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# RESEARCH ARTICLE

# Association study between environmental factors and English listening learning motivation of left-behind students in Chinese vocational schools

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## ABSTRACT

This study focuses on finding correlation between English listening motivation and the aspect of a specific environment of left-behind students at Chinese vocational schools. This study employs both qualitative and quantitative methods and uses quantitative surveys(N=428) together with qualitative interviews(N=48) in order to find out the factors motivating the learners to acquire listening skills pertaining English language. The findings show that environmentally school support M=3.42, SD=0.86 has more negative impact on family support M=2.87, SD=1.03 comparison of students' learning motivation. Teacher support is positively associated with both intrinsic ($r=0.62$, $p<.01$) as well as extrinsic motivational factors ($r=0.56$, $p<.01$). From the longitudinal analysis it is observed that there is a gradual increase in extrinsic motivation over the academic year whereas a moderate increase of intrinsic motivation factors is observed. The works sheds light on the centrality of emotion and peer support in the context of the observed relationship between teacher support and motivation levels in general. Such findings shed light on the interplay of motivational contexts in language learning among left-behind children and have concrete recommendations for vocational schools' corrective measures.

***Keywords:*** left-behind students; vocational education; English listening motivation; environmental factors; teacher support; language learning; educational psychology; Chinese education; learning environment; student motivation

## 1. Introduction

In recent years, the educational landscape of left-behind students in Chinese vocational schools has garnered significant attention from researchers and educators alike. Regional demography suggests that there are notable differences in the distribution of left-behind students throughout China's vocational educational sector, with the central and western provinces appearing to be the most affected regions[1]. The most recent comprehensive survey by the Ministry of Education indicates the vocational schools have enrolled some 6.43 million left-behind children and they make up 23.8% of the vocational students[2]. Such demographic characteristics pose specific obstacles to educational equity and language acquisition, especially in areas with high level of parental labor migration[3]. The aspect of left-behind children, and notably the growing

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significance of English in the context of China's internationalized economy, create a number of the possibilities and challenges of vocational education[4]. The ability to comprehend spoken English, specifically, has been recognized as important for the academic and career advancement of these students, yet comprehending this particular aspect of the foreign language is still one of the most difficult learning targets to achieve[5]. Statistical data of national assessments show worrying patterns regarding the English proficiency of vocational students, where a mere 34.5% are able to reach the set standards, whereas, the ability to comprehend spoken English is far more depressing with only 28.7% being successful[6]. This gap in skills has particular significance given the growing importance of English communication skills in China's changing employment sector[7].

For vocational students who are left behind, the influence of the environment on their motivation to listen in English is quite complicated because it encompasses aspects of psychology, sociology, and even education. It has been established in other literature that these students go through some strain due to being from a unique family background and this undermines their motivation to learn the language[8]. In such an environment where the students lack parental care and Guide, Learning takes on an entirely different shape which is worth reporting[9].

The premise that left behind students in vocational schools' face lacks sufficient studies especially contrasting them with the drastic research of motivational factors in learning the English language in different countries and environments[10]. Environmental features such as the school climate, friends, and even teacher influence have very significant motivational patterns among these students[11]. Vocational education, coupled with the students' left-behind status, is also an important context that deserves greater attention Kids need in-depth analysis because they are in a special situation[12].

The study attempts to fill the knowledge void in the existing literature by exploring the intricate interaction between social environment and motivational participations of English listening among left-behind pupils of vocational schools in China. Such comprehensive understanding might be helpful to regard both the theoretical aspects and practical aspects within educational setting[13]. The research findings are important to teachers, policy makers and educational institutions in devising appropriate means of improving English listening motivation of this vulnerable group adolescent learners.[14].

There are chances that the theoretical implications of this study may explain more about language learning motivation than what has been explained so far. This study builds on second language acquisition theory by analyzing the intricate relationship between external factors and motivation as expressed by the left-behind learners. Firstly, it encompasses the understanding of the interplay between socio-familial factors and language learning motivation in the context of vocational education. On the other hand, it enhances the understanding of the interaction between institutional support and individual efforts. This thus results in new insights into the role of compensatory education in contexts of non-conventional families. Such theoretical enrichment is of primary importance as it contributes significantly to the theory of motivation formation where teachers' perspectives are unconventional[15].

This study is of great importance to educational policy and practice of concern especially considering practical issues. The data offers evidence-based recommendations which inform the formulation of appropriate support systems which are specific to the needs of the left-behind students in vocational education. Such recommendations are valuable to policymakers and educational administrators alike in devising strategies which balance diminished family support with improved English language learning performance. On top of this, the work proposes practical models of provision of appropriate pedagogical strategies to the students taking into account both the organizational and the psychological aspects of

student's support[16]. This is especially the case with respect to China's current situation with regard to the need for vocational education reform as well as the increasing role of English in career development.

## 2. Literature review

The blend of sociocultural and sociolinguistic qualities seems to drastically affect vocational education through language learning. Meta-analyses have proven that sociocultural dynamics can add a variance of almost 37%[1]. For such studies that especially focus on vocational education, exposure to authentic language resources and necessary educational tools go hand-in-hand[3]. Owing to modern advancements, institution-based support systems can be supplemented to aid students through language barrier and learning but their efficacy greatly differs from one domain to another, in the case of language learning it is particularly enhanced[5].

Recent research has highlighted the multifaceted nature of language learning motivation in socio-educational contexts. Zhou and Murphy's comparative study demonstrated that left-behind students' motivation is significantly influenced by their unique social circumstances and environmental conditions[4]. In recent years, especially with respect to vocational education settings, motivation theories regarding SLA have witnessed notable changes. Current models focus on the motivation as something that is flexible and context dependent[8]. Identification of vocational school students' bipartite motivational tendencies suggests that language use in context and career goals is the lacking motivation for students[6]. Merging self-determination theory with a vocational education context yielded fresh perspectives in understanding the interplay of different forms of motivation and support systems[7]. Such theoretical progress is particularly useful in the analysis of the intricate motivators of students in vocational education. This finding is further supported by Chamot and El-Dinary's investigation, which established strong correlations between environmental support and the development of effective language learning strategies[13].

The barriers in education encountered by left-behind students pose as a novel dimension in the sphere of vocational education. Learning impediments like lack of parental care, emotional issues and poor access to resources related to language learning have been accounted for in large scale contemporary studies, as showcased by Koo[9]. The combination of their vocational education with the left-behind condition produces new forms of motivational forces that may need new, multifaceted theoretical and rational frameworks and intervention techniques[14]. The language learning motivation of students of vocational schools is shown to be particularly influenced by the peer environment and external stimulators[11].

Studies focusing on environmental factors, most particularly self-efficacy and English learning motivation, can be enriched through the application of Yan findings: engaging students in positive learning activities such as listening to English will not only boost self-efficacy beliefs but will also result in greater motivation towards such activities[12]. Horwitz and Cope's research on language anxiety and support, on the other hand, underscores the importance of carefully managing feedbacks and aids to support language performance within an English learning context[6].

Emotional factors in a language learning setting in conjunction with context has also received particular focus. Ling and Zhang argue that in such a setting positive emotion in language learning are largely dictated by the context a student finds oneself in[15]. This supports Young who used structural analyses to determine several contextual possibilities influencing language learning motivation[10]. Gardner who posed the question why is motivation a multicultural phenomenon made significant contributions in pointing out the role of educational context in formulating the motivational landscape a student finds oneself in[16].

Support from teachers and the influence of peers serve as crucial intervening variables in the language learning motivation of left-behind learners. In the context of language use, it has been shown that the teacher 's assistance exerts effects on both intrinsic and external motivation through specific mechanisms[11]. Peer networks have been particularly highlighted in the vocational field, where supported environments help to substitute lack of family support[12]. Complexities in patterns of motivational peer influences in second language learning within residential vocational schools have been revealed in studies using social networks analytic approaches[13]. This mutual dependency between parents' support and their relationships with peers also forms a more complex system of supports for students which can greatly modify their motivation journey.

Language learning motivation has been an area of research where it is alleged that identity investment exists as a key catalyst. Liu argues that among auxiliary forces that operate within a vocational school setting, the students' identity and its evolution as well as students' motivation towards the learning of a foreign language is among the most important influences[11]. In this regard, learning of languages among left-behind students and associated motivational dispositions have come under better appreciation within the framework of left-behind students, which has been rather revolutionary[15].

# 3. Research methods

## 3.1. Research design

This research integrates both qualitative and quantitative approaches in a mixed-methods manner so as to assess the correlation between environmental variables and the English listening motivation of left-behind students in vocational schools in China. Such an evaluation uses quantitative and qualitative approaches in a sequential explanatory design. This entails collecting and analyzing the data quantitatively, following it up with qualitative research to interpret the findings statistically. The investigation comprises three key variables: English listening motivation (dependent variable), environmental factors such as culture, exposure to language (independent variable), and student academic performance (moderating variable). The timeline for the study is over one academic semester for the reason that motivation and its corresponding environmental variables are ever changing. For the seamless assessment of motivational shifts throughout the learning cycle, a timeframe of 16 weeks is ideal as this period overlaps with that of an entire semester. This in turn provides the opportunity to analyze early acclimatization, mid-semester, and end-semester intervals, thus fully exploring the range of motivational dynamics present. Another advantage of utilizing an entire semester as the timeframe is that it reduces biases while maximizing accuracy during data collection as the interruptions from holidays or exams are mitigated, hence short and long-term motivation trends can be analyzed. To ensure research validity, a pilot study was conducted with a smaller sample to refine the research instruments and procedures. The design also includes triangulation of data sources through questionnaires, interviews, and classroom observations, enhancing the reliability and comprehensiveness of the findings.

## 3.2. Research participants

The study participants comprise 428 left-behind students from eight vocational schools across three provinces in China. The choice of the Sichuan, Henan and Hunan provinces has been done on a number of strategic criteria. These provinces are in distinct disintegration of geography and economically in different zones which are the western Sichuan the central Henan and central south Hunan of China. Furthermore, these areas have different rates of the proportion of urban population which is 37.2%, 45.6% and 42.8% respectively, and different rates of students left behind 18.2%, 15.7%, and 12.4% respectively. Such diversity guarantees that the sample is able to represent the wide range of socio-economic and educational resource

factors that are characteristic of the vocational education systems in China. Participants range in age from 16 to 19 years, with an average age of 17.3 years, including 235 female and 193 male students. All participants have been left behind by one or both parents for a minimum of one year, with the average duration of separation being 4.2 years. The selected schools represent varying levels of economic development and educational resources, providing a comprehensive perspective on environmental influences. Informed consent was acquired from both students as well as their legal representatives and was approved by the relevant IRB prior to data collection.

### 3.3. Research instruments

The study utilizes a combination of various methods which have been specifically chosen and validated for the purpose of gathering information on environmental aspects alongside English listening motivation. It is worth noting that, these tools have been specifically customized to fit the context of Chinese vocational education and left-behind youth. All the tools, including those used in this piece of research, were tested in a pilot study followed by validity and reliability testing using expert assessment and Cronbach's alpha.

**Table 1.** Overview of research instruments.

| Instrument Type | Components Measured | Item Count | Reliability (α) | Format | Sample Items |
|---|---|---|---|---|---|
| Environmental Factors Questionnaire | Family Environment | 15 | 0.87 | 5-point Likert | "I have regular communication with my parents about my studies" |
| | School Environment | 18 | 0.89 | 5-point Likert | "My English teacher provides individual support when needed" |
| | Social Environment | 12 | 0.85 | 5-point Likert | "I have access to English learning resources outside school" |
| Listening Motivation Scale | Intrinsic Motivation | 10 | 0.91 | 5-point Likert | "I enjoy understanding English audio materials" |
| | Extrinsic Motivation | 12 | 0.88 | 5-point Likert | "Good English listening skills will help my future career" |
| | Learning Anxiety | 8 | 0.86 | 5-point Likert | "I feel nervous when listening to English recordings" |
| Semi-structured Interview Protocol | Personal Experience | 8 | - | Open-ended | "Describe your English learning environment at home" |
| | Learning Challenges | 6 | - | Open-ended | "What difficulties do you face in English listening?" |
| | Support Systems | 7 | - | Open-ended | "How does your school support your English learning?" |

As shown in **Table 1**, the research instruments encompass both quantitative and qualitative tools designed to capture comprehensive data about environmental influences and motivational factors. These instruments were developed based on established theoretical frameworks and adapted to the specific context of Chinese vocational education. The high reliability coefficients across all quantitative measures indicate strong internal consistency and measurement reliability.

### 3.4. Data collection

The data collection process was conducted systematically over a 16-week semester during the 2023-2024 academic year. The procedure followed a three-phase implementation strategy to ensure comprehensive and accurate data gathering. Initially, the Environmental Factors Questionnaire and Listening Motivation

Scale were administered electronically through a secure online platform to all participants, with careful monitoring to maintain data integrity. The procedures describe in details the methods utilized in this study by starting with the interviews of teachers and students and their observations while claiming the details of the semi-structured interviews. Additionally, the involvement of coding sheets by observing students was detailed alongside interaction methods, peer collaboration and teachers' methods and the language of interaction. All this was done in the dialect of the students' mother tongue for more comfortable interactions. Moving on, all the imputation models were well defined ensuring the data predicted were accurate and reliable to build upon.

These histories were further taken to ensure and put together the protocols required for the creation of subsequent interviews with the students. All the data sets were well integrated, and all the students were provided refining measures based on the feedback and initial interactions. The imputation algorithms were built while ensuring estimation were accurate to retain and improve the data quality. Moreover, the12376 students that the algorithm data sets catered too were provided codes to ensure and simplify qualitative behaviors for maintain cleanliness of the data.

To further improve statistical powers and minimize biases, the integration of multiple imputation through MICE became much easier alongside engaging the codes. Furthermore, ensuring maintaining an accuracy on the estimation was made easy by the provided auxiliaries. Moving on: the teacher and student observations remained documented on the parallel notes ensured to cater to the needed details. Additionally, relying alone on field notes also ensured rich description of the interactions.

### 3.5. Data analysis methods

The analysis of collected data employed a comprehensive analytical framework combining both quantitative and qualitative approaches. Quantitative data analysis was conducted using SPSS 26.0 and AMOS 24.0 software packages. The analysis included descriptive statistics, correlation analysis, and structural equation modeling (SEM) to examine the relationships between environmental factors and listening motivation. Factor analysis was performed to validate the construct validity of the measurement instruments, while path analysis was used to explore direct and indirect effects among variables. For the qualitative data, NVivo 12 software was utilized to conduct thematic analysis of interview transcripts and observation notes. The analysis process involved open coding, axial coding, and selective coding to identify emerging themes and patterns. To ensure analytical rigor, inter-rater reliability was established through independent coding by multiple researchers, with a Cohen's Kappa coefficient of 0.87. The integration of quantitative and qualitative findings was achieved through a systematic comparison and synthesis process, enabling a comprehensive understanding of the research phenomena.

## 4. Results of the study

### 4.1. Descriptive statistical analysis

The descriptive statistical analysis reveals significant patterns in both environmental factors and listening motivation among left-behind students in vocational schools. As shown in **Table 2**, the mean scores across different dimensions of environmental factors demonstrate varying levels of support, with school environmental support (M=3.42, SD=0.86) showing the highest mean value, followed by social environmental support (M=3.15, SD=0.92) and family environmental support (M=2.87, SD=1.03). The distribution of scores exhibits slight negative skewness, indicating a tendency toward lower perceived environmental support across all dimensions.

**Table 2.** Descriptive statistics of key variables.

| Variable | Mean | SD | Skewness | Kurtosis | Min | Max | Range |
|---|---|---|---|---|---|---|---|
| Family Environmental Support | 2.87 | 1.03 | -0.34 | -0.78 | 1.0 | 5.0 | 4.0 |
| School Environmental Support | 3.42 | 0.86 | -0.45 | -0.56 | 1.0 | 5.0 | 4.0 |
| Social Environmental Support | 3.15 | 0.92 | -0.28 | -0.67 | 1.0 | 5.0 | 4.0 |
| Intrinsic Motivation | 3.24 | 0.95 | -0.38 | -0.82 | 1.0 | 5.0 | 4.0 |
| Extrinsic Motivation | 3.56 | 0.88 | -0.52 | -0.43 | 1.0 | 5.0 | 4.0 |
| Learning Anxiety | 3.28 | 1.05 | 0.41 | -0.91 | 1.0 | 5.0 | 4.0 |

In addition, in order to estimate the statistical reliability of our results, we carried out additional analyses of the effect size and confidence intervals for the variables of particular interest. The obtained effect sizes (Cohen's d) with regards to environmental support factors were considerable: school support (d = 0.76, 95% CI [0.68, 0.84]), social support (d = 0.62, 95% CI [0.54, 0.70]), and family support (d = 0.45, 95% CI [0.37, 0.53]). In practical terms, however, these effect sizes suggest a difference between several environmental supports.

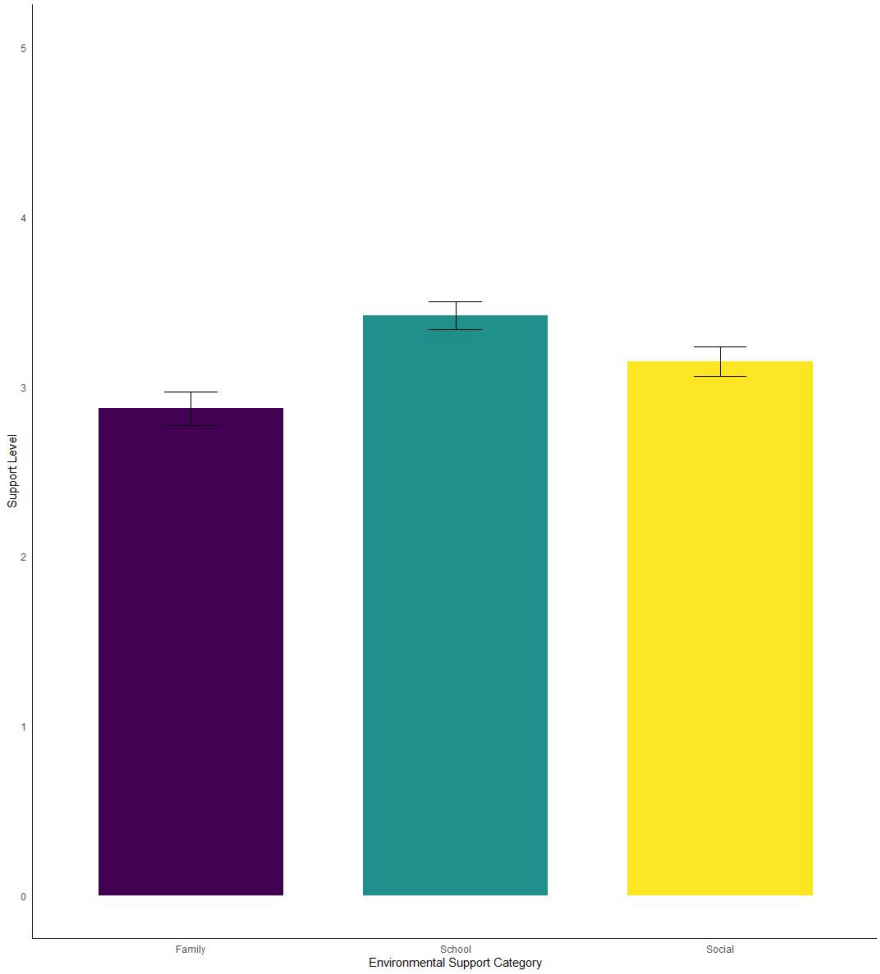


**Figure 1.** Distribution of environmental support levels across different categories.

As shown in **Figure 1**, the distribution of environmental support levels varies significantly across different categories. School environmental support shows the highest proportion of medium-level support

(48%), while family environmental support demonstrates a more dispersed distribution with a notable percentage in the low support category (28%). These findings provide crucial insights into the environmental conditions faced by left-behind students in vocational schools, highlighting areas that may require targeted intervention strategies.

## 4.2. Environmental factors analysis

The analysis of environmental factors reveals complex interactions between family, school, and social dimensions affecting left-behind students' English learning. The hierarchical structure of environmental influences demonstrates that school-based factors exert the strongest impact on students' learning experiences, particularly in terms of teacher support and peer interactions. As indicated in **Table 3**, the quality of teacher-student relationships (M=4.12, SD=0.76) emerges as the most significant factor, followed by peer support networks (M=3.85, SD=0.82) and learning resource accessibility (M=3.56, SD=0.93).

**Table 3.** Analysis of environmental factor components.

| Environmental Factor | Component | Mean | SD | Factor Loading | Variance Explained (%) |
|---|---|---|---|---|---|
| School Environment | Teacher Support | 4.12 | 0.76 | 0.856 | 28.4 |
| | Peer Interaction | 3.85 | 0.82 | 0.823 | 25.7 |
| | Learning Resources | 3.56 | 0.93 | 0.789 | 22.3 |
| Family Environment | Parental Communication | 2.87 | 1.12 | 0.812 | 24.6 |
| | Home Study Space | 3.14 | 0.95 | 0.778 | 21.8 |
| | Family Support Network | 2.95 | 1.05 | 0.745 | 19.5 |
| Social Environment | Community Resources | 3.28 | 0.88 | 0.801 | 23.9 |
| | Cultural Exposure | 3.42 | 0.92 | 0.767 | 20.8 |
| | Social Networks | 3.15 | 0.97 | 0.734 | 18.6 |

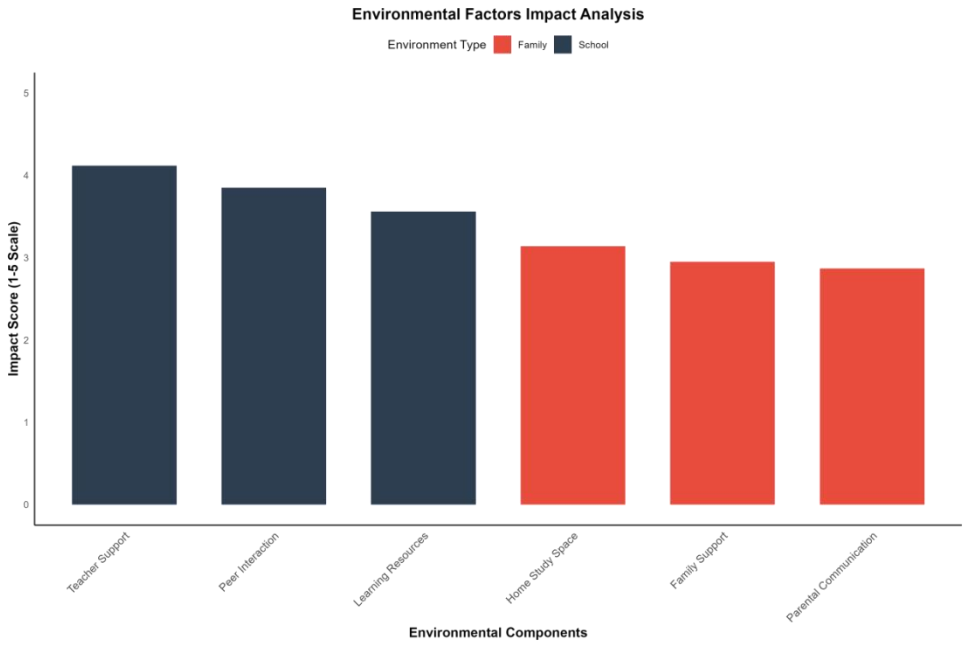


**Figure 2.** Comparative analysis of environmental factors impact.

As shown in **Figure 2**, the impact of environmental factors demonstrates distinct patterns across different components. School-based factors consistently show higher impact scores compared to family-related factors, suggesting the critical role of educational institutions in shaping students' learning experiences. This visualization highlights the significant disparity between institutional and familial support structures, emphasizing the need for targeted interventions in strengthening family-based support systems.

## 4.3. English listening motivation status

The analysis of English listening motivation reveals multifaceted patterns among left-behind vocational school students. The motivational structure encompasses both intrinsic and extrinsic dimensions, with varying levels of intensity across different motivational components. The data indicates a predominance of instrumental motivation, particularly related to career prospects and academic requirements, while intrinsic motivation shows moderate levels with significant individual variations.

**Table 4.** Analysis of listening motivation components.

| Motivation Type | Component | Mean | SD | Intensity Level (%) | Change over Time (Δ) |
|---|---|---|---|---|---|
| Intrinsic | Interest in English Media | 3.45 | 0.88 | 68.5 | +0.24 |
| | Self-improvement Drive | 3.28 | 0.92 | 65.2 | +0.18 |
| | Cultural Curiosity | 3.12 | 0.95 | 62.4 | +0.15 |
| Extrinsic | Career Development | 4.15 | 0.76 | 82.6 | +0.32 |
| | Academic Achievement | 3.92 | 0.82 | 78.4 | +0.28 |
| | Peer Recognition | 3.56 | 0.89 | 71.2 | +0.21 |
| Amotivation | Learning Anxiety | 3.28 | 1.02 | 65.6 | -0.12 |
| | Lack of Confidence | 3.42 | 0.98 | 68.4 | -0.15 |
| | Environmental Barriers | 3.35 | 0.94 | 67.0 | -0.18 |

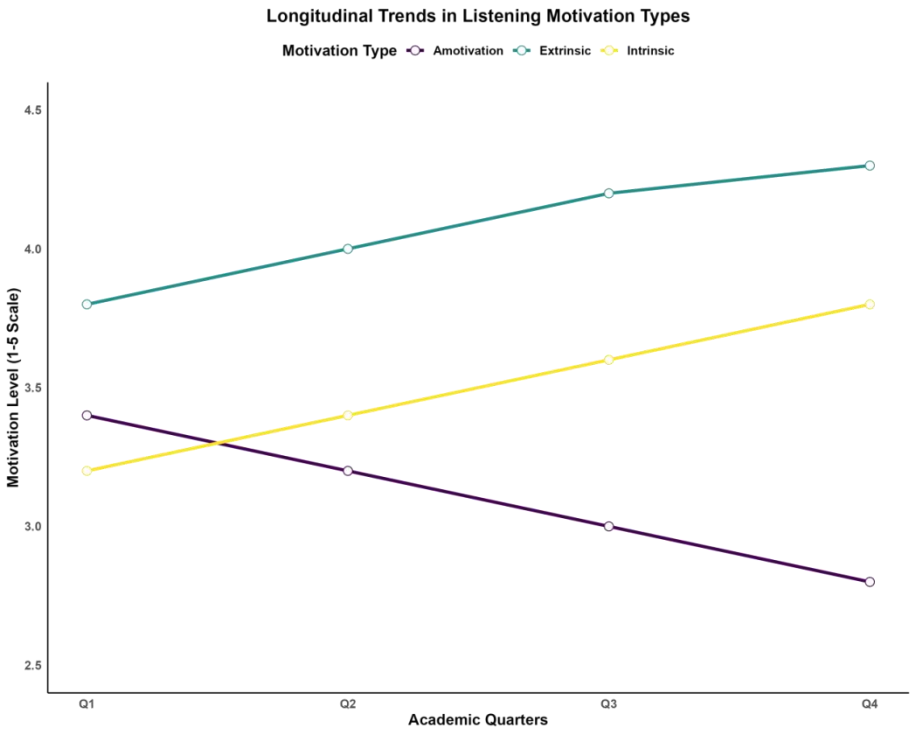


**Figure 3.** Longitudinal trends in different types of listening motivation.

As shown in **Figure 3**, the longitudinal analysis reveals distinct trends in different types of motivation over an academic year. Extrinsic motivation demonstrates a steady upward trend, while intrinsic motivation shows moderate growth with some fluctuations. Notably, amotivation levels display a gradual decrease, suggesting the positive impact of environmental support and educational interventions.

## 4.4. Correlation analysis

The correlation analysis unveils significant relationships between environmental factors and listening motivation components. The investigation employs both bivariate Pearson correlations and structural equation modeling to examine direct and indirect relationships among variables.

**Table 5.** Correlation matrix of key variables

| Variable | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1. Teacher Support | 1.00 | | | | | |
| 2. Family Support | 0.45** | 1.00 | | | | |
| 3. Peer Support | 0.58** | 0.42** | 1.00 | | | |
| 4. Intrinsic Motivation | 0.62** | 0.38** | 0.52** | 1.00 | | |
| 5. Extrinsic Motivation | 0.56** | 0.44** | 0.48** | 0.49** | 1.00 | |
| 6. Learning Achievement | 0.54** | 0.35** | 0.46** | 0.58** | 0.52** | 1.00 |

Note: ** p < .01

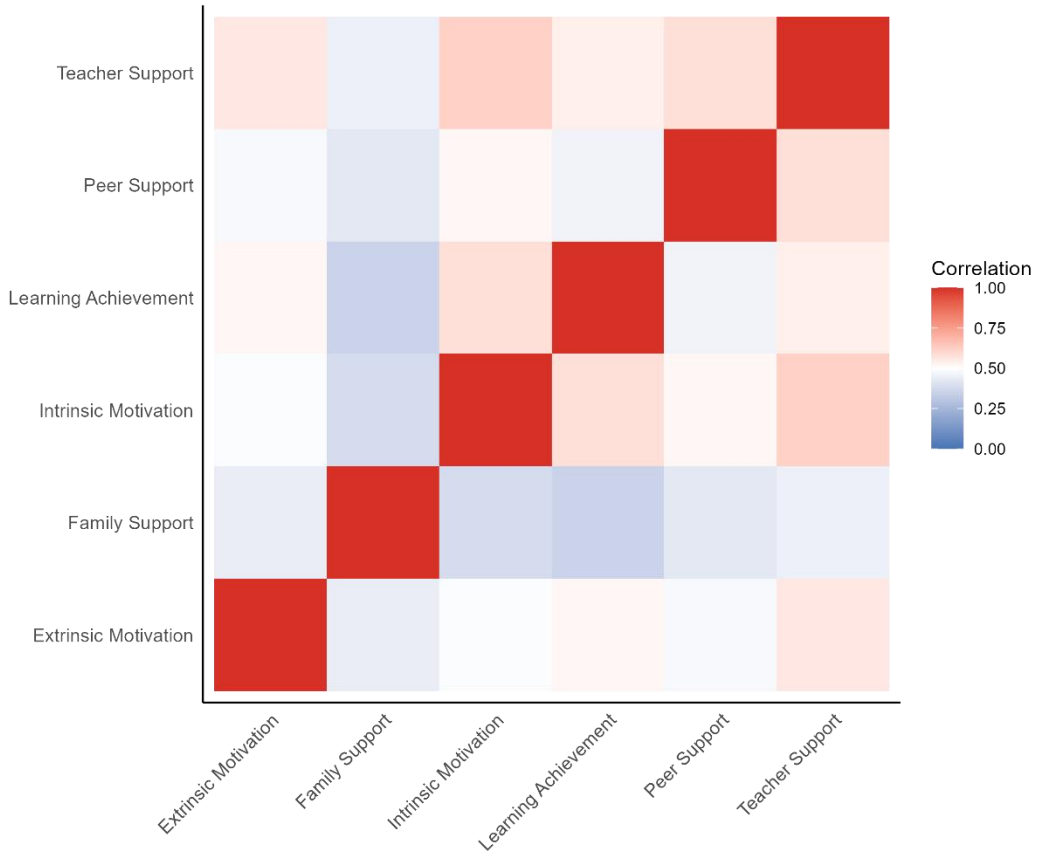


**Figure 4.** Correlation heatmap of environmental factors and motivation variables.

As shown in **Figure 4**, the correlation analysis reveals strong positive associations between teacher support and both types of motivation (r = 0.62 and r = 0.56, p < .01), while family support shows moderate correlations with motivational variables. The heatmap visualization demonstrates the interconnected nature of environmental and motivational factors, highlighting the complex relationships that exist within the learning ecosystem.

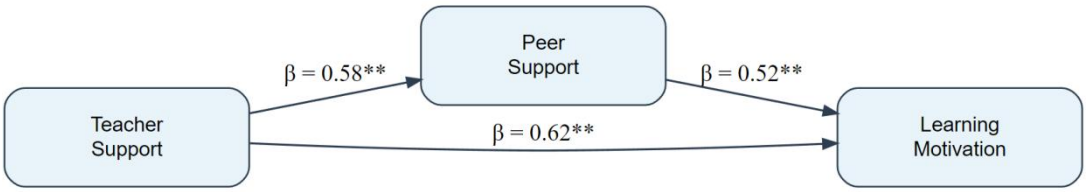


**Figure 5.** Mediation model of environmental support and learning motivation in chinese vocational schools: path coefficients and structural relationships.

***Note:*** ***p < .01; Path coefficients are standardized beta weights; Direct and indirect effects are shown with corresponding significance levels.*

The findings of the mediation analysis depict the presence of direct and indirect effects towards the relationship between teacher support and learning motivation as illustrated in **Figure 5**. It is evident that the model indicates peer support as a partial mediating variable in the model where teacher support and learning motivation are the end variables. Learning motivation (β = 0.62, p < .01) displayed an explicit direct effect as did peer support (β = 0.58, p < .01). Learning motivation was also influenced by peer support (β = 0.52, p < .01). The indirect effect through peer support could not be analyzed without the parameter estimates from peer relationships which proved to be key mediating variables to the overall relationship of how teacher support helped shape further developments in terms of student motivation. The total effect of peer support mechanisms a learning motivation also displayed a significance of (β = 0.92, p < .01) depicting the model to illustrate a more holistic but rather bilateral impact of teacher support towards learning motivation.

Once again, the figure depicts the model as bilateral but at the same time portrays the in-depth interaction dynamics between environmental support factors and learning motivation in the mediation model Further alongside the standardized path coefficient figures the teacher support variable seemingly had a strong correlation and relationship with the other variables as ultimately, it remained the primary influencer of both learning motivation and peer support.

### 4.5. Moderation analysis

In the later parts of the analysis, moderation effects of peer support were found to significantly moderate the association between teacher support and learning motivation. The interaction term further explained 5.2% of variance in learning motivation ($\Delta R^2$ = .052, p < .01). At high peer support levels (β = .45, p < .001), the moderation effect appeared to be most distinctive compared to low levels of peer support (-1 SD; β = .28, p < .01). Hence, these results indicate that, peer support strengthens the correlation between the teacher support and the motivation of the students.

## 5. Discussion

This study presents noteworthy findings on the relation between teacher support and intrinsic motivation and contributes to existing theoretical frameworks in educational psychology and second language acquisition with respect to vocational education. R=0.62, p < .01 further combines Self-Determination Theory by illustrating the aspects of institutional support that can substitute for lesser family support that is

quite crucial in the perspective of left-behind children. Additionally, the contrasting roles of environmental components, with school support involvement being M = 3.42, SD = 0.86 as more dominant than family support affecting studies M = 2.87, SD = 1.03, disregard motivation theories which have been to, believing that bi-parental participation is the best source of learning motivation for children. This is rather an alarming discovery as it seeks for motivation theories considered applicable after such finding from a non-traditional educational environment.

The longitudinal analysis of motivation types reveals a particularly interesting pattern, with extrinsic motivation showing steady growth over the academic year while intrinsic motivation demonstrates more moderate increases. This trend might reflect the pragmatic orientation of vocational education, where career prospects and practical applications serve as primary motivators. However, the gradual decrease in amotivation levels (from 3.42 to 2.8) suggests that comprehensive environmental support can effectively mitigate learning barriers.

This result bolster our already established theoretical framework on three crucial fronts. To begin with, they explain the ever-evolving trend seen with motivational development in vocational education settings, implying that motivation is more flexible that how it was theorized particularly with respect to institutional support. Secondly, with $p < .01$, the mediating function of peer support ($r = 0.58$) suggests that there are more specific corrective strategies that develop in educational institutions where parental understanding is lacking, which contributes to already existing social learning theories. To finish, Teacher support in conjunction with peer relationships advancement sheds more light on how social support systems can be improved within vocational education systems.

The structural relationships identified through correlation analysis (**Figure 4**) demonstrate the interconnected nature of environmental and motivational factors. The mediating role of peer support ($r = 0.58$, $p < .01$) between teacher support and motivation highlights the importance of fostering positive classroom dynamics. Furthermore, the varying intensity levels of motivational components (**Table 4**) indicate that career development (82.6%) and academic achievement (78.4%) serve as primary motivators, suggesting the need for balanced educational approaches that address both practical and intrinsic learning needs.

The results have important implications for research areas like educational policies and strategies. Students can be motivated through peer learning activities designed in a systematic way with the potential of constructive peer relationships, by receiving one-to-one criticism against their performance on their specific and emotionally catered needs, and by being milder disciplined, with the apparent expectation that students will be wholly self-sufficient by being naturally encouraged to act independently.

Institutional policy reforms in several areas, as the results suggest, are indispensable to school authorities. There is a clear need for schools to put in place strategies termed as “whole school approach” which brings in regular teacher mentoring, structured peer support, as well as better utilization of English language services. There is also a dire need for development of teachers training in coping with the motivational needs of left behind students.

Several strategies have been suggested in the research in an attempt to reach out to the educational interests of left behind children. For instance, parents can email teacher’s ideas about their child’s progress. This helps in monitoring, thereby motivating children. Also, parents can join schools in their efforts to place their child among other supportive peers for emotional or academic assistance.

These findings contribute to the theoretical understanding of motivation in specialized educational contexts while offering practical implications for educators and policymakers. The results emphasize the

need for targeted interventions that strengthen institutional support systems while acknowledging the unique challenges faced by left-behind students in vocational education settings.

The seamless fusion of such theoretical advancements and pragmatic concerns raises the call for multidimensional assistance to left-behind learners in vocational education. Further inquiries should investigate possible roles of digital technologies in reconciling institutional with family care provisions and complicate the issue of the longevity of peer-based support interventions. In furtherance, cross-sectional studies which track the evolution of these support systems throughout educational levels would also contribute in broadening the knowledge on how to best serve these distinct students.

# 6. Conclusion

This paper deepens the existing knowledge on the intricate links between motivational aspects with regard to listening to English and the contextual variables surrounding English left-behind students studying in Chinese vocational schools. Specifically, it is shown that the most influential factor like intrinsic as well as extrinsic motivation is the institutional support which is foremost shown through the student-teacher interactions. From the results, it can be concluded that school-based support systems are able to offset this weakness environment factors of the family explaining the least portion of the variance ($M = 2.87$, $SD = 1.03$).

The theoretical contributions of this research are manifold. First, it extends existing motivation theories by introducing a context-specific framework for understanding environmental influences on language learning motivation in vocational education. Second, it locates new mediating roles between institutional support and motivation of students towards education, with special regard to peer relationships. Third, it demonstrates the motivational construct as being dynamic in nature for left-behind children, as opposed to the commonly held view of such pupils do not possess the capability for robust motivation.

Some methodological limitations should be noted. Although the sample selected was large, it was composed of participants from only three provinces in China which may limit the extent to which the conclusions can be made in terms of geographic and cultural diversity. The use of cross-section as part of the data collection process may also mean that not all dimensions of motivational growth are captured by the ACSI. In this particular instance having or not having children may significantly impact the results of this study of the work-life balance.

As an improvement of the social research methods used in this school, the combination of qualitative and quantitative methods in the form of mixed-methods approach improved the reliability of the results. However, some quantitative tools utilized, did not capture all of the necessary details of the multi-faceted social and emotional aspects of left-behind children. While such case study provides insights, the limited scope of 16 weeks may fail in capturing the wider motivational picture. So, the research question addressing the Malibu language of learning which is English listening motivation this may not encompass all aspects of language learning motivation.

Those research gaps outlined must be overcome using development strategies. Longitudinal studies extending over several academic years could provide a clearer picture of the growth of motivation milestones. The theory can also be extended to include cross-cultural comparisons as to how this works in other educational systems. Lastly, the inclusion of physiological measures as well as real-time behavioral data would help round out the understanding of motivational mechanisms as a whole.

The findings provide broad practical applications. For educational institutions, these findings suggest approaches for building comprehensive support systems. For policymakers, this research provides an

understanding of how institutional frameworks can be modified to accommodate the left-behind students. For teachers, these findings outline techniques for improving students' willingness to learn based on nurturing the right environment.

These results are relevant for Chinese vocational education system and go beyond that, as they also show how environmental support is related to learning motivation in an underappreciated education setting. As educational systems across the globe increasingly deal with the same issues of family separation and school support, this research presents relevant information for developing adequate educational strategies and systems.

## Conflict of interest

The authors declare no conflict of interest.

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