**Research Article**

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# The Relationship Between Social Support and English Performance in Chinese Non-English Major College Students: A Moderated Mediation Model

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*Abstract*

*The English language learning in non-English major college students in China is receiving considerable attention. Numerous studies have examined the factors that influence English language learning outcomes. This study uses a psychological perspective to test a model for English language performance based on social support, academic engagement, and growth mindset. The study selected 1,089 non-English major college students in China, using convenience sampling. Data were collect through an electronic questionnaire, which included scales measuring social support, learning engagement, growth mindset, and English performance. The study's outcomes demonstrate that social support predicts English performance mediated by academic engagement; moreover, the presence of a growth mindset has a notable moderating effect on how social support influences academic engagement. These outcomes suggest that bolstering social support and fostering a growth mindset among Chinese college students could be viable strategies for boosting English proficiency in students who are not majoring in English.*

**Keywords**: academic success factors; student academic engagement; English language learning; standardized English test; student motivation psychology; foreign language acquisition

## 1. Introduction

Within the context of China's educational system, English is a compulsory subject for Chinese college students during their first two years of tertiary education, irrespective of their majors [1]. Learner assessment is conducted using standardized examinations, such as the College English Test Band 4 or 6, where the scores hold considerable weight in determining students' eligibility to graduate and influence their opportunities for further study and job prospects [2]. Consequently, there is a growing body of research dedicated to investigating the various factors that affect English proficiency in college students [1,3]. It is crucial to understand the impact of social and cultural factors on students' language learning performance [4]. Social support is one of the key external forces that influence personal achievement. Material or emotional support from family, friends, and teachers can significantly and positively predict academic achievement [5]. Despite extant research highlighting the pivotal role of social support in the learning process, the specific influence of social support on English language learning and the mechanisms through which this influence is exerted remain need to be elucidated.

According to social cognition theory, the outcome of human actions is shaped by the interaction of two elements: the individual's inherent behaviours and their external surroundings [6]. The external environment includes guidance and feedback from significant others [7]. Social support is a crucial element that impacts and governs actions; it encompasses placing trust in others for guidance and assistance and disclosing concerns and challenges [3]. Social support has been extensively examined in various domains, including sleep quality [8], mental health [9], learning motivation [10], and academic achievement [4]. Within the realm of education, social support has been recognized as an environmental determinant that influences and forecasts students' academic achievements [7].

Another potential variable that can be investigated in relation to academic achievement is engagement. Academic engagement is regarded as a significant individual behavioural factor that can predict behavioural outcomes, specifically academic performance [11]. A growing body of studies indicates that academic engagement is a key element in educational psychology across diverse areas, including mathematics [12], geography [13], and English [14]. In English language learning, academic engagement holds greater significance than other academic disciplines, because mastering a language necessitates communicative and task-based language practices at a high level [14]. Although academic engagement is an important indicator in learning outcomes, its specific impact may vary from person to person, so further exploration is needed.

English language learning requires a long-term investment and cannot yield immediate returns, so individuals' views on the future may affect their current level of learning engagement. Mindset theory emphasizes that individuals with a growth mindset believe their abilities, intelligence, and talents can be enhanced through effort and learning [15]; moreover, individuals with a growth mindset are willing to accept feedback from others during the learning process and use it to improve themselves [16]. Thus, a growth mindset may moderate the effect of social support on learning engagement. Nonetheless, empirical evidence substantiating this assertion remains elusive. Consequently, the present study endeavours to investigate the role of a growth mindset in this context.

Recent investigations propose that social support is vital in forecasting students' academic achievements. Nonetheless, further exploration is required to delve into the intricate processes that bridge and govern this connection. Consequently, this research focuses on assessing the influence of social support on the English academic outcomes of students who are not majoring in English, with a particular emphasis on the mediating function of academic engagement. Furthermore, this study enhances the current understanding of the relationship between social support and academic performance in non-English major university students by exploring the moderated mediating effects of academic engagement and a growth mindset.

## 2. Literature review

### 2.1. Social support and English language performance

Social support encompasses the feeling or realization of being loved, cared for, esteemed, and appreciated by others, and embodies an individual's integration into a network of reciprocal aid and responsibilities. Such support can arise from various sources, including teachers, family members, peers, colleagues, the broader social and community networks, and even from the companionship of a loyal pet [17]. Social support refers to the offering of tangible, emotional, informational, and practical aid that an individual experiences from their social connections. The positive effects of social support on individual development have been the subject of extensive research. For instance, social support can help students to navigate difficult circumstances and reduce their psychological stress [3]. It also supports mental health development through the prevention of mental health problems [10].

Job demands-resources (JD-R) theory categorizes workplace characteristics into demands and resources. Demands deplete the diverse efforts of individuals, whereas resources stimulate the energy process [1]. Social support is recognized as a resource that plays a crucial role in safeguarding against academic burnout. According to JD-R theory, the social support provided by educators and peers is a resource that can address learning demands, achieve educational aspirations, and foster personal growth and development [18]. Family members and educators, as alternate sources of social support, can positively influence learners' readiness to embrace risks and enhance their physical and mental well-being [9,10]. Furthermore, social support can promote English language learners' motivation in higher education (Jia & Cheng, 2022) and predict academic success [19].

Numerous research findings have established a positive correlation between social support and English language proficiency [4]. To elucidate the mechanisms more effectively through which social support impacts English language learning outcomes, it is essential to identify potential mediating or moderating factors that influence the relationship between support and performance.

### 2.2. Academic engagement

Academic engagement is defined as the active participation of students in their educational tasks and activities [20]; it is a sustained, positive emotional state exhibited by students during learning activities [21]. The concept of academic engagement is comprised of four main dimensions: behavioural, emotional, cognitive, and agentic engagement [22]. A wealth of research has substantiated a positive link between academic engagement and scholastic achievement, suggesting that the four principal dimensions of engagement can favourably influence learners' success in acquiring a foreign language and their sustained enthusiasm for learning English [23,24,25,26,27].

Oga-Baldwin (2019) [28] introduced a contextual model of engagement in the realm of foreign language learning, positing that academic engagement is shaped by a combination of personal and environmental influences. Personal factors include beliefs and motivation such as self-efficacy or a growth mindset. Environmental factors include teacher–student relationships, learning experiences, parent–child relationships, and other social relations [14]. Empirical research has shown that social support, which is defined as an environmental factor, plays a key role in academic engagement [5,29]. Social support can alleviate learning burnout [1], improve motivation for English language learning [3] and predict learning success [19]. This study hypothesizes that academic engagement serves as an intermediary in the connection between social support and academic accomplishment.

### 2.3. Growth mindset

Implicit theories identify mindsets in two ways: fixed and growth [30]. Growth mindset posits that personal attributes, such as intellectual abilities, can be cultivated; fixed mindset holds that these attributes are static and unalterable [31]. Studies have shown that individuals with a stronger growth mindset tend to flourish when confronted with challenges and consistently enhance their abilities, whereas those with a more fixed mindset tend to avoid obstacles or fall short of realizing their full potential [30]. A large number of studies have noted that a growth mindset leads to positive outcomes in the educational sphere, such as improving academic achievement [32,33], providing academic stress relief [34], increasing positive emotions [11], and contributing to academic engagement in English language learning [14].

Based on implicit theory, students possessing a stronger inclination toward a growth mindset are more likely to succeed when encountering challenges [31]. Thus, a growth mindset may play a key role in the interaction between social and student behaviour and, subsequently, learner outcomes. Students with a growth mindset may have greater confidence to handle challenging situations and may be more proactive in seeking help from their social net. Students with a fixed mindset tend to surrender in the face of obstacles, believing that their capabilities are static and cannot be improved [34]. This study posits that a growth mindset serves as a moderating factor influencing the relationship between social support and student engagement in learning.

### 2.4. The present study

This study investigates how social support affects academic outcomes in English language education. It also examines the intermediary function of academic engagement and the conditional influence of a growth mindset on this dynamic. The hypothesized research framework is depicted in Figure 1. We propose the following hypotheses:

H1: There is a significant predictive relationship between social support and English academic achievement.

H2: Academic engagement plays a significant mediating role in the association between social support and English academic outcomes.

H3: A growth mindset significantly moderates the indirect relationship between social support and English academic engagement.
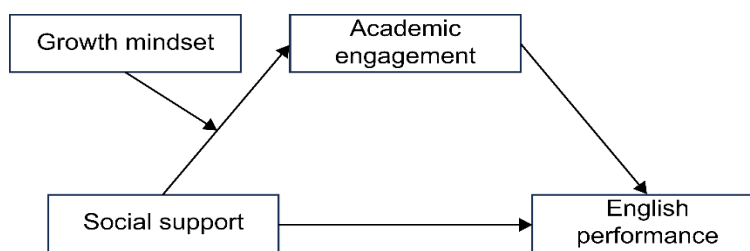
**Figure 1.** The proposed model of moderated mediation.

## 3. Methodology

### 3.1. Participants

The research sample was obtained by distributing an online questionnaire that ensured anonymity to college students across China. All the participants signed an online informed consent form. Upon filtering out incomplete or rushed responses (those completed in under 180 seconds), the final dataset comprised 1,089 respondents, including 437 male (40.13%) and 652 female (59.87%) participants, aged between 18 and 21 years (M = 18.67, SD = 0.76).

### 3.2. Instruments

#### 3.2.1 Social support

The study utilized the multidimensional scale of perceived social support developed by Zimet et al. (1988) [35] to assess levels of social support. The tool encompasses 12 items and evaluates social support across three dimensions: family, friends, and significant others. Participants expressed their agreement or disagreement with each item using a seven-point scale, where higher scores indicated a higher level of perceived social support. The scale demonstrated strong alpha coefficients and validity in previous studies, with this study reporting an overall alpha coefficient of 0.94. The reliability coefficients for the subscales concerning family, friends, and significant others were 0.92, 0.90, and 0.88, respectively.

#### 3.2.2 Academic engagement

In this study, academic engagement was measured using the student version of the Utrecht work engagement scale, as proposed by Schaufeli et al. (2002) [21]. The scale comprises 17 items that capture three key dimensions of engagement: vigour, dedication, and absorption. Previous research confirmed the scale's good alpha coefficients and validity [36]. In the present sample, the overall α-value was 0.95, with reliability coefficients of 0.90, 0.88, and 0.90 for vigour, dedication, and absorption, respectively.

#### 3.2.3 Growth mindset

The growth mindset scale, derived from the mindset scale originally developed by Dweck (2006) [15] and subsequently adapted for a Chinese context by Tao et al. (2022) [37], consists of six items, with three being reverse-scored. Upon reversing the scores for these items, an average is computed across all six questions. Participants responded using a six-point Likert scale, where 1 signified "disagree" and 6 denoted "strongly agree," with intermediate points (2, 3, 4, and 5) representing different levels of agreement. A higher total score reflected a more pronounced growth mindset, with scores directly correlating to the strength of this mindset dimension. In this study, the reliability of the six items, as measured by Cronbach's alpha, was 0.78.

#### 3.2.4 English academic performance

Participants were required to provide their English final exam scores for the most recent semester (all students take the same exam, which is graded collectively) after completing the questionnaire. The scores were then converted to Z-scores for the data analysis.

#### 3.2.5 Consent and ethical considerations

The research was granted ethical approval by the Ethics Committee of XXX (approval number: XXX). Before taking part, all the participants received an informed consent document that they were required to read and agree to. The online completion of the self-report questionnaires required approximately 15 minutes. Participants were made aware that their involvement was voluntary and were given the assurance that they could opt out of the study at any point.

### 3.2. Statistical analyses

The data analysis entailed a four-step procedure utilizing IBM SPSS Statistics for Windows, version 25.0. The initial step involved a Harman's single-factor test to assess potential common method bias. The findings indicated that the first principal factor accounted for 32.97% of the variance, which was below 40% [38], suggesting that common method variance was not a concern. Following this, descriptive statistics and Pearson's correlation were computed. The third step explored the mediating and moderating influences within the models, which was executed using PROCESS 4.2 macro for SPSS, specifically Model 7 [39]. This process included a 95% bias-corrected confidence interval derived from 5,000 bootstrap samples, which helped to provide a more accurate estimate of confidence intervals for the indirect effects. Finally, where a moderating effect was significant, a plot of simple slopes was constructed, adjusting the moderator variable by plus and minus one standard deviation. The methodology for this analysis is corroborated by previous studies [2].

## 4. Results

### 4.1 Descriptive statistics and correlations

The variables' descriptive statistics and correlations are presented in Table 1. The results reveal that social support is positively associated with academic engagement, English language performance, and a growth mindset. Academic engagement is also positively associated with English performance and a growth mindset. Furthermore, English language performance is unrelated to a growth mindset. These results support our subsequent model construction.

**Table 1.** Means, standard deviations, and correlation coefficients for all the variables.

| | Mean | SD | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|
| 1 Social support | 5.06 | 0.96 | 1 | | | |
| 2 Academic engagement | 4.12 | 0.87 | 0.369** | 1 | | |
| 3 English performance | 70.30 | 7.94 | 0.109** | 0.098** | 1 | |
| 4 Growth mindset | 3.62 | 0.84 | 0.169** | 0.222** | 0.006 | 1 |

$N = 1,089$, $*p < 0.05$, $**p < 0.01$.

### 4.2. Mediation analyses

After converting social support, academic engagement, English language performance, and growth mindset into standard Z-scores, we used the SPSS macro PROCESS 4.2 Model 4 to examine the mediating effect of academic engagement. The results indicate that social support significantly and positively predicts English language performance (total effect: $\beta = 0.11$, $p < 0.001$). After entering academic engagement into the regression equation, social support still significantly and positively predicted academic engagement ($\beta = 0.37$, $p < 0.001$), academic engagement significantly positively predicted English performance ($\beta = 0.07$, $p = 0.039$), and the positive predictive effect of social support on English performance remained significant (direct effect: $\beta = 0.08$, $p = 0.009$). The results suggest that academic engagement partially mediates the relationship between social support and academic performance, with a mediation effect value of 0.025 and a bootstrap 95% confidence interval of [0.001, 0.050], accounting for 22.94% of the total effect.

### 4.3. Moderated mediation analyses

The study used SPSS macro PROCESS 4.2 Model 7 to examine the moderated mediation model. The outcomes are presented in Table 2. The interaction term between social support and growth mindset significantly predicted academic engagement ($\beta = 0.06$, $p = 0.03$). The moderation index was 0.06, SE = 0.03, and 95% CI = [0.006, 0.109], which does not include 0. This suggests a significant moderated mediation effect, where growth mindset moderates the link between social support and academic engagement. To further scrutinize the moderating role of growth mindset, it was categorized into low and high groups based on one standard deviation below and above the mean, respectively, and simple slope tests were conducted. The results (Figure 2) reveal that when the level of growth mindset is low (M-1SD), social support significantly and positively predicts academic engagement ($\beta = 0.28$, $p < 0.001$). Conversely, when the level of growth mindset is high (M+1SD), social support continues to significantly predict academic engagement ($\beta = 0.40$, $p < 0.001$), with the regression coefficient being significantly larger than that of the former.

**Table 2.** Conditional process analysis.

| Dependent variable | Predicting variable | Fitting indices | | | Coefficient | |
|---|---|---|---|---|---|---|
| | | R | $R^2$ | F | $\beta$ | t |
| Academic engagement | | 0.408 | 0.166 | 72.216*** | | |
| | Social support | | | | 0.342 | 12.147*** |
| | Growth mindset | | | | 0.158 | 5.588*** |
| | Social support × Growth mindset | | | | 0.057 | 2.170* |
| English performance | | 0.125 | 0.016 | 8.674*** | | |
| | Social support | | | | 0.084 | 2.596** |
| | Academic engagement | | | | 0.067 | 2.068* |

$*p < 0.05$, $**p < 0.01$, $***p < 0.001$.
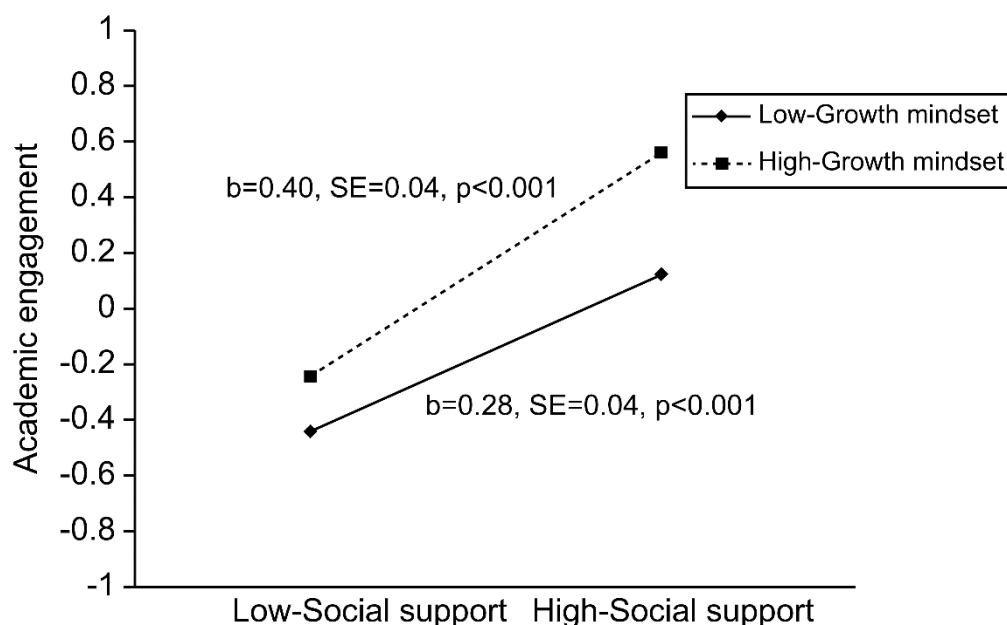
**Figure 2.** Academic engagement as a function of social support and growth mindset.

## 5. Discussion

This research explored the mediating effect of academic engagement on the link between social support and English learning outcomes, while also investigating the moderating impact of a growth mindset.

### 5.1 Social support and English academic achievement

First, in line with H1, our findings confirmed the positive influence of social support on English academic achievement, aligning with the outcomes of prior studies [40]. According to conservation of resources theory, individuals lacking resources are inclined to experience a loss of resources, which may cause burnout [1]. Social support has been classified as a crucial resource, serving as a significant protective element that fosters personal growth and development. Previous studies have revealed that social support plays a positive role in maintaining learning motivation [3], increasing academic engagement [5], and effectively increasing learning performance [41,42]. Therefore, enhanced social support from family, educators, and classmates could assist students and contribute to improved academic results in English.

### 5.2 Effect of academic engagement

In agreement with H2, beyond the direct beneficial impact of social support on English academic achievement, this study confirmed that academic engagement is an intermediary between these two factors. This observation suggests that students of English who gain additional support from their instructors and peers tend to engage more deeply with their academic work, which subsequently leads to superior performance in English assessments. This finding is consistent with previous research [33,34]. Social factors are an important source of individual learning motivation, whether internal or external [45]. Owing to the support from family, school, friends, and other social relationships, social factors not only provide emotional support, but also the necessary material assistance and useful information for self-evaluation [3], which promotes learning engagement and improves academic performance in English.

### 5.3 Influence of growth mindset

Finally, in agreement with H3, a growth mindset significantly moderates the indirect relationship between social support and English academic engagement. Our results reveal that the interplay between social support and engagement is influenced by a growth mindset. This insight aligns with recent research demonstrating that mindsets can modify how social factors impact externalizing behaviours [34]. If students have a poor growth mindset, even those supported by social networks may not engage effectively in their learning tasks. This underscores the critical influence of mindset on learning engagement, a notion that is well-established and explored in numerous studies [46,14,34]. Learners who embrace a growth mindset and receive ample social support are often highly motivated, which drives them to invest significant time and energy into their English studies, resulting in heightened engagement. Put differently, those who subscribe to the idea that intelligence is malleable and can be developed through effort are more adept at converting the social support they receive from their family, educators, and peers into a driving force for their educational pursuits, thereby enhancing their study engagement. Essentially, students with a pronounced growth mindset tend to be more immersed in their learning when buoyed by substantial social support.

### 5.4 Limitations and directions for future studies

This study has several limitations. First, the study employed a cross-sectional format, which makes the determination of causal relationships uncertain. Future research could utilize a longitudinal format to clarify causality. Second, the subjects were only sampled from China, so the results cannot be generalized. Future research could employ samples from multiple countries to examine cross-cultural consistency. Finally, apart from a growth mindset, it remains to be seen whether other environmental or cognitive factors influence learning engagement, which requires further investigation.

In the English language learning of non-English major students, support from teachers, friends, and family is crucial, as this support translates into students' academic engagement, which in turn influences their English language performance. A growth

mindset also plays a pivotal role: students with a stronger growth mindset are more likely to transform social support into a motivational force for their educational endeavours. Therefore, in educational practice, educators should not only focus on providing social support to improve English language performance but also shape a growth mindset to enhance individual English achievement.

## 6. Conclusions and implications

Taken together, the results of the model demonstrated that English language performance can be predicted directly by the two variables—social support and academic engagement—with a growth mindset playing a moderating role. The study also considered the facilitative impact of social support on English language acquisition. On the one hand, we recommend that educators provide more encouragement and support during the teaching process, which specifically includes teachers and parents. On the other hand, students can establish their own social support systems and actively seek help from others when encountering difficulties in English language learning. This proactive approach can enhance students' engagement in learning and lead to better academic achievement.

Furthermore, our research revealed that a growth mindset plays a moderating role. That is, the mindset that individuals hold can influence the predictive effect of social support on learning engagement. Sufficient social support, combined with a growth mindset, can help students to avoid negative coping mechanisms, such as giving up, when faced with difficulties in learning English. Instead, they will actively seek ways to overcome challenges, leading to success in their English studies. Therefore, educators should pay attention to cultivating a growth mindset in their teaching activities. A growth mindset will enhance students' confidence in facing the future, encourage them to persist in their long-term efforts, and strengthen their belief in their ability to overcome obstacles when encountering difficulties. Overall, our research explored the intriguing connections between social support, learning engagement, a growth mindset, and English learning outcomes; future studies could delve deeper into these relationships.

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