THE MEDIATING ROLE OF ACADEMIC SELF-CONCEPT IN THE LINKAGE BETWEEN TEACHER SUPPORT AND ACADEMIC PROFICIENCY AMONG SECONDARY EFL LEARNERS

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Abstract:

Based on social support theory, this study aims to verify that the relationship between teacher support and academic proficiency is mediated by academic self-concept in teaching English as a foreign language (EFL) settings. Seventh-grade students (n = 206) and eighth-grade students (n = 293) in a middle school were invited to participate in the questionnaire survey. Structural equation modelling (SEM) and mediation analysis examined the relationship between teacher support, academic self-concept, and academic proficiency among 499 secondary EFL learners. There are three significant findings. First, teacher support positively predicts academic proficiency. Second, academic self-concept was positively correlated with academic proficiency. Third, academic self-concept fully mediated the relationship between teacher support and academic proficiency. This study contributes to the literature by exploring the mediating mechanism between teacher support and academic proficiency in the EFL context. Implications, limitations, and directions for future research are discussed.

Keywords: academic self-concept, academic proficiency, mediating mechanism, secondary EFL learners, teacher support

1. Introduction

Teachers play an essential role in the process of education and teaching and are one of the main factors affecting students' school outcomes, including academic engagement (Liu et al., 2022), academic self-efficacy (Ren et al., 2022), learning motivation (Yildirim, 2012), and academic achievement (Affuso et al., 2022). For junior high school students,

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the school is the social environment closely related to the student's life and learning besides the family (Marchant et al., 2001). A study involving Hong Kong secondary school students showed that teacher support was a stronger predictor of academic achievement than parental and peer support (Chen, 2005). When students leave their parents to study and live alone in middle school, teacher support will become the primary way for them to obtain social support (Dessel et al., 2017). Therefore, it is significant to explore teacher support's impact on students' learning at the middle-school level.

The purpose of this study is to explore the mediating mechanism between teacher support and academic proficiency in the EFL context. On the one hand, most of the existing research explored the predictive effect of teacher support on academic engagement (Liu et al., 2022; Parker et al., 2021; Zhao et al., 2019), while the research on the predictive effect of teacher support on academic achievement is relatively scarce, especially in the EFL context. On the other hand, from a motivational perspective, academic self-concept, as a kind of motivational resource, would be at a higher level if the student could experience relatedness with their significant others (e.g., teachers) (Ryan & Deci, 2017). And studies are showing that teacher support positively affects academic achievement (e.g., Affuso et al., 2022). However, little research has investigated the potential mediating effect of academic self-concept between teacher support and English proficiency. Thus, this study seeks to consider the mediating role of academic self-concept in the relationship between teacher support and English proficiency in a sample of Chinese secondary EFL learners.

2. Literature Review

2.1 Teacher Support
Teacher support can be defined as valuable information, the recognition of emotional experience and the reduction of pressure students perceive from their teachers (Deci & Ryan, 1987). That is, teacher support includes teachers' academic, emotional, and instrumental support for their students (Liu & Li, 2023). Chai and Gong (2013) documented disciplinary differences in teacher support. Namely, the support provided by teachers of different disciplines (e.g., English and mathematics) might be different in content or structure. Therefore, teacher support should be studied in a specific discipline (e.g., English). In this study, we examined the perceived support of EFL learners from their English teachers and defined teacher support as the academic, emotional and instrumental support perceived by EFL learners from their English teachers.

The antecedents and consequences of teacher support were widely explored using the empirical approach. For example, in a study among college EFL teachers, school culture was significantly correlated with teachers' behaviours (Hongboontri & Keawkhong, 2014). Affuso et al. (2022) documented that teacher support could affect academic performance directly or indirectly through determined motivation and academic self-efficacy among Italian adolescents. In another study with Chinese primary school students, Zhao et al. (2019) found that teacher support was positively correlated

with students' self-concept. Taken together, the predictive effects of teacher support on academic self-concept and academic achievement have been verified. However, the relationship between teacher support, academic self-concept, and academic achievement needs further study.

2.2 Academic Self-Concept

Academic self-concept, also known as academic self-confidence, refers to students' perception of their academic ability (Boliver & Capsada-Munsech, 2021; Bong & Skaalvik, 2003). Self-concept is the core element of individual personality development, reflecting the level of individual personality development (Su et al., 2017). Adolescents are in the process of self-discovery and identity discovery, so their academic self-concept is malleable (Markus & Kunda, 1986). In addition, academic self-concept is a domain-specific construct (Burns et al., 2018), suggesting that academic self-concept should be explored in a specific subject domain (e.g., English).

Given the significance of academic self-concept to students' school outcomes, many studies have been done to identify the antecedents and consequences of academic self-concept. For example, a meta-analysis conducted by Wu et al. (2021) examined the relationship between academic self-concept and academic achievement and found a reciprocal relationship between these two constructs. Using a correlational design, studies found that teacher support (Zhao et al., 2019), parental expectations (Phillipson & Phillipson, 2017), and students' resilience (García-Martínez et al., 2022) all positively affected students' academic self-concept. Based on the above review, teacher support predicts academic self-concept and academic self-concept predicts academic achievement, indicating that academic self-concept may mediate between teacher support and academic achievement. However, the potential mediating effect of academic self-concept between teacher support and academic achievement has not been confirmed, especially in the EFL settings. Thus, the present study was designed to fill in the existing research gap by verifying the mediating effect of EFL self-concept on the relationship between teacher support and EFL achievement in a sample of Chinese secondary EFL learners.

2.3 English Proficiency

English test scores are often used to measure a student's English proficiency. For Chinese secondary school students, English proficiency means a lot to them. English is essential from primary school to the doctoral level in China, which shows that English proficiency determines the students' further studies (Cheng, 2008). Moreover, English proficiency is vital for receiving an honour (York et al., 2015) and job promotion (Bolton & Botha, 2015). Given the significance of English proficiency, numerous studies have been conducted to identify the antecedents of English proficiency, including academic self-concept (Kang & Wu, 2022), teacher support (Wu & Kang, 2023), and psychological capital (Wu & Kang, 2023a).

Teacher support and academic self-concept could positively affect academic achievement. However, as yet, few studies have explored the relationships between these three constructs. Specifically, whether academic self-concept plays a mediating role between teacher support and academic achievement needs further research, especially in the context of EFL education. Against this background, this study examined the mediating role of EFL-related self-concept in the relationship between teacher support and English proficiency in a sample of Chinese secondary EFL learners.

2.4 The Present Study

Based on the previous literature, this study aimed to verify the following three hypotheses:

H_1: Perceived teacher support positively affects secondary school students' EFL-related self-concept.

H_2: Secondary school students' EFL-related self-concept positively affects their English proficiency.

H_3: When controlling for gender and age, secondary school teachers' support indirectly affects English proficiency via EFL-related self-concept.
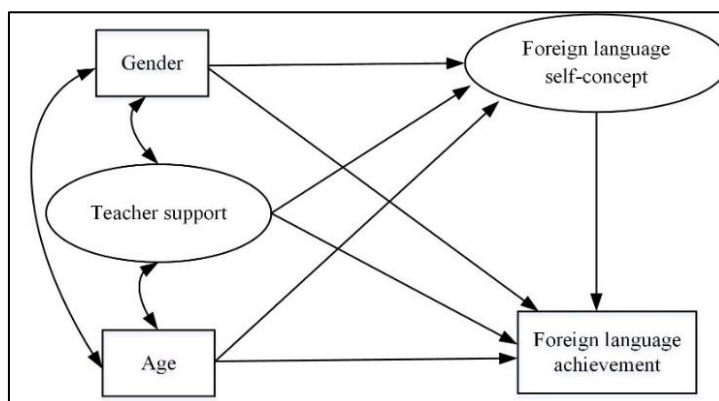

Figure 1: The proposed relationships between gender, age,
teacher support, EFL-related self-concept, achievement

3. Methodology

3.1 Participants and Procedure

Using convenience sampling, we recruited four hundred and ninety-nine Chinese secondary school students (ages 12-15 years) from a middle school in Foshan City, Guangdong Province, China. Among the participants were two hundred and sixty-two male students (52.5%) and two hundred and thirty-seven female students (47.5%). In terms of grades, there were two hundred and six seventh graders (41.3%) and two hundred and ninety-three eighth graders (58.7%). The average age was 13.66 years old (SD = 0.62). All the participants were Chinese Han. Judging from the SES data, almost all participants were from middle-income families.

All procedures followed the American Psychology Association (APA) ethical regulations for human participants. Moreover, participants' written informed consent and their parents' oral informed consent were obtained before the questionnaire survey. With the help of English teachers, the questionnaire survey was conducted in one English class. In addition to filling in some basic information (e.g., gender, age, family SES, scores), participants were invited to respond to the items on a 5-point Likert scale (ranging from 1 = strongly disagree to 5 = strongly agree). All items are positive ones, and higher scores indicate that the respondent agrees with the item. English teachers collected the answered survey questionnaires and checked for missing data. The questionnaire survey lasted about 25 minutes.

3.2 Instruments
3.2.1 Teacher Support Scale
This study adopted four items from the Child and Adolescent Social Support Scale (Malecki & Demaray, 2002) to measure teacher support. Given that teacher support is domain-specific (Chai & Gong, 2013), these four items were modified to measure participants' perceived support from their English teachers (e.g., "My English teacher will help me when I encounter problems in English learning"). The psychometric properties of this scale have been confirmed to be good in prior studies (e.g., Wu & Kang, 2023b; Yildirim, 2012). In this study, the teacher support scale demonstrated good reliability with Cronbach's α equal to 0.84.

3.2.2 EFL-related Self-Concept Scale
The five items adapted from the Program for International Student Assessment 2015 (OECD, 2017) were applied to measure participants' academic self-concept. Since academic self-concept is also a domain-specific construct (Burns et al., 2018), we adapted the five items to measure participants' EFL-related self-concept (e.g., "In English class, I can understand even difficult content"). This scale demonstrated good psychometric properties in previous studies (e.g., Kang & Wu, 2022; Wu & Kang, 2023b). The internal consistency of the EFL-related self-concept scale was good in the present study (Cronbach's = 0.86).

3.2.3 Foreign Language Achievement
Participants' English scores from their most recent final term examination were collected to represent their foreign language achievement. The local municipal education bureau uniformly formulated the English examination paper in the final term examination to ensure its face validity. The total score is 120 points; the higher the score, the higher the participants' English proficiency.

3.2.4 Covariates

Gender differences in academic achievement (Guez et al., 2020) and age differences in academic achievement (Chyung, 2007) have been confirmed. As such, gender and age were controlled as covariates to eliminate their potential influence on our results.

3.3 Data Analysis

Data analysis consisted of four steps. First, Harman's single-factor test was conducted to eliminate the possible common method bias. Second, descriptive statistics were given to demonstrate the basic information of the studied constructs. Third, model fits and latent bivariate correlations were given using SEM. Fourth, mediating analysis was conducted to examine the mediating effect of EFL-related self-concept between teacher support and English proficiency.

Data analyses were conducted using SPSS 23.0 and Mplus 8.3 (Muthén & Muthén, 2013). First, the maximum likelihood (ML) method was employed to estimate the parameters of the statistical models. The model fits the data well if CFI (comparative fit index) and TLI (Tucker-Lewis index) ≥ 0.95, RMSEA (root mean square error of approximation) ≤ 0.06, SRMR ≤ 0.08 (Chen, 2007; Hu & Bentler, 1999). Second, 5000 bootstrap resamples were used to evaluate the mediating role of EFL-related self-concept between teacher support and English proficiency. 95% confidence intervals (CIs) were calculated. The mediating effect is significant if 95% CIs do not include zero (Efron, 1988).

4. Results

4.1 Common Method Bias

All data in this study were self-reported. Thus, Harman's single-factor test was conducted to assess the possible problem of common method bias (Podsakoff et al., 2003). More specifically, all items were put together to form a single construct, and the model fit of this single construct is poor, with $\chi^2(44) = 1000.227$, $p < .001$, CFI = .562, TLI = .452, RMSEA = .209, 90% CI [.198, .224], SRMR = .153, indicating that common method variance was unlikely to be a problem within the data.

4.2 Descriptive Statistics

Descriptive statistics of the studied variables are presented in Table 1. All three studied variables demonstrated good normality for ML estimation according to the criteria of |skewness| < 2 and |kurtosis| < 2 (Roever & Phakiti, 2017). Factor loadings of the four items in the teacher support construct were significant, ranging from 0.63 to 0.80, higher than the standard of 0.5 (Sharma et al., 2005). The factor loadings of the five items in the construct of EFL-related self-concept were also significant, ranging from 0.58 to 0.86. That is, factor loadings of items in both constructs were significant, indicating that the items were all strongly correlated with related constructs and no items needed to be deleted.

Table 1: Descriptive statistics of the studied variables

	Mean	SD	Skewness	Kurtosis	Cronbach's α	Factor loadings
Teacher support	4.39	.52	-.65	-.06	.84	.63-.80
EFL-related self-concept	2.59	.61	.06	-.26	.86	.58-.86
FL achievement	.00	.99	-.86	-.08	-	-

4.3 Measurement Models and Latent Bivariate Correlations

The model of "teacher support → EFL-related self-concept" demonstrated good fit, with $\chi^2(43) = 75.712$, $p < .001$, CFI = .985, TLI = .981, RMSEA = .039, 90% CI [.024, .053], SRMR = .034. The model of "teacher support-EFL → related self-concept → English proficiency" fit the data well: $\chi^2(70) = 130.069$, $p < .001$, CFI = .975, TLI = .968, RMSEA = .042, 90% CI [.030, .053], SRMR = .034.

Table 2: Results of correlations analyses

	1	2	3	4	5
1. Teacher support	-				
2. EFL-related self-concept	.32***	-			
3. FL achievement	.25***	.64***	-		
4. Gender	.01	.05	.10*	-	
5. Age	.11*	-.02	-.08	-.06	-

*$p < .05$; ***$p < .001$.

Table 2 shows the results of correlation analyses. It was found that teacher support, EFL-related self-concept, and English proficiency correlated significantly. More specifically, teacher support was positively correlated with EFL-related self-concept. EFL-related self-concept could positively predict English proficiency. Moreover, Correlations between age and teacher support and between gender and English proficiency were also significant.

4.4 Structural Equation Modelling

When gender and age were added to the model, the model showed an excellent fit to the data, with $\chi^2(72) = 135.140$, $p < .001$, CFI = .974, TLI = .968, RMSEA = .042, 90% CI [.031, .053], SRMR = .039. Figure 2 shows the standardized regression weights of the correlation between studied variables. There are four significant findings. First, teacher support was positively correlated with EFL-related self-concept ($\beta = .33$, $SE = .05$, $p < .001$). Second, EFL-related self-concept positively predicted English proficiency ($\beta = .62$, $SE = .04$, $p < .001$). Third, gender (male = 0 and female =1) and English proficiency were positively correlated ($\beta = .07$, $SE = .04$, $p < .05$), indicating that female EFL learners performed better than their male counterparts. Fourth, teacher support accounted for 11.3% of the variance of EFL-related self-concept and 42.8% of the variance of English proficiency.
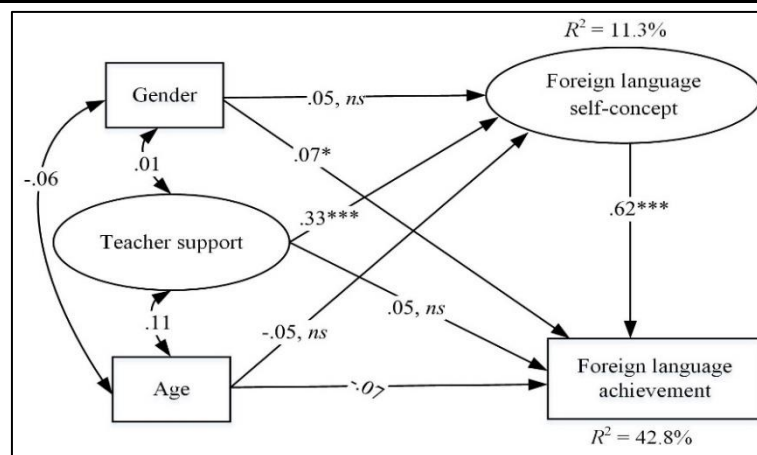
Figure 2: Relationship between teacher support, EFL-related self-concept,
and English proficiency. All coefficients are standardized. *** $p < .001$; * $p < .05$

4.5 Mediation Analysis

Table 3 presents teacher support's direct and indirect effects on English proficiency. First, EFL-related self-concept mediated the relationship between teacher support and English proficiency, with a 95% CI of [.14, .27]. Second, the direct effect of teacher support on English proficiency was insignificant, with a 95% CI of [-.04, .14]. It could be inferred that EFL-related self-concept fully mediated the relationship between teacher support and English proficiency.

Table 3: Results of mediation analysis

| Model path | Effect | SE | Bias-corrected CIs 95% | |
			Lower	Upper
Total effect	.25	.05	**.16**	**.35**
Indirect effect: Teacher support → FL self-concept → FL achievement	.20	.03	**.14**	**.27**
Direct effect	.05	.05	-.04	.14

Note: Bolded CIs considered significant (values do not include zero).

5. Discussion

In this cross-sectional study, we aimed to explore the relationship between teacher support and English proficiency and the mediating role of EFL-related self-concept between these two constructs. Results of SEM and mediation analysis provide empirical evidence for how and why teacher support and EFL-related self-concept affects English proficiency.

First, teacher support was positively correlated with EFL-related self-concept, showing that H$_1$ was supported. On the one hand, this finding is in line with the previous studies (Ma et al., 2021; Wu & Kang, 2023b; Zhao et al., 2019). On the other hand, this finding provides new evidence from the field of EFL education to the model of "teacher support → academic self-concept". Moreover, this finding contributes positively and significantly to the literature. Few studies have explored the relationship between teacher

support and academic self-concept in foreign language education. Accordingly, the contribution of this study is that it is one of the first attempts to examine the correlation between teacher support and academic self-concept in EFL education. Additionally, this finding contributes to the social support theory by confirming the existence and development of teacher support → academic self-concept relationship in EFL education. Second, the positive predictive effect of EFL-related self-concept on English proficiency was confirmed, indicating that H_2 was supported. This finding aligns with the study by Dabbagh (2011) and Marsh and Martin (2011), which confirmed the positive predictive effect of academic self-concept on academic achievement. Given that most of the existing research took primary school or college students as participants in the science, technology, engineering, and mathematics (STEM) fields, this study contributes to the literature by exploring the relationship between academic self-concept and English proficiency with secondary school students as participants.

Third, the mediating role of EFL-related self-concept between peer support and English proficiency was identified, meaning that H_3 was supported. Existing studies have explored the pairwise correlations among teacher support, academic self-concept, and academic achievement (Affuso et al., 2022; Marsh & Martin, 2011; Zhao et al., 2019). This study contributes to the relationship between teacher support, academic self-concept, and academic achievement by identifying academic self-concept as a novel mediator, fully mediating the relationship between teacher support and English proficiency in EFL settings.

The empirical results have theoretical and practical implications. First, the findings contribute to the social support theory by confirming that teacher support could directly affect EFL-related self-concept and indirectly affect English proficiency via EFL-related self-concept. Second, the findings contribute to the relationship between teacher support, EFL-related self-concept, and English proficiency by identifying that EFL-related self-concept mediated between teacher support and English proficiency. Practically, English teachers are advised to increase their support for EFL learners by way of providing more positive feedback (Reigel, 2008), and praise (Pinxten et al., 2010). In addition, raising EFL learners' academic expectations (Chen et al., 2011) and promoting their academic attitudes (Veas et al., 2019) are possible ways to enhance their EFL-related self-concept, which, in turn, improves their English proficiency.

Although this study reveals the mediating mechanism between teacher support and English proficiency in EFL settings, three limitations of this study should be noted. First, all data were self-reported. Although the problem of common method bias was avoided, the single source problem persisted. Future studies are recommended to collect data from a broader range of sources (e.g., teachers, parents, and peers) in addition to the subjects. Second, gender and age were controlled for in analyzing the relationship between the studied variables. However, the controlled variables for this study were limited. Future research could deepen understanding the correlation and mediating mechanism between teacher support and English proficiency by controlling more antecedents of English proficiency (e.g., prior achievement and SES). Third, this study is

cross-sectional, preventing us from inferences about causality among the variables. Longitudinal research designs are expected to explore the causal relationship between teacher support, academic self-concept, and academic achievement in EFL settings.

6. Conclusion

This study built on the social support theory through a cross-sectional approach to explore the relationship between teacher support, academic self-concept, and academic achievement in the EFL context in China. It was found that teacher support would affect English proficiency directly and indirectly via EFL-related self-concept. This study provided novel empirical evidence for the social support theory and evaluated the direction and mechanism between teacher support and English proficiency. English teachers could improve EFL learners' self-concept by providing more support (e.g., positive feedback), which would enhance EFL learners' English proficiency.

Conflict of Interest Statement
The authors declare no conflicts of interest.

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