are as follows:

The correlation coefficients of Academic Engagement with AS and PWB are 0.655 and 0.160, respectively, which is significant at the level of 0.05. Also, the correlation coefficient of AS and PWB is equivalent to 0.066 and is significant at the level of 0.05. The

Table 3 The results of tests of normality

	Kolmogorov-Smirnov[a]			Shapiro–Wilk		
	Statistic	df	Sig	Statistic	df	Sig
Affective scaffolding	.218	1964	.000	.780	1964	.000
Academic engagement	.147	1964	.000	.903	1964	.000
Psychological well-being	.148	1964	.000	.861	1964	.000

a. Lilliefors Significance Correction

Table 4 The correlations among research variables

		Affective Scaffolding	Academic engagement	Psychological well-being
Affective scaffolding	Correlation Coefficient	1.000	.655[**]	.066[**]
	Sig. (2-tailed)		.000	.004
Academic engagement	Correlation Coefficient	.655[**]	1.000	.160[**]
	Sig. (2-tailed)	.000		.000
Psychological well-being	Correlation Coefficient	.066[**]	.160[**]	1.000
	Sig. (2-tailed)	.004	.000	
	N	1964	1964	1964

[**]Correlation is significant at the 0.01 level (2-tailed)

Table 5 The results of Chi-square value

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	228	37,616.004	2697	.000	3.947
Saturated model	2925	.000	0		
Independence model	150	124,342.217	2775	.000	44.808

Table 6 The results of root mean square error of approximation

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.081	.080	.082	.000
Independence model	.149	.149	.150	.000

Table 7 Estimates of regression weights for the variables

			Estimate	S.E	C.R	P
Academic engagement	←	Emotional support	.73	.028	27.236	***
Psychological well-being	←	Emotional support	.65	.028	27.236	***
Academic engagement	←	Psychological well-being	.56	.821	2.301	.***

Table 8 Standardized regression weights for the variables

			Estimate
Academic engagement	←	Affective scaffolding	.73
Psychological well-being	←	Affective scaffolding	.65
Academic engagement	←	Psychological well-being	.56

Table 9 The results of chi-square value

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	228	37,606.759	2697	.000	3.944
Saturated model	2925	.000	0		
Independence model	150	124,342.217	2775	.000	44.808

path analysis method with Amos24 software is used to investigate the relationship between research variables. The research model is as follows:

The model was fitted in Amos 24 software. The results were obtained as follows.

According to the software output, Chi-square $= 37,616.004$, Degrees of freedom $= 2697$, and Probability level $= 0.000$, Chi-square test is significant (Sig $= 0.000 < 0.05$), so it can be concluded that there is a significant difference in the frequency of variables. (Tables 3, 4).

CMIN stands for the Chi-square value and is used to compare if the observed variables and expected results are statistically significant. In other words, CMIN indicates if the sample data and hypothetical model are an acceptable fit in the analysis. The value of interest here is the CMIN/DF for the default model and is interpreted as follows: If the CMIN/DF value is ≤ 3 it indicates an acceptable fit (Kline, 1998). The results of Table 5 show that the value for CMIN/DF is 3.947 which is less than 4.

RMSEA stands for Root Mean Square Error of Approximation and measures the difference between the observed covariance matrix per degree of freedom and the predicted covariance matrix (Chen, 2007). Root Mean Square Error of Approximation

Table 10 The results of root mean square error of approximation

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.081	.080	.082	.000
Independence model	.149	.149	.150	.000

Table 11 Estimates of regression weights for the variables

			Estimate	S.E	C.R	P
Psychological well-being	←	Affective Scaffolding	.65	.009	-2.189	.***
Academic engagement	←	Affective Scaffolding	.73	.009	-2.189	.***
Psychological well-being	←	Academic Engagement	.56	.005	-1.799	.***

where values higher than 0.1 are considered poor, values between 0.08 and 0.1 are considered borderline, values ranging from 0.05 to 0.08 are considered acceptable, and values ≤ 0.05 are considered excellent (MacCallum et al, 1996). The results of Table 6 reveal that the RMSEA for the study is 0.081 which is considered as a borderline.

The results of Table 7 confirm that emotional support made contributions to variances in academic engagement and PWB scores. However, the AS variable made statistically significant contributions to variances in Academic Engagement scores.

The results of Table 8 present the Standardized Regression Weights for the variables. The results show AS included in the model contributed to the prediction of Academic Engagement and PWB scores. The results show that the largest statistically significant value is attributed to AS. This value indicates that AS uniquely explains about 73 percent of the variance in Academic Engagement. Moreover, it was found that AS explains 65 percent of the variance in PWB. Finally, PWB explained 56 percent of the variance in the Academic Engagement scores. (Table 9).

The Second Research Question

In order to answer this research question, which concerned the variance in the perceived PWB of Chinese EFL teachers in light of affective support and learners' academic engagement, the path analysis method was used to investigate the relationship between variables. The extracted research model is as follows:

The model was then fitted into Amos 24 software. The results were obtained as follows.

According to the software output, Chi-square = 37,606.759, Degrees of freedom = 2697, and Probability level = 0.000, Chi-square test is significant (Sig = 0.000 < 0.05), so it can be concluded that there is a significant difference in the frequency of variables. However, the other values are not significant.

CMIN stands for the Chi-square value and is used to compare if the observed variables and expected results are statistically significant. In other words, CMIN indicates if the sample data and hypothetical model are an acceptable fit in the analysis. The value of interest here is the CMIN/DF for the default model and is interpreted as follows: If the CMIN/DF value is ≤ **3** it indicates an acceptable fit (Kline, 1998). The results of Table 10 show that the value for CMIN/DF is 3.944 that are less than 4.

Table 12 Standardized regression weights for the variables

			Estimate
Psychological well-being	←	Affective scaffolding	.65
Psychological well-being	←	Academic engagement	.56

RMSEA stands for Root Mean Square Error of Approximation and measures the difference between the observed covariance matrix per degree of freedom and the predicted covariance matrix (Chen, 2007). Root Mean Square Error of Approximation where values higher than 0.1 are considered poor, values between 0.08 and 0.1 are considered borderline, values ranging from 0.05 to 0.08 are considered acceptable, and values ≤ 0.05 are considered excellent (MacCallum et al, 1996). The results of Table 11 reveal that the RMSEA for the study is 0.081 which is considered a borderline.

The results of Table 11 confirm that all of the two variables made contributions to variances in PWB scores. However, the AS variable made statistically significant contributions to variances in PWB scores.

The results of Table 12 present the Standardized Regression Weights for the AS and Academic Engagement variables. The results show which of the variables included in the model contributed to the prediction of the PWB scores. The results show that the largest statistically significant value is attributed to AS. This value indicates that AS uniquely explains about 65 percent of the variance in PWB. The second variable is Academic Engagement which uniquely explains 56 percent of the variance in PWB.

Discussion

The present study investigated the impact of Chinese EFL teachers' AS on students' academic engagement and PWB. The research findings first showed that teacher AS was a directly positive predictor of EFL learners' academic engagement and their PWB. Second, teachers' AS and students' academic engagement and PWB were directly related to each other. More particularly, the findings revealed that teachers' AS had a statistically significant and positive effect on EFL learners' academic engagement and PWB. It could positively predict both academic engagement and PWB by explaining about 73% and 65% of their variances.

The findings lend support to Henry and Thorsen (2018), who asserted that teachers' AS has a positive effect on students' academic engagement in a direct way. In other words, the better the teachers' AS, the higher the students' engagement in education (Zee & Koomen, 2016). Similarly, the findings are consistent with those obtained by Tirado-Morueta et al. (2021), who identified that teachers' AS predicts students' academic engagement in project-based learning cases. Moreover, the results echo those of Dörnyei and Ushioda (2021), who found that the favorable atmosphere of the classrooms and knowing how to communicate with learners and meet their psychological needs could help them learn actively and effectively. Therefore, the results are attributable to the learning atmosphere of Chinese EFL students that affected their sense of well-being and engagement. In other words, the educational context of the students may have been engaging to the participants making them experience sense of belongingness and involvement in classroom affairs (Chow et al., 2018). Another reason can be the close relationship between teachers and students in

Chinese EFL contexts, which is accompanied by mutual respect and positive performance encouragement (Lee, 2020).

The results are in line with Perera et al. (2018), who argued that teachers' AS and support have a strong correlation with language learners' PWB (Perera et al., 2018). Hence, it can be stipulated that the more the teachers' AS in the learning environment, along with acceptance, respect, support, and mutual trust, the more the students will feel free, competent, and connected (Burić & Macuka, 2018). Students feel more liberated when they feel that teachers respect them and can count on their help and support in the face of problems and issues (Lee et al., 2020). This sense of immediacy and strong rapport enables students to establish close relationships with others, which in turn improves and enhances their PWB (Ainsworth & Oldfield, 2019). Another justification for this finding can be the psych-emotional basis of both scaffolding and PWB, which may have triggered their positive and strong correlation and predictability. It seems that Chinese EFL teachers had been cognizant of students' emotions and psycho-emotional status. Hence, they provided sufficient AS in the class to augment their pupils' PWB, as a precondition for academic success.

Furthermore, the results demonstrated that PWB and academic engagement significantly predict each another. This is in tune with Peng (2020), who maintained that students' psychological states considerably influence their academic engagement and satisfying their basic psychological needs promotes their engagement. In simple terms, when the psychological needs of students are met, they become more focused on their goals and more motivated, hence they become more active in their activities (Fredrickson et al., 2018). This is also consistent with the results of Martínez et al. (2019), who maintained that students' academic engagement and performance are positively affected and boosted their psychological resources. Another justification for this finding can be the connection between students' psychological needs and the deep structure of the human psyche, which provides the necessary energy to actively participate in the learning environment (Richards et al., 2019). In this study, it can be postulated that the Chinese EFL students were knowledgeable of their inner states and the connection among several psych-emotional factors that determine academic performance and engagement. They might have been already trained on the nexus of PWB and academic engagement, which can shape each other. When a student enjoys a high PWB, he/she is more likely to be academically engaged in the class. Conversely, when he/she has a high academic engagement level in classroom affairs, he/she is more likely to develop and promote PWB. In sum, the three variables concerned in this study had a strong interaction, which underscores the criticality of psych-emotional aspects of L2 education.

Conclusion and Implications

Based on the obtained findings, it can be asserted that EFL teachers' AS is of paramount importance in generating PWB and academic engagement among their students. Given the connection among students' psych-emotional factors, providing suitable AS can trigger other positive emotions in the classroom. This forms a cycle in which scaffolding leads to PWB and PWB leads to academic engagement, and academic engagement leads to other positive outcomes. This process may continue for as long as appropriate and professional AS is offered to the learners. As this study intended to highlight the role of emotions in L2 education, the results may be beneficial for EFL teachers in that they

can use different scaffolding strategies to tap into their students' affectivity and raise their academic performance. They can also realize the role of emotions in determining the sense of well-being and engagement in academia. EFL teacher trainers may also find this article momentous and propose training courses and workshops revolving around teacher scaffolding techniques and their impact on EFL students' language learning. In such courses, practical ways of applying AS can be explicitly taught.

Moreover, researchers can use this study and examine other aspects of emotion and L2 education. For instance, they can try to compensate for the limitations of this study and conduct future studies with larger samples and through qualitative and mixed-methods research designs to be able to generalize the results to other learning environments. The generalizability scope of the study is also limited to EFL contexts and China. Hence future research is needed in other contexts. Future studies can also focus on demographic factors such as the students' age, gender, proficiency level, and academic degrees and their impact on the interaction among AS, PWB, and academic engagement. Moreover, future studies can replicate this study or focus on different aspects of teachers' affective support and learners' PWB in the EFL contexts. Finally, cross-cultural and cross-disciplinary studies can be carried out in the future to examine variations in the three variables in light of context variations and major differences.

Data Availability The datasets generated and analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Informed Consent Informed consent letters were obtained from all the individual participants included in this study.

Conflicts of interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in the study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards

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