

A Study on the Effect of Perceived Teacher Support on English Academic Achievement among Senior High School Students: The Mediating Role of Learning Engagement

Xindi Yang^{1,a}, Xueai Li^{2,b,*}

¹College of Teacher Education, Hebei Normal University, Shijiazhuang, China

²School of Foreign Studies, Nankai University, Tianjin, China

^ayangxindi20020103@163.com, ^blixueai0115@126.com

*Corresponding author

Abstract: Perceived teacher support and learning engagement are critical psychological factors that affect academic achievement. However, previous studies have paid little attention to the joint impact mechanism of these two factors on senior high school students' English learning outcomes. This study examined 355 students from a high school in Hebei Province, employing a mixed-methods design that integrated quantitative questionnaires and qualitative interviews to explore the underlying mechanisms between perceived teacher support and English academic achievement, as well as the mediating role of learning engagement. The results indicated that perceived teacher support, learning engagement, and their sub-dimensions are all significantly positively correlated with English academic achievement. Moreover, learning engagement fully mediated the relationship between perceived teacher support and English academic achievement. These findings provide valuable theoretical and practical implications for fostering positive teacher-student relationships and improving students' academic achievement.

Keywords: Perceived Teacher Support, Learning Engagement, English Academic Achievement, Mediation

1. Introduction

In the contemporary era characterized by rapid globalization and intensifying cross-cultural exchanges, English has solidified its position as the global lingua franca, occupying a central role in senior secondary education systems worldwide. The effectiveness of English learning during the senior high school stage not only concerns the current academic quality of students but also exerts far-reaching consequences on their future academic advancement, career development, and expansion of international perspectives^[1]. Perceived teacher support and learning engagement can effectively stimulate positive psychological factors in student^{[2][3]}, promote their English learning, and has a substantial and enduring influence on students' academic performance^{[4][5]}. Through empirical investigation, this study aims to reveal the underlying relationships among perceived teacher support, learning engagement, and English academic achievement. It seeks to provide targeted strategies for optimizing senior high school English teaching practice and to promote the high-quality development of senior high school English education.

2. Literature Review

2.1 Definitions of Perceived Teacher Support and Learning Engagement

Perceived teacher support originates from the broader concept of social support. Social support encompasses many different types of support and various sources of support. It refers to individuals' belief that they are valued members of a social network through receiving care, respect, and belongingness^[6]. As teacher support, it is a primary source of support for students during their school years and holds significant importance for their academic and psychological development. Building on this foundation and from the student-centered perspective, perceived teacher support is defined as the supportive behaviors, resources, attitudes, and environments that students can perceive from teachers in teaching activities and daily learning, as well as a healthy, equal, and positive teacher-student

relationship^{[7][8]}.

Learning engagement refers to the effort, time cost, and psychological investment made during the learning process to acquire knowledge and skills^[9]. It is a state of high attention and involvement, related to the teaching activities^[10] and the surrounding teaching environment^[11]. The state of learning engagement is reflected in multiple aspects, including cognitive, behavioral, emotional and agentic engagement^{[12][13]}. In these aspects, cognitive engagement emphasizes students' intellectual investment in learning, including thinking, using learning strategies, and deeply understanding and mastering the learning content. Behavioral engagement refers to students' active participation in learning and academic tasks, such as asking questions, engaging in classroom discussions and participating in school-related activities. Emotional engagement involves students' positive and negative emotional responses to school, teachers, peers, academics, and school activities, such as interest, boredom, happiness, sadness, and anxiety^[11]. Agentic engagement refers to students' constructive contributions to the teaching process they receive, including offering opinions, expressing preferences, making suggestions or contributing ideas, and raising questions^[13].

2.2 Relationships among Perceived Teacher Support, Learning Engagement and English Academic Achievement

Previous studies both domestically and internationally have found that students with higher levels of perceived teacher support tend to be more engaged in learning^[14]. Perceived teacher support has a certain predictive effect on learning engagement. However, there is limited research focusing on the direct relationship between these two in the context of exam-oriented education and their impact on academic achievement.

Perceived teacher support is one of the important psychological factors that affect students' academic achievement. Research has found that perceived teacher support can not only directly and positively predict students' academic performance^[15], but also indirectly influence students' grades and performance through many mediating factors^[3]. However, existing research predominantly focuses on college students, with relatively few studies targeting senior high school students.

In second-language learning, learning engagement can effectively influence students' academic achievement and performance^{[3][5]}. Existing research often directly focuses on the impact of learning engagement on students' academic performance, with few studies examining the mediating role of learning engagement between different variables.

In summary, both perceived teacher support and learning engagement are related to academic achievement. However, there is still limited research on the joint impact of perceived teacher support and learning engagement on English achievement, as well as the indirect effect pathway from perceived teacher support to academic achievement through learning engagement. This study aims to investigate the impact of perceived teacher support on English academic achievement among senior high school students and to deeply analyze the mediating role of learning engagement in this relationship.

2.3 The Present Study

According to the literature review, this study aims to address the following three research questions and proposes the following hypothesized model, as shown in Figure 1:

- (1) What is the current status of perceived teacher support and learning engagement among senior high school students?
- (2) What are the relationships among perceived teacher support, learning engagement, and English academic achievement among senior high school students?
- (3) Does learning engagement mediate the relationship between perceived teacher support and English academic achievement? If so, how does it work?

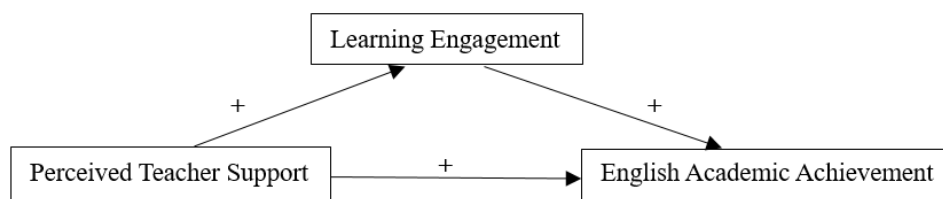


Figure 1 Hypothesized Model of the Relationships among Perceived Teacher Support, Learning Engagement, and English Academic Achievement

3. Methods

3.1 Participants

This study employs a convenience sampling method, selecting 380 senior high school students from a key high school in Hebei Province, China. A total of 355 valid samples were obtained, with a response rate of 93.4%. Among the participants, there are 143 males (40.3%) and 212 females (59.7%), with 155 students (43.7%) from Grade 10, 105 students (29.6%) from Grade 11, and 95 students (26.8%) from Grade 12. All participants are native Chinese speakers with no overseas experience. At the time of data collection, they had eight 40-minute English classes per week.

3.2 Instruments

3.2.1 Perceived Teacher Support

The Perceived Teacher Support Scale is translated and adapted from Patrick et al.^[16] and Wong et al.^[17] to measure how senior high school students perceive the supportive behaviors of their teachers. The scale consists of 14 items divided into four dimensions: emotional support (4 items), academic support (4 items), instrumental support (2 items), and appraisal support (4 items). Each item is measured using a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores indicating a higher level of perceived teacher support. The Cronbach's alpha coefficient for this Perceived Teacher Support Scale is 0.849, showing good reliability.

3.2.2 Learning Engagement

The Learning Engagement Scale is translated and adapted from Reeve and Tseng^[13] to measure the extent of senior high school students' engagement in learning English. The scale consists of 19 items divided into four dimensions: agentic engagement (5 items), behavioral engagement (5 items), emotional engagement (3 items), and cognitive engagement (6 items). The scale uses a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores indicating a higher degree of student engagement in English learning. The Cronbach's alpha value for this Learning Engagement Scale is 0.850, indicating good reliability.

3.2.3 English Academic Achievement

The English academic achievement in this study was selected from the three monthly exams and one mid-term exam of senior high school students from September 2024 to January 2025, with the final use of the average of the four exam scores.

3.2.4 Semi-Structured Interview

To further verify the relationships between variables and explore deeper reasons, this study also randomly selected four students for semi-structured interviews. The interview outline includes eight questions, consistent with the research questions, aiming to explore students' different views on perceived teacher support and learning engagement and the relationships between these two factors and academic achievement.

3.3 Procedure

A key high school was selected from a provincial capital city in northern China. In October 2024, with the assistance of the school's English teachers, questionnaires were formally distributed to the participants. Before data collection, students were informed of the purpose of this study and could choose

to participate or not based on their own will. Meanwhile, they were assured that their responses would be strictly confidential and used solely for research purposes. The time taken by participants to complete the questionnaire was approximately 15 minutes.

3.4 Data Analysis

The collection of the quantitative questionnaires was conducted in a paper-and-pencil format, distributed and collected during class. Subsequently, the data was cleaned, eliminating responses that were incomplete or careless. The cleaned data was then entered into SPSS 27.0 for data analysis. Before analyzing the data, reliability tests were conducted. Based on this, descriptive statistical analysis, independent sample T-test and one-way ANOVA were used to examine the overall levels and characteristics of students perceived teacher support and learning engagement. Pearson correlation analysis was employed to assess the correlations between variables. Multiple regression and Process v4.1 were used to further explore the predictive and mediating effects between variables. The semi-structured interviews were conducted in Chinese to collect qualitative data. The interview content was recorded and subsequently transcribed into English for research analysis, serving as a supplement to the quantitative data.

4. Results

4.1 Descriptive Statistics and Correlations among the Variables

Table 1 shows that senior high school students show a high level of perceived teacher support ($M=3.66$, $SD=0.73$), with the highest score in instrumental support ($M=3.99$, $SD=0.74$), followed by academic support ($M=3.91$, $SD=0.73$) and appraisal support ($M=3.70$, $SD=0.80$), while emotional support ($M=3.31$, $SD=0.88$) has the lowest score. In addition, senior high school students also demonstrate a medium-high level of learning engagement in English ($M=3.41$, $SD=0.65$). Among the different dimensions, behavioral engagement ($M=4.00$, $SD=0.72$) is higher than emotional engagement ($M=3.71$, $SD=0.85$), which in turn is higher than cognitive engagement ($M=3.47$, $SD=0.72$). The score for agentic engagement ($M=2.59$, $SD=0.87$) is relatively low, indicating a lack of student agency in English classrooms.

Table 1 Descriptive Statistics and Correlations among the Variables ($N=355$)

	1	2	3	4	5	6	7	8	9	10	11
1. PTS	1										
2. ES	0.897**	1									
3. ACS	0.923**	0.780**	1								
4. IS	0.489**	0.423**	0.476**	1							
5. APS	0.875**	0.654**	0.745**	0.433**	1						
6. LE	0.669**	0.599**	0.622**	0.777**	0.595**	1					
7. AE	0.572**	0.529**	0.509**	0.429**	0.505**	0.791**	1				
8. BE	0.514**	0.456**	0.506**	0.927**	0.436**	0.824**	0.472**	1			
9. EE	0.610**	0.555**	0.555**	0.714**	0.526**	0.852**	0.547**	0.713**	1		
10. CE	0.541**	0.466**	0.511**	0.585**	0.511**	0.862**	0.531**	0.615**	0.691**	1	
11. EAA	0.287**	0.278**	0.259**	0.326**	0.229**	0.410**	0.259**	0.335**	0.403**	0.391**	1
M	3.66	3.31	3.91	3.99	3.70	3.41	2.59	4.00	3.71	3.47	
SD	0.73	0.88	0.73	0.74	0.80	0.65	0.87	0.72	0.85	0.72	

Notes: PTS=Perceived Teacher Support, ES=Emotional Support, ACS=Academic Support, IS=Instrumental Support, APS=Appraisal Support, LE=Learning Engagement, AE=Agentic Engagement, BE=Behavioral Engagement, EE=Emotional Engagement, CE=Cognitive Engagement, EAA=English Academic Achievement; ** $p<0.01$.

The results of the correlation analysis (Table 1) show that overall perceived teacher support and its individual dimensions are significantly positively correlated with overall learning engagement ($r>0$, $p<0.01$), agentic engagement ($r>0$, $p<0.01$), behavioral engagement ($r>0$, $p<0.01$), emotional engagement ($r>0$, $p<0.01$), and cognitive engagement ($r>0$, $p<0.01$). Each dimension of perceived teacher support is significantly positively correlated with English academic achievement ($r>0$, $p<0.01$), though the correlation is relatively weak. Learning engagement and its individual dimensions are also significantly and positively correlated with English academic achievement ($r>0$, $p<0.01$), with a moderate to low degree of correlation.

Table 2 Results of independent samples t-test for gender differences (N=355)

Variables	Male (N=143)	Female (N=212)	t
PTS	3.65±0.83	3.67±0.65	-0.209
ES	3.33±0.97	3.30±0.83	0.325
ACS	3.90±0.84	3.91±0.65	-0.072
IS	3.87±0.89	4.07±0.60	-2.336*
APS	3.67±0.90	3.73±0.72	-0.690
LE	3.29±0.76	3.49±0.54	-2.704**
AE	2.54±0.96	2.62±0.80	-0.914
BE	3.88±0.87	4.08±0.59	-2.362*
EE	3.59±0.96	3.79±0.76	-2.125*
CE	3.29±0.83	3.58±0.60	-3.616**

Notes: *p<0.05; **p<0.01

In addition, independent samples t-test (Table 2) and one-way ANOVA (Table 3) are conducted based on gender and grade to detect differences in perceived teacher support and learning engagement across these two aspects. The results show that, there is no significant difference in overall perceived teacher support between genders, with female participants having a slightly higher score than male participants. However, learning engagement is significantly higher for female participants than for male participants. In a specific dimension, significant gender differences are found in instrumental support, behavioral engagement, emotional engagement, and cognitive engagement. Moreover, perceived teacher support and learning engagement, as well as their individual dimensions, all show significant differences across grades, with Grade 12 students having significantly higher scores than those in Grades 10 and 11.

Table 3 Results of one-way ANOVA for grades (N=355)

Variables	Grade 10 (N=155)	Grade 11 (N=105)	Grade 12 (N=95)	F
	M±SD	M±SD	M±SD	
PTS	3.45±0.69	3.54±0.65	4.13±0.66	32.132**
ES	3.08±0.83	3.13±0.86	3.88±0.73	32.099**
ACS	3.74±0.68	3.83±0.69	4.27±0.72	18.240**
IS	3.91±0.73	3.90±0.70	4.24±0.74	7.392**
APS	3.52±0.77	3.59±0.78	4.14±0.69	21.843**
LE	3.33±0.62	3.31±0.60	3.67±0.68	10.429**
AE	2.55±0.83	2.40±0.82	2.85±0.91	7.107**
BE	3.94±0.70	3.88±0.72	4.24±0.72	7.763**
EE	3.54±0.85	3.58±0.82	4.12±0.76	16.464**
CE	3.38±0.67	3.44±0.71	3.64±0.78	4.111*

Notes: *p<0.05; **p<0.01

4.2 Results of multiple regression

On the premise that the variables are significantly correlated, regression analysis can further explore the predictive relationships between variables. With English academic achievement as the dependent variable and perceived teacher support and learning engagement as the independent variables included in the regression equation, the results are shown in Table 4.

Table 4 Results of multiple regression (N=355)

Independent	Dependent	Constant	B	Beta	R ²	adjusted R ²	F
LE	EAA	53.302	10.158	0.410	0.168	0.166	71.513**
Excluded	Dependent	Beta In	t	p	Partial Correlation	Tolerance	VIF
PTS	EAA	0.023	0.354	0.724	0.019	0.553	1.809

Notes: **p<0.01

The regression model retained only learning engagement ($\beta=0.410$, $t=8.457$, $p<0.001$), which is significant overall ($F(1, 353)=71.513$, $p<0.001$) and accounts for 16.8% of the variance in English academic achievement (adjusted $R^2=0.166$). Perceived teacher support is excluded from the final model. Statistical tests indicate that, after controlling for the impact of learning engagement, perceived teacher

support does not make a significant independent contribution to English academic achievement ($\beta_{in}=0.023$, $t=0.354$, $p=0.724>0.05$). Its partial correlation coefficient is close to zero ($r=0.019$), and collinearity diagnostics show that tolerance is within an acceptable range (Tolerance=0.553, VIF=1.809). Therefore, learning engagement is the core predictor of academic achievement, while perceived teacher support fails to demonstrate significant predictive power independent of learning engagement.

4.3 Mediation Effect Analysis

Based on the above research results, a hypothesis is proposed that learning engagement plays a mediating role between perceived teacher support and English academic achievement. To test this hypothesis, this study takes perceived teacher support as the independent variable, English academic achievement as the dependent variable, and learning engagement as the mediating variable. The PROCESS plugin in SPSS is used, with MODEL 4 selected, bootstrap sampling set at 5000 times, and the confidence interval set at 95% for mediating effect analysis.

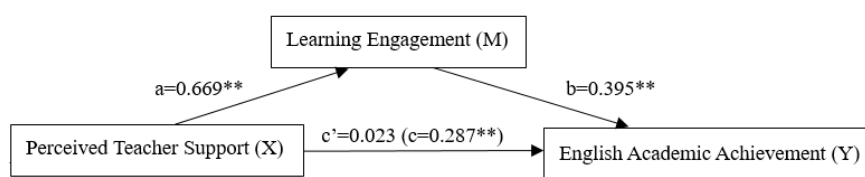


Figure 2 Mediating Model of Perceived Teacher Support, Learning Engagement and English Academic Achievement

Figure 2 show the results of the mediating effect test, revealing the relationship between perceived teacher support (PTS), learning engagement (LE), and English academic achievement (EAA). The Bootstrap sampling analysis (Table 5) indicates that the indirect effect of PTS on EAA through LE is significant ($\beta=0.264$, 95% CI [3.322, 8.184]), the total effect is significant ($\beta=0.287$, 95% CI [4.113, 8.524]), while the direct effect is not significant ($\beta=0.023$, 95% CI [-2.319, 3.336]). Therefore, learning engagement plays a full mediating role between perceived teacher support and English academic achievement.

Table 5 Mediating Effect of LE between PTS and EAA

	Effect	Boot SE	Boot LLCI	Boot ULCI
Total Effect	6.319	1.122	4.113	8.524
Direct Effect	0.509	1.438	-2.319	3.336
Indirect Effect	5.810	1.233	3.322	8.184

5. Discussion

This study explores the impact of perceived teacher support on students' English academic achievement by constructing a mediating model and tests whether learning engagement mediates the relationship between them, attempting to explain the underlying mechanisms among the three variables. The research findings support the following conclusions: (1) Students exhibit a high level of perceived teacher support and a medium-high level of learning engagement; (2) There are significant correlations among the variables and their sub-dimensions; (3) Learning engagement plays a full mediating role between perceived teacher support and English academic achievement.

5.1 The General Profiles of Perceived Teacher Support and Learning Engagement

This study indicates that the overall level of perceived teacher support is relatively high. Among the different types of support, instrumental support has the highest value, followed by academic support and appraisal support, with emotional support being the lowest. Instrumental support reflects the explicitness and directness of teaching strategies. Repeated explanations and encouragement for self-expression represent specific, direct, and frequently occurring supportive behaviors in classroom teaching. These behaviors meet students' basic learning needs and are easily perceived and recognized by students. The high levels of academic and appraisal support suggest that students can clearly perceive the teachers' efforts in knowledge transmission, learning process assistance, outcome diagnosis, and goal-setting guidance. In contrast, emotional support often involves deeper emotional connections, empathetic

understanding, and non-verbal communication, which are more difficult for students to strongly perceive. Moreover, under the pressure of heavy teaching tasks in large-class instruction, it is challenging for teachers to pay attention to the emotional needs of every student, resulting in relatively lower scores for emotional support.

This study reveals a medium-high level of learning engagement. Among the different dimensions, behavioral engagement has the highest value. This may be due to external forces such as school discipline, teacher authority, parental expectations, and the pressure of exams, which effectively prompt students to exhibit compliant behaviors. Furthermore, actions like “listening attentively” and “concentrating” are relatively easy for students to perform and represent the most straightforward form of engagement for obtaining immediate external feedback (or avoid punishment). In contrast, agentic engagement is at a lower level, only at a medium level. This may be due to the influence of traditional classroom culture and the student role, where students are more accustomed to passively receiving information rather than actively speaking up. Additionally, students may worry about the negative evaluations that could result from taking the initiative to express themselves.

This study identifies gender and grade differences in perceived teacher support and learning engagement. Overall, no significant gender differences emerged in perceived teacher support, but female participants scored slightly higher than males. This may reflect females’ greater sensitivity and differences in emotional expression, making them more likely to perceive teacher support. This finding is consistent with previous research results^{[18][19]}. However, other studies have found that males perceive higher levels of teacher support than females^[20]. Some research emphasizes that gender is not a significant determining factor and only plays a role in “extremely negative situations”^[21]. In contrast, learning engagement was significantly higher for females than for males. This may be because, cognitively, females are better at semantic memory (e.g., words, texts) while males are better at logical memory^[22]. As a result, females may more easily engage fully in English learning through methods such as memorization and recitation. Additionally, the findings can also be influenced by the socio-cultural environment.

In terms of grade differences, Grade 12 students demonstrated significantly higher levels of perceived teacher support and learning engagement, as well as their sub-dimensions, compared to Grades 10 and 11. This likely reflects the imminent pressure of college entrance examinations for Grade 12 students, combined with greater allocation of school and teacher resources to this grade level. Consequently, influenced by both external environmental factors and academic pressure, Grade 12 students can perceive more support from teachers and are more focused on their English learning.

5.2 Correlations among Perceived Teacher Support, Learning Engagement and English Academic Achievement

This study reveals significant positive correlations among perceived teacher support, learning engagement, and English academic achievement. Specifically, students who perceive greater teacher support tend to invest more time and effort in English learning and consequently achieve higher English scores. This finding aligns with previous research^{[14][23]}. According to Social Support Theory, the results demonstrate how social support resources satisfy psychological needs, thereby stimulating and sustaining students’ multi-dimensional engagement^{[8][24]}. As a key source of support, perceived teacher support fulfills students’ needs for belonging and competence^[24], buffers academic stress, enhances intrinsic motivation, and ultimately enables students to maintain sustained effort in learning^[25].

Furthermore, according to Student Involvement Theory^[26], engagement serves as both the direct driver of learning and essential condition for academic achievement to be attained. Behavioral engagement ensures students’ necessary focus and participation; emotional engagement fosters enjoyment of English learning and sustains long-term motivation; cognitive engagement enhances deep comprehension and application, thereby improving students’ overall language proficiency and learning capacity; and agentic engagement strengthens self-management and self-regulation, increasing the efficiency and depth of English learning.

Through participant interviews, this study further revealed that students perceive teachers’ encouragement and assistance, teachers’ effective learning strategies, timely feedback and corrections in their daily learning. These experiences enhance their motivation and interest in English learning, make their study more efficient, and ultimately improve their English academic achievement. However, since students are the primary agents of learning, perceived teacher support must ultimately influence English achievement through the mediating role of learning engagement.

5.3 The Mediating Role of Learning Engagement

The findings of this study demonstrate that learning engagement fully mediates the relationship between perceived teacher support and English academic achievement--a result consistent with prior research^[3]. Social Support Theory posits that perceived teacher support, as an external environmental factor and resource, cannot directly transfer knowledge or skills into students' minds; rather, it must first be transformed into internal psychological motivation to drive behavioral change.

Perceived emotional support fosters students' sense of belonging and security, thereby enhancing their emotional engagement and enjoyment in English learning. Academic support from teachers reduces learning barriers, promoting greater behavioral engagement in the English classroom. Perceived instrumental support boosts students' confidence and self-efficacy, further stimulating cognitive engagement and strengthening language abilities. Meanwhile, perceived appraisal support reinforces students' autonomy through immediate feedback, elevating their agentic engagement.

Participants emphasized in interviews that academic improvement ultimately depends on students' own effort and active processing of knowledge. Teachers can only provide the necessary assistance and support; if students fail to internalize this support and remain passive recipients, they cannot effectively absorb knowledge.

6. Conclusion, Implications and Limitations

This study provides a solid foundation for further understanding the mechanisms linking perceived teacher support, learning engagement, and English academic achievement among senior high school students. The findings reveal that: Students report high levels of perceived teacher support and medium-high levels of learning engagement; All three variables demonstrate significant positive correlations with one another; Perceived teacher support exerts a positive influence and predictive effect on English academic achievement through the full mediation of learning engagement. These results underscore the critical role of learning engagement as the key pathway through which teacher support translates into improved English performance, highlighting the necessity of fostering learning engagement to maximize the benefits of supportive teaching practices.

This study suggests that teachers should proactively build a good teacher-student relationship, provide a supportive environment, and promote students' effective engagement. Teachers should pay attention to students' emotions in their spare time from teaching, enhance the diversity of classroom activities and strengthen their interest in learning. Previous studies have confirmed that English teaching practice should focus on the emotional perception and regulation of teenagers^[27]. Students have suggested that teachers should offer assistance in their studies and provide timely feedback on their learning outcomes to promote their in-depth processing of English and autonomous learning. In addition, students should actively make use of teacher support, communicate more with teachers, give full play to their own advantages, and improve their academic performance.

Moreover, this study has several limitations: First, the sample was confined to a single high school, necessitating further validation of the generalizability of the findings; second, the cross-sectional design precludes establishing the temporal sequence of causality among perceived teacher support, learning engagement, and academic achievement--for instance, high achievement may reciprocally enhance perceived teacher support; finally, the use of self-report measures may introduce response bias. Future research should expand the sample size and employ longitudinal designs to track the temporal trajectories of perceived teacher support and learning engagement.

References

- [1] Rong L, Zhang Y, Tiwari P, Yu M. BegoniaGPT: Cultivating the large language model to be an exceptional K-12 English teacher[J]. *Neural Networks*, 2025, 107488.
- [2] Yin W, Zhang X, Ji K. Examining the association between teacher support and commitment as well as willingness to communicate in Chinese college students: The sequential mediation role of growth language mindset and enjoyment[J]. *System*, 2025, 131: 103674.
- [3] Eren A, Rakicioğlu-Söylemez A. Language mindsets, perceived instrumentality, engagement and graded performance in English as a foreign language students[J]. *Language Teaching Research*, 2023, 27(3): 544-574.
- [4] Affiso G, Zannone A, Esposito C, Pannone M, Miranda M C, De Angelis G, et al. The effects of

- teacher support, parental monitoring, motivation and self-efficacy on academic performance over time[J]. *European Journal of Psychology of Education*, 2023, 38(1): 1-23.
- [5] Barnett M D, Melugin P R, Hernandez J. Time perspective, intended academic engagement, and academic performance[J]. *Current Psychology*, 2020, 39: 761-767.
- [6] Cobb S. Social support as a moderator of life stress[J]. *Psychosomatic medicine*, 1976, 38(5): 300-314.
- [7] Babad E. Measuring and changing teachers' differential behavior as perceived by students and teachers[J]. *Journal of Educational Psychology*, 1990, 82(4): 683.
- [8] Ryan A M, Patrick H. The classroom social environment and changes in adolescents' motivation and engagement during middle school[J]. *American Educational Research Journal*, 2001, 38(2): 437-460.
- [9] Lamborn S, Newmann F, Wehlage G. The significance and sources of student engagement[A]. // *Student engagement and achievement in American secondary schools*. New York: Teachers College Press, 1992: 11-39.
- [10] Morganett L. Good teacher-student relationships: A key element in classroom motivation and management[J]. *Education*, 1991, 112(2): 260-264.
- [11] Fredricks J A, Blumenfeld P C, Paris A H. School engagement: Potential of the concept, state of the evidence[J]. *Review of Educational Research*, 2004, 74(1): 59-109.
- [12] Philp J, Duchesne S. Exploring engagement in tasks in the language classroom[J]. *Annual Review of Applied Linguistics*, 2016, 36: 50-72.
- [13] Reeve J, Tseng C M. Agency as a fourth aspect of students' engagement during learning activities[J]. *Contemporary Educational Psychology*, 2011, 36(4): 257-267.
- [14] Tao Y, Meng Y, Gao Z, Yang X. Perceived teacher support, student engagement, and academic achievement: A meta-analysis[J]. *Educational Psychology*, 2022, 42(4): 401-420.
- [15] Ansong D, Okumu M, Amoako E O, Appiah-Kubi J, Ampomah A O, Koomson I, et al. The role of teacher support in students' academic performance in low-and high-stakes assessments[J]. *Learning and Individual Differences*, 2024, 109: 102396.
- [16] Patrick H, Ryan A M, Kaplan A. Early adolescents' perceptions of the classroom social environment, motivational beliefs, and engagement[J]. *Journal of Educational Psychology*, 2007, 99(1): 83-92.
- [17] Wong T K, Tao X, Konishi C. Teacher support in learning: Instrumental and appraisal support in relation to math achievement[J]. *Issues in Educational Research*, 2018, 28(1): 202-219.
- [18] Tennant J E, Demaray M K, Malecki C K, Terry M N, Clary M, Elzinga N. Students' ratings of teacher support and academic and social-emotional well-being[J]. *School Psychology Quarterly*, 2015, 30(4): 494-512.
- [19] Othman M S, Kiliç M. An analysis of the relationship between perceived teacher support and motivational/emotional responses[J]. *International Online Journal of Education and Teaching*, 2018, 5(2): 279-293.
- [20] Liu H, Li X. Unravelling students' perceived EFL teacher support[J]. *System*, 2023, 115: 103048.
- [21] Mai Y, Wu Y J, Huang Y. What type of social support is important for student resilience during COVID-19? A latent profile analysis[J]. *Frontiers in Psychology*, 2021, 12: 646145.
- [22] Spalek K, Fastenrath M, Ackermann S, Auschra B, Coynel D, Frey J, et al. Sex-dependent dissociation between emotional appraisal and memory: a large-scale behavioral and fMRI study[J]. *Journal of Neuroscience*, 2015, 35(3): 920-935.
- [23] Vargas-Madriz L F, Konishi C, Wong T K. A meta-analysis of the association between teacher support and school engagement[J]. *Social Development*, 2024, 33(4): e12745.
- [24] Wright J P, Cullen F T. Parental efficacy and delinquent behavior: Do control and support matter?[J]. *Criminology*, 2001, 39(3): 677-706.
- [25] Tas Y, Subaşı M, Yerdelen S. The role of motivation between perceived teacher support and student engagement in science class[J]. *Educational Studies*, 2019, 45(5): 582-592.
- [26] Astin A W. Student involvement: A developmental theory for higher education[J]. *Journal of College Student Development*, 1999, 40(5): 518-529.
- [27] Zhang Y, Hu Y, Yu M. Exploring emotional support and engagement in adolescent EFL learning: The mediating role of emotion regulation strategies[J]. *Language Teaching Research*, 2024: 13621688241266184.