

4.1. Results to Research question 1. Correlation analysis between target variable and independent variables

In this part, we carry out a thorough analysis of each individual variable with the target variable. Each analysis will depend on the characteristics of the independent variable because we have a wide range of individual variables with different features and the descriptive analysis must take these differences into consideration.

The target variable is the mean of the score obtained for each student in the last 5 trimesters. The independent variables are the next ones:

Group A. Learners' internal characteristics

A.1. Cognitive ones

Gender

Kind of multilingualism

Aptitude

Personality

Learning Strategies

A.1. Affective ones

Anxiety when Learning English

Integrative motivation

Motivational intensity

Interest in Foreign Languages

Attitudes toward Learning English

Attitudes toward English Speakers

Desire to Learn English

Group B. External influences on learners

Instrumental motivation

Parental Encouragement

English Teacher Evaluation

English Course Evaluation

Out-of-School Contact

In the descriptive analysis of each variable, we checked that all the variables in this study could be considered as normally distributed, which means that parametrical analysis could be carried out with all of them (for instance the *t*-test for the comparison of the means of groups when the independent variables are nominals or ordinals).

At this point we will only comment on the statistical analysis of the variables that are significant (*p*-value lower than 0,05) or that are close to this significance threshold and are also interesting in our study. We have considered this closeness in some cases where the variable has a *p*-value of 0,100 or less.

4.1.1. Cognitive internal variables (A.1.)

Gender

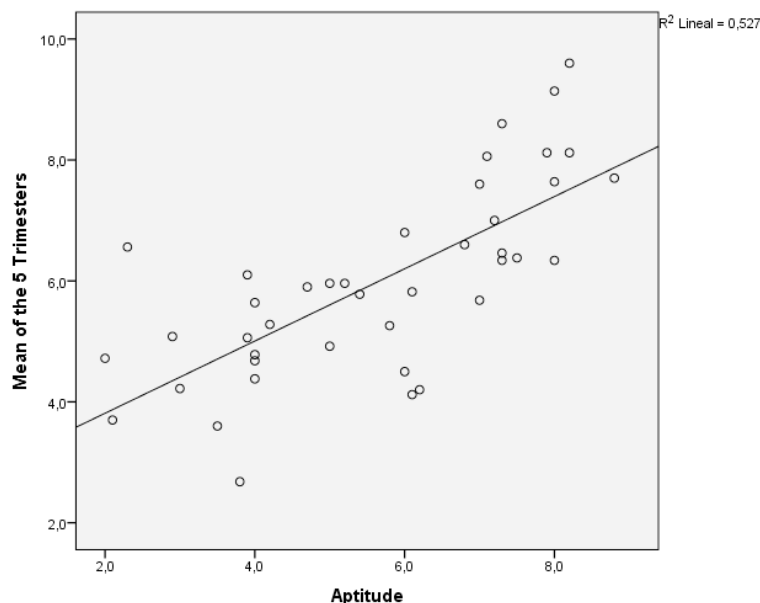
The statistical analysis has shown a significant correlation between the academic success and the gender. Women got better results than men (Sig.: 0,017).

Multilingualism

Although the kind of multilingualism that the student has is not considered significative enough, we have observed an interesting tendency to take into consideration: the active bilinguals get better results than the trilinguals and the passive bilinguals (Sig.: 0,098).

Aptitude

In the cloud of plots corresponding to the study of the correlation between Aptitude and Mean of the 5 trimesters, we can observe that the cloud points ascendently and, although the regression line does not exactly fits with the plots, this is the case where it fits better (Sig.: 0,000).



Sensing / Intuitive

Although the correlation is not significant (Sig.: 0,063), there is a tendency of correlation between the target variable and this independent variable. Sensing students get better results.

Thinking / Feeling

There is a clearly significant correlation between thinking students and academic success (Sig.: 0,000).

Judging / Perceiving

There is a significant correlation between academic success and students with the personal feature of Judging (Sig.: 0,021).

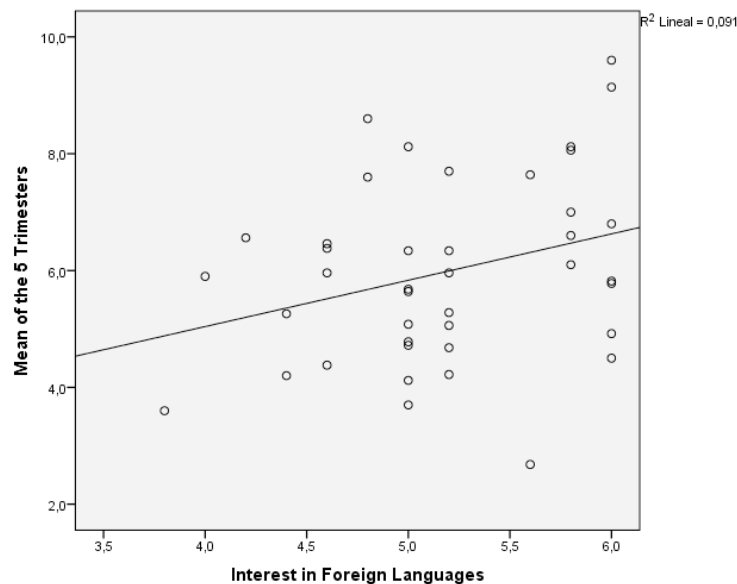
Learning Strategies

The statistical analysis has also shown that there is a clear and significant correlation between a high level of learning strategies' use and the academic success (Sig.: 0,003).

4.1.2. Affective internal variables (A.2.)

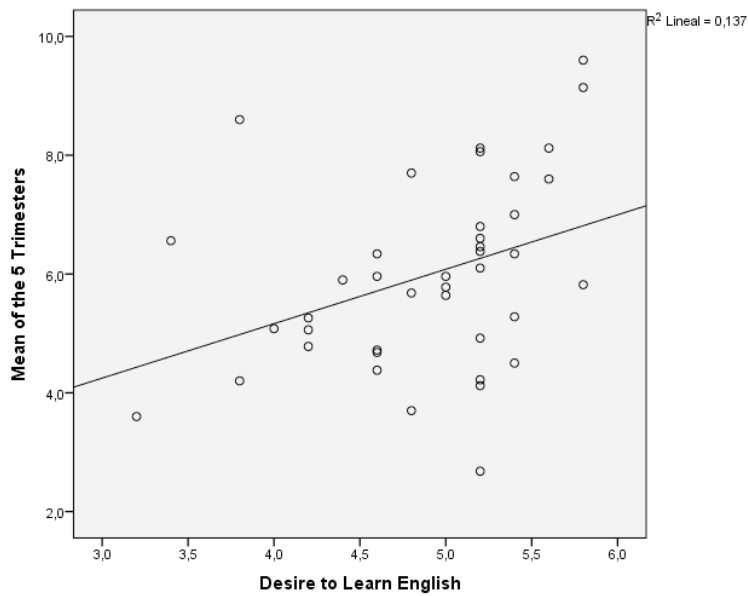
Interest in Foreign Languages

The scatter plot shows a tendency of correlation between academic success and this independent variable, but this correlation is not significant (Sig.: 0,056).



Desire to Learn English

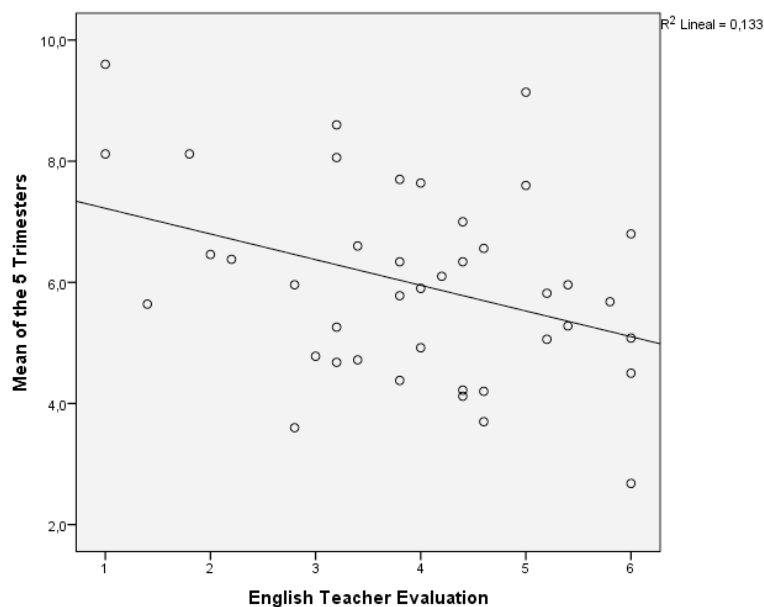
The scatter plot shows a correlation between the academic success and the desire to learn English. According to the *p*-value, this correlation is significant (Sig.: 0,017).



4.1.3. External variables (B)

English Teacher Evaluation

According to the scatter plot, there is a tendency of correlation between academic success and English Teacher Evaluation. This correlation is significant (Sig.: 0,019).



Out-of-School Contact

The students with Out-of-school contact have higher values in the *Mean of the 5 Trimesters*. This correlation is significant (Sig.: 0,034).

4.2 Results to research question 2

As previously stated, the second aim of the present research is to explore the correlation among learners' individual factors. Thus, in this section we will try to answer the following research question: Which correlations exist among individual variables that condition our respondents' academic success?

The *correlation* is a measure of the degree of linear association between two variables. It is strongly associated linked with the concept of *dependency*, although dependency is more a subjective interpretation than a statistical result.

The following table shows the bivariate correlations of the variables included in the group A.1 (*Learners' internal characteristics, cognitive ones*). The couple of variables in which a significant correlation exists (a remarkable degree of association) are marked in yellow. After the table, we describe the correlations that are especially interesting for our analysis.

4.2.1. Correlations among internal cognitive variables (group A.1.)

		Gender	Aptitude	Learning Strategies	Extraversion / Introversion	Sensing / Intuitive	Thinking / Feeling	Judging / Perceiving
Gender	Pearson Correlation	1	-0,245	-0,549	0,026	-0,286	-0,361	-0,034
	Sig. (2-tailed)		0,122	0,000	0,871	0,070	0,021	0,835
Aptitude	Pearson Correlation	-0,245	1	0,667	0,356	0,280	0,432	0,444
	Sig. (2-tailed)	0,122		0,000	0,022	0,076	0,005	0,004
Learning Strategies	Pearson Correlation	-0,549	0,667	1	0,183	0,260	0,363	0,193
	Sig. (2-tailed)	0,000	0,000		0,253	0,101	0,020	0,227
Extraversion / Introversion	Pearson Correlation	0,026	0,356	0,183	1	-0,169	-0,077	0,667
	Sig. (2-tailed)	0,871	0,022	0,253		0,291	0,633	0,000
Sensing / Intuitive	Pearson Correlation	-0,286	0,280	0,260	-0,169	1	0,545	-0,146
	Sig. (2-tailed)	0,070	0,076	0,101	0,291		0,000	0,362
Thinking / Feeling	Pearson Correlation	-0,361	0,432	0,363	-0,077	0,545	1	0,188
	Sig. (2-tailed)	0,021	0,005	0,020	0,633	0,000		0,238
Judging / Perceiving	Pearson Correlation	-0,034	0,444	0,193	0,667	-0,146	0,188	1
	Sig. (2-tailed)	0,835	0,004	0,227	0,000	0,362	0,238	

Correlations among the variables corresponding to group A.1: Learners' internal characteristics, cognitive ones.

The variable multilingualism is both nominal and non-ordinal. Its codification is 1 (monolingualism), 2 (active bilingualism), 3 (trilingualism) and 4 (passive bilingualism). However, this codifications has not got any numerical meaning but only arbitrary assignments. For this reason, any numeric analysis concerning this variable has no sense. That is why we have ignored this variable in our study of correlations.

The variable Gender establishes a meaningful negative linear association with the variable Learning Strategies, which indicates that men (Gender=1) corresponds with a low level in the use of Learning Strategies and, the other way round, women (Gender=0) corresponds with a high level of use of Learning Strategies.

The variable Aptitude has a strong positive association with the variable Learning Strategies. Higher values in aptitude correspond with higher levels in the use of learning strategies. Similarly, regarding the relation between the variable Aptitude and the variables related to individuals' personality, this is positively related to the following features of personality: Extraversion, Thinking and Judging.

Moreover, the variable Learning Strategies is also associated with the personality feature Thinking, which means that the individuals with a Thinking personality also manifest a higher use of Learning Strategies when learning languages.

Finally, there are two more associations in relation to personality: there is a meaningful coincidence between individuals that possess the personal feature Extroversion and at the same time they are Judging. The same happens on the contrary: there is a tendency to find both personality features Introversion and Perceiving in the same individuals. This also happens with the correlation of Thinking and Sensing in the same individual or Intuitive and Feeling in the same way.

4.2.2. Correlations among internal affective variables (group A.2.)

		Anxiety	Integrative Orientation	Motivational Intensity	Interest in Foreign Languages	Attitudes toward Learning English	Attitudes toward English-speaking people	Desire to Learn English
Anxiety	Pearson Correlation Sig. (2-tailed)	1	0,000 0,998	0,098 0,540	-0,080 0,618	-0,219 0,169	0,062 0,702	-0,052 0,747
Integrative Orientation	Pearson Correlation Sig. (2-tailed)	0,000 0,998	1	-0,083 0,605	0,618 0,000	0,649 0,000	0,469 0,002	0,664 0,000
Motivational Intensity	Pearson Correlation Sig. (2-tailed)	0,098 0,540	-0,083 0,605	1	0,262 0,098	0,243 0,126	0,345 0,027	0,157 0,326
Interest in Foreign Languages	Pearson Correlation Sig. (2-tailed)	-0,080 0,618	0,618 0,000	0,262 0,098	1	0,710 0,000	0,551 0,000	0,727 0,000
Attitudes toward Learning English	Pearson Correlation Sig. (2-tailed)	-0,219 0,169	0,649 0,000	0,243 0,126	0,710 0,000	1	0,532 0,000	0,827 0,000
Attitudes toward English-speaking people	Pearson Correlation Sig. (2-tailed)	0,062 0,702	0,469 0,002	0,345 0,027	0,551 0,000	0,532 0,000	1	0,445 0,004
Desire to Learn English	Pearson Correlation Sig. (2-tailed)	-0,052 0,747	0,664 0,000	0,157 0,326	0,727 0,000	0,827 0,000	0,445 0,004	1

Correlations among the variables corresponding to group A.2: Learners' internal characteristics, cognitive ones.

The second group of correlations corresponds with the internal and affective characteristics. A strong correlation exists among the variables *Integrative Orientation*, *Interest in Foreign Languages*, *Attitudes toward Learning English*, *Attitudes toward English-speaking people* and *Desire to Learn English*. This was quite predictable because all of them are elements of the test of Attitude and Motivation (Gardner 2004), so that those refer to complementary aspects of the concept of motivation. If an individual is motivated, he or she will normally be in all senses. All these variables correspond to a general interest in the English culture and in the learning of the English language by itself. Statistically, it implies a certain degree of colineality, understood as a certain degree of association of the information given by those variables, which means that the information coincides in each register.

4.2.3. Correlations among external variables (group B)

		<i>Instrumental Orientation</i>	<i>Parental Encouragement</i>	<i>English Teacher Evaluation</i>	<i>English Course Evaluation</i>	<i>Out-of-School contact</i>
<i>Instrumental Orientation</i>	<i>Pearson Correlation</i> <i>Sig. (2-tailed)</i>	1	0,066 0,682	0,237 0,136	0,181 0,258	-0,064 0,689
<i>Parental Encouragement</i>	<i>Pearson Correlation</i> <i>Sig. (2-tailed)</i>	0,066 0,682	1	-0,068 0,675	0,113 0,482	0,157 0,328
<i>English Teacher Evaluation</i>	<i>Pearson Correlation</i> <i>Sig. (2-tailed)</i>	0,237 0,136	-0,068 0,675	1	0,506 0,001	-0,350 0,025
<i>English Course Evaluation</i>	<i>Pearson Correlation</i> <i>Sig. (2-tailed)</i>	0,181 0,258	0,113 0,482	0,506 0,001	1	-0,356 0,022
<i>Out-of-School contact</i>	<i>Pearson Correlation</i> <i>Sig. (2-tailed)</i>	-0,064 0,689	0,157 0,328	-0,350 0,025	-0,356 0,022	1

Correlations among the variables corresponding to group B: *External influences on learners*.

In relation to the correlations among variables from the group B, there is a strong relation between the English Teacher Evaluation and the English Course Evaluation. This is quite logical. Moreover, high values in both variables are also positively linked with the variable Out-of-School Contact.

In the next three tables, we will study the relations established among variables from different groups.

4.2.4. Correlations among variables from different groups

4.2.4.1. A.1. and A.2.

		<i>Anxiety</i>	<i>Integrative Orientation</i>	<i>Motivational Intensity</i>	<i>Interest in Foreign Languages</i>	<i>Attitudes toward Learning English</i>	<i>Attitudes toward English-speaking people</i>	<i>Desire to Learn English</i>
<i>Gender</i>	<i>Pearson Correlation</i> <i>Sig. (2-tailed)</i>	-0,266 0,092	-0,241 0,128	-0,299 0,057	-0,283 0,073	-0,115 0,475	-0,305 0,053	-0,238 0,133
<i>Aptitude</i>	<i>Pearson Correlation</i> <i>Sig. (2-tailed)</i>	-0,208 0,192	0,451 0,003	0,040 0,802	0,297 0,060	0,511 0,001	0,146 0,364	0,473 0,002
<i>Learning</i>	<i>Pearson</i>	0,152	0,430	0,130	0,178	0,262	0,095	0,342

Strategies	Correlation							
Extraversion / Intraversion	Pearson	0,343	0,005	0,417	0,265	0,097	0,554	0,028
	Correlation Sig. (2-tailed)	-0,328	0,114	0,059	0,050	0,265	-0,145	0,043
Sensing / Intuitive	Pearson	0,166	0,241	0,013	0,111	0,113	0,053	0,166
	Correlation Sig. (2-tailed)	0,299	0,129	0,935	0,488	0,482	0,740	0,300
Thinking / Feeling	Pearson	0,198	0,320	0,254	0,353	0,370	0,379	0,389
	Correlation Sig. (2-tailed)	0,215	0,042	0,109	0,024	0,017	0,015	0,012
Judging / Perceiving	Pearson	-0,228	0,189	0,241	0,245	0,405	0,110	0,314
	Correlation Sig. (2-tailed)	0,152	0,236	0,129	0,123	0,009	0,495	0,046

Correlations among the variables corresponding to Learners' Cognitive internal characteristics vs Learners' Affective internal characteristics.

When comparing both kinds of internal characteristics, cognitive and affective, we observe that there is a positive correlation between Aptitude and Integrative Orientation and also between Attitude toward learning English and Desire to learn English. In addition, both Integrative Orientation and Desire to Learn English are related to the use of Learning Strategies. However, the use of Learning Strategies is not significantly related to *Attitudes toward Learning English*.

Last but not least, personality features are related with some affective aspects. For instance, Introverted students in our sample tend to manifest more Anxiety in the English classroom than Extroverted students. Moreover, students with the feature Thinking got better scores in the variables that measure positively the learning of English and the value of the foreign cultures. And Judging students value positively the learning of English.

4.2.4.2. A.1. and B

		Instrumental Orientation	Parental Encouragement	English Teacher Evaluation	English Course Evaluation	Out-of-School contact
Gender	Pearson	-0,159	0,194	-0,109	0,118	-0,211
	Correlation Sig. (2-tailed)	0,320	0,224	0,497	0,464	0,186
Aptitude	Pearson	0,097	0,209	-0,266	-0,026	0,252
	Correlation Sig. (2-tailed)	0,545	0,190	0,092	0,871	0,112
Learning Strategies	Pearson	0,082	0,040	-0,102	-0,202	0,363
	Correlation Sig. (2-tailed)	0,609	0,806	0,524	0,206	0,020
Extraversion / Intraversion	Pearson	-0,160	0,172	-0,010	0,086	-0,128
	Correlation Sig. (2-tailed)	0,316	0,283	0,952	0,591	0,425
Sensing / Intuitive	Pearson	-0,115	0,015	-0,086	-0,193	0,105
	Correlation Sig. (2-tailed)	0,475	0,925	0,594	0,228	0,512
Thinking / Feeling	Pearson	0,037	0,128	-0,137	-0,070	0,453
	Correlation Sig. (2-tailed)	0,819	0,426	0,393	0,662	0,003
Judging / Perceiving	Pearson	0,074	0,128	-0,024	0,197	0,046
	Correlation Sig. (2-tailed)	0,644	0,424	0,881	0,217	0,774

Correlations among the variables corresponding to Learners' Cognitive internal characteristics vs External influences on learners.

Regarding the relations between cognitive internal characteristics and external ones, the only meaningful link that is observed is the fact that Out-of-School Contact is linked with the use of Learning Strategies. In addition, there is also a relation between students with Out-of-School contact and Thinking students.

4.2.4.3. A.2. and B

		Anxiety	Integrative Orientation	Motivational Intensity	Interest in Foreign Languages	Attitudes toward Learning English	Attitudes toward English-speaking people	Desire to Learn English
Instrumental Orientation	Pearson Correlation	-0,031	0,146	0,262	0,411	0,223	0,462	0,177
	Sig. (2-tailed)	0,849	0,363	0,098	0,008	0,162	0,002	0,269
Parental Encouragement	Pearson Correlation	-0,247	0,220	-0,165	0,304	0,420	0,005	0,219
	Sig. (2-tailed)	0,120	0,167	0,303	0,053	0,006	0,977	0,170
English Teacher Evaluation	Pearson Correlation	0,124	0,060	0,515	0,169	0,196	0,301	-0,007
	Sig. (2-tailed)	0,439	0,711	0,001	0,291	0,220	0,056	0,964
English Course Evaluation	Pearson Correlation	-0,153	0,243	0,208	0,395	0,482	0,336	0,433
	Sig. (2-tailed)	0,340	0,127	0,191	0,011	0,001	0,032	0,005
Out-of-School contact	Pearson Correlation	0,164	0,118	0,070	0,056	0,169	-0,053	0,212
	Sig. (2-tailed)	0,307	0,464	0,664	0,729	0,292	0,742	0,184

Correlations among the variables corresponding to Affective internal characteristics vs External influences on learners.

In this last table of correlation, we observe the relation among the affective internal variables and the external variables. First, we observe that the high values in the Instrumental Orientation are linked with high values in the Interest in Foreign Languages. It is also particularly interesting the existent relation between Parental Encouragement and Attitude toward Learning English: the high correlation between these two elements (0,42) is quite meaningful (p -value 0,006). It shows that high levels of parental motivation produce a better attitude in students towards the learning of English.

Second, we have observed that English Teacher Evaluation and Motivational Intensity are also positivey related in a high degree of 0,515, which means a really strong correlation. Finally, there is also a positive correlation between English Course Evaluation and four different variables: Interest in Foreign Languages, Attitudes toward Learning English, Attitudes toward English-speaking people and Desire to Learn English. It is important to point out these noticeable links of the English Course Evaluation, although the statistic results *per se* are not able to identify any cause-effect relation among them.