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Unraveling the Nexus between Learning Motivation, Self-Efficacy and Language Proficiency among Junior High Schoolers: Evidence from the Chinese English-as-a-Foreign-Language Context

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Abstract: *The motivational and emotional dimensions of language learning significantly influence students' learning outcomes. Thus, this study adopted quantitative questionnaires and English test as research instruments to decipher the interplay between L2 Motivational Self System (L2MSS), self-efficacy and English proficiency among a cohort of 225 eighth-graders in China. The results yielded several significant insights. Firstly, students displayed a markedly high overall level of L2MSS, with the peak in ought-to L2 self and the nadir in ideal L2 self. Additionally, students showed a robust level of self-efficacy, with the highest in confidence in achieving tasks and the lowest in competence to complete tasks. Furthermore, the study established a significantly positive correlation among L2MSS, self-efficacy, and English proficiency. The research also revealed a substantial mediating role of L2MSS between self-efficacy and English proficiency. These findings provide valuable pedagogical insights for language educators.*

Keywords: *L2MSS; Self-Efficacy; English Proficiency; Junior High School English Learners*

1. Introduction

English, as a lingua franca, is pivotal for students to engage with the global community and access international knowledge. The pursuit of effective English learning strategies and the stimulation of learners' motivation have become central objectives for both educators and students. Scholars have employed the L2 Motivational Self System (L2MSS) as a more nuanced framework for examining the dynamics of L2 motivation[1]. Self-efficacy, a cornerstone of Bandura's social cognitive theory[2], is acknowledged for its significant influence on second language (L2) acquisition. As dynamic elements of the learning process, self-efficacy and motivation have garnered considerable attention from researchers. Extensive research has established that these psychological constructs are strong predictors of language proficiency[3].

The L2MSS and self-efficacy theories both emphasize the self-concept as a critical factor in understanding the impact of individual psychological characteristics on L2 acquisition. Numerous studies have explored the correlation between L2MSS and English proficiency[4-5]. However, the mediating role of L2MSS in the relationship between self-efficacy and English proficiency has been less scrutinized. Moreover, the majority of these studies have concentrated on college or senior high school populations, with junior high school students receiving scant attention. Therefore, this study aims to fill this gap by examining the mediating effect of L2MSS in the nexus between self-efficacy and English proficiency among junior high school students.

2. Literature Review

2.1. L2 Motivational Self System (L2MSS)

Motivation is fundamentally employed to elucidate the initiation, direction, and sustenance of goal-directed behaviors that marshal and energize actions towards the attainment of specific educational goals[6]. To more accurately gauge learners' motivational states, Dörnyei introduced the concept of

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L2MSS, which amalgamates psychological self-theory with the study of motivational dynamics in learning[1]. This framework discerns three distinct categories of motivational drivers for foreign language learners: the Ideal L2 Self (IL2S), the Ought-to L2 Self (OL2S), and the L2 Learning Experience (L2LE). The IL2S represents the aspirational self-image that language learners aspire to embody during the process of L2 acquisition. The OL2S mirrors learners' perception of the persona they are expected to adopt, influenced by external pressures from parents or educators throughout their language learning odyssey. This facet of motivation may, at times, clash with learners' intrinsic desires, potentially diminishing their motivational fervor. It is evident that the IL2S concentrates on learners' intrinsic motivations, whereas the OL2S centers on extrinsic motivations. The L2LE encompasses motivational elements associated with the educational milieu, including the instructor, curriculum, and peer interactions, and it holds the potential to markedly influence students' motivational trajectories. These motivational factors synergistically stimulate students' engagement and interest in the learning process[7].

2.2. Self-Efficacy

Bandura introduced the Self-efficacy Theory, which underscores the importance of individuals' confidence in their capacity to successfully execute a task[8]. He posited that when individuals undertake a task, they harbor two primary expectations: outcome expectations and efficacy expectations. Outcome expectations pertain to the anticipated results individuals foresee after completing a task, which can subsequently influence their actions or behaviors. Efficacy expectations, on the other hand, refer to individuals' belief in their ability to apply their language skills to effectively address a problem. In the realm of language learning, efficacy can be delineated as learners' conviction in their proficiency to excel in language learning. When individuals exhibit a robust level of efficacy and motivation towards mastering an L2, they are more inclined to actively pursue and attain their educational objectives[9].

2.3. Interplay between L2MSS, self-efficacy and language achievement

Among the empirical inquiries, Ueki and Takeuchi investigated the interrelation between L2MSS and self-efficacy among 151 Japanese college students. Their structural equation modeling (SEM) revealed that self-efficacy positively influenced IL2S. Conversely, OL2S was found to engender anxiety and exert negative effects on English learning. Besides, L2LE was bifurcated into others' influences and L2 learning attitudes, with the former potentially inciting negative emotions that impact English achievements, and the latter being positively influenced by IL2S, thereby enhancing English learning achievements[3]. Building on their initial findings, Ueki and Takeuchi replicated their survey in varied learning environments, demonstrating that a distinct self-image in an L2 is instrumental in shaping and advancing a learner's self-concept, with varying levels of self-efficacy exerting either positive or negative effects on the ideal L2 self-image[10]. Likewise, Kim explored the nexus between self-efficacy and IL2S among 197 Korean college English major students. The study confirmed that IL2S had a more substantial impact on English learning achievements than OL2S. Furthermore, self-efficacy was found to have a positive predictive effect on IL2S, thereby enhancing students' English test scores and their competence in communicating in English[11].

Within Chinese EFL context, Chen delved into the relationship between L2MSS and self-efficacy in relation to Chinese college students' oral participation, a proxy for English achievements. The study revealed that both IL2S and OL2S acted as mediators between self-efficacy and oral proficiency. It also identified that self-efficacy accounted for the largest proportion of the total effect on in-class oral performance[12]. Huo and Rui conducted a questionnaire survey with junior and senior non-English major students. Their findings indicated that IL2S and L2LE had a partial mediating effect on the relationship between self-efficacy and English achievements. However, self-efficacy did not indirectly influence English achievements through OL2S[4].

The collective findings of these studies highlight the critical importance of L2MSS and self-efficacy in determining English proficiency. While IL2S stands out as a notable predictor of English proficiency, the role of OL2S is more complex and appears to be context-dependent. Additionally, L2LE, shaped by a combination of internal and external influences, also serves as a vital mediator. These insights enrich our understanding of the motivational foundations of English learning and point to potential directions for future research to unearth the intricate dynamics between motivational factors and language proficiency.

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3. Methodology

3.1. Research Questions and Hypotheses

To understand the relationships between the three constructs reviewed earlier, the present study aims to answer the following questions:

(1) What are the levels of L2MSS and self-efficacy among junior high school students?

(2) Is there a correlation between students' L2MSS, self-efficacy, and English proficiency?

(3) Does L2MSS mediate the relationship between self-efficacy and English proficiency?

Based on existing literature, this research put forward the model shown in Figure 1 and aimed to test the following hypotheses.

H1. Students' English learning efficacy positively predicts their proficiency.

H2. Efficacy has a positive association with English learning motivation.

H3. Motivation is positively linked to English proficiency.

H4. Motivation mediates the relationship between efficacy and proficiency.

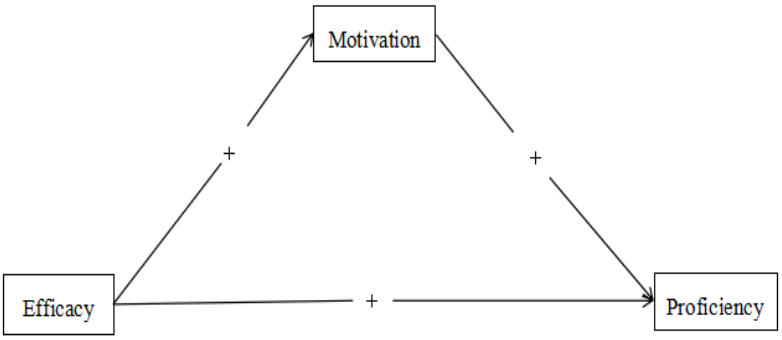

Figure 1: The hypothesized model

3.2. Research Subjects

In this research, a convenience sampling method was utilized to gather data from 225 eighth-graders across five parallel classes of a certain junior high school in southwestern China. Specifically, the sample included 30 students from Class 1, 52 from Class 2, 41 from Class 3, 46 from Class 4, and 45 from Class 5. After data collection, a total of 214 questionnaires were deemed valid, yielding a validity rate of 95.1%. The gender composition of the participants was nearly equal, with females constituting 47.5% and males 52.5% of the sample. The average age of the participants was 14.8 years (*SD*=0.901).

3.3. Measures

3.3.1. L2 Motivation Self System Scale

We adapted Chen's L2 Motivation Self System Scale[5] to measure learners' motivational states. This scale is comprised of three dimensions (13 items in total): IL2S (4 items), OL2S (4 items), and L2LE (5 items). Sample items for each dimension are "I often imagine living abroad and communicating with locals in English after I've mastered the language", "In comparison with my classmates, I feel that my proficiency in English is quite strong", and "Learning English makes time pass quickly for me", respectively. The participants responded to the items on a five-point Likert scale (1=Completely Disagree, 5=Completely Agree). This scale had high reliability with the Cronbach's alpha coefficient being 0.871.

3.3.2. Self-efficacy Scale

The self-efficacy scale utilized in this study was adapted from the English Self-Efficacy Scale compiled by Chen[5]. This four-dimensional scale comprises 14 items: competence to complete tasks (CCT; 4 items), competence to face frustration (CFF; 3 items), confidence in achieving tasks (CAT; 3

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items), and sense of ability to overcome difficulties (SOD; 4 items). Sample items for each dimension include "Learning English comes easily to me", "I am confident in my capability to master English effectively", "Setbacks in learning English linger in my mind for an extended period", and "I have never succumbed to challenges; I persistently seek solutions until I overcome them", respectively. A five-point scale, ranging from "1 (Strongly Agree)" to "5 (Strongly Disagree)", was used for scoring. The lower the score is, the higher the self-efficacy level is. This scale had high reliability with the Cronbach's alpha coefficient being 0.846.

3.3.3. English Test

Participants' English proficiency levels were assessed based on their performance in the final examination of the second semester of the 2023-2024 academic year. The choice of using final exam results was informed by the fact that this assessment was a standardized test taken by all eighth-graders across the city's junior high schools. Consequently, these results were considered a reliable indicator of the students' genuine English proficiency.

3.4. Data Collection and Analysis

In June 2024, a questionnaire survey was meticulously executed, following the procurement of requisite consent from both the school administration and the students, in alignment with ethical and moral standards. The rationale behind the survey was thoroughly elucidated to the participants, and comprehensive instructions were dispensed to guarantee that the students completed the questionnaire with a comprehensive understanding of its objectives. The questionnaires were administered in a paper-based format and collected immediately thereafter. On July 24, 2024, the participants undertook their final English examination for the second semester of the 2023-2024 academic year. The author diligently compiled the students' English grades and meticulously recorded them in an Excel spreadsheet for further analysis. The collected data underwent a rigorous cleansing and processing phase to prepare it for subsequent research stages. Post data cleansing and processing, SPSS (version 23.0) was utilized to derive descriptive statistics for the L2MSSS and the self-efficacy scale, encompassing parameters such as range, maximum, minimum, mean, and standard deviation. Furthermore, this software facilitated the assessment of the instruments' reliability. Pearson's correlation analysis was subsequently deployed to dissect the bivariate correlations among L2MSS, self-efficacy, and English proficiency. Finally, Mplus (version 8.0) was engaged to run path analysis to test the model fit and the mediating effect of L2MSS on the relationship between self-efficacy and English proficiency.

4. Findings and Discussion

4.1. Overall Profile of L2MSS and Self-efficacy

SPSS 23.0 was employed to calculate the descriptive statistics for self-efficacy and L2MSS. Scores were interpreted using a Likert five-point scale, where a mean value of 2.4 or below was considered low, between 2.5 and 3.4 was moderate, and 3.5 or above was high. As presented in Table 1, the mean score for CCT (Competence to Complete Tasks) was 2.4875, suggesting a low level of self-efficacy. The mean score for CFF (Competence to Face Frustration) was 2.96, and for SOD (Sense of Ability to Overcome Difficulties) it was 2.755; both scores are indicative of a moderate level of self-efficacy. Additionally, the mean score for CAT (Confidence in Achieving Tasks) was 3.236, which also falls within the moderate range. Therefore, the levels of CFF, SOD, and CAT are categorized as moderate. The mean scores for the three dimensions of L2MSS varied between 2.5 and 3.5, indicating a medium-high level of L2MSS. Specifically, the mean scores were 3.35 for IL2S (Ideal L2 Self), 3.392 for OL2S (Ought-to L2 Self), and 3.374 for L2LE (L2 Learning Experience). Among these, OL2S showed the highest level of L2MSS.

Table 1: Descriptive statistics of self-efficacy and L2MSS

Variables	Range	Minimum	Maximum	Mean	SD
CCT	16	4	20	2.4875	4.233
CAT	12	3	15	3.236	3.256
CFF	12	3	15	2.96	3.123
SOD	16	4	20	2.755	4.34
IL2S	15	3	18	3.35	4.815
OL2S	25	5	30	3.392	6.105
L2LE	25	5	30	3.374	7.424

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Within the four dimensions of efficacy, competence to complete tasks is found to be at a medium-low level (M=2.4875), indicating a tendency among students to feel uncertain about their ability to complete English learning tasks. Conversely, the mean score for confidence in achieving tasks is the highest (M=3.236), signifying that the majority of students possess the self-assurance to excel in English learning. These conclusions align with those of Chen's research[5].

In terms of L2MSS, several studies have identified the ideal L2 self as the most dominant aspect of L2MSS among senior high school students[13-15], which diverges from the observations of the present study. The elevated ought-to L2 self level observed in junior high school students suggests that their English learning motivation was largely driven by external pressures, such as parental and teacher expectations. As novices in foreign language acquisition, junior high school students are often guided by the belief that proficiency in English is crucial for achieving better overall scores and securing admission to high school. In contrast, subjects of other studies, which include high school and college students, are more likely to have developed a clearer sense of their academic objectives and aspirations in English learning.

4.2. Correlation Between Students' L2MSS, Self-efficacy and English Proficiency

To elucidate the interconnections among the variables in question, correlation analyses were conducted. As depicted in Table 2, all variables exhibited significant and positive correlations with one another (p<0.01). Notably, English proficiency demonstrated a robust correlation with L2MSS (r=0.796, p=.000), while its association with self-efficacy was moderate (r=0.545, p=.000). Furthermore, a strong correlation was observed between L2MSS and self-efficacy (r=0.65, p=.000). These findings suggest that enhanced English proficiency can significantly amplify learners' motivation for L2 learning, and this relationship is reciprocal. Additionally, the efficacy that learners experience while studying English or taking exams influences their English proficiency scores. It is also evident that learners with heightened motivation tend to report greater self-efficacy in their language learning endeavors.

Table 2: Results of bivariate correlations

Variables	Efficacy	Motivation	Proficiency
Efficacy	1		
Motivation	.650**	1	
Proficiency	.545**	.796**	1

4.3. L2MSS as a Mediator Between Self-efficacy and English Proficiency

The study employed an SEM approach to investigate the relationships among the latent variables. The results indicated that the structural model demonstrated a good fit, with all fit indices surpassing the established thresholds: χ^2/df<3, CFI>0.9, TLI>0.9, SRMR<0.08, and RMSEA<0.08.

Figure 2 and Table 3 display the the path estimates and highlight significant predictive relationships (p<0.05) among the latent variables. Notably, self-efficacy did not significantly predict English proficiency ($\beta_{efficacy \rightarrow proficiency}$=0.045, p=0.348), leading to the rejection of Hypothesis 1. In contrast, motivation (L2MSS), exerted a positive and significant influence on proficiency ($\beta_{motivation \rightarrow proficiency}$=0.767, p=0.000).

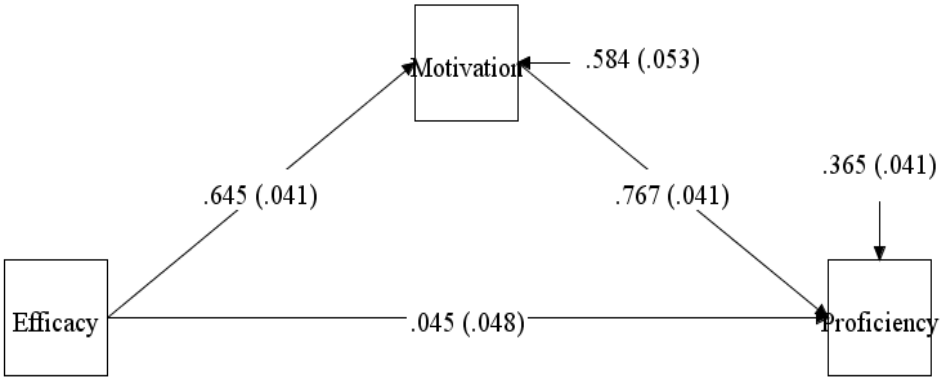

Figure 2: The final model

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The study reveals that the direct effect of self-efficacy on English proficiency is modest, but it exerts a significant influence through L2MSS. This finding implies that merely setting ambitious goals by educators and parents is insufficient to foster students' self-confidence and motivation. It is essential to guide students in establishing clear and aspirational goals to enhance their language learning motivation and self-efficacy. Teachers should assist students in surmounting obstacles and in setting suitable goals, thereby elevating their self-efficacy and bolstering their linguistic achievement and proficiency.

Table 3: Direct and indirect effects

Model pathways	Est.	*SE*	*p*	95% C. I.		Hypothesis test
				Lower	Upper	
Direct effect						
Efficacy→proficiency	0.045	0.048	0.348	0.202	0.229	Hypothesis 1 does not hold
Efficacy→motivation	0.645	0.041	0.002	0.333	0.602	Hypothesis 2 holds
Motivation→proficiency	0.767	0.041	0.000	0.167	0.543	Hypothesis 3 holds
Indirect effect						
Efficacy→motivation→proficiency	0.030	0.002	0.000	0.649	0.942	Hypothesis 4 holds

Note: Est.=estimate; SE=standard error; C.I.=confidence interval.

It is evident that learners with robust motivation are highly likely to achieve high levels of proficiency. Concurrently, self-efficacy positively predicts motivation ($\beta_{efficacy \rightarrow motivation}$=0.645, p=0.002), indicating that as students' self-efficacy increases, so does their motivation. These results provide substantial support for Hypotheses 2 and 3. However, as shown in Table 3, when motivation is introduced as a mediator between self-efficacy and proficiency, the p-value for the indirect path (Efficacy→Motivation→Proficiency) is 0.000, which is less than 0.05. Additionally, the 95% confidence interval does not include zero, ranging from 0.649 to 0.942. This suggests that there is an indirect effect of self-efficacy on proficiency through motivation, with motivation acting as a mediator. Since self-efficacy did not significantly predict language proficiency directly, and the indirect effect of L2MSS on the relationship between self-efficacy and language proficiency was significant, it can be concluded that L2MSS fully mediates this relationship. This supports Hypothesis 4: L2MSS mediates the relationship between self-efficacy and English proficiency.

These findings align with those of Huo and Rui, who found that L2MSS functions as a complete mediator between English proficiency and self-efficacy[4]. However, this study differs from other research that suggests L2MSS partially mediates the relationship between self-efficacy and language proficiency[14, 16-17]. This research adopts a macroscopic perspective, employing path analysis to examine both direct and indirect effects to determine the mediating effect. By calculating the mediating effect from the perspective of the overall L2MSS, the study's findings are likely to be more broadly applicable.

5. Conclusion

This study explored the relationships between English learners' L2MSS, self-efficacy, and English proficiency. The major findings are: (1) Students' L2MSS was moderate, with OL2S being the highest and IL2S being the lowest; (2) Self-efficacy was moderate, with competence to complete tasks lowest and ability to overcome difficulties highest; (3) There was a significant positive correlation among L2MSS, self-efficacy, and English proficiency; (4) L2MSS fully mediated the relationship between self-efficacy and English proficiency.

The study faces limitations imposed by its methodology. With a small and homogeneous sample of 225 eighth-graders from a single region and school, the research's generalizability is constrained. To bolster the study's representativeness, a more diverse participant pool is necessary. Moreover, the study's one-off data collection, necessitated by time limitations, may have hindered a deeper comprehension of the dynamic constructs involved. Subsequent research should aim to gather longitudinal data to offer a more nuanced and robust evaluation of the complex interactions among these variables.

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