



The Interplay between Teacher Support, Behavioral Engagement, and Academic Performance among Chinese Secondary EFL Learners

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Abstract: Teacher support is a crucial form of social support available to secondary school students, particularly within classroom settings. Numerous studies have investigated the relationship between perceived teacher support and academic achievement, consistently showing a positive predictive relationship. However, limited research has delved into the underlying mechanisms linking perceived teacher support and academic achievement, particularly within EFL (English as a Foreign Language) learning, especially in the Chinese educational setting. Therefore, this study aimed to examine the predictive influence of perceived teacher support on EFL achievement and the mediating role of behavioral engagement between these constructs. Data was collected from 688 Chinese secondary school students aged 12 to 15 ($M = 12.97$, $SD = 0.76$). Results demonstrated a positive correlation between perceived teacher support, behavioral engagement, and EFL achievement. Furthermore, behavioral engagement fully mediated the relationship between perceived teacher support and EFL achievement. Implications, limitations, and directions for future research are also discussed.

Keywords: Teacher Support, Behavioral Engagement, EFL Achievement, Chinese Secondary School Students, Mediating Mechanism

1. Introduction

Teachers are one of the most important sources of social support for young students and play a protective role in student development (Ma et al., 2018). Teacher support positively affects students' academic emotions (Lei et al., 2018). Other studies have also found that teachers can help meet young adolescents' basic and developmental needs and promote positive adjustment by engaging in need-support teaching and providing students with appropriate autonomy support, structure, and involvement (Kiefer et al., 2015). Furthermore, in adolescence, an emotionally supportive teacher-student relationship may communicate acceptance, confidence in the ability of youth, respect for the autonomy of youth, and learning motivation and engagement of students will increase accordingly (Davis, 2006). According to the studies conducted in six elementary schools within one urban school district for the elementary-level analyses, Klem and Connell (2004) suggested that teacher support is essential to student engagement in school. In turn, high levels of engagement are associated with higher attendance and test scores (Adena et al., 2004).

Conditions such as high standards of academic learning and behavior, meaningful and engaging pedagogy and curriculum, professional learning communities among staff, and personalized learning environments are essential for fostering student engagement and connection to school (Adena et al., 2004; Wu et al., 2023). Schools that offer such supportive frameworks are more likely to cultivate positive teacher-student relationships (Kincade et al., 2020). In the context of English language teaching, the importance of teacher support has gained significant attention, particularly as the field continues to evolve (Xerri et al., 2018). Nevertheless, there remains a paucity of research examining the relationship between teacher support, behavioral engagement, and academic performance within the EFL context in China. This raises important questions: Does teacher support enhance students' academic performance? Can behavioral engagement serve as a mediator between teacher support and academic achievement,



thereby facilitating improved learning outcomes? This study seeks to address these questions through an empirical investigation involving 688 Chinese secondary school students aged 12 to 15 years. The findings provide evidence of a positive interplay among teacher support, behavioral engagement, and academic performance. Furthermore, this study offers insights regarding the implications of these relationships, acknowledges limitations, and suggests directions for future research to better inform teaching practices.

2. Literature Review

2.1 Teacher Support

Perceived teacher support is a classroom's most frequently studied social-relational construct. Conceptualizations of teacher support generally have focused on emotional support (communicating caring and understanding) and instrumental support (providing advice and direct assistance) (Turner et al. D.L., Anderman L.H. et al., 2013). Moreover, Suldo et al. (2009) suggested that these two kinds of support sub-scales of the Child and Adolescent Social Support Scale (CASSS) were the most critical aspects of perceived teacher support about students' subjective well-being (in comparison to the informational and appraisal aspects). Various studies have found that perceptions of supportive relations with teachers are related to more extraordinary academic achievement, higher levels of student engagement, less problem behavior, and more positive peer relations (Mercer et al., 2011).

The increase in the number of studies on teacher support has drawn attention to itself in the education field (Liu et al., 2023). However, the teacher support research is insufficient to cover its many implications. Teacher support can manifest in many ways, from helping with tasks to expressing care and concern for the welfare and well-being of students (Mitchell et al., 2010). Meanwhile, there is a positive relationship between teacher support, behavioral engagement and academic performance. This study explored teacher support's influence on EFL students in Chinese educational settings and its correlation with behavioral engagement and academic performance.

2.2 Behavioral Engagement

Student engagement refers to students' active involvement in learning tasks and activities (Lei et al., 2018), including three different types of engagement: cognitive, behavioral, and emotional (Fredricks et al., 2004). "Behavioral engagement" pertains to the involvement in school-related activities, including academic and learning tasks conducted virtually, such as online ones. This engagement can be gauged through observational and self-reporting methods (Liu M. et al., 2014). Behavioral engagement manifests in effort and persistence during learning activities (Meyer, Turner, 2002). In some recent research, the researchers have decomposed behavioral engagement into in- and out-of-class activities (Ranellucci et al., 2021; Wang, 2019). Furthermore, in a meta-analysis, the correlation between behavioral engagement and academic achievement was higher than that for emotional and cognitive engagement (Lei et al., 2018).

"Engagement bridges students' motivation to highly valued outcomes" (Reeve, 2012) and many studies have elaborated on behavioral engagement. Therefore, in this study, we also proposed a hypothesis: behavioral engagement will mediate the positive relationships between teacher support and academic performance, testing whether behavioral engagement acted as a mediating variable of the relations between teacher support and academic performance.

2.3 Academic Performance

According to the Cambridge University Reporter, academic performance is frequently defined as examination performance (Cambridge University Reporter, 2003). The academic and learning performance of students is influenced by many factors, such as gender, age, teachers, students' schooling, social and economic status of fathers/guardians, students' residential areas, school teaching media, tuition trends, daily study time, accommodation hotels or day students (Ali et al. Z., Munir F., et al., 2013). Teacher support and classroom behavioral engagement directly affect students' academic performance. Moreover, academic excellence significantly impacts a student's self-esteem, motivation, and perseverance in higher education. Substandard academic performance or high failure rates may lead to unacceptable dropout rates, decreased graduation numbers, and an elevated cost of education.



Additionally, it diminishes the admission prospects for tertiary students aspiring for advanced degrees. It also determines students' future goals and objectives (Kapur R., 2018). Therefore, students' academic performance has consistently garnered significant attention from educators (Jayanthi S.V. et al., 2014).

Some studies have demonstrated something about students' academic performance (e.g. Applegate and Daly, 2006; Al-Rofo, 2010). Most of them introduce the factors that influence the academic performance of students. This study mainly explores how to promote academic performance through teacher support and behavioral engagement.

2.4 Interplay between Teacher Support, Behavioral Engagement, and Academic Performance

Teachers have a direct and essential interpersonal impact on students' development (O'Connor, McCartney, 2007) and stand for one of the most proximal influences on the development of students in school (Pianta, Hamre, 2009). The good relationships between teachers and students are the factors that facilitate improvements in student academic performance, especially in schools with a clear emphasis on learning (Moreira P.A.S. et al., 2018). Because of this, students are less likely to drop out of school when relationships between teachers and students are consistently positive (Lee, Burkam, 2003; Rumberger, Rotermund, 2012). Furthermore, teacher-student interactions are positively associated with several indicators of academic trajectories, including learning, academic performance, and dimensions of student engagement with school, such as student academic motivation, self-efficacy, interest in class, prosocial behaviors, educational goals, social-emotional/subjective well-being, and mental health (Baker et al., 2008; Roorda et al., 2011).

In 2016, Kelly and Zhang examined the effects of teacher support on student engagement in a sample of over 25,000 students. The research indicated that variance in student engagement (operationalized as interest, enjoyment, identification, and beliefs about the future utility of school subjects) was significantly associated with differences in teacher support (Kelly et al., 2016).

2.5 The Present Study

There are many studies on teacher support, behavioral engagement, and academic performance, but relatively few studies have explored the interrelationships between these three factors in depth. At the same time, more in-depth research is needed on the mediating role of behavioral engagement. This study explores how teacher support facilitates enhancing students' academic performance, alongside exploring the positive correlation between teacher support and behavioral engagement and academic performance. Concurrently, this research also scrutinizes the mediating function of behavioral engagement in this intricate relationship. Based on the findings and literature, this research aimed to test the following four hypotheses in a sample of 688 Chinese secondary school students aged 12 to 15 years (see Figure 1).

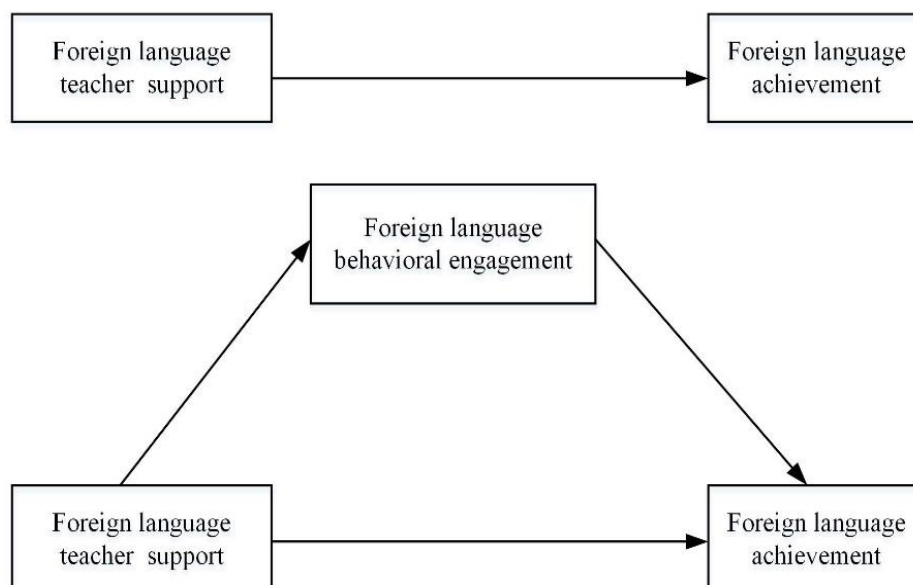


Figure 1. The proposed model

H₁: Teacher support positively predicts EFL learners' behavioral engagement.

H₂: Teacher support is positively associated with EFL learners' academic performance.

H₃: There is a positive correlation between behavioral engagement and academic performance in EFL learning.

H₄: Behavioral engagement mediates the relationship between teacher support and academic performance.

3. Methods

3.1 Participants and Procedure

This study was conducted in one middle school located in Foshan, China. The school was selected for convenience. Six hundred eighty-eight students were recruited, among which 356 were boys (51.7%), and 332 were girls (48.3%). The mean age was 12.97 years ($SD = .76$), ranging from 12 to 15 years. All students are from seventh grade.

Before the questionnaire survey, the present study obtained written informed consent from participants and their English teachers. The adolescents were invited to complete the questionnaire in paper-pencil format. The survey was administered by the author, assisted by their English teacher. Participants are told to participate voluntarily and withdraw at any time without any consequences. They completed the questionnaire during an English class under the guidance of their English teacher. The entire questionnaire process took about 15 minutes.

Firstly, before starting the formal survey, we conducted a pre-test using item analysis to ensure the quality of the questionnaire measurement. According to the size criteria for a pre-test (Oksenberg et al., 1991), 59 participants assessed the items' discrimination ability. Specifically, 27% of the highest and lowest scores were selected and analyzed (Kelley, 1939). As shown in Table 1, the mean values of high and low groups were significantly different for each item, indicating that all items were discriminative. That is, all items could be used in the formal investigation.

Table 1. The results of item analysis for the pre-test

Items	<i>t</i> -test for Equality of Means				Group	<i>N</i>	Mean	SD
	<i>t</i>	<i>df</i>	<i>p</i>	Mean Difference				
TS1	-13.250	33	.000	-1.750	Low	16	3.25	0.58
					High	19	5.00	0.00
TS2	-8.701	33	.000	-1.812	Low	16	3.19	0.91
					High	19	5.00	0.00
TS3	-12.265	33	.000	-1.437	Low	16	3.56	0.51
					High	19	5.00	0.00
TS4	-7.999	33	.000	-1.250	Low	16	3.75	0.68
					High	19	5.00	0.00
BE1	-12.369	34	.000	-2.167	Low	18	2.72	0.67
					High	18	4.89	0.32
BE2	-8.598	34	.000	-1.722	Low	18	3.11	0.76
					High	18	4.83	0.38
BE3	-10.120	34	.000	-1.500	Low	18	3.22	0.43
					High	18	4.72	0.46



BE4	-8.554	34	.000	-1.833	Low	18	2.94	0.80
					High	18	4.78	0.43
BE5	-12.589	34	.000	-1.889	Low	18	2.89	0.47
					High	18	4.78	0.43

Note: TS = "teacher support"; BE = "behavioral engagement".

3.2 Tools

3.2.1 Foreign Language Teacher Support Scale

To measure participants' foreign language teacher support in their EFL learning, the four items were adapted from the Child and Adolescent Social Support Scale (CASSS) (Malecki & Demaray, 2002). One example of this scale is "My English teacher cares about how much I learn". Participants rated the four items on a five-point Likert scale, with one representing "strongly disagree" and five representing "strongly agree". As shown in Table 4, the foreign language teacher support construct demonstrated an excellent internal consistency, with Cronbach's alpha equaling 0.813. This study regarded foreign language teacher support as an observable variable.

3.2.2 EFL-related Behavioral Engagement Scale

In this study, participants' level of behavioral engagement was measured by five items adapted from the Engagement vs Dissatisfaction with Learning Questionnaire (Skinner et al., 2009) (e.g., "I work hard when we start something new in English class."). Students rated the scale items on a five-point scale (1 = strongly disagree and 5 = strongly agree). The behavioral engagement scale demonstrated a superb internal consistency with Cronbach α = 0.910 (see Table 5). In data analysis, behavioral engagement was treated as an observable variable.

3.2.3 Foreign Language Achievement

We obtained participants' academic records with their consent and that of their parents. The academic record included participants' marks in final exams for English courses. The final exam paper has a full score of 90 points, with a total of 51 questions and a duration of 70 minutes. The exam paper includes Grammar Multiple Choice, Cloze, Reading Comprehension, and Read-Write Synthesis, which provides five short answer questions and one writing question.

Each question has its function. The Grammar Multiple Choice can motivate students positively and can assist students in monitoring and affirming their learning (Flannelly, 2001). Moreover, it can mainly test students' understanding and memory of essential knowledge and their ability to apply it. Cloze primarily examines students' ability to deeply understand and apply knowledge, as well as their grasp of knowledge details. Reading comprehension has a vital place in lifelong learning. Determining the level of students' reading comprehension skills is the subject of testing and evaluation (Özdemir E.Ç., Akyol H., 2019). Hence, reading comprehension mainly tests students' vocabulary and grammar knowledge, reading comprehension ability, reasoning and judgment ability, information screening and integration ability, reading speed and endurance, and cross-cultural communication ability. The Read-Write Synthesis usually involves actual situations or problems, and students must apply their knowledge to analyze and solve them.

3.3 Data analysis

Data were analysed in two stages. The first step was to validate the instrument. Specifically, Exploratory Factor Analysis (EFA) was used to explore the hope and engagement scale constructs. After this, reliability, convergent validity and discriminant validity were analyzed to test the quality of the instrument.

In the second stage, an independent sample t-test was used to examine the differences in foreign language teacher support and behavioral engagement between girls and boys. Furthermore, the proposed model (Figure 1) was then tested via simple regression and the PROCESS macro (Model 4) with IBM SPSS Statistics 27 (Hayes, 2022).



We used 95% bias-corrected confidence intervals (CI) based on 5000 bootstraps to determine the mediation effects of teacher support on academic achievement through behavioral engagement. The indirect effect was considered significant when the CI did not include zero.

4. Results

4.1 The validation of the instrument

4.1.1 Exploratory Factor Analysis (EFA)

Exploratory Factor Analysis (EFA) was used to check the factor structure of foreign language teacher support and behavioral engagement. We first conducted sample adequacy and Bartlett Sphericity tests to examine whether the data were appropriate for factor analysis. The results show that the Kaiser-Meyer-Olkin (KMO) value was 0.874, and Bartlett's Test of Sphericity was also significant ($\chi^2 = 37746.266$, $df = 36$, $p < .001$). The cut-off values for evaluating KMO values were: "mediocre" = between 0.5 and 0.7; "good" between 0.7 and 0.8; "great" = between 0.8 and 0.9; and "superb" = above 0.9 (Field, 2013; Hutcheson & Sofroniou, 2006). To achieve a good result, Bartlett's Test of Sphericity should be significant. Our findings indicated that it was appropriate to conduct factor analysis based on the data.

Table 2. The results of exploratory factor analysis

Subscale	Factor loading	
	Teacher support	Behavioral engagement
TS1	0.781	0.283
TS2	0.640	0.151
TS3	0.834	0.285
TS4	0.825	0.189
BE1	0.234	0.847
BE2	0.237	0.764
BE3	0.275	0.825
BE4	0.237	0.851
BE5	0.200	0.832
Eigenvalues	4.898	1.399
Explained variance	56.423	15.540
Total explained	69.963	

Table 3. Descriptive statistics for each item

Factor	<i>N</i>	Mean	<i>SD</i>	Skewness	Kurtosis
<i>Factor-TS</i>					
AC1	688	4.12	0.88	-0.621	-0.389
AC2	688	4.20	0.88	-1.002	0.938
AC3	688	4.23	0.82	-0.807	0.212
AC4	688	4.41	0.77	-1.210	1.359
<i>Factor-BE</i>					
BE1	688	3.80	0.96	-0.388	-0.413
BE2	688	3.85	0.90	-0.262	-0.598
BE3	688	3.87	0.91	-0.416	-0.195
BE4	688	3.84	0.96	-0.497	-0.193
BE5	688	3.80	0.93	-0.301	-0.471



Then, Principal Component Analysis (PCA) was used to examine the factors. Based on the PCA results, this study came up with two dimensions (see Table 2). The factor loadings of the items for foreign language teacher support ranged from 0.640 to 0.834. The factor loadings of the items for foreign language behavioral engagement ranged from 0.764 to 0.851. All factor loadings were above 0.5, and no cross-factor loadings were more than 0.4. The eigenvalue values for foreign language teacher support and behavioral engagement were 4.898 and 1.399, respectively. The total variance explained by the two dimensions was 69.963%, with teacher support and behavioral engagement explaining 56.423% and 15.540% of the total variance, respectively. Furthermore, Table 3 presented the results of descriptive statistics (including mean, standard deviation, skewness and kurtosis values) for each item of foreign language teacher support and behavioral engagement.

4.1.2 Reliability Analysis

Firstly, the corrected item-to-total and inter-item correlations for each item were analyzed. Rules of thumb suggest that the Corrected Item-Total Correlations exceed .50 and the Inter-Item Correlations exceed .30 (Hair Jr et al., 2019). Table 4 and Table show that all Corrected Item-Total Correlations were more than .50 (ranging from 0.466 to 0.796 for teacher support and 0.701 to 0.826 for behavioral engagement), except one item lower than 0.50. Moreover, all Inter-Item Correlations were more than .30 (ranging from 0.375 to 0.678 for teacher support and 0.570 to 0.846 for behavioral engagement).

Table 4. Results of reliability for foreign language academic competence scale

	Inter-Item Correlation				Internal consistency	
	TS1	TS2	TS3	TS4	Corrected Item-Total Correlation	Cronbach's alpha
TS1	-				0.667	0.813
TS2	0.385	-			0.466	
TS3	0.659	0.462	-		0.747	
TS4	0.608	0.375	0.678	-	0.674	

Then, Cronbach’s alpha was calculated to assess the internal consistency of the teacher support and behavioral engagement scales. The Cronbach’s alpha of foreign language teacher support was 0.813, and foreign language behavioral engagement was 0.910, more than the suggested value of .70 (Hair Jr et al., 2019). Overall, the reliability of the two scales used in this study was good.

Table 5. Results of reliability for foreign language behavioral engagement scale

	Inter-Item Correlation					Internal consistency	
	BE1	BE2	BE3	BE4	BE5	Corrected Item-Total Correlation	Cronbach's alpha
BE1	-					0.800	0.910
BE2	0.573	-				0.698	
BE3	0.660	0.665	-			0.791	
BE4	0.846	0.570	0.713	-		0.808	
BE5	0.669	0.660	0.694	0.643	-	0.767	

Note: BE = Behavioral Engagement.

4.1.3 Convergent and Discriminant Validity

Convergent validity assesses the degree to which two measures of the exact concept correlate. The average Variance Extracted (AVE) of each subscale was calculated to assess the convergent validity of the scales. As shown in Table 6, the AVE of teacher support and behavioral engagement scales were 0.599 and 0.680, respectively, more



than the suggested value of 0.5 (Hair Jr et al., 2019), indicating that the two scales used in this study had good convergent validity.

Table 6. Convergent validity and discriminant validity of the scales

	Convergent validity		Discriminant validity	
	AVE		AC	BE
TS	.599		.774	-
BE	.680		.536**	.825

Note: TS is for teacher support; BE is for behavioral engagement. The diagonal bold is the square root of AVE, and the correlations below the diagonal are the Pearson correlation coefficients. ** $p < .01$.

The discriminant validity of each subscale was also assessed by comparing the square root of AVE of one subscale and the Pearson correlation between the constructs. As shown in Table 6, the square root of AVEs for all two scales was higher than the Pearson correlation coefficient between teacher support and behavioral engagement, suggesting high discriminant validity for each scale.

4.2 The Predictive Effect of Foreign Language Teacher Support on Academic Achievement

A simple regression analysis was conducted to test the relationship between support from foreign language teachers and academic achievement. As shown in Table 8, the regression analysis is valid ($F = 51.326, p < .001$) and the regression equation was:

$$Y = 40.604 + 9.638 X$$

(The dependent variable is foreign language academic achievement; the independent variable is foreign language teacher support).

Furthermore, foreign language teacher support could positively predict academic achievement ($B = 9.638, t = 7.164, p < .001$). Besides, teacher support could explain 26.5% ($R^2 = 0.265$) variance in foreign language achievement.

Table 7. Results of regression analysis

Model		Unstandardized Coefficients		<i>t</i>	<i>p</i>	Standardized Coefficients	R^2	<i>F</i>
		B	SE			Beta		
Achi	Constant	40.604	5.774	7.032	0.000		0.265	51.326***
	TS	9.638	1.345	7.164	0.000	0.394		

Note: *** $p < .001$. TS= foreign language teacher support; Achi = academic achievement.

4.3 Foreign Language Behavioral Engagement as a Mediator between Teacher Support and Academic Achievement

To examine how foreign language teacher support influences academic achievement, specifically to explore whether foreign language behavioral engagement mediates foreign language teacher support on academic achievement, we applied a simple mediation model (Model 4) (Hayes, 2022) through the PROCESS SPSS computational tool. 5000 bootstrap was conducted, and bootstrapping provided a confidence interval (CI) around the indirect effect of the independent variable (teacher support) on the dependent variable (academic achievement) via the mediator (behavioral engagement). The mediating effect is significant if 95% CI does not contain zero.

The hypothesized indirect effect model was supported, presented in Figure 2. As predicted, foreign language teacher support positively predicted foreign language behavioral engagement ($\beta = 0.531, SE = 0.039, p < .001$), and behavioral engagement positively predicted academic achievement ($\beta = 0.390, SE = 1.251, p < .001$). Furthermore, the indirect path from teacher support to academic achievement through behavioral engagement was significant ($\beta =$



7.539, $SE = 0.997$, 95% CI [5.674, 9.556]) (see Table 9). Meanwhile, the direct effect of teacher support on academic achievement is insignificant ($\beta = 2.099$, $SE = 1.493$, 95% CI [-0.832, 5.030]), indicating that behavioral engagement plays a complete mediation role between teacher support and academic achievement.

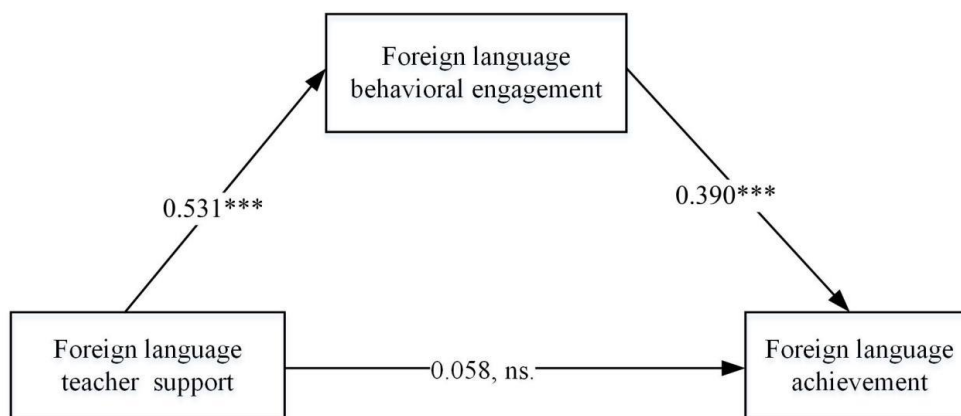


Figure 2. Results of mediation model

Note: *** $p < 0.001$; ns. = non-significant. The coefficients are standardized

Table 8. Indirect effects of foreign language learning behavioral engagement

Model path	Unstandardized estimate	SE	Bia-corrected CIs (95%)	
			Lower	Upper
Direct effect	2.099	1.493	-0.832	5.030
Indirect effect: TS→BE→Achi	7.539	0.997	5.674	9.556
Total effect	9.638	1.345	6.996	12.279

5. Discussion

This study aimed to examine how teacher support may predict academic performance indirectly via the mediator of behavioral engagement of Chinese secondary school students in their EFL learning. Results showed that behavioral engagement completely mediates teacher support and academic performance.

First, this study found that teacher support positively predicts EFL learners’ behavioral engagement, and thus, Hypothesis 1 was supported. One of the findings of this study is similar to most studies in that it proves the importance of teacher support in EFL learning. Teacher support is one of the most critical environmental factors that affect English learning in terms of school context. It is considered as students’ perception that their teachers are concerned with them, feel their feelings, and are willing to assist them when they have difficulties with their schoolwork. In EFL learning, frequent interaction between teachers and students is greatly needed; hence, teachers, both as organizers and participants of classroom activities, are believed to be a critical factor in language learning (Liu Q. et al., 2023). In addition, this study also confirmed that teacher support plays a particularly pivotal part in enhancing students’ engagement (Reeve, 2012; Skinner et al., 2008). These findings contribute to research on the relationships between teacher support and behavioral engagement and provide teaching advice to teachers.

Second, the empirical study found that teacher support is positively associated with EFL learners’ academic performance, indicating that Hypothesis 2 was supported. This result suggests that the more teacher support the students received, the better their academic performance in EFL learning. Teacher support measures the amount of help, concern and friendship the teacher directs toward the students (Sharma G., 2016). This study has the same result as the study of Sharma G. in 2016. In the research, Sharma hypothesized that the students who perceived more teacher support exhibited higher academic achievement than those who perceived less support.

Third, this study found a positive correlation between behavioral engagement and academic performance in EFL learning, which means Hypothesis 3 is true. According to the researcher, one crucial aim of education lies in



attaining effective learning outcomes. Hence, it is vital to identify and analyze the factors that impact students' academic performance to boost their achievement (Al-Bahadli K.H., 2020). This study is similar to some of the primary results of the present study. They all show a positive relationship between behavioral engagement and academic performance. When a student exhibits notable participation in class, such as answering questions and engaging in discussions, there is a noticeable improvement in their academic performance and achievements. This improvement is reflected in their academic performance and the development of their thinking skills.

Fourth, another hypothesis was confirmed: Behavioral engagement mediates the relationship between teacher support and academic performance. The present studies consider behavioral engagement to mediate the association between teacher-child relationship quality and children's academic achievement (Bryce et al., 2018; Hughes et al., 2008, 2012). This result indicates that merely receiving superior-quality support does not guarantee higher academic outcomes for adolescents. However, it can motivate them to exhibit greater behavioral engagement, potentially leading to improved performance. For students to excel in school, they must engage more frequently in academically oriented activities such as diligent studying (Chen, 2005). In previous studies, few scholars have focused on the mediating role of behavioral engagement. In this study, we use it as a hypothesis to verify the importance of its mediating role as much as possible.

6. Implications, limitations and directions for future research

This study contributed to the existing literature by exploring the interplay between teacher support, behavioral engagement and academic performance among Chinese secondary EFL learners. This finding has two implications for educational practice. First, education should emphasize the importance of teacher support. Teachers can provide support in various ways and make efforts to make students feel support from them, such as regular communication with students, or they can emotionally connect with them, encourage them to ask questions and treat them equally (Tennant et al., 2015). This support helps students establish a positive learning attitude and promotes academic development. Second, education practice should focus on cultivating students' ability to participate in the behavior. Teachers can encourage students' behavioral engagement by designing engaging teaching activities, providing diverse learning materials, and encouraging students to participate in group cooperation. At the same time, teachers should also pay attention to students' learning needs and adjust teaching strategies promptly to meet their individual needs.

This empirical study investigated the interplay between teacher support, behavioral engagement and academic performance among Chinese secondary EFL learners in a sample of 688 Chinese secondary school students aged 12 to 15 years in their EFL learning. Two limitations need to be noted. First, data for all measures (i.e. foreign language teacher support, EFL-related behavioral engagement) are self-reported. These data are analyzed from the perspective of students. Therefore, future studies are suggested to use the data from significant others, such as teachers. Second, the present study only recruited Chinese students from one junior high school in Foshan, China. Participants from other districts and provinces (e.g. rural areas) need to be included in future research to ascertain the generality of the findings.

7. Conclusion

The findings provided further evidence of the beneficial role of teacher support on behavioral engagement and academic performance. Furthermore, this study confirmed the positive mediating role of behavioral engagement between teacher support and academic performance. The higher the quality of teacher support and behavioral engagement, the higher their academic performance will likely be. Teachers must actively support students, continuously optimize their teaching strategies, promote students' behavioral engagement in school, and help students improve their comprehensive ability development.

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Yes

Conflict of interest

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