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A Longitudinal Study of English Achievement of Korean EFL Young Adolescent Students: Focusing on Initial English Proficiency, English Private Tutoring, and Urbanicity

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The present study aimed to analyze the developmental trajectories of English achievement and exposure time through private education, utilizing univariate and multivariate latent growth curve analysis. This study used a subset of the Gyeonggi Education Panel Study data from 2012 to 2017. The results indicated consistent disparities in the growth of English achievement, depending on the student's proficiency levels at the starting point. In particular, the early exposure to private tutoring was significantly and closely related to the initial status and the growth trajectory of English achievement. When the sample was classified by urbanicity, the findings suggested that the gap in English achievement was likely to increase over time across the two regions, with a stronger correlation with private tutoring found in urban areas. These results underscore the need for educational intervention for students in less advantageous conditions, and they provide valuable pedagogical implications for teaching English in the Korean EFL context.

Key words: English achievement, private tutoring, exposure time, urbanicity, a multivariate latent growth model

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The data used in this study were obtained from the dataset of the Gyeonggi Education Panel Study conducted by the Gyeonggi Institute of Education.

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1. INTRODUCTION

Learning a second language (L2) such as English is a multifaceted process that involves a complex interplay of various factors, including language-related abilities and sociocultural factors. While language-related factors such as grammar, vocabulary, and pronunciation are crucial to L2 learning, socio-cultural factors are equally significant, particularly in the case of English language learning. This is due to the global significance of English as a dominant language in the context of economic globalization (Graddol, 1997; Nunan, 2003).

English has become a valuable commodity and the acquisition of English proficiency is increasingly viewed as essential for accessing economic and social opportunities (Cameron, 2016). As a result, numerous educational policies have been implemented to improve English language instruction within formal education settings in many countries (Kirkpatrick, 2016; Silver & Steele, 2005). In addition, learners and their families often make significant efforts to increase exposure to English outside of formal schooling (Lee, 2010; Seo, 2021; Yung & Hajar, 2023).

In Korea, the pursuit of English language skills, often referred to as "English Fever (Park, 2009)," has become a widespread cultural phenomenon since the 1990s (Choi, 2021; Park, 2009; Shim & Park, 2008). This intense desire to learn English is evident in the commitment of parents to their children's English education, which has been described as an "inter-generational project" by Park and Abelmann (2004, p. 647). The high value placed on English competence in Korea is often tied to their belief that their child's English proficiency is a key factor in future success and career opportunities (Seo, 2021).

The critical period hypothesis, which posits that there is a limited window of opportunity for language learning during childhood, has also fueled the demand for early English education in many EFL countries (Scovel, 2000). This belief that earlier exposure to English provides an advantage in language acquisition has led many parents to enroll their young children in English-medium institutes, commonly known as 'English kindergarten' or even send them abroad for language immersion programs before formal schooling begins in Korea (Byun, Chung, & Ahn, 2018; Cho & Shin, 2008). Moreover, with the introduction of English education in elementary schools, parental efforts to support their children's English language learning have increased even further. This trend underscores the significant impact of socio-cultural factors on English language learning and highlights the role of parental involvement in promoting English language learning in Korea.

Shin and Lee (2019) have criticized the social phenomena surrounding the pursuit of English proficiency, particularly in the context of the "English Divide" in South Korea. This phenomenon represents the polarization of English abilities among primary and secondary school students across the socioeconomic spectrum: the "Early Study Abroad" students

who have had the opportunity to live in English-speaking countries for the sole purpose of learning English, and the "English Abandoners" who have struggled to learn English and ultimately given up. According to Shin and Lee, this polarization is indicative of the role that English plays in social integration and division in South Korea.

As previously noted, the fervent pursuit of early English education and the disparities in accessing educational opportunities for English linked to parental socio-economic status have raised concerns regarding potential interclass disparities in both the onset of English education and developmental patterns in students' English proficiency. Although various studies have explored the contextual factors (e.g., private tutoring, socioeconomic status of the parents, and so on) influencing English education in Korea and provided valuable pedagogical implications (Do, Kim, Kim, & Son, 2012; Kim, 2015; Kim, 2013; Park & Kim, 2010), there is a limited understanding regarding the enduring impact of these contextual factors on children's English language development over a significant period of time. Moreover, little is known about the ways in which children with varying levels of English proficiency, particularly in the initial stages of formal education, navigate the development of their English language skills throughout their schooling.

Furthermore, there is a notable scarcity of research on the developmental trajectory of English language skills within the Korean context. To date, the majority of studies have portrayed English language development as a linear progression (Grimm, 2008; Kim, 2015; Seltzer, Choi, & Thum, 2003), a concept which is even echoed in the National English Curriculum (Choi, Lee, Oh, & So, 2022). This prevalent linear portrayal of language development may stem from the scarcity of longitudinal studies and the propensity of a substantial body of research to focus on identifying causal relationships within the confines of short-term experimental designs. For example, Kim (2015) employed latent growth modeling to explore the connection between private tutoring and academic achievement, positing a linear progression in English proficiency. Nevertheless, as Larsen-Freeman (2006) has highlighted, it is improbable that language learners will advance through the acquisition process in a consistent and linear manner.

In order to address the aforementioned gap in the literature, the present study endeavors to explore the developmental patterns of English language learning over an extended period of time. Thus, this study aimed to investigate how school-aged children with varying levels of English proficiency progress in English language skills. By examining their long-term trajectories of English abilities, the study hopes to contribute to our understanding of the factors that influence English language development and inform approaches to supporting children's English language learning.

2. EFFECT OF PRIVATE TUTORING

It is widely recognized that the amount of exposure time to the target language is a crucial factor in language acquisition (Collier, 1989; Collier & Thomas, 1989, 2017; Cummins, 1981; McLaughlin, 1984; Sun, Steinkrauss, Tendeiro, & de Bot, 2016; Unsworth, Persson, Prins, & de Bot, 2015). McLaughlin (1984) posited that a child requires approximately 9,000 hours of exposure time to acquire a native language between the ages of 1 and 6. Studies on English as a Second Language (ESL) have indicated that it takes ESL learners approximately 5 to 7 years to achieve the appropriate level of English proficiency in academic settings (Collier, 1989; Collier & Thomas, 1989, 2017; Cummins, 1981; Hakuta, Butler, & Witt, 2000). In ESL contexts, where there is ample opportunity for learners to engage with the target language in naturalistic settings, achieving proficiency is expected. However, it is posited that in English as a Foreign Language (EFL) settings, where such opportunities are less frequent, attaining a high level of proficiency may demand even more effort and time (Lee, 2003).

Within the Korean educational system, where the curriculum is largely standardized by the national guidelines, uniformity in instructional time across public schools and regions within Korea is generally expected. Lee (2003, 2008) observed that Korean students, beginning English education in their third year of elementary school, accumulate an average of 730 instructional hours over a span of ten years in schools. In light of this standardized context, the supplementary English exposure gained through private tutoring likely plays a significant role in the advancement of English proficiency among young adolescents.

Private tutoring has become a widespread phenomenon worldwide, but it is particularly prevalent in Korea (Bray, 2009; Lee & Jang, 2023; Song, Kim, Lee, & Kim, 2013). In the case of English language education, Statistics Korea (2022) reported that an average of 41% of students participated in English private education from 2017 to 2021, and they spent the highest amount of expenditure (i.e., 112,000 KRW) per month compared to other school subjects. Given the unique characteristics of the Korean context, a plethora of studies have investigated various aspects of English private education (Byun & Kim, 2010; Jung & Seo, 2017; Kim, 2013, 2015; Kim, Yoon, & Nam, 2012; Lee, 2008; Oh & Kim, 2011; Park & Abelmann, 2004). Kim et al. (2012), for instance, examined the factors influencing participation in English private education, and their findings indicated that family income, parental education background, students' school record, and the region of the school all have an impact on the extent of participation and expenditure on private English tutoring. Oh and Kim (2011), also, revealed that the significant variation in expenditure on private tutoring can be explained by residential areas and school levels, with expenditure being higher in urban metropolitan areas, than in rural or small- and medium-sized towns.

The effectiveness of private education has also been extensively examined in the academic

literature. Byun and Kim (2010) conducted a study that found a significant relationship between the socioeconomic status (SES) of a family and a student's English achievement. This relationship was found to be mediated by private education, indicating that private education can play a meaningful role in enhancing a student's English achievement, particularly for students from higher SES families. Similarly, Jung and Seo (2017) reported that the quantity of private English tutoring that 9th graders received in Seoul was significantly associated with their English ability.

Kim (2013) examined the impact of private tutoring on both mathematics and English achievement, using a longitudinal design. The study revealed that students who had received more private tutoring had higher scores in both mathematics and English than those who received less private tutoring. However, the study did not find any longitudinal effects of participating in private tutoring. In line with this result, another longitudinal study conducted by Kim (2015) showed that the expenditure on private education for English was related only to the initial state of Korean adolescents' English achievement and their levels of understanding in English class. This finding suggests that private education may be particularly effective for improving the initial state of English abilities and promoting a deeper understanding of lessons in English language classrooms.

Conversely, the overarching impact of private English tutoring on language proficiency remains unclear. Lee and Jang (2023) critically reviewed the effectiveness of private English tutoring in South Korea, revealing mixed results, with some studies suggesting minimal or less significant effects compared to other factors such as student self-efficacy and learning attitudes (Kim, 2014, 2015; Park & Jang, 2012; Park & Park, 2010).

The inconclusive findings underscore the necessity for additional investigation into the impact of English private tutoring. Furthermore, there is a notable dearth of studies that have explored the longitudinal impact of the quantity of private education on English proficiency. So far, numerous studies have approached private education from the perspective of educational sociology, deconstructing the societal and economic factors that contribute to educational inequality (Byun & Kim, 2010; Kim, 2015; Lee & Shouse, 2011; Park & Kim, 2010; Tsiplakides, 2018). Therefore, it is worthwhile to investigate the role of private education by specifically focusing on the amount of exposure to English outside the classroom. Furthermore, it is imperative to explore the relationship between private tutoring and English language proficiency across various regions. The concept of urbanicity, denoting the level of urbanization in a region, is crucial as it is intimately connected to opportunities for English language acquisition outside the classroom in the EFL contexts (Cenoz & Gorter, 2008; Oh & Kim, 2011; Rowland, 2013).

Thus, this study is designed to explore the developmental trajectories of English language achievement among young adolescent EFL students in Korea, assessing the influence of initial English proficiency levels and the amount of private English tutoring received. The

investigation focuses on two contrasting regions — urban and rural-town areas — using panel data. Specifically, the study addresses the following research questions:

1) How do the English language achievement trajectories of Korean EFL young adolescents from Grade 4 through Grade 9 vary based on their initial English proficiency at Grade 4?
2) What relationship exists between the development of English language achievement in Korean EFL young adolescents and their exposure to private English tutoring from Grade 6 to Grade 9?
3) How does this relationship differ according to the student's residential areas, that is, urban versus rural-town areas?

By examining the relationships between these variables, the study seeks to uncover the effects of private English tutoring on English language development over time and explore potential differences in the impact of private tutoring based on the student's residential areas. In this way, the study would provide insights into the complex interplay between private English tutoring, regions, and English language achievement.

3. METHODOLOGY

3.1. Dataset

In this study, panel data from the Gyeonggi Education Panel Study (Hereafter, GEPS) were used. This panel study was designed to follow various aspects of the learning experiences of young adolescent students in the Gyeonggi province of South Korea from 2012 to 2021. The Gyeonggi Institute of Education (Hereafter, GIE) has sampled and followed more than 11,000 students from 212 schools by adopting a stratified cluster random sampling method. The participants in this study were administered a battery of questionnaires that encompassed various topics, including demographic information, personal history, family background, and school-related information. In particular, the student's achievements in the three academic subjects (i.e., English, Korean and math) have been measured annually during the initial six-year period (2012 to 2017).

For the first research question, English scores measured from 2012 (Grade 4) to 2017 (Grade 9) were used. This data was collected from 3,530 young adolescent students representing 85 schools and the gender ratio of the students was almost even, with 1,736 (49.16%) female and 1,794 (50.82%) male students. The time span was specifically chosen for a couple of reasons. First, the six-year period corresponds to the students' elementary (i.e., 4th, 5th, and 6th grades) and middle school years (i.e., 7th, 8th, and 9th grades),

implying that the six-year period could provide insights into English achievement trajectories during their young adolescent period. Second, English achievement tests of the GEPS have not been administered since 2018 due to the introduction of the new national curriculum.

For the second and third research questions, data from Grades 6 to 9 were employed. A total of 2,740 students representing 85 schools in Grades 6 through 9 were entered into the final analysis excluding data without English achievement test scores and the amount of English private tutoring. Of these, there were 1,379 (50.3%) male and 1,361 (49.7%) female students. 2,208 (80.6%) students were from cities and 532 (19.4%) were from rural-town areas in the Gyeonggi province. Removing the missing data from the initial dataset resulted in a relatively smaller proportion of students from rural-town areas (from 22.7% to 19.4%) compared to the number of students from urban areas.

3.2. Variables

Two outcome variables were used in this study. One is English scores (Hereafter, ES) measuring the students' English achievement and the other is the amount of private English tutoring (Hereafter, PT) outside school. Students' English achievement over either the six-year period or the four-year period was entered into the data analysis. The growth in English achievement of the participants was assessed by analyzing changes in their standardized English achievement test scores, which were administered by GEPS. Following the format of a typical English academic achievement test, this test consisted of ten listening items (28 points) and eighteen reading sections (72 points). The original scores were transformed into vertical scaled ones to make it possible to compare performance across different time periods, allowing for assessment of an individual's achievement over time (Brennan, 2006; Kolen & Brennan, 2004)[1]. Among various methods of vertical scaling, the transformation of scores was conducted by using linking items and item response theory (Shin, Lee, Jo, & Kim, 2015), bringing all students in grades 4 through 9 to a common English achievement metric with the same level of item difficulty and discrimination power (Briggs & Weeks, 2009). The resulting scaled English achievement scores were included in the original GEPS dataset and their descriptive statistics are presented in Appendix A.

Regarding the amount of English private tutoring, the participants answered an approximate number of minutes per week that they had received on the survey question (i.e., how much time do you spend on English private tutoring outside the school per week?).

[1] Vertical scaled scores are used in longitudinal studies to measure and compare individual performance or abilities over time, despite changes in test difficulty or content at different grades. This method provides a consistent scale, ensuring accurate tracking of growth, development, or learning progress.

When testing the normal distribution of the PT time data, the abnormally peaked distribution was identified. From years 3 to 6, the skewness values for private tutoring time were 5.79, 1.81, 1.55, and 5.36, with corresponding kurtosis values of 56.25, 18.46, 34.08, and 47.06. Therefore, the data were log-transformed to ensure the normality of the distribution [2].

Besides, the participants were divided into two regional groups (i.e., urbanicity) for the multivariate LGM analysis. Urbanicity was based on the criteria of the GEPS students' residential classification: city and rural-town [3], which were coded as 1 and 2 respectively.

3.3. Analysis: Latent Growth Models

Both univariate and multivariate latent growth models were employed to conduct a growth analysis of students' English achievement and its relationship to the amount of English private tutoring. More specifically, one of the objectives of the current study was to investigate the latent trajectories of two distinct English achievement groups, which were hypothesized to differ depending on the English achievement levels at Grade 4. To achieve this, three latent factors were modeled and analyzed: the intercept, the linear factor, and the quadratic factor. In the two-group (i.e., higher and lower achievement groups) univariate growth model used in the study, Grade 4 was established as the reference point, where the students had already undergone at least one year of English language learning in the school setting.

To address the second and third research questions, a two-group (i.e., city and rural-town areas) multivariate latent growth model was applied to the measurements of young adolescents' English language achievement and their amount of English private tutoring. The multivariate growth model estimates the correlation between latent intercepts and slopes (Bollen & Curran, 2006; Duncan, Duncan, & Strycker, 2013; Preacher, 2019). Figure 1 illustrates the path diagram for the multivariate latent growth model used in this study. In this model, five latent variables are assumed: an intercept, a slope, and a quadratic factor for English language achievement, and an intercept and a slope for the amount of English private tutoring.

LGM analyses were conducted using Amos 27.0 and all analyses used full maximum likelihood estimation (FMLE) with robust standard errors. Each model was evaluated based on the following multiple fit indices: chi-square, the comparative fit index (CFI > .90), Tucker-Lewis index (TLI > .90), and the root mean square error of approximation (RMSEA < .08; 90% CI < 1.0) (Cangur & Ercan, 2015; Moon, 2009).

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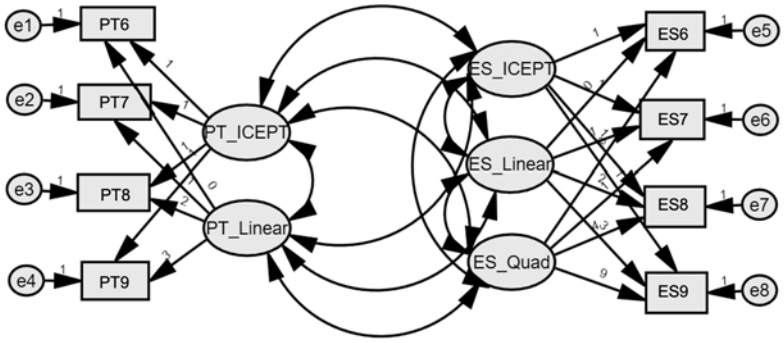
[2] The amount of English private tutoring was transformed on the basis of the natural logarithm. In the natural logarithm transformation, 100 is converted to 4.605.

[3] Rural-town refers to 'eup-myun' areas in the administrative district of the Gyeonggi province.

FIGURE 1

Path Diagram of the Multivariate Latent Growth Model



4. RESULTS

1) How do the English language achievement trajectories of Korean EFL young adolescents from Grade 4 through Grade 9 vary based on their initial English proficiency at Grade 4?

In order to investigate these young adolescent students' English language development over the six-year period, they were divided into two English achievement groups based upon their initial English scores at Grade 4: lower-achievement group (LA) and higher-achievement group (HA). The LA group whose English proficiency level was below the 56.2nd percentile, consisted of 1,992 students, and their English scores ranged from 278.9 to 383.7. The total number of the HA group, placed above the 43.9th percentile, was 1,538 and their English scores were distributed from 421.1 to 492.2.

Two unconditional univariate LGMs were conducted to analyze the developmental trajectories of the two English achievement groups. While the polynomial model fitted the data of the LA group ($X^2(12) = 188.042$, $p < .001$, CFI = .964, TLI = .937, and RMSEA = .084, 90%CI [.075, .094], it failed to adequately represent the HA group data. Consequently, an alternative approach ― freely estimating factor loadings for the slope ― was adopted (Duncan et al., 2013; Kline, 2015). The factor loadings for the slopes of the HA group were specified as follows: 0 (Grade 4), 1 (Grade 5), 1.310 (Grade 6), 2.918 (Grade 7), 3.666 (Grade 8), and 3.580 (Grade 9), respectively [4]. The model fit indicated an appropriate

[4] When freely estimating the factor loadings of a slope, the first and second factor loadings are predetermined and set as 0 and 1, respectively. From the third time point onward, the factor loadings for the slope are left unconstrained and freely estimated based on the observed data (Duncan et al., 2013).

fit to the data, with $X^2(15) = 169.067$, $p < .001$, CFI = .938, TLI = .934, and RMSEA = .087, 90% CI [.077, .098].

TABLE 1

Univariate Latent Growth Models by Two English Achievement Groups

		LA		HA	
		Mean (SE)	Variance (SE)	Mean (SE)	Variance (SE)
ICEPT		364.664 (.394)***	325.027 (32.734)***	463.886 (.886)***	536.745 (72.208)***
SLOPE	Linear	22.137 (.900)***	934.73 (53.850)***		
	Quad	-.140 (.181)***	26.909 (2.308)***		
	FE			25.783 (1.754)***	374.428 (52.693)***

Correlational/Covariance Matrix

LA		ICEPT	Linear	Quad
ICEPT			.255***	-.874***
SL-OPE	Linear	140.781(28.363) ***		-.199***
	Quad	-138.628(10.419) ***	-18.565(4.806) ***	

HA	ICEPT	FE Slope
ICEPT		.170**
FE Slope	76.003(28.465) ***	

Note. $^{**}p < 0.01$ $^{***}p < 0.001$; ICEPT = intercept; Quad = quadratic; FE = freely-estimated; HA = higher achievement group; LA = lower achievement group; SE = standard error; in the correlational/covariance matrix, below diagonal = covariance, above diagonal = correlation coefficients

Table 1 presents the estimated coefficients for the two proficiency groups. At Grade 4, the intercept means were 364.664 for the LA group and 463.886 for the HA group, indicating a significant disparity in achievement levels between the groups. The LA group demonstrated an overall increase in English achievement over time, with a linear slope mean of 22.137 and a quadratic slope mean of - .140. The positive linear slope indicates a general upward trend, while the small negative quadratic slope suggests a slight deceleration in the rate of increase. Therefore, although achievement continues to grow, the rate of growth shows a slight decrease over time, aligning closely with a linear growth pattern.

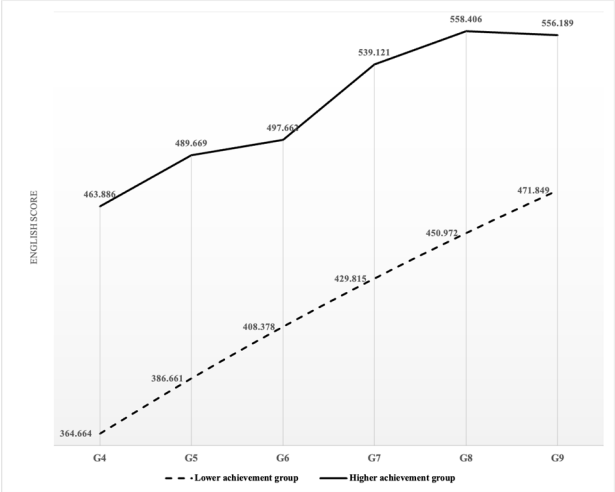
In contrast, the HA group exhibited a more curvilinear trajectory due to the freely estimated slope factor loadings, with a mean slope of 25.867. This group started with a steady linear increase in English proficiency during Grades 4 and 5, followed by an accelerated growth rate from Grade 6 onwards, peaking in Grade 8, and then slightly tapering off in Grade 9. The developmental trajectories of both groups are depicted in Figure 2.

In both groups, the variances of the intercepts and slopes were significant, indicating

substantial individual differences in the initial status and slope patterns of English achievement. Furthermore, a positive correlation observed between the intercept and slope indicated that students who had higher English abilities at Grade 4 were likely to experience a greater increase in the rate of ability change over time in both groups. It was also noteworthy that the initial gap between the HA and LA groups in Grade 4 was not reduced over the six-year period. Interestingly, by the time the LA group reached the 9th grade, their average English language achievement level was almost equivalent to the initial achievement level of the HA group (i.e., Grade 4).

FIGURE 2

Trajectories of English Scores of the Two Achievement Groups (n = 3,530)



2) What relationship exists between the development of English language achievement in Korean EFL young adolescents and their exposure to private English tutoring from Grade 6 to Grade 9?

Prior to investigating the longitudinal association between English achievement scores and private tutoring, unconditional LGMs were conducted. The polynomial model demonstrated a good fit to the data of English scores while the linear model showed an appropriate model fit for private tutoring. As presented in Table 2, the mean of the intercept for ES was 452.875 and the linear and quadratic factors were 34.281 and -3.912 each. Regarding PT time, the means of the intercept and linear slope were 4.634 and .204, respectively.

TABLE 2

Estimated Latent Growth Models for ES and PT

	ES		PT	
	Mean (SE)	Variance (SE)	Mean (SE)	Variance (SE)
ICEPT	452.875 (1.598)***	4278.375 (348.139)***	4.634 (.016)***	.216 (.02)***
Linear	34.281 (1.734)***	2075.399 (431.772)***	.204 (.007)***	.018 (.006)**
Quad	-3.912 (.523)***	140.519 (31.967)***		

Correlational/Covariance Matrix

	ES ICEPT	ES Linear	ES Quad	PT ICEPT	PT Linear
ES ICEPT		.470***	- .594***	.656***	- .336***
ES Linear	1340.879 (354.991)***		- .912***	.456***	.049
ES Quad	-456.016 (89.120)***	-478.119 (105.179)***		- .528***	.002
PT ICEPT	19.947 (1.427)***	9.466 (1.502)***	-2.947 (.453)***		- .357*
PT Linear	-2.946 (.614)***	.296 (.660)	.004 (.199)	- .023 (.01)*	

Note. *p < 0.05 ***p < 0.001; ES = English Scores; PT = Private Tutoring; ICEPT = intercept; Quad = quadratic; SE = standard error; in the correlational/covariance matrix, below diagonal = covariance, above diagonal = correlation coefficients

The multivariate extension of the basic unconditional models allowed for assessing relations among the parameters for ES and PT. Model fitting procedures for the multivariate LGM, $X^2(16) = 68.006$, p < .001, CFI = .993, TLI = .984 and RMSEA = .034, 90% CI [.022, .042] suggested that a multivariate representation of the variables was tenable. The correlational matrix of Table 2 presents the relations among the intercepts and slopes for the two variables in the model.

A strong and statistically significant relationship between the initial levels of PT and ES (r = .656) means that students who start with higher levels of PT tend to have higher initial levels of ES, which implies that early engagement in PT is associated with higher English proficiency at the outset of the study period. A notable negative correlation was found between the rate of change in PT and the initial ES (r = - .336). This suggests that students with lower initial English proficiency show a greater increase in private tutoring over time. However, the insignificant correlation between PT and ES linear slopes indicated that the rate at which PT changes does not have a clear, predictable relationship with the rate at which ES changes.

Additionally, the starting level of PT was positively associated with the rate of ES improvement over time (r = .456), meaning that higher initial PT levels indicate a greater

rate of enhancement in ES for students. The significant negative correlation (r = - .528) between ES quadratic slope and PT intercept indicates that a higher initial PT level is associated with a slower deceleration in English proficiency growth over time. Overall, the significant correlations involving the PT intercept with ES linear and quadratic components suggest that initial PT levels have a lasting impact on the trajectory of ES development, both in terms of its rate of improvement and its eventual deceleration.

3) How does this relationship differ according to the student's residential areas, that is, urban versus rural-town areas?

To compare the correlations between the urban and rural-town areas, a two-group multivariate growth curve model was conducted. The overall fit indices for both models indicated satisfactory model adequacy ($X^2(32) = 78.703$, $p < .001$, CFI = .993, TLI = .985, and RMSEA = .023, 90% CI [.017, .032]). The complete results generated by the model are provided in Appendix B, while Table 3 displays the correlation coefficients pertaining to both areas.

TABLE 3

The Correlation Matrix between ES and PT in the Urban and Rural-Town Areas

	ES ICEPT	ES Linear	ES Quad	PT ICEPT	PT Linear
ES ICEPT		.419**	- .582***	.701***	- .404**
ES Linear	.554		- .925***	.424***	- .004
ES Quad	- .491	- .857		- .531***	.084
PT ICEPT	.393***	.401*	- .292		- .333
PT Linear	- .033	.446	- .424	- .412	

Note. *$p < 0.05$ **$p < 0.01$ ***$p < 0.001$; above diagonal = Urban; below diagonal = Rural-Town

Generally, a correlation between English scores and private tutoring was particularly evident in urban student populations. For example, the correlation coefficients for both Grade 6 outcomes were notably more substantial for urban students (r = .701) in contrast to those in rural-town areas (r = .393). Additionally, the correlation between the linear (r = .424) and quadratic (r = -.531) slopes of English achievement and the intercept of private tutoring proved to be statistically significant exclusively within urban areas. Conversely, a significant correlation among those parameters was not discerned within the rural-town student population. This implies that the enduring impact of the initial level of private tutoring on the progression of English achievement is specifically evident in urban areas.

5. DISCUSSION

The main goal of this study was to investigate the developmental patterns of Korean EFL adolescent students' English achievement over time and explore the relationship between English achievement and the amount of private education, by dividing student groups based on their residential regions.

The findings of this study revealed that both higher- and lower-performing Korean EFL adolescent student groups demonstrated consistent improvement in their English proficiency from Grade 4 to Grade 9. Notably, this improvement featured a modest deceleration in the growth rate for the higher-performing students following a period of more accelerated growth by Grade 8. This curvilinear developmental trajectory is consistent with previous research (Lee, 2010; Little, Lonigan, & Phillips, 2021; Parrila, Aunola, Leskinen, Nurmi, & Kirby, 2005; Shin, Davison, Long, Chan, & Heistad, 2013). Shin et al. (2013) argued that linear-change models do not adequately explain the developmental patterns of L2 language acquisition. Larsen-Freeman (2006) also pointed out that language acquisition is a dynamic process where different subsystems of language interact with each other, and their developments are not consistently progressive. The current study's findings provide further evidence that the growth of L2 language is not linear.

An intriguing finding of this study was the observed heterogeneity in the English achievement of 4th-grade elementary school students. There existed significant individual differences in the initial stage of their formal English learning at school. Moreover, the initial gap between the lower- and higher-achievement groups persisted over the next six years. Notably, it was not until the 9th grade that the lower achievement group only barely reached the 4^{th}-grade level of the higher achievement group. This finding suggests that students who exhibit higher English achievement in the early stage of their formal English education are more likely to maintain this advantage over time, whereas those who start with lower levels of achievement may struggle to narrow the gap.

A salient discovery pertains to the substantial inter-individual variance observed in English language skills among fourth-grade students, who have undergone only one year of formal English instruction in school. The discernable variance in the English language abilities of the aforementioned fourth-grade students could plausibly be ascribed to divergent levels of availability and participation in supplementary private English instruction. The findings drawn from the multivariate LGM lend support to this interpretation. In this study, involvement in private tutoring not only exhibited a significant association with the initial level of English achievement but also demonstrated a correlation with the trajectories of English achievement. To elaborate, higher initial participation in private tutoring was linked to accelerated growth and slower deceleration in English achievement. The present study's findings are consistent with prior research that has identified a multitude of private English

instruction types and avenues commonly selected by Korean students (Shin & Lee, 2019). Collectively, the finding of the current study affirms the consequential influence of initial private English tutoring on students' English language achievement during the nascent phases of formal English education.

Notwithstanding the conspicuous impact of private English tutoring on the initial phase of formal education, it is imperative to exercise prudence when inferring the role of such tutoring on the enduring development of English achievement over time. The findings regarding the correlation between the slopes of private tutoring and English achievement, in particular, indicate that increasing exposure to private English instruction cannot potentially influence the growth of English achievement of these students. The present finding accords with prior research utilizing longitudinal methodologies. For instance, Kim (2015) determined that changes in English tutoring expenditure were not significant contributors to the development of English proficiency. Moreover, it is essential to take into account factors about the instructional quality of private English tutoring (Bray, 2009). Furthermore, individual factors such as self-efficacy, motivation, and learning strategies may play a role in students' English language learning and performance, beyond the impact of private English tutoring (Oh, 2022, 2023).

An additional noteworthy discovery in this study is that the link between English achievement and the amount of private English tutoring is more pronounced in urban regions than in rural-town localities. This finding is in line with previous studies that have emphasized the role of private education (Do et al., 2012; Kim, 2013, 2015). For instance, Kim (2013) observed that residential location was the most influential determinant of participation in English private education, with students residing in urban areas typically allocating more time and resources towards private tutoring. Although it is challenging to define the precise meaning of urbanicity in this study, factors such as disparities in access to private educational resources, variations in parental education or occupation, and discrepancies in the accessibilities of social capital and resources may contribute to this urban-rural divide of English private tutoring and English proficiency (Miller & Vortruba-Drzal, 2015). This divide ultimately exacerbates the regional discrepancies in English language proficiency among young adolescent students.

6. CONCLUSION

This research aimed to investigate the developmental trajectory of English achievement among Korean EFL young adolescents over a six-year period spanning from elementary to middle school. The study distinctively categorizes these students into higher- and lower-achievement groups to analyze respective growth patterns. Furthermore, it conducted a

longitudinal analysis of the relationship between English achievement and private English tutoring among students from Grade 6 of elementary school to Grade 9 of middle school, with a focus on differences between urban and rural areas.

A persistent divergence between the two achievement groups lasted, even after a significant amount of time had passed. Moreover, private English education was found to be closely associated with this developmental pattern, as students' relatively early years of English ability seemed to be closely linked with their amount of private English tutoring. Additionally, private English tutoring appears to be more influential in urban areas where students have better access to private English tutoring.

The findings of the present study have several pedagogical implications. Identifying the factors associated with students' learning trajectories is crucial in guiding educators to develop effective teaching strategies. The persistent gaps observed between the two achievement groups found in the study highlight the importance of remedial programs aimed at improving the English language proficiency of students with low levels of proficiency. In particular, supplementary English programs, such as diagnostic assessments of English language proficiency and tailored interventions in the initial stages of English language learning, might be essential for bridging the proficiency gap between the two groups. The implementation of diverse programs aimed at mitigating English underachievement, such as *Pictorial Typography Phonics* (Lee & Lee, 2022), *English Literacy Instruction for English Underachievers* (Jung & Kim, 2013), and the *Basic Academic Assessment and Remediation Program* offered by the offices of education in Korea, holds promise for ameliorating the situation in the public education sector.

The regional differences in English proficiency found in this study underscore the need to provide additional support to students residing in rural areas. By gaining a comprehensive understanding of English language learning and exposure patterns to the language outside the classroom can design targeted interventions that facilitate their English proficiency.

Besides, this study has several limitations that should be considered. The current study divided the entire students into upper- and lower-subgroups for the comparison of growth curves. This categorization holds significance not only in observing how students progress but also in understanding how such development occurs in conjunction with various external factors. However, future research may benefit from adopting a more nuanced classification of student groups using a person-centered approach (e.g., latent profile analysis and latent transition analysis) and a more sophisticated multivariate growth model (e.g., latent growth cross-lagged model or latent change score model) to examine a nuanced relationship of English private tutoring and English achievement. Additionally, the unbalanced ratio between students from urban and rural-town areas may have influenced the results. Although the number of students in the rural-town areas was sufficient to conduct LGM analyses (McNeish & Stapleton, 2016), a more balanced data set would provide a clearer picture of

English learning development and English private tutoring.

Despite its limitations, this study makes a significant contribution to understanding the distinct developmental trajectories among Korean EFL adolescent students with varying levels of English achievement. Furthermore, it illuminates the correlation between these trajectories and private tutoring, along with disparities between rural and urban areas. By analyzing these developmental trajectories and the enduring associations with various factors, the study underscores the value of longitudinal research employing panel data. Additionally, it offers insights into pedagogical strategies that could help to address some of the challenges unveiled by this research and proposes potential initiatives that can be implemented in public education.

Applicable levels: Elementary, secondary

REFERENCES

Bollen, K. A., & Curran, P. J. (2006). *Latent curve models: A structural equation approach*, Hoboken, NJ: Wiley.

Bray, M. (2009). *Confronting the shadow education system: What government policies for what private tutoring?* Paris: United Nations Educational, Scientific and Cultural Organization; International Institute for Educational Planning.

Brennan, R. L. (2006). *Educational measurement*. *ACE/Praeger series on higher education*. Westport, CT: ACE/Praeger.

Briggs, D. C., & Weeks, J. P. (2009). The impact of vertical scaling decisions on growth interpretations. *Educational Measurement: Issues and Practice, 28*(4), 3-14.

Byun, S. Y., Chung, H., & Ahn, J. (2018) The relationship between attendance in English kindergarten and parents' plans for their children's educational transition. *Korean Journal of Sociology of Education, 28*(2), 127-155.

Byun, S. Y., & Kim, K. K. (2010). Educational inequality in South Korea: The widening socioeconomic gap in student achievement. In E. Hannum, H. Park, & Y. G. Butler (Eds.) *Globalization, changing demographics, and educational challenges in East Asia* (Vol. 17) (pp. 155-182). Bingley, England: Emerald.

Cameron, D. (2016). The commodification of language: English as a global commodity. In T. Nevalainen & E. C. Traugott (Eds.), *The Oxford handbook of the history of English* (pp. 352-361). Oxford, England: Oxford University Press.

Cangur, S., & Ercan, I. (2015). Comparison of model fit indices used in structural equation modeling under multivariate normality. *Journal of Modern Applied Statistical Methods, 14*(1), 152-167.

Cenoz, J., & Gorter, D. (2008). The linguistic landscape as an additional source of input in second language acquisition. *International Review of Applied Linguistics in Language Teaching, 46*(3), 267-287.

Cho, E. K., & Shin, S. (2008). Survival, adjustment, and acculturation of newly immigrated families with school-age children: Cases of four Korean families. *Diaspora, Indigenous, and Minority Education, 2*(1), 4-24.

Choi, J., Lee, B., Oh, S. Y., & So, Y. (2022). Consistency between the targeted achievement levels of the 2015 revised national curriculum of English and the assessment levels of the College Scholastic Ability Test of English in South Korea. *English Language Assessment, 17*(1), 11-43.

Choi, T. H. (2021). English fever: Educational policies in globalised Korea, 1981–2018. *History of Education*, *52*(4), 670-686.

Collier, V. P. (1989). How long? A synthesis of research on academic achievement in second language. *TESOL Quarterly, 23*, 509-531.

Collier, V. P., & Thomas W. P. (1989). How quickly can immigrants become proficient in school English? *Journal of Educational Issues of Language Minority Students*, *5*, 26-38.

Collier, V. P., & Thomas, W. P. (2017). Validating the power of bilingual schooling: Thirty-two years of large-scale, longitudinal research. *Annual Review of Applied Linguistics, 37*, 203-217.

Cummins, J. (1981). Age on arrival and immigrant second language learning in Canada: A reassessment. *Applied Linguistics, 2*(2), 132-149.

Do, S., Kim, S., Kim, H., & Son, S. (2012). Characteristics of high-performing middle school students for private tutoring. *Korean Journal of Educational Research, 50*(4), 185-220.

Duncan, T. E., Duncan, S. C., & Strycker, L. A. (2013). *An introduction to latent variable growth curve modeling: Concepts, issues, and application.* Mahwah, NJ: Routledge Academic.

Graddol, D. (1997). *The future of English.* London: British Council.

Grimm, K. J. (2008). Longitudinal associations between reading and mathematics achievement. *Developmental Neuropsychology, 33*(3), 410-426.

Hakuta, K., Butler, G. Y., & Witt, D. (2000). *How long does it take learners to attain English proficiency?* Santa Barbara, CA: University of California Linguistic Minority Research Institute. (Policy Report 2000-1). Retrieved on February 6, 2024, from http://www.lmri.ucsb.edu

Jung, J., & Kim, J. (2013). A case study of teaching English to English underachievers. *English Teaching, 68*(2), 179-199.

Jung, H., & Seo, E. (2017). The causal effects of private tutoring on English achievement. *The Journal of Korean Education, 44*(3), 123-146.

Kim, D., Yoon, E., & Nam, J. (2012). The analyses on variables affecting English private tutoring expenditure in Korea. *Foreign Languages Education, 19*(3), 285-313.

Kim, J. (2015). The relationship of English shadow education expense, academic achievement, and level of understanding in English class: A latent growth modeling approach. *Journal of the Korea English Education Society, 14*(2), 197-215.

Kim, S. (2013). Longitudinal effects of private tutoring on mathematics and English achievement using multivariate multilevel growth model. *Korean Journal of Youth Studies, 6*, 337-357.

Kim, S. (2014). An analysis of general education high school students' English achievement. *Journal of Research in Curriculum & Instruction, 18*(4), 1261-1280.

Kirkpatrick, R. (Ed.). (2016). *English language education policy in Asia.* Cham, Switzerland: Springer.

Kline, R. B. (2015). *Principles and practice of structural equation modeling.* New York: Guilford.

Kolen, M. J., & Brennan, R. L. (2004). *Test equating, scaling, and linking: Methods and practices*. New York: Springer Verlag.

Larsen-Freeman, D. (2006). The emergence of complexity, fluency, and accuracy in the oral and written production of five Chinese learners of English. *Applied linguistics, 27*(4), 590-619.

Lee, B. (2003). The importance of instructional time in EFL learning environment. *Foreign Language Education, 10*(2), 107-129.

Lee, B. (2008). College students' experiences of exposure to spoken English: Focusing on the amount of exposure time and types. *English Education, 63*(4), 349-370.

Lee, B. (2010). The pre-university English-educational background of college freshmen in a foreign language program: A tale of diverse private education and English proficiency. *Asia Pacific Education Review, 11,* 69-82.

Lee, B., & Jang, I. C. (2023). A sociocultural perspective on English private tutoring in South Korea in the last two decades: A critical review. In K. W. H. Yung & A. Hajar (Eds.), *International perspectives on English private tutoring: Theories, practices, and policies* (pp. 113-138). Cham, Switzerland: Palgrave Macmillan.

Lee, E., & Lee, Y. (2022). A case study of teaching elementary school English underachievers using pictorial typography phonics. *Journal of Research in Curriculum & Instruction, 26*(5), 485-498.

Lee, J. (2010). Tripartite growth trajectories of reading and math achievement: Tracking national academic progress at primary, middle, and high school levels. *American Educational Research Journal, 47*(4), 800-832.

Lee, S., & Shouse, R. C. (2011). The impact of prestige orientation on shadow education in South Korea. *Sociology of Education, 84*(3), 212-224.

Little, C. W., Lonigan, C. J., & Phillips, B. M. (2021). Differential patterns of growth in reading and math skills during elementary school. *Journal of Educational Psychology*, *113*(3), 462-476.

McLaughlin, B. (1984). *Second language acquisition in childhood: Preschool children* (2nd ed., vol. 2). New York: Psychology Press.

McNeish, D. M., & Stapleton, L. M. (2016). The effect of small sample size on two-level model estimates: A review and illustration. *Educational Psychology Review, 28*(2), 295-314.

Miller, P., & Votruba-Drzal, E. (2015). Urbanicity moderates associations between family income and adolescent academic achievement. *Rural Sociology, 80*(3), 362-386.

Moon, S. B. (2009). *Basic concepts and applications of structural equation modeling with AMOS 19.0*. Seoul: Hakjisa.

Nunan, D. (2003). The impact of English as a global language on educational policies and practices in the Asia-Pacific Region. *TESOL Quarterly, 37*(4), 589-613.

Oh, M. S., & Kim, J. H. (2011). Statistical analysis of private education expenses in Korea. *The Korean Journal of Applied Statistics, 24*(1), 193-206.

Oh, Y. K. (2022). The growth trajectories of L2 self-efficacy and its effects on L2 learning: Using a curve-of-factors model. *Applied Linguistics, 43*(1), 147-167.

Oh, Y. K. (2023). Examining the effect of L2 motivational factors on the development of L2 achievement: Using multilevel latent growth curve model. *Asia Pacific Education Review, 24*(1), 113-127.

Park, H. J., & Kim, Y. H. (2010). The effect of family's cultural capital and social capital on the improvement of students' English academic achievement: A latent growth model analysis. *Korean Journal of Sociology of Education, 20*(4), 55-82.

Park, H. S., & Jang, S. Y. (2012). An investigation of the effects of both individual and school characteristics on elementary school students' English achievement. *Primary English Education, 18*(2), 249-270.

Park, J. K. (2009). 'English fever' in South Korea: Its history and symptoms. *English Today, 25*(1), 50-57.

Park, N., & Park, S. (2010). The effects of private English tutoring in line with self-academic concept and parental expectations on middle school student. *The Educational Research for Tomorrow, 23*(1), 35-56.

Park, S. J., & Abelmann, N. (2004). Class and cosmopolitan striving: Mothers' management of English education in South Korea. *Anthropological Quarterly, 77*(4), 645-672.

Parrila, R., Aunola, K., Leskinen, E., Nurmi, J. E., & Kirby, J. R. (2005). Development of individual differences in reading: Results from longitudinal studies in English and Finnish. *Journal of Educational Psychology, 97*(3), 299-319.

Preacher, K. J. (2019). Latent growth curve models. In G. R. Hancock, L. M. Stapleton & R. O. Mueller (Eds.), *The reviewer's guide to quantitative methods in the social sciences* (2nd ed.) (pp. 178-192). New York: Routledge.

Rowland, L. (2013). The pedagogical benefits of a linguistic landscape project in Japan. *International Journal of Bilingual Education and Bilingualism, 16*(4), 494-505.

Scovel, T. (2000). "The younger, the better" myth and bilingual education. In R. D. Gonzalez & I. Melis (Eds.), *Language ideologies: Critical perspectives on the official English movement* (pp. 114-136). New York: Routledge.

Seltzer, M., Choi, K., & Thum, Y. M. (2003). Examining relationships between where students start and how rapidly they progress: Using new developments in growth modeling to gain insight into the distribution of achievement within schools. *Educational Evaluation and Policy Analysis, 25*(3), 263-286.

Seo, Y. (2021). An emerging trend in English education in Korea:'Maternal English education'(eommapyo yeongeo): Challenges and strategies in raising a bilingual child as a nonnative speaker. *English Today, 37*(3), 163-168.

Shim, D., & Park, J. S. Y. (2008). The language politics of "English fever" in South Korea. *Korea Journal, 48*(2), 136-159.

Shin, H., & Lee, B. (2019). "English Divide" and ELT in Korea: Towards critical ELT policy and practices. In X. Gao (Ed.), *Second handbook of English language teaching* (pp. 73-90). Cham, Switzerland: Springer.

Shin, J., Lee, J., Jo, H., & Kim, B. (2015). *Developing vertical scaling scores for Gyeonggi Education Panel Study (GEPS)*. Suwon, Korea: Gyeonggi Institute of Education. (Scientific Report No. 2015-04).

Shin, T., Davison, M. L., Long, J. D., Chan, C.K., & Heistad, D. (2013). Exploring gains in reading and mathematics achievement among regular and exceptional students using growth curve modeling. *Learning and Individual Differences, 23*(1), 92-100.

Silver, R. E., & Steele, R. S. (2005). Priorities in English language education policy and classroom implementation. *Language Policy, 4*(1), 107-128.

Song, M. Y., Kim, S. S., Lee, H. S., & Kim, J. Y. (2013). Investigation on contextual variables affecting academic achievement. *Journal of Educational Evaluation, 24*(2), 261-289.

Statistics Korea (2022). *Private education expenditures survey of elementary, middle and high school students in 2022*. Retrieved on February 6, 2024, from

https://kostat.go.kr/board.es?mid=a20111020000&bid=11758&act=view&list_no=424684

Sun, H., Steinkrauss, R., Tendeiro, J., & de Bot, K. (2016). Individual differences in very young children's English acquisition in China: Internal and external factors. *Bilingualism: Language and Cognition, 19*(3)*,* 550-566.

Tsiplakides, I. (2018). Shadow education and social class inequalities in secondary education in Greece: The case of teaching English as a foreign language. *International Journal of Sociology of Education, 7*(1), 71-93.

Unsworth, S., Persson, L., Prins, T., & de Bot, K. (2015). An investigation of factors affecting early foreign language learning in the Netherlands. *Applied Linguistics, 36*(5)*,* 527-548.

Yung, K. W. H., & Hajar, A. (Eds.). (2023). *International perspectives on English private tutoring: Theories, practices, and policies*. Cham, Switzerland: Palgrave Macmillan.

APPENDIX A

Descriptive Statistics and Correlations for the Study Variables

	G4_ES	G5_ES	G6_ES	G7_ES	G8_ES	G9_ES	G6_PT	G7_PT	G8_PT	G9_PT	Urbanicity
G4_ES	1										
G5_ES	.604**	1									
G6_ES	.566**	.594**	1								
G7_ES	.631**	.664**	.627**	1							
G8_ES	.577**	.611**	.592**	.784**	1						
G9_ES	.477**	.523**	.499**	.689**	.756**	1					
G6_PT			.255**	.297**	.296**	.244**	1				
G7_PT			.195**	.265**	.240**	.210**	.234**	1			
G8_PT			.199**	.281**	.278**	.237**	.183**	.279**	1		
G9_PT			.161**	.247**	.245**	.201**	.192**	.249**	.319**	1	
urbanicity			-.128**	-.171**	-.174**	-.094**	-.133**	-.107**	-.103**	-.106**	1
Mean	408.489	433.831	453.128	481.687	506.200	519.723	4.580	4.951	5.067	5.240	1.19
Var	3160.74	6395.33	7160.93	9137.26	10095.5	9435.48	.903	.838	.684	.630	.157
SD	56.22	79.97	84.622	95.589	100.476	97.136	.950	.915	.826	.793	.396
Min	278.9	278.9	278.9	278.9	291.95	278.86	-2.77	0.69	2.30	2.30	1
Max	492.2	600.7	600.7	653.1	653.12	653.12	7.50	7.09	7.27	8.76	2
Skewness	.478	1	.580	.254	-.094	-.302	-.246	-.651	-.387	-.478	1.547
Kurtosis	-1.197	-.003	- .777	-1.162	-1.283	-1.114	.953	.581	-.273	.837	.394

Note. ES = English scores; PT = amount of English private tutoring per week; Var = variance; SD = standard deviation; Min = minimum; Max = maximum

APPENDIX B

Multivariate Latent Growth Models by Regional Groups

	Means			
	ES		PT	
	City	Rural-Town	City	Rural-Town
ICEPT	458.001***	431.600***	4.694***	4.383***
Linear	39.185***	14.850***	.198***	.231***
Quad	-5.623***	2.901**		

Correlational/covariance matrix

City	ES ICEPT	ES Linear	ES Quad	PT ICEPT	PT Linear
ES ICEPT	4182.466	.419**	- .582***	.701***	- .404**
ES Linear	1235.843 (402.99)**	2077.724	- .925***	.424***	- .004
ES Quad	-431.990 (100.888)***	-484.077 (121.044)***	131.943	- .531***	.084
PT ICEPT	20.397 (1.557)***	8.687 (1.654)***	-2.742 (.498)***	.202	- .333
PT Linear	-3.403 (.672)***	- .023 (.732)	.125 (.220)	- .02(.011)	.017
Rural-town					
ES ICEPT	3680.593	.554	- .491	.393***	- .033
ES Linear	1104.230 (710.785)	1078.419	- .857	.401*	.446
ES Quad	-332.473 (179.017)	-314.543 (195.152)	124.820	- .292	- .424
PT ICEPT	11.478 (3.178)***	6.332 (3.208)*	-1.570 (.967)	.231	- .412
PT Linear	- .318 (1.421)	2.301 (1.445)	- .745 (. 436)	- .031 (.027)	.025

Model Fit

$x^2(df)$	CFI	TLI	RMSEA
78.703(32)***	.993	.985	.023 (.017 < 90% CI < .032)

Note. *p < 0.05 **p < 0.01 ***p < 0.001; ICEPT = intercept; Quad = quadratic; ES = English scores; PT = private tutoring; SE = standard error; in the correlational/covariance matrix, below diagonal = covariance, above diagonal = correlation coefficients, diagonal = variance