

## Gender Matters from the Beginning of the Long Journey of Foreign Language Learning- A Case Study in Taiwan

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### Abstract

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The role of gender in language learning has been discussed very often. Many research findings have revealed that many female students behave differently and perform better than male students in foreign language learning (Fringold, 1992; Good & Brophy, 1986; Hou, 2013; Oxford & Lavine, 1991; Yang, 1993). Particularly, in a report of TOEIC Scores in Taiwan area, it was supported again that among the 324,495 test-takers in the year of 2014 (81.9% were college students or above), females (57.2%) had better scores than males (42.8%) by 22 points (scores=546: 524) (TOEIC Newsletter 37, 2015, April, pp.1-2). In addition, in the year of 2015, among the 8,019 test takers of TOEIC Bridge (46% were junior high graduates and 29% were elementary school graduates), females (44.76%) had higher scores than males (55.24%), too (scores=128: 114) (TOEIC Newsletter, 2016, September, pp.24-25) (<http://www.toEIC.com.tw>). Since foreign language learning is a long journey, especially, English education in Taiwan has been officially conducted in elementary schools starting from 2005, more than one decade ago, the present study intended to investigate if genders made such difference of their English learning from the beginning. Participants were 253 students from 5 elementary schools in southern Taiwan. All were arranged to take a pre-test and a post-test of an English proficiency test (NETPAW) together with a 49-item questionnaire dealing with their personal factors related to English learning (gender, age, socio-economic class, parents' educational level and attitude) as well as English learning motivation/attitude (Gardner, 1985). All available data were processed by SPSS 18.0 for descriptive, *t*-test, and regression analyses. It was expected that the findings could provide more understanding about how genders matter of English learning behavior due to the personal factors related to English learning from the very beginning and how it led to the different performance between males and females afterwards.

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**Keywords:** gender differences, socio-economic class, motivation, attitude, English learning

### 1. Introduction

As in a global village, English has become the “Lingua Franca” and has been widely used as a tool for communication in many fields. To promote the English skills of its workforce and economic outlook, many countries have invested enormous resources in English language learning, and Taiwan is not an exception. It is believed that learning a foreign language is a long journey, hence, one of the efforts and changes made was the nation-wide implementation of English teaching for the elementary school students in 2005, starting from the third graders upward, though, not until 2010, was English officially included in the curriculum for the fifth and sixth grades in elementary schools in Taiwan. Based on Taiwan's The Nine-year Integrated Curriculum for Elementary and Junior High Schools Guidelines, the goals of English curriculum are (1) to help students develop basic communication skills in English; (2) to cultivate students' interests in learning English; and (3) to promote students' awareness of local and foreign cultures and customs (Ministry of Education, Taiwan, 2000).

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Consequently, the English instructions at the elementary stage are placed on developing students' listening and speaking abilities in the first two years with approximately 1-2 hours a week, and gradually integrating reading and writing skills, in the following two years with approximately 2 hours a week. Now, it comes to more than one decade of the official implementation of English instruction in the elementary schools. The process still has some pros and cons. Some crucial concerns include the differences of students' learning motivation, English prior knowledge, rural/urban areas, teachers, resources, performance, etc.

The role of gender in language learning has been discussed very often. Many research findings have revealed that many female students behave differently and perform better than male students in foreign language learning (Fringold, 1992; Good & Brophy, 1986; Hou, 2013; Oxford & Lavine, 1991; Yang, 1993). Particularly, in a report of TOEIC Scores in Taiwan area, it was supported again that among the 324,495 test-takers in the year of 2014 (81.9% were college students or above), females (57.2%) had better scores than males (42.8%) by 22 points (scores=546 : 524) (TOEIC Newsletter 37, 2015, April, pp.1-2). In addition, in the year of 2015, among the 8,019 test takers of TOEIC Bridge (46% were junior high graduates and 29% were elementary school graduates), females (44.76%) had higher scores than males (55.24%), too (scores=128: 114) (TOEIC Newsletter, 2016, September, pp.24-25) (<http://www.toEIC.com.tw>). Since foreign language learning is a long journey, especially, English education in Taiwan has been officially conducted in elementary schools starting from 2005, more than one decade ago, the present study intended to investigate if genders made such difference of their English learning from the beginning.

Participants were 253 students from 5 elementary schools in southern Taiwan. All were arranged to take a pre-test and a post-test of an English proficiency test, together with a 49-item questionnaire dealing with their personal factors related to English learning and English learning behavior. All available data were processed by SPSS 18.0 for descriptive, t-test, and regression analyses. It was expected that the findings could provide more understanding about how genders matter in English learning behavior due to the personal factors from the very beginning of the long journey and how it led to the different performance between males and females afterwards.

### 1.1. The Research Questions

The study intended to answer the following research questions:

1. What are Taiwanese elementary school students' personal factors related to English learning, their English learning behavior, and English proficiency?
2. Are there any differences in their personal factors related to English learning, learning behavior, and English proficiency between male students and female students as well as between pre-test and post-test?
3. What are the interrelationships among their personal factors related to English learning, learning behavior, and English scores between male students and female students of pre-test and post-test?

### 1.2. Purposes of the Study

The study was a step toward providing a better understanding of (1) Taiwanese elementary school students' personal factors related to English learning, their English learning behavior, and English proficiency, (2) gender differences in their personal factors related to English learning, their English learning behavior and English proficiency between pre-test and post-test, as well as (3) the interrelationships among their personal factors related to English learning, learning behavior and English proficiency between male students and female students of pre-test and post-test.

## 2. Literature review

Related literature review included studies of students' personal factors related to English learning (gender, grade/age, socio-economic class, parents' educational level and involvement of children's English learning, and attitude toward children's English learning), learning behavior (motivation, attitude, motivational intensity), and English proficiency test, as below:

## **2.1. Personal factors related to English learning**

Personal factors related to English learning included gender, grade/age, attending cram school (socio-economic status), parents' involvement in children's English learning (parents' educational level), and parents' attitude toward children's English learning (see 2.1.1-5). They were described below:

### **2.1.1. Gender**

The role of gender in language learning has been discussed very often. Many research findings have revealed that female students perform better than male students in foreign language learning. Ellis (2003) claimed that gender is one of the social factors that affect L2 learning. Much earlier, Gardner and Lambert (1972) reported that female learners of L2 French in Canada were more motivated and hold more positive attitudes than male learners. Other findings showed that gender played a role in influencing the kinds of strategy used, preferred learning styles (Hou, 2009; Good & Brophy, 1986), and made a significant difference in language learning (Hou, et al, 2010). In general, it was found that female students used compensation and affective strategies significantly more often than male students, for example, Burstall (1975) found that the girls scored significantly higher than the boys on all tests measuring achievement in French throughout the period of the study. The same findings can be found in Boyle's (1987) study of 490 Chinese university students in Hong Kong; in which female students achieved higher overall means on ten English proficiency tests. Furthermore, it was pointed out that genders did differ in multiple intelligences and led to different English performance; comparatively, male students were stronger with logical /mathematical intelligences while females had stronger musical and verbal intelligences which was found to be predictive to English scores (Hou, 2013).

### **2.1.2. Grade/Age**

Second/foreign language learners begin to acquire the target language at later age than they do their first language, hence, age is the first explanation of language learners' success. It is believed that "older is faster, but younger is better" (Larsen-Freeman & Long, 1991, p.155). Younger learners are at an advantage in achieving accent-free and native like performance (Oyama, 1976; Scovel, 1981; Seliger, 1978). Whereas older learners, they are at an advantage in rate of acquisition, and they "proceed through early stages of syntactic and morphological development faster than children" (Krashen, et al., 1979). In addition, older learners' greater cognitive maturity helps "transfer" their first language to the second language. Ellis (2003) made five general conclusions of age issue, including (1) adult learners have an initial advantage where rate of learning is concerned, particularly in grammar; (2) only child learners are capable of acquiring a native accent in informal learning context; (3) children may be more likely to acquire a native grammatical competence; (4) irrespective of whether native-speaker proficiency is achieved, children are most likely to reach higher levels of attainment in both pronunciation and grammar than adults; (5) the process of acquiring an L2 grammar is not substantially affected by age, but that of acquiring pronunciation may be (pp.491-492). In the present study, the participants were elementary school students, ranging from ages 7 to 12. Though in Taiwan's new English educational policy (2010), English is a compulsory course starting from the third grade (age 8) and upwards, yet many parents believe the earlier, the better, and they are in favor of enrolling their children in cram schools for earlier English learning expecting to have better English proficiency for the future needs. Particularly, in Chang's study (2008), it was found that more than 36% of the parents favored children starting to learn English at the ages of 6-7 (grade 1-2), and more than 40% are even in favor of starting from kindergarten (age 3-5). When to start to learn English is best for the children is always in continuous discussion.

### **2.1.3. Attending cram school for extra English learning (Socio-economic class)**

An individual's socio-economic class can be distinguished into four groups: lower class, working class, lower middle classes, and upper middle class, "by means of a composite measure that takes account of income, level of education and occupation" (Ellis, 2003, p.204). Burstall (1975) found that there was a strong correlation between socio-economic status and achievement for primary and secondary school learners of French as a second language. It was recognized that more children from middle-class homes with better socio-economic status often outperformed those from lower- and working-class homes. In addition, class-related differences also existed in the learners' attitudes toward second/foreign language learning.

Many studies also found that children from lower social-economic groups were less successful in education than those from higher groups (Olshtain, Shohoamy, Kemp & Chatow, 1990; Skehan, 1990, 1991). Nevertheless, Ellis (2003) also pointed out that it was not socio-economic class, but rather the experiences of the world which members of the different social classes had, because different life experiences eventually led to different levels of school achievement (Heath, 1983). In Taiwan, attending cram schools of more academic instruction or other extracurricular programs of music or arts are costly, so not many families can afford that. In other words, not many families with good socio-economic class can afford the cost. Consequently, in the present study, attending cram schools for extra English learning was regarded as parents' socio-economic class.

#### **2.1.4. Parents' involvement of children's English learning (parents' educational level)**

In children's learning process, especially in the early stage, parents play a very important role in children's education and development. But for English learning, many parents what with lacking time, or/mostly what with lacking enough English knowledge are unable to provide appropriate guidance for the children or be involved in children's English learning activities. As aforementioned, in Chang's (2008) study, it was found that "parents with higher educational level spent more time helping their children study English than those with lower educational level"(p.432). So, in the study, parents' guiding English homework and involvement was regarded as parents' educational level. However, Chang's (2008) results also showed that among the respondents (N=435), over two-thirds of the parents indicated that they either "seldom" or "never" helped their children study English, though over 80% of the parents had high school or college level education. In other words, parents with higher educational level were not necessarily able to have more involvement in their children's English learning than those with lower educational level.

#### **2.1.5. Parents' attitude toward children's English learning**

It is believed that parents play crucial roles in laying the founding for their children's academic and overall success in general, and language learning in particular, no matter whether they are knowledgeable of that target language or not. Hosseinpour et al. (2015) pointed out that "those parents who have high level of involvement in and positive attitude toward their children's English programs made their children's higher level of achievement in the language program" (p.175). In Addition, in Chang's study (2008), among the respondents (N=435), 94.7% of the parents "considered learning English important" (p.426), and none of the respondents' children were learning English until the third grade to start as mandated by the central government, particularly, over two-thirds of the respondents even enrolled their children in English class at the kindergarten level expecting them to start earlier for better future. In Many cases, parents' positive attitude toward children's English learning definitely plays an important role in children's English learning process and outcome.

### **2.2. English learning behavior (motivation/attitude)**

In the study, students' English learning behavior focused on their motivation, attitude, and motivational intensity toward English learning. Gardner and Lambert (1959) were the first to publish the investigation of the relationship of attitudes and motivation to second language achievement. It was hypothesized that attitude could play a role in second language acquisition. They suggested two independent factors both related to second language acquisition, namely, language aptitude and motivation. As for motivation, Gardner & Lambert (1959) began to define it as integrative and instrumental motivations. The former is "based on a desire to become more like valued members of the target language community," (Gardner & Lambert, 1959, p.267) and the latter is that "which reflects a determination to acquire another language to achieve such goals as a good job or social recognition" (Clement, et.al., 1977). It was found that there were clear associations among an integrative orientation, attitudes toward French speaking Canadians, motivational intensity and French achievement. Regarding to attitude, Titone (1990) focused on the role of attitude in second language learning. He indicated that attitudes strictly tied up with motivational dynamics work most powerfully, especially in acquiring mastery in a second language. However, the causal relationship between attitude and achievement is contradictory. Positive attitude may cause satisfactory achievement. On the other hand, successful achievement may breed positive attitudes. Unlike aptitude, attitudes are not inborn and can be developed and cultivated.

In any event, it was suggested that “Developing sound attitudes is the first step toward the achievement of bilingualism” (Titone, 1990, p.1). As for motivational intensity, it is determined by the amount of effort and enthusiasm the students display in their attempt to learn English.

### 2.3. English proficiency test

To measure students' English proficiency, one of the popular and standard English proficiency tests in Taiwan was used to collect the English scores of the students, as described below:

#### 2.2.1. The Common European Framework of Reference (CEFR)

The Common European Framework of Reference (CEFR) provides a practical tool for setting clear standards to be attained at successive stages of learning and for evaluating outcomes in an internationally comparable manner. It is the result of extensive research and ongoing work on communicative objectives, as exemplified by the popular 'Threshold level' concept. It provides a basis for the mutual recognition of language qualifications, thus facilitating educational and occupational mobility and has become a key reference document and valuable tool for educational and professional mobility. It is available in over 35 language versions. There are 6 levels in CEFR, including Breakthrough (A1), Waystage (A2), Threshold (B1), Vantage (B2), Effective Operational Proficiency (C1), and Master (C2) (CEFR, 2011). In 2005, the Ministry of Education (MOE) adopted the CEFR and required all major tests in Taiwan to be mapped onto the CEFR for test-users' reference.

#### 2.3.2. National English Test in Proficiency for All on the Web (NETPAW)

Initiated and funded by the Ministry of Education (MOE) in 2004, the National English Test in Proficiency for All on the Web (NETPAW) was the first in Taiwan, created and integrated into the education system by the Council of Europe (CE), to create online English tests (Fu, et al, 2010). It contains 6 levels: Beginning and Basic (A1), Elementary (A2), Intermediate (B1), High-Intermediate (B2), Advanced (C1), and Professional (C2). All levels contain two stages of listening and reading as well as speaking and writing. The NETPAW is open to all those who are interested in finding out what their English proficiency levels are. With the great advantages of two musts (English and Internet), age-free, and many others, NETPAW has been adopting widely not only in Taiwan but also in Hong Kong, Australia, USA, and many others (Fu, et al, 2010). In the study, the level of Beginning and Basic (A1), stage one, including listening and reading, was used as the research instrument to measure English proficiency for those participants who were 253 Taiwanese elementary school students with 1-6 years of learning English as a foreign language.

### 3. Research methodology

A case study was used for the research methodology. That was because it was a bounded system, which was in a particular circumstance and with a particular problem, and also gave readers ‘space’ for their own opinions (Stake, 1988). Subjects, data collection instrument, and procedure of the study were described below:

#### 3.1. Subjects

A total of 253 Taiwanese EFL students participated in pre-test of the study, and 256, took part in the post-test. They were all the student populations from 5 elementary schools in rural areas of southern Taiwan, namely, Schools A to E. They were arranged to participate in both of the pre-test and post-test, including taking an English test and filling out questionnaire dealing with their background, motivation, attitude and motivational intensity toward English learning. The subjects of the study for pre-test and post-test were shown in Table 1 and Table 2:

**Table 1. Subjects of the study in pre-test**

Schools/gender	School A	School B	School C	School D	School E	total
Male	29	29	28	24	25	135
Female	22	22	30	25	19	118
Total	51	51	58	49	44	253

**Table 2. Subjects of the study in post-test**

Schools/gender	School A	School B	School C	School D	School E	total
Male	30	31	29	24	21	135
Female	24	24	27	25	21	121
Total	54	55	56	49	42	256

### 3.2. Data Collection Instrument

The research questionnaire items were mostly adopted from Gardner (1985). For easy to read, the questionnaire items were translated into Chinese, and even with phonetic symbols for the first two graders. The 49-item questionnaire contained 5 items of students' background, 16 items for reasons to learn English, 18 items for attitude, and the rest 10 items for motivational intensity. In addition, a set of English test of the National English Test in Proficiency for All on the Web (NETPAW) (A1-1, Beginning and Basic), first stage, was used to measure students' English proficiency of listening and reading.

Along with descriptive statistics of mean, standard deviation, and percentages of the questionnaire, a t-test was used to find out the differences of students' English learning behavior and English scores between male students and female students, as well as between the pre-test and the post-test. Furthermore, a regression analysis was used to see what factors were predictive of students' English learning behavior and English scores in the pre-test and the post-test. All were processed by Statistical Package of Social Science (SPSS, 17). The research instrument of the study was shown in Table 3:

**Table 3. Research instrument of the study**

Research instrument		item number	point
Questionnaire	Background	1-5	2-6
	Motivation*	6-21	5
	Instrumental orientation*	6,8,10,12,14,16,18,20	5
	Integrative orientation*	7,9,11,13,15,17,19,21	5
	Attitude*	22-39	5
	Motivational Intensity *	40-49	3
NETPAW, CEFR A1-1	listening	20	100
NETPAW, CEFR A1-1	reading	20	100
NETPAW, CEFR A1-1	total	40	100

\*Chinese version with phonetic symbols of the questionnaire items 6-49 were mostly adopted from Gardner's "Social psychology and second language learning-The role of attitude and motivation" (1985).

\*\*NETPAW: National English Test in Proficiency for All on the Web, (A1-1, Beginning and Basic)

### 3.3. Procedure

To help investigate students' English learning, the researcher and her assistant were invited by the principals of the five elementary schools in Tainan City. The researcher was also informed by the principals that those subjects who agreed to participate in the study would sign their names on the paper when filling in the questionnaire. Hence, the researcher and her assistant went to the five schools to collect the data in person in the spring and in the fall for pre-test and post-test, respectively. After that, the research results were provided for all the five schools.

### 4. Results

Results of the study included (1) the reliability of the research instrument; (2)-(4) students' personal factors related to English learning, their English learning behavior, and English scores of the pre-test and post-test; followed by (5-7) gender differences, predictive factors, and the interrelationships of students' personal factors related to English learning, English learning behavior, and English scores of the pre-test and post-test; as well as (8) conclusion and discussion. The findings were described below:

**4.1. The reliability of the research instrument**

The overall reliability of the questionnaire in the study was Cronbach Alpha =.905 for the pre-test and Cronbach Alpha =.913 for the post-test (N of case=44).“If a test were perfectly reliable, the reliability coefficient would be 1,00....However, no test is perfect reliable” (Gay & Airasian, 2003, p.141). Hence, the result indicated that the research instrument of the study was quite reliable. The individual parts of the questionnaires were listed below:

**Table 4. Reliability of the research instrument**

	Subject	Motivation	Attitude	Motivational intensity	all
Pre-test	253	.829	.814	.793	.905
Post-test	256	.870	.840	.820	.913
N of case		16	18	10	44

**4.2. Students’personal factors related to English learningof pre-test and post-test**

There were 253 students participating in both the pre-test and post-test of the study, including 135 males (53.3%), and 118 females (46.7%), with an average age of 8.5 years old, ranging from 6 to 11. In the pre-test, 16.4% of the students reported that they attended extra English programs out of campus (such as cram schools) more than two years, and 28.0% of their family “never” guiding their English homework, while 11.8% of their parents “don’t care at all” about their English learning. However, comparing with the means of the three question items, in the post-test, findings indicated that more students’ attending cram schools ( $p < .01$ ), but less parents’ guiding their English homework ( $p < .01$ ), and more parents’ caring about English learning ( $p < .01$ ). The findings were shown in Table 5.

**Table 5. Students’ personal factors related to English learning of the pre-test and post-test (N=253)**

English learning and parental involvement	test	1%	2%	3%	4%	5%	6%/	N
1. gender ____ (1). male (2). female	pretest	53.3	46.7					253
	posttest	51.9	48.1					256
2. grade ____ (1). 1 <sup>st</sup> (2). 2 <sup>nd</sup> (3). 3 <sup>rd</sup> (4). 4 <sup>th</sup> (5). 5 <sup>th</sup> (6). 6 <sup>th</sup>	pretest	5.3	14.6	23.9	25.9	17.8	12.6	253
	posttest	0	15.8	20.4	18.3	22.9	22.5	256
	test	1%	2%	3%	4%		M	sig
3. Attending extra English programs out of school (such as cram schools) (1). never (2). less than one year (3). one-two years (4). more than two years	pretest	51.7	15.5	16.4	16.4		1.97	<b>.003</b>
	posttest	45.6	13.9	17.7	22.8		<b>2.17</b>	
4. Parents’ guiding English homework (1). always (2). sometimes (3). never	pretest	28.9	43.1	28.0			<b>2.01</b>	<b>.001</b>
	posttest	20.7	42.6	20.7	36.7		1.83	
5. Parents’ attitude toward children’s English learning (1). very care (2). care (3). so so (4). don’t care (5) don’t care at all	pretest	24.8	16.4	28.6	10.1	20.2	3.15	<b>.006</b>
	posttest	30.0	19.0	29.5	9.7	11.8	<b>3.45</b>	

**4.3. Students’English learning behavior of pre-test and post-test**

Regarding to students’ English learning behavior of pretest and post-test, comparatively, except for motivational intensity ( $p > .05$ ), students had higher means in motivation, both instrumental orientation and integrative orientation, as well as in attitude in post-test than in pre-test (all  $p < .01$ ). The findings were shown in Table 6.

**Table 6. Students’ learning behavior of pre-test and post-test**

	number	motivation	attitude	intensity	instrumental	integrative
Pre-test	253	3.22/5.00	3.36/5.00	2.38/3.00	3.42/5.00	3.02/5.00
Post-test	256	<b>3.42/5.00</b>	<b>3.55/5.00</b>	<b>2.43/3.00</b>	<b>3.65/5.00</b>	<b>3.27/5.00</b>
Sig		<b>.000</b>	<b>.001</b>	.076	<b>.002</b>	<b>.000</b>

**4.4. Students’English scores of pre-test and post-test**

As for students’ English scores of pre-test and post-test, except for reading scores ( $p > .05$ ), students performed better in listening scores and total scores in post-test (both  $p < .01$ ). The findings were shown in Table 7.

**Table 7. Students' English scores of pre-test and post-test**

	number	Listening scores	Reading scores	Total scores
Pre-test	253	60.61/100.00	44.13/100.00	104.78/200.00
Post-test	256	<b>67.58/100.00</b>	<b>46.42/100.00</b>	<b>113.64/200.00</b>
Sig		<b>.000</b>	.058	<b>.000</b>

#### 4.5. T-test of gender differences of students' personal factors related to English learning, learning behavior, and English scores of pre-test and post-test

Findings included t-test of gender differences of students' personal factors related to English learning, learning behavior, and English scores of pre-test (4.5.1.) and of post-test (4.5.2.), as followed:

##### 4.5.1. T-test of gender differences of students' personal factors related to English learning, learning behavior, and English scores of pre-test

The findings revealed that in the pre-test, male students had more "parents' guiding homework" than female students, though not reach significant level. Except for that, female students significantly had higher means than male students in other variables of English learning attitude, motivational intensity, and English listening scores (all  $p < .01$ ), as well as English total scores ( $p < .05$ ) than male students. In other words, in the pre-test, male students had more parents' involvement in guiding English homework (though not reach significant level), but female students not only had more favorable attitude and motivational intensity toward English learning but also had better English listening score and total score than male students. The results were shown in Table 8:

**Table 8. T-test of gender differences of personal factors related to English learning, learning behavior, and English scores of pre-test**

gender	number	cram school	home work	care	motivation	attitude	intensity	instrumental	integrative	listening	reading	total score
male	125	1.88	<b>2.08</b>	3.06	3.15	3.27	2.26	3.37	2.94	57.23	42.06	99.36
female	113	2.07	1.92	3.25	3.30	<b>3.50</b>	<b>2.50</b>	<b>3.48</b>	3.11	<b>64.41</b>	46.47	<b>110.89</b>
all	238	1.97	2.01	3.15	3.22	3.38	2.37	3.42	3.02	60.61	44.13	104.78
sig		.225	.110	.301	.110	<b>.006</b>	<b>.000</b>	.205	.127	<b>.006</b>	.054	<b>.010</b>

##### 4.5.2. T-test of gender differences of students' personal factors related to English learning, learning behavior, and English scores of post-test

In post-test, as in pre-test, male students still had higher mean in "parents' guiding homework" than female students, though not reach significant level. But female students significantly had higher means than male students in other variables of "English learning motivation" and "attitude" ( $p < .05$ ), "motivational intensity" ( $p < .01$ ) and "integrative orientation" ( $p < .05$ ), as well as "English listening", "reading", and "total scores" ( $p < .01$ ). In other words, in the post-test, male students still had more parents' guiding English homework (though not reach significant level), but female students had, except for instrumental orientation, more favorable learning behavior and all English scores than male students. The results were shown in Table 9:

**Table 9. Analysis of gender differences of students' personal factors related to English learning, learning behavior, and English scores of post-test**

gender	number	cram school	home work	care	motivation	attitude	intensity	Instrumental	integrative	Listening	Reading	Total score
male	122	2.09	<b>1.86</b>	3.37	3.33	3.46	2.32	3.50	3.14	63.07	42.66	106.04
female	115	2.26	1.81	3.53	<b>3.53</b>	<b>3.64</b>	<b>2.54</b>	3.65	<b>3.41</b>	<b>72.41</b>	<b>50.45</b>	<b>121.99</b>
all	237	2.17	1.83	3.45	3.42	3.55	2.43	3.57	3.27	67.58	46.42	113.64
sig		.311	.655	.348	<b>.036</b>	<b>.038</b>	<b>.000</b>	.140	<b>.015</b>	<b>.000</b>	<b>.003</b>	<b>.001</b>



**4.6. Regression analysis of factors predictive to students’ learning behavior and English scores of pre-test and post-test**

The findings included regression analysis of factors predictive to students’ motivation/attitude and English scores of pre-test (in 4.6.1) and post-test (in 4.6.2).

**4.6.1. Regression analysis of factors predictive to students’ learning behavior and English scores of pre-test**

The analysis included factors predictive to students’ motivation/attitude (in 4.6.1.1) and English scores (in 4.6.1.2.) in pre-test, as below:

**4.6.1. 1.Regression analysis of factors predictive to students’ English learning behavior of pre-test**

In pre-test, the findings revealed about the analysis of factors predictive to students’ motivation/attitude for all students, male students, and female students (in 4.6.1.1.1-3), as below

**4.6.1.1.1. Regression analysis of factors predictive to all students’ English learning behavior of pre-test**

Regarding to students’ English learning behavior in the pre-test, findings showed that gender was significantly predictive to attitude ( $p < .01$ ) and motivational intensity ( $p < .01$ ). In addition, attending cram school was predictive to students’ motivation ( $p < .01$ ), attitude ( $p < .01$ ), instrumental orientation ( $p < .01$ ), and integrative orientation ( $p < .01$ ). The findings were shown in Table 10.

**Table 10. Regression analysis for factors predictive to all students’ English learning behavior of pre-test**

Factor	T	sig	t	sig	t	sig	t	sig	t	sig
(constant)	12.323	.000	14.736	.000	15.776	.000	14.508	.000	8.761	.000
gender	1.361	.175	2.873	<b>.004</b>	4.638	<b>.000</b>	1.155	.249	1.259	.209
Grade/age	.565	.573	-.178	.859	-.472	.638	-.240	.811	1.197	.232
cram school	4.260	<b>.000</b>	2.887	<b>.004</b>	1.939	.054	3.594	<b>.000</b>	4.107	<b>.000</b>
Parents’ guiding homework	-1.587	.114	-.642	.539	-1.097	.274	-1.657	.099	-1.243	.215
Parents’ attitude	.835	.404	-.208	.835	-.034	.973	-.133	.895	1.561	.120
Dependent variables	motivation		attitude		motivational intensity		Instrumental orientation		Integrative orientation	

**4.6.1.1.2. Regression analysis of factors predictive to male students’ English learning behavior of pre-test**

In the pre-test, in light of male students’ English learning behavior, it was found that students’ attending cram school was predictive to both students’ English learning motivation ( $p < .05$ ) and integrative orientation ( $p < .05$ ). The findings were shown in Table 11.

**Table 11. Regression analysis of factors predictive to male students’ motivation/attitude of pre-test**

Factor	t	sig	t	sig	t	sig	t	sig	t	sig
(constant)	12.554	.000	13.103	.000	13.090	.000	13.918	.000	9.622	.000
Grade/age	-.337	.737	-.385	.701	.173	.863	-1.177	.241	.514	.608
<b>cram school</b>	2.205	<b>.029</b>	.929	.355	1.587	.115	1.520	.131	2.365	<b>.019</b>
Parents’ guiding homework	-.804	.423	-.798	.426	-.154	.878	-.252	.802	-1.331	.185
Parents’ attitude	-1.259	.210	-1.060	.291	.791	.431	-1.873	.063	-.407	.685
Dependent variables	motivation		Attitude		motivational intensity		Instrumental orientation		Integrative orientation	

**4.6.1.1.3. Regression analysis of factors predictive to female students’ English learning behavior of pre-test**

The findings showed that grade/age was predictive to students’ integrative orientation ( $p < .05$ ), that is, the higher graders (the older) the students were, the more integrative orientation they had. Additionally, students’ attending cram school was predictive to all students’ learning behavior, including motivation ( $p < .01$ ), attitude ( $p < .01$ ), motivational intensity ( $p < .05$ ), instrumental orientation ( $p < .01$ ), and integrative orientation ( $p < .05$ ). The findings were shown in Table 12.

**Table 12. Regression analysis of factors predictive to female students' English learning behavior of pre-test**

Factor	t	sig	t	sig	t	sig	t	sig	t	sig
(constant)	9.915	.000	13.232	.000	17.123	.000	12.227	.000	<b>6.637</b>	<b>.000</b>
<b>Grade/age</b>	1.836	.069	1.109	.270	-.759	.449	1.011	.314	2.181	<b>.031</b>
<b>cram school</b>	4.180	<b>.000</b>	2.676	<b>.009</b>	2.340	<b>.021</b>	3.832	<b>.000</b>	3.686	<b>.000</b>
Parents' guiding homework	-.286	.776	-.355	.723	-.507	.613	-.764	.446	.010	.992
Parents' attitude	-.404	.687	-1.061	.291	-1.062	.290	-1.641	.103	.845	.400
Dependent variables	motivation		Attitude		motivational intensity		Instrumental orientation		Integrative orientation	

#### 4.6.1.2. Regression analysis of factors predictive to students' English scores of pre-test

The analysis included factors predictive to English scores of all students, male students, and female students in the pre-test (in 4.6.1.2.1-3), as below:

##### 4.6.1.2.1. Regression analysis of factors predictive to all students' English scores of pre-test

As for factors predictive to students' English scores in pre-test, findings showed that both grade/age and attending cram school were significantly predictive to students' English scores of listening, reading, and total scores (all  $p < .01$ ). In addition, parental guiding homework was predictive to students' listening scores and total scores (both  $p < .05$ ). Furthermore, students' motivational intensity was found to be predictive to both English reading scores and total scores (both  $p < .05$ ). The findings were shown in Table 13.

**Table 13. Regression analysis of factors predictive to all students' English scores of pre-test**

Factor	t	sig	t	sig	t	sig
(constant)	.123	.903	-.524	.601	-.226	.822
Gender	.957	.340	-.017	.986	.540	.590
<b>Grade/age</b>	7.643	<b>.000</b>	6.341	<b>.000</b>	8.181	<b>.000</b>
<b>cram school</b>	6.060	<b>.000</b>	4.287	<b>.000</b>	6.068	<b>.000</b>
guiding homework	2.202	<b>.029</b>	1.759	.080	2.283	<b>.023</b>
Parents' attitude	-.543	.588	-.021	.983	-.300	.765
motivation	-.813	.417	.037	.971	-.459	.647
Attitude	1.414	.159	.180	.857	.917	.360
Intensity	1.354	.177	2.185	<b>.030</b>	2.095	<b>.037</b>
Dependent variables	Listening scores		Reading scores		Total scores	

##### 4.6.1.2.2. Regression analysis of factors predictive to male students' English scores of pre-test

As for factors predictive to male students' English scores in pre-test, findings showed that grade/age was predictive to all the English scores (all  $p < .01$ ). In other words, the higher graders (the older) the students were, the higher English scores of listening, reading and total scores they had. Additionally, attending cram school was also predictive to students' English scores of listening ( $p < .01$ ), reading ( $p < .05$ ), and total scores ( $p < .01$ ). In other words, for male students in the pre-test, the higher graders (the older) and the students who attended cram schools had better English scores of listening, reading, and total scores. The findings were shown in Table 14.

**Table 14. Regression analysis of factors predictive to male students' English scores of pre-test**

Factor	t	sig	t	sig	t	sig
(constant)	1.134	.259	1.523	.130	1.467	.145
<b>Grade/age</b>	5.546	<b>.000</b>	4.328	<b>.000</b>	5.624	<b>.000</b>
<b>cram school</b>	4.548	<b>.000</b>	2.276	<b>.025</b>	3.921	<b>.000</b>
guiding homework	-1.312	.192	-1.667	.098	-1.666	.098
Parents' attitude	-.045	.964	-.013	.990	-.003	.998
motivation	-.444	.658	-.340	.735	-.431	.667
Attitude	.856	.394	1.005	.317	1.021	.310
Intensity	1.041	.300	.445	.657	.892	.374
Dependent variables	Listening scores		Reading scores		Total scores	

**4.6.1.2.3. Regression analysis of factors predictive to female students’ English scores of pre-test**

For female students, grade/age, attending cram school, and parents’ guiding English homework were significantly predictive to all the English scores of listening ( $p < .01$ ), reading ( $p < .05$ ), and total scores ( $p < .01$ ). Furthermore, both parents’ attitude ( $p < .05$ ) and motivational intensity ( $p < .01$ ) were predictive to their English reading and total scores. In other words, for female students, in the pre-test, those being higher graders, attending cram schools, and having parents’ guiding English homework had better English scores of listening, reading, and total scores, while those with more parents’ guiding English homework and stronger motivational intensity tended to have better scores of reading and total scores. The findings were shown in Table 15.

**Table 15. Regression analysis of factors predictive to female students’ English scores of pre-test**

Factor	t	sig	t	sig	T	sig
(constant)	1.251	.214	-1.164	.247	.094	.925
Grade/age	6.457	<b>.000</b>	6.840	<b>.000</b>	8.194	<b>.000</b>
cram school	4.719	<b>.000</b>	4.535	<b>.000</b>	5.727	<b>.000</b>
guiding homework	3.118	<b>.002</b>	2.144	<b>.034</b>	3.246	<b>.002</b>
Parents’ attitude	1.407	.162	2.203	<b>.030</b>	2.230	<b>.028</b>
motivation	-1.463	.146	-.496	.621	-1.260	.211
Attitude	1.351	.180	-.813	.418	.420	.675
Intensity	1.802	.074	4.407	<b>.000</b>	3.757	<b>.000</b>
Dependent variables	Listening scores		Reading scores		Total scores	

**4.6.2. Regression analysis of factors predictive to students’ English learning behavior and English scores of post-test**

The analysis included factors predictive to students’ English learning behavior (in 4.6.2.1) and English scores (in 4.6.2.2.) in post-test, as below:

**4.6.2. 1. Regression analysis of factors predictive to students’ English learning behavior of post-test**

In post-test, the findings revealed about the analysis of factors predictive to students’ English learning behavior for all students, male students, and female students (in 4.6.2.1.1-3), as below

**4.6.2.1.1. Regression analysis of factors predictive to all students’ English learning behavior of post-test**

Regarding to students’ English learning behavior, in the post-test, it was found that gender was predictive to students’ attitude ( $p < .05$ ), motivational intensity ( $p < .01$ ), and integrative orientation ( $p < .05$ ). One thing worth mentioning was that grade/age was found to be **negatively** predictive to students’ motivational intensity ( $t = -2.116$ ,  $sig = .035$ ), while cram schools was predictive to students’ motivation, ( $p < .05$ ) and motivational intensity ( $p < .01$ ). The findings were shown in Table 16.

**Table 16. Regression analysis of factors predictive to all students’ English learning behavior of post-test**

Factor	t	sig	t	sig	t	sig	t	sig	t	sig
(constant)	11.403	.000	14.322	.000	17.046	.000	11.964	.000	9.139	.000
Gender	1.905	.058	2.051	<b>.041</b>	4.149	<b>.000</b>	1.416	.158	2.143	<b>.033</b>
Grade/age	.344	.731	-.003	.998	-2.116	<b>.035</b>	-.268	.789	.802	.424
cram school	2.012	<b>.045</b>	1.876	.062	2.999	<b>.003</b>	1.871	.063	1.969	.050
Parents’ guiding homework	-.266	.791	-1.834	.068	1.502	.135	-.519	.604	.113	.910
Parents’ attitude	.583	.560	-.173	.863	-1.830	.069	.787	.432	.161	.872
Dependent variables	motivation		attitude		motivational intensity		Instrumental orientation		Integrative orientation	

**4.6.2.1.2. Regression analysis of factors predictive to male students’ English learning behavior of post-test**

For male students, in the post-test, only parents’ attitude toward children’s English learning was found to be predictive to students’ English learning motivation ( $p < .05$ ), motivational intensity ( $p < .05$ ), and instrumental orientation ( $p < .05$ ). The findings were shown in Table 17.

**Table 17. Regression analysis of factors predictive to male students' English learning behavior of post-test**

Factor	t	sig	t	sig	t	sig	t	sig	T	sig
(constant)	11.348	.000	11.886	.000	12.693	.000	11.582	.000	9.163	.000
Grade/age	.066	.947	-.331	.741	-.488	.626	.449	-.654	.615	.539
cram school	.044	.629	.382	.703	1.848	.067	.586	.559	.262	.794
Parents' guiding homework	.250	.803	.350	.727	.106	.916	.651	.516	.123	.903
Parents' attitude	2.257	<b>.026</b>	1.628	.106	2.593	<b>.011</b>	2.263	<b>.025</b>	1.824	.070
Dependent variables	motivation		Attitude		motivational intensity		Instrumental orientation		Integrative orientation	

**4.6.2.1.3. Regression analysis of factors predictive to female students' English learning behavior of post-test**

For female students, in the post-test, among the personal factors predictive to their English learning behavior, it showed that grade/age was **negatively** predictive to female students' motivational intensity ( $p < .05$ ) as that of all students aforementioned, while attending cram school was predictive to integrative orientation ( $p < .05$ ). Additionally, parents' attitude toward children's English learning was found to be predictive to both female students' attitude ( $p < .01$ ) and motivational intensity ( $p < .01$ ). The findings were shown in Table 18.

**Table 18. Regression analysis summary of factors predictive to female students' English learning behavior of post-test**

Factor	t	sig	t	sig	t	sig	t	sig	t	sig
(constant)	13.099	.000	15.302	.000	21.226	.000	13.732	.000	<b>10.686</b>	<b>.000</b>
Grade/age	1.572	.119	-1.723	.087	-2.220	<b>.028</b>	-1.556	.122	-1.383	.169
cram school	1.881	.062	1.252	.213	1.192	.235	1.206	.230	2.345	<b>.021</b>
Parents' guiding homework	1.642	.103	.612	.542	1.767	.080	1.893	.061	-1.201	.232
Parents' attitude	1.324	.188	2.678	<b>.008</b>	3.276	<b>.001</b>	1.155	.250	-1.318	.190
Dependent variables	motivation		Attitude		motivational intensity		Instrumental orientation		Integrative orientation	

**4.6.2. 2. Regression analysis of factors predictive to students' English scores of post-test**

The findings included analysis of factors predictive to English scores of all students (in 4.6.2.2.1), male students (in 4.6.2.2.2), and female students (in 4.6.2.2.3) of post-test, as below:

**4.6.2. 2. 1. Regression analysis of factors predictive to all students' English scores of post-test**

Regarding to factors predictive to students' English scores in post-test, it was found that the same as in pre-test, both grade/age and attending cram school were predictive to all English scores of listening, reading, and total scores (all  $p < .01$ ). However, some differences existed in parents' guiding English homework, students' motivation, and motivational intensity between pre-test and post-test. In particular, parents' guiding children English homework was not predictive to students' English scores anymore, but students' motivation was predictive to their English listening scores and total scores (both  $p < .05$ ), while motivational intensity was only predictive to total scores ( $p < .05$ ). The findings were shown in Table 19.

**Table 19. Regression analysis of factors predictive to students' English scores of post-test**

Factor	t	sig	T	sig	t	sig
(constant)	1.244	.215	-1.140	.256	.599	.550
Gender	1.650	.100	-1.023	.307	1.152	.251
Grade/age	11.746	<b>.000</b>	11.181	<b>.000</b>	13.238	<b>.000</b>
cram school	2.736	<b>.007</b>	3.909	<b>.000</b>	3.789	<b>.000</b>
<b>guiding</b> homework	.105	.917	.369	.713	-.329	.742
Parents' attitude	-.701	.484	-1.038	.300	-.716	.475
<b>motivation</b>	2.465	<b>.015</b>	1.692	.092	2.303	<b>.022</b>
Attitude	-1.422	.157	-1.083	.280	-1.592	.113
<b>Intensity</b>	1.972	.050	1.828	.069	2.011	<b>.046</b>
Dependent variables	Listening scores		Reading scores		Total scores	

#### 4.6.2. 2. Regression analysis of factors predictive to male students' English scores of post-test

For male students, in post-test, the same as in pre-test, the higher graders (the older) they were, the better English scores of listening, reading, and total scores they had ( $p < .01$ ). But for time attending cram school was found only predictive to reading and total scores ( $p < .05$ ). Particularly, motivational intensity was found in post-test predictive to all the English scores of listening ( $p < .01$ ), reading ( $p < .05$ ), and total scores ( $p < .01$ ). The findings were shown in Table 20.

**Table 20. Regression analysis of factors predictive to male students' English scores of post-test**

Factor	t	sig	t	sig	t	sig
(constant)	1.077	.284	-.973	.332	.717	.475
Grade/age	10.038	<b>.000</b>	8.168	<b>.000</b>	10.916	<b>.000</b>
cram school	1.925	.056	2.603	<b>.010</b>	2.570	<b>.011</b>
guiding homework	.565	.573	.607	.545	-.412	.681
Parents' attitude	-.633	.528	.193	.847	.361	.719
motivation	.577	.565	1.437	.153	1.169	.245
Attitude	-.921	.355	-1.321	.189	-1.450	.149
Intensity	2.723	<b>.007</b>	2.486	<b>.014</b>	2.780	<b>.006</b>
Dependent variables	Listening scores		Reading scores		Total scores	

#### 4.6.2.2.3. Regression analysis of factors predictive to female students' English scores in post-test

In post-test, for female students, personal factors predictive to their English scores were grade/age and attending cram school to all of the English scores of listening, reading and total scores. Additionally, parents' guiding their children's homework was predictive to listening ( $p < .05$ ) and reading ( $p < .05$ ), while female students' motivation was predictive to reading scores ( $p < .05$ ), and parents' attitude toward their children's English learning ( $p < .05$ ) and students' motivational intensity ( $p < .01$ ) were predictive to reading scores. The findings were shown in Table 21.

**Table 21. Regression analysis of factors predictive to female students' English scores of post-test**

Factor	t	sig	t	sig	t	Sig
(constant)	-.689	.492	-1.164	.247	-1.226	.223
Grade/age	9.130	<b>.000</b>	6.840	<b>.000</b>	8.704	<b>.000</b>
cram school	2.056	<b>.042</b>	4.535	<b>.000</b>	3.196	<b>.002</b>
guiding homework	2.052	<b>.043</b>	2.144	<b>.034</b>	1.220	.225
Parents' attitude	-.402	.688	2.203	<b>.030</b>	.048	.962
motivation	2.312	<b>.023</b>	-.496	.621	1.012	.314
Attitude	-.392	.696	-.813	.418	1.123	.264
Intensity	1.792	.076	4.407	<b>.000</b>	.265	.792
Dependent variables	Listening scores		Reading scores		Total scores	

#### 4.7. Interrelationships of students' personal factors, learning behavior and English score of pre-test and post-test

The discussion included the interrelationships of students' personal factors related to English learning, English learning behavior, and English scores of pre-test (in 4.7.1), and post-test (in 4.7.2), as below:

##### 4.7. 1. Interrelationships of students' personal factors, learning behavior and English score of pre-test

The interrelationship included personal factors related to English learning, English learning behavior, and English scores for all the students, male students, and female students of the pre-test (in 4.7.1.1-3).

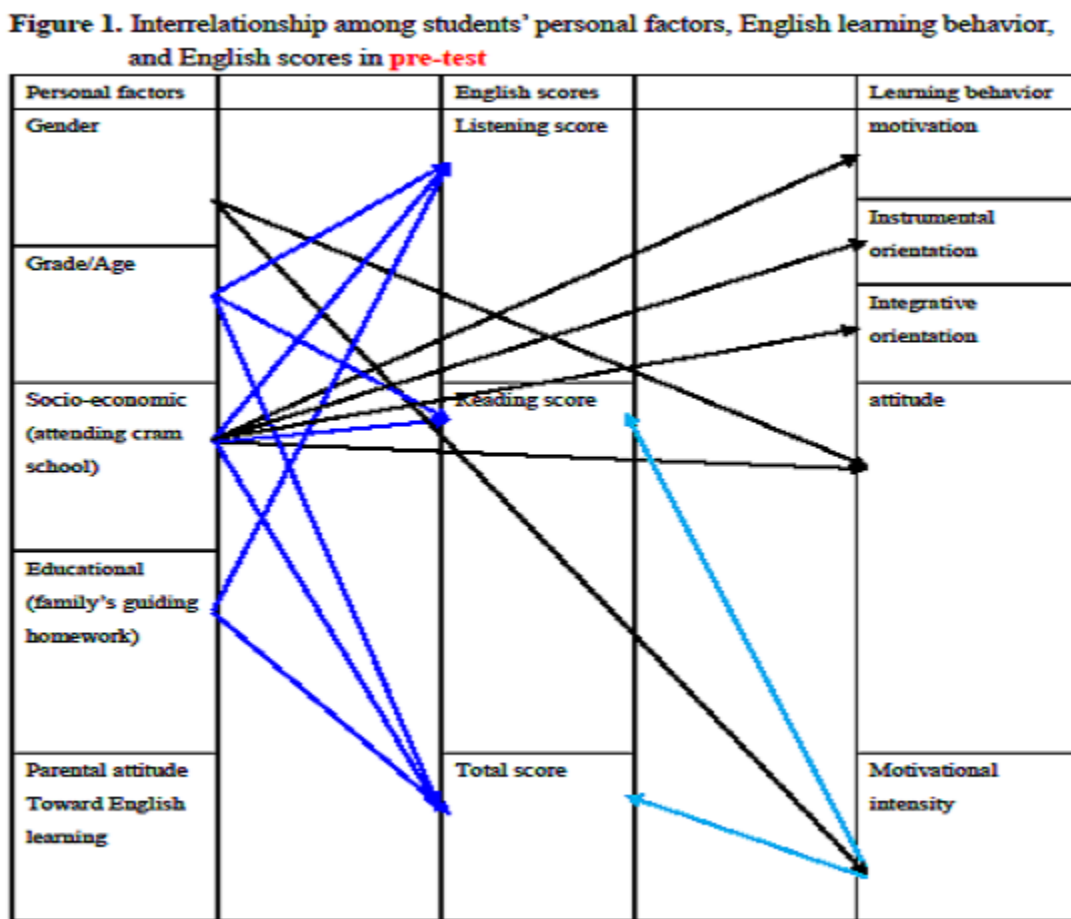
##### 4.7.1.1. Interrelationships of all students' personal factors, learning behavior and English score of pre-test

From Figure 1, in the pre-test, it revealed that for all students ( $N=253$ ), the interrelationships did exist among students' personal factors related to English learning (A), English scores (B), and English learning behavior (C). In particular, between personal factors (A) and English scores (B), it showed that grade/age and socio-economic status (attending cram school) were related to all English scores (listening, reading, and total scores) (all  $p < .01$ ), and educational level (parents' guiding English homework) was related to English listening score ( $p < .05$ ) and total scores ( $p < .05$ ).

As for the relationship between personal factors (A) and English learning behavior (C), it showed that gender was related to both attitude toward English learning ( $p < .01$ ) and motivational intensity ( $p < .01$ ); socio-economic status (attending cram school) was also related to English learning motivation (both instrumental orientation and integrative orientation) and attitude toward English learning (all  $p < .01$ ). Additionally, between English learning behavior (C) and English scores (B), it was found that only motivational intensity was related to English reading score and total scores.

In short, for all students ( $N=253$ ), the interrelationships among personal factors (A), English scores (B), and English learning behavior (C) did exist in one way or another. Particularly, though gender was not found to be directly related to English scores, yet in addition to attitude toward English learning ( $p < .05$ ), it was strongly related to motivational intensity ( $p < .01$ ) which was found to be predictive to English scores of reading ( $p < .05$ ) and total scores ( $p < .05$ ). The findings were shown in Figure 1.

**Figure 1. Interrelationships of all students' personal factors, learning behavior, and English score of pre-test**



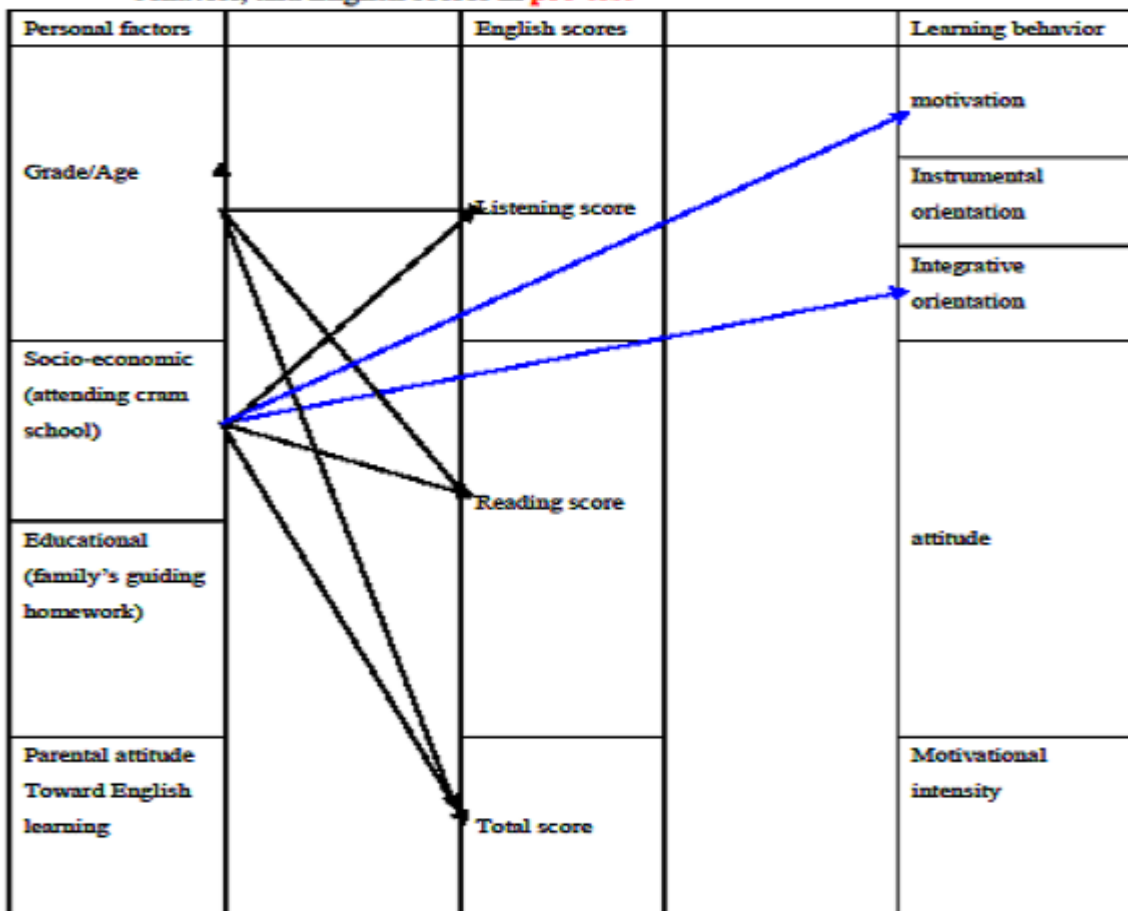
**4.7.1.2. Interrelationships of male students' personal factors, learning behavior and English score of pre-test**

From Figure 2, it revealed that in the pre-test, for male students ( $N=135$ ), the interrelationships existed only between students' personal factors related to English learning (A) and English scores (B), as well as between students' personal factors related to English learning (A) and English learning behavior (C). In other words, there was no relationship between English scores (B) and English learning behavior (C). Regarding to the relationship between personal factors (A) and English scores (B), the findings were the same as that of all students (in 4.7.1.1) that grade/age was related to all English scores (listening, reading, and total scores) (all  $p < .01$ ), while socio-economic status (attending cram school) was related to all English scores of listening ( $p < .01$ ), reading ( $p < .05$ ), and total scores ( $p < .01$ ).

In addition, comparing with all students, educational level (parents’ guiding English homework) was not related to any English scores in pre-test. Furthermore, for the relationship between personal factors (A) and English learning behavior (C), it showed that only socio-economic status (attending cram school) was related to English learning motivation ( $p < .05$ ), and integrative orientation ( $p < .05$ ), but not instrumental orientation as all students did. And no relationship was found between English learning behavior (C) and English scores (B). The findings were shown in Figure 2.

Figure 2. Interrelationships of male students’ personal factors, learning behavior, and English score of pre-test

Figure 2. Interrelationship among male students’ personal factors, English learning behavior, and English scores in pre-test



4.7.1.3. Interrelationships of female students’ personal factors, learning behavior and English score of pre-test

From Figure 3, in the pre-test, it could be seen that unlike male students in pre-test, while there was no relationship between English learning behavior (C) and English scores (B)(in 4.7.1.2), in fact, there were more interrelationships of female students’ personal factors (A), learning behaviors (C) and English score (B) of pre-test than all students’ findings (in 4.7.1.1). Comparing with the findings of all students in pre-test, except that educational factor (family’s guiding English homework) was related to reading score for female students (N=118), the relationship between personal factors (A) and learning behaviors (C) were the same as that of all students, other differences existed between female students’ personal factors (A) and learning behaviors (C), where grade/age was related to integrative orientation ( $p < .01$ ), and socio-economic factor (time attending cram school) was related to motivational intensity ( $p < .01$ ); as well as between English learning behavior (C) and English scores (B) where motivation was found to be related to reading scores ( $p < .01$ ); and motivational intensity was only related to reading scores, but not total scores as

all students did. The findings of the interrelationships of female students' personal factors, learning behavior and English scores of pre-test were shown in Figure 3.

**Figure 3. Interrelationships of female students' personal factors, learning behavior, and English score of pre-test**



**4.7. 2. Interrelationships of students' personal factors, learning behaviors and English score of post-test**

The interrelationship included personal factors related to English learning, English learning behavior, and English scores for all the students, male students, and female students of the post-test (in 4.7.2.1-3).

**4.7.2.1. Interrelationships of all students' personal factors, learning behaviors and English score of post-test**

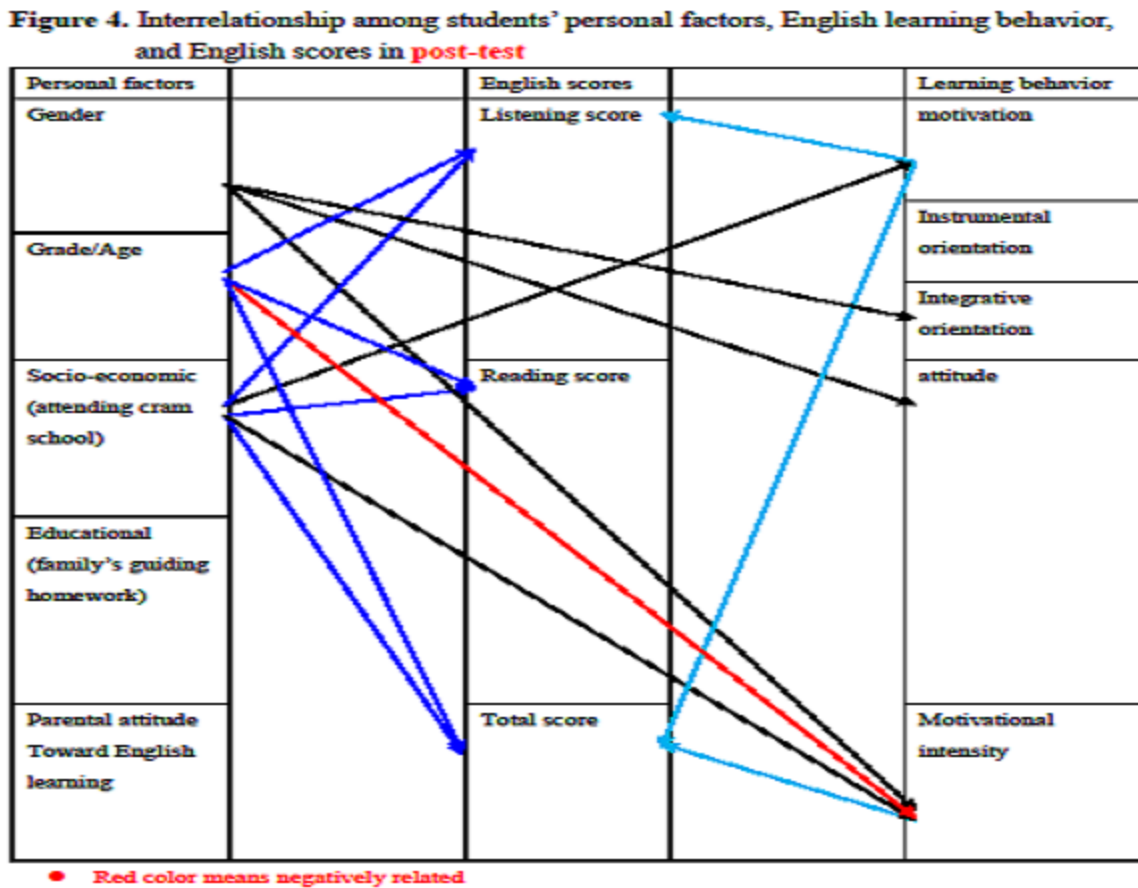
From Figure 4, in post-test, the findings were similar to that in the pre-test. The findings revealed that for all students (N=253), the interrelationships did exist among students' personal factors related to English learning (A), English scores (B), and English learning behavior (C). In particular, between personal factors (A) and English scores (B), it showed that grade/age and socio-economic status (attending cram school) were related to all English scores (listening, reading, and total scores) (all  $p < .01$ ), but educational level (parents' guiding English homework) was not related to English listening score and total scores as in the pre-test did. Furthermore, as for the relationships between personal factors (A) and English learning behavior (C), gender was related to not only attitude toward English learning ( $p < .05$ ) and motivational intensity ( $p < .01$ ) but also integrative orientation ( $p < .05$ ); surprisingly, in the post-test, grade/age was found to be negatively related to motivational intensity ( $t = -2.116, sig = .035$ ); while socio-economic status (attending cram school) was still related to English learning motivation ( $p < .05$ ) (but neither attitude nor instrumental orientation and integrative orientation as in the pre-test).



Additionally, for the relationship between English learning behavior (C) and English scores (B), it was found that motivation was related to both English listening score ( $p < .05$ ) and total scores ( $p < .05$ ); while motivational intensity was only related to English total scores ( $p < .05$ ). In short, in the post-test, as that is the pre-test, for all students ( $N=253$ ), the interrelationships among personal factors (A), English scores (B), and English learning behavior (C) did exist in one way or another. Particularly, though gender was not found to be directly related to English scores, yet gender was related to motivational intensity which was found to be predictive to English total scores ( $p < .05$ ).

Additionally, the findings in the post-test, stating that grade/age was negatively related to motivational intensity ( $t = -2.116$ ,  $sig = .035$ ) which needs to be paid more attention. The findings were shown in Figure 4.

**Figure 4. Interrelationships of all students’ personal factors, learning behavior, and English core of post-test**

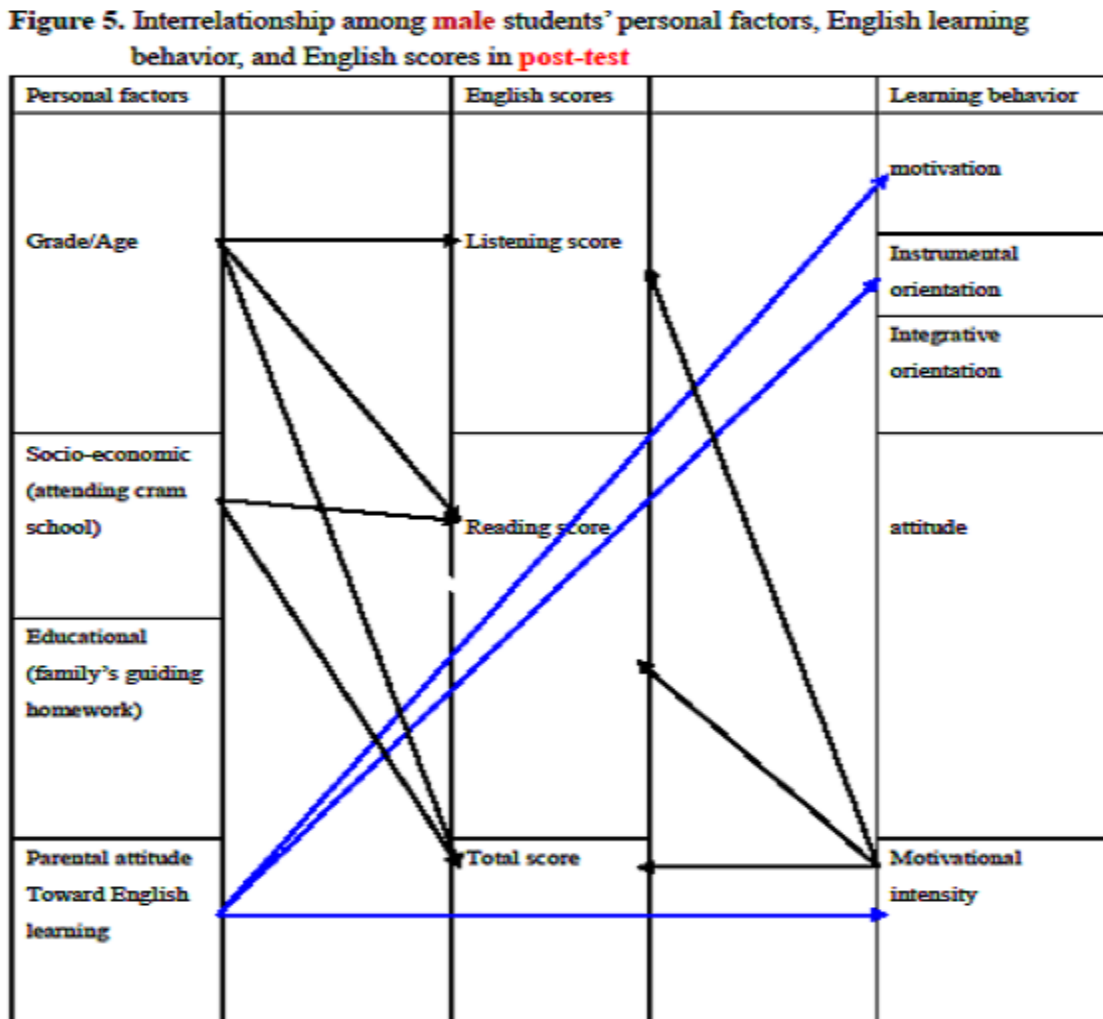


**4.7.2.2. Interrelationships of male students’ personal factors, learning behavior and English scores of post-test**

From Figure 5, in the post-test, for male students, the findings were similar to that in the pre-test; including in the relationships between personal factors (A) and English scores (B), grade/age was related to all English scores of listening, reading, and total score (all  $p < .01$ ), and socio-economic factor (time attending cram school) was also related to English reading score ( $p < .05$ ) and total scores ( $p < .05$ ), but not related to listening score as in the pre-test. As for in the relationships between personal factors (A) and English learning behavior (C), only the parents’ attitude toward English learning was related to motivation ( $p < .05$ ), instrumental orientation ( $p < .05$ ), and motivational intensity ( $p < .05$ ), which was quite different from that of pre-test, where it was socio-economic status (attending cram school) related to both motivation ( $p < .01$ ) and integrative orientation ( $p < .01$ ). In addition, different from that in pre-test, where no relationship existed between learning behavior (C) and English scores (B), for male students, in the post-test, their motivational intensity was related to all the English scores of listening ( $p < .01$ ), reading ( $p < .05$ ), and total scores ( $p < .01$ ).

In short, comparing with the findings of male students in the pre-test, one of the significant differences was that parents' attitude toward English learning was not related to English scores directly, but it was significantly related to male students' motivation ( $p < .05$ ), instrumental orientation ( $p < .05$ ) and motivational intensity ( $p < .05$ ). Among them, motivational intensity was found to be related to all the male students' English scores of listening ( $p < .05$ ), reading score ( $p < .05$ ), and total scores ( $p < .05$ ). The findings were shown in Figure 5.

**Figure 5. Interrelationships of male students' personal factors, learning behavior, and English score of post-test**

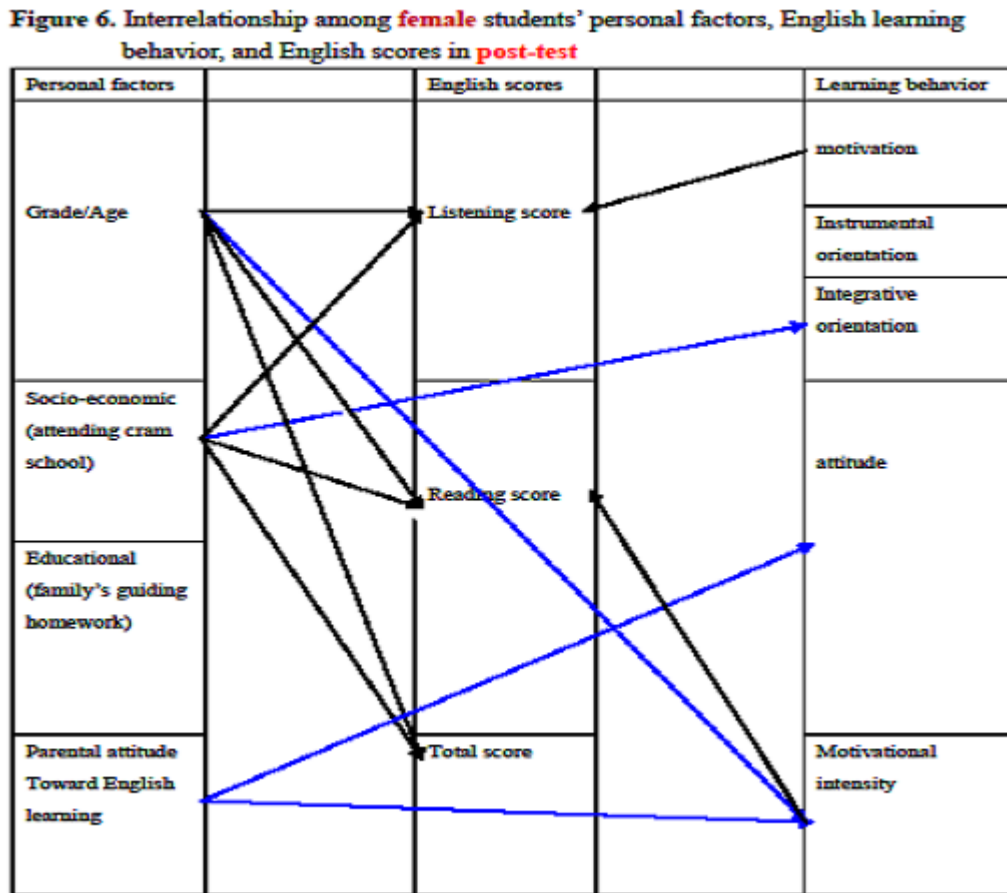


**4.7.2.3. Interrelationships of female students' personal factors, learning behaviors and English score of post-test**

From Figure 6, in the post-test, for female students' personal factors (A) and English scores (B), the findings were found to be similar to that of male students in the post-test, where grade/age was related to all the English scores (all  $p < .01$ ), and where socio-economic status (attending cram school) was related to English reading score ( $p < .01$ ) and total scores ( $p < .01$ ). For female students, socio-economic status (attending cram school) was also related to English listening score ( $p < .05$ ). As for the relationship between female students' personal factors (A) and English learning behavior (C), it was found that socio-economic status (attending cram school) was related to integrative orientation ( $p < .05$ ), while parents' attitude toward English learning was related to both attitude toward English learning ( $p < .01$ ), and motivational intensity ( $p < .01$ ).

In addition, between English learning behavior (C) and English scores (B), motivation was related to English listening score ( $p < .05$ ), while motivational intensity was related to reading score ( $p < .01$ ). In Short, the same as male students, comparing with the findings of female students in the pre-test, one of the significant differences was that parents’ attitude toward English learning was not related to English scores directly, but it was significantly related to female students’ attitude and motivational intensity, whereas motivational intensity in the study was found to be strongly related to female students’ English total scores. The findings were shown in Figure 6.

**Figure 6. Interrelationships of female students’ personal factors, learning behavior, and English score of post-test**



## 5. Discussion and Conclusion

### 5.1. Discussion

The study was conducted because of the five elementary school principals’ intention to investigate their individual school students’ English proficiency. It was the first time for the five schools to hold such formal English test for their student population. After the five principals received the test report, they were interested in holding another similar test after one semester to see if there could be any differences in students’ learning behavior and English scores between the two tests (i.e. pre-test and post-test). Under the school authority’s care about English education, it was believed that after the pre-test, there should be some policy and efforts to be done in individual school’s English education, and brought about some possible differences in the post-test, which could be found in the results of the study. Obviously, appropriate testing is necessary for it provides important information to improve the effects of teaching and learning. In the study, what policy or efforts the individual school had done was not investigated, but some differences between the pre-test and post-test were discussed.

To begin with, being aware of schools authority's paying more attention to elementary schools' English education, more students began to attend cram schools or English programs for extra learning after school. In addition, parents were more involved in their children's English activities and had more positive attitude toward children's English learning. Furthermore, students themselves became more motivated and had more favorable attitude and motivational intensity toward English learning.

From the six Figures aforementioned of the Interrelationships of students' personal factors, learning behavior, and English scores, we can see that some personal factors might not directly relate to students' English scores, yet they were related to some learning behaviors predictive to students' English scores. For example, in Figure 6, parents' attitude toward children's English learning was not directly related to students' English score, but it was related to students' motivational intensity which was shown to be predictive to students' English scores. Hence, the study showed that the interrelationships worked together and led to better English performance in general, and in particular, for female students, the study indicated that despite of many parents' still favor of boys in Asian society, female students had been proved to perform better in English learning behavior in the very beginning of the long journey of foreign language learning, and no wonder, led to female students' better English achievement afterwards. In short, gender matters from the very beginning of the long journey of foreign language learning.

## 5.2. Limitations of the study

There were four limitations of the study. They were:

1. The participants were from five elementary schools in Tainan, a southern city in Taiwan. The results of the study might be different from that of other parts in the island.
2. The time to do the pre-test was arranged in the spring, and post-test, in the fall of that year. So, some of the participants, that is, the sixth graders, were not able to take part in the post-test, which might influence the results, in particular, the English scores.
3. The information available here was based on students' self-reported data via school teachers' instruction and explanation in class. Students might either tend to answer the questions in terms of what seemed to be a socially acceptable response, or what they thought the teachers would like them to answer. Furthermore, the result would not be included in their academic transcript, hence some might not be serious enough in answering the questions. Hence, all might influence the research results to some extent.
4. The present study didn't investigate the five respective schools' English curriculum and instruction. In addition to students' learning behaviors, further studies should include each school's English teaching policy, curriculum, instruction, and assessment.

## 5.3. Conclusion

The findings responded to the three research questions revealing significant differences in genders and two tests, and the interrelationships of students' personal factors, learning behavior, and English scores did exist. In particular, gender, grade/age, socio-economic status, parents' educational level and involvement in children's English learning were related to students' learning behavior and predictive to English scores directly or indirectly. Among the personal factors related to English learning, attending cram school or English program for extra learning and parents' attitude toward children's English learning were found to play important roles in influencing students' learning behavior (motivation/attitude) and English scores. However, students' attending cram school or English program after school is costly which deals with parents' socio-economic status, in other words, not every family can afford that, so it is suggested that schools provide more supplementary teaching and resources on campus for students to immerse in English learning surroundings. In addition, parents were suggested to be cooperative with schools/teachers and involved in children's English learning activities. Last, one thing worth mentioning, in the post-test, it was found that grade/age was negatively related to motivational intensity (Table 16 & 18) which was predictive to English scores (Figure 4-6); in other words, the senior students had less favorable motivational intensity toward English learning. Though with longer years of learning, the senior students (the sixth graders in the study) had best English scores among the school's student population, why they had less favorable motivational intensity, especially female students, needs to be paid more attention. Is it possible that the senior students, especially female students,

were about to graduate from the elementary school that year facing the pressure to take part in the entrance exam of junior high school? No matter what the possible explanation is, it still needs our concern.

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