

# How Do Student Personality Types Contribute to the Academic Success in the Hungarian Business Higher Education?

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## Abstract

The economic literature shows many evidences on the relationship between labor market success and personality. Our study examines the connection between Myers–Briggs personality types and academic performance among students of University of Debrecen, Hungary. Our sample consists of 2<sup>nd</sup> and 3<sup>rd</sup> year Business Administration and Management and Business Informatics students ( $N = 408$ ). We examine the significance of the difference between the grade means of the Myers–Briggs personality types and the group means by year and major with one sample t-test on 10% significance level. We also analyze the effect of personality types on the academic performance with linear regression models containing additional independent variables (gender, local inhabitance, work experience, university year, major, age) on 10% significance level. Our results show that on Business Administration and Management major INTJ, ESTJ, and ESFJ students outperform the others (adjusted  $R^2$  contribution of personality types in the regression model is 0.02), while among the Business Informatics students the ENFJ type has a significantly better grade mean (adjusted  $R^2$  contribution of personality types in the regression model is 0.04). In the regression model the following types have significantly better academic results than the others: ENTP, INTJ, ENTJ, INFJ, ENFJ, ISTJ, ESTJ, ESFJ (adjusted  $R^2$  contribution is 0.01).

*Keywords:* Business education, Higher education, Career, Personality type, MBTI

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## Introduction

In the social sciences there are different researches about the relationship between personality and career. We can examine the effect of personality on the success of an individual in at least 5 phases of his/her career: (1) performance in public education (e.g. LAIDRA ET AL. 2007), (2) choice of profession (e.g. BORGES AND GIBSON 2005), (3) performance in vocational, professional or higher education (e.g. BORG–SHAPIRO 1996), (4) choice of job (e.g. LAWRENCE 1986), and (5) success in the given job (e.g. ADRISIANI 1977).

In this study we answer two research questions about the relationship between personality and academic performance. First, we compare the two academic majors in our sample (BSc in ‘Business Administration and Management’ (BAM) and BSc in ‘Business Informatics’ (BI)) by the personality types of their students, and examines whether there are any significant differences between them. The examination is built on the Myers–Briggs personality typology (BRIGGS–MYERS ET AL. 1998). The second research question explores the effect of personality type, gender, local inhabitance, work experience, university year, major, age as independent variables on academic success in the two selected majors.

## Literature Review

Here we briefly introduce the Myers–Briggs personality typology used in the research to better understand our results. Detailed descriptions are available in several textbooks and studies (e.g. QUENK 2009, BRIGGS–MYERS AT

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AL. 1998). K. C. BRIGGS and I. BRIGGS–MYERS based on the theory of C. G. Jung created the typology of the 16 personality types used in our examination (QUENK 2009, 1-3). The 16 personality types are defined along 4 preference pairs (called dichotomies): (E) extraversion and (I) introversion, (S) sensing and (N) intuition, (T) thinking and (F) feeling, (J) judging and (P) perceiving. From the letter combination of the preferred ‘poles’ one can create the names of the personality types (i.e. ESTJ, ISTJ, etc.). The official instrument used to measure the preferences – and hence types – was also developed; this is the Myers–Briggs Type Indicator® (MBTI®) (QUENK 2009, 1-3).

Many previous studies have examined the relationship between higher education students’ Myers–Briggs personality types and their performance in various fields of college or university studies. We will briefly summarize the findings of those closest to our research questions. BORG–SHAPIRO (1996) found that for students on Principles of Macroeconomics courses personality preferences measured by MBTI had a significant influence on academic success. They measured both the effect of the personality types and MBTI preferences. They found that ENTP, ESTP and ENFP students did significantly worse than the ISTJs (which was the most frequently occurring personality among the students). On the other hand being an introvert had a significant positive effect on the chance of getting a good grade.

ZIEGERT (2000) examined the grades of Microeconomics Principles. She found that the ENTP, ESFJ, INFP and ENTJ personality types perform significantly worse in terms of grades than the ISTJ type. With the post-TUCE (Test of Understanding College Economics after the completion of the course) score as a dependent variable, the analysis showed the ISTJ type students achieved significantly higher performances than ESFP, ENFP, INFJ, ENFJ, ESFJ, INFP, ISFJ and ESTJ students, while INTJ students significantly outperformed them.

The above cited studies focused on the connection between personality and academic success in one course. However, the students’ most important decisions are made when they choose a profession, a major, a specialization or an educational institution, i.e. a given combination of heterogeneous courses, and not when they choose an individual course. For this reason authors of the current study aimed to use a modified version of the above cited research on two majors which are different but overlap to some extent.

## Data and Methodology

Our data on personality and academic achievement was based on our primary questionnaire survey at the Faculty of Economics and Business Administration at the University of Debrecen, Hungary (UD-FEBA). The survey was implemented in October and November 2011, in classes where attendance was obligatory. BAM and BI students in their second and third year made up our sample. The total number of the sample was 408, with 128 second and 133 third year BAM students (261 in total) and 88 second and 59 third year BI students (147 in total). The BAM major is run by FEBA and focuses mostly on management, and partly on economics studies, whilst the other major combines informatics with management courses, and is part of the Faculty of Informatics (FI), and the UD-FEBA only teaches these students management studies. Thus, accepting that different personalities fit different professions, it seems reasonable to expect differences in personality types and preference distributions between students on the two majors; moreover we can expect to find that types and preferences are connected in different ways to their academic success.

To measure the personality preferences we used a questionnaire containing 72 forced choice questions. We also asked the respondents to give their sex and year of birth, whether they had worked before, whether they are studying on more than one major simultaneously, whether their permanent abode was in the same city as the university, and if not, how much time they spent travelling between their home and the university (in minutes). Table 1 includes the explanation of the independent and dependent variables we used in the study.

Table 1. Explanation of variables

Variable	Explanation
SEX	1 if the student is female, 0 if male.
AGE	Age of the student in years. This was calculated as the difference between the date the questionnaire was filled in and the year of birth (the assumed birthday was 1st July).
LOCAL	1 if the student is a local resident, 0 otherwise.
WORK	1 if the student has work experience (past or present), 0 if not.
MBTI type	Dummy variables indicating the 16 Myers–Briggs personality types. 1 if the student belongs to the given type, 0 otherwise.
INDEX	Average of a special form of grade index officially termed ‘stipend index’ of the previous two academic semesters (1.00 is the minimum, 5.00 is the maximum). The stipend index is calculated as the product of the credit values of subjects graded as ‘pass’ or higher multiplied by their grades divided by the total number of credits undertaken.
STDINDEX	INDEX standardized by majors and university years.

## Results and Discussion

To examine personality type differences by majors and by year, we analyzed the distribution of the 16 personality types on the two selected majors, first independently and then on the combined sample. We presented the findings in Table 2.

One can observe various differences between majors and years. Among the BAM students in the 2<sup>nd</sup> year INFJs and ISTJs, in the 3<sup>rd</sup> year ESTJs and ESFJs outperform significantly the mean. Merging the two years together we can notice significantly different performance only in the case of ESFJs. Among the BI students the analyses show significantly positive difference for ENFJs in the 2<sup>nd</sup> year, ESTJs in the 3<sup>rd</sup> year, and ENFJs considering both year.

We also examined other variables that can effect one’s performance with linear regression models. Besides the personality type we took into consideration gender, age, local inhabitance, and work experience. Results are shown in Table 3.

Table 2. Educational performance of BAM students’ types compared to the sample total mean (Dependent: STDINDEX)

Myers-Briggs type	BUSINESS ADMINISTRATION AND MANAGEMENT										
	2 <sup>nd</sup> year				3 <sup>rd</sup> year				Total		
	N	Mean	Std. dev.	t test	N	Mean	Std. dev.	t test	Mean	Std. dev.	t test
INTJ	5	-0.5078	1.270	-0.8940	7	0.1200	0.7790	0.4080	-0.1416	1.011	-0.4850
ENTJ	10	0.1452	1.052	0.4360	12	-0.1251	1.143	-0.379	-0.0022	1.085	-0.1000
ENFP	5	-0.5870	0.6320	-2.077	7	-0.3745	1.097	-0.9030	-0.4630	0.9018	-1.779
INFJ	6	1.102	1.185	2.277*	6	-0.1706	1.459	-0.2860	0.4655	1.431	1.127
ENFJ	15	-0.2704	1.116	-0.9380	19	-0.1690	0.8889	-0.8290	-0.2137	0.9810	-1.270
ISTJ	9	0.4940	0.7433	1.873*	18	-0.1099	1.323	-0.3520	0.0814	1.179	0.3590
ESTJ	12	-0.2011	0.8358	-0.8340	11	0.7872	0.8367	3.121**	0.2716	0.9604	1.356
ISFJ	11	-0.3855	0.9231	-1.385	9	-0.0593	0.6762	-0.2630	-0.2387	0.8178	-1.305
ESFJ	25	0.2045	0.8587	1.191	22	0.3069	0.7105	2.026*	0.2525	0.7861	2.202**
M-B Type	BUSINESS INFORMATICS										
	2 <sup>nd</sup> year				3 <sup>rd</sup> year				Total		
	N	Mean	Std. dev.	t test	N	Mean	Std. dev.	t test	Mean	Std. dev.	t test
ENTJ	6	0.3674	1.010	0.891	8	-0.1318	0.6495	-0.5740	0.0821	0.8280	0.3710
ENFJ	14	0.5030	0.6997	2.689**	11	0.1959	0.8323	0.7810	0.3678	0.7603	2.419**
ESTJ	20	-0.3020	0.8086	-1.670	7	0.0517	1.174	0.1160*	-0.2103	0.9059	-1.206
ESFJ	17	-0.1160	1.106	-0.4160	12	0.2963	0.9878	1.039	0.0572	1.061	0.2910

Notes: \* significant at level 0.10, \*\* significant at level 0.05. Mean, standard deviation and *t*-statistic are computed for those types only, where  $N > 4$ .

The BAM students' model includes the variables of sex, previous work experience, INFJ, ESTJ, ESFJ (all are significant minimum at the 0.10 level). Work experience has a negative impact on INDEX, but all the others are positively related to the dependent variable. In the BI major the age and being ENFJ have significant positive effect on grades (both at 0.05 level). Merging the two majors we can draw the conclusion that being female, living in Debrecen, and having the ENTP, INTJ, ENTJ, INFJ, ENFJ, ISTJ, ESTJ or ESFJ personality types have a positive relationship, while having a work experience and being a BI student have a negative relationship to the academic success in higher education.

Table 3. Regression (absolute t-statistics in parentheses, dependent variable: INDEX)

Variable	BAM 2 <sup>nd</sup> & 3 <sup>rd</sup> year		BI 2 <sup>nd</sup> & 3 <sup>rd</sup> year		Total	
	B	t-test	B	t-test	B	t-test
Constant	3.0712	32.555***	0.0335	0.0294	2.7034	19.7371***
SEX	0.1548	1.6737*			0.2641	2.9770***
AGE			0.1234	2.3024**		
LOCAL					0.1855	2.2565**
WORK	-0.2716	-3.0963***			-0.1579	-2.0020**
BI major					-0.2851	-3.3234***
ENTP					0.4498	1.8315*
INTJ					0.3879	2.0067**
ENTJ					0.2900	1.8887*
INFJ	0.3469	1.8278*			0.5706	2.8130***
ENFJ			0.4194	2.4249**	0.2970	2.2403**
ISTJ					0.2772	1.7525*
ESTJ	0.2623	1.8089*			0.2595	1.8149*
ESFJ	0.2181	1.9805**			0.3467	2.7756***
R <sup>2</sup>	0.1046		0.0783		0.1495	
adjR <sup>2</sup>	0.0833		0.0626		0.1185	
F	4.9072		4.9718		4.8187	
N	216		120		342	
R <sup>2</sup> change	0.0351		0.0463		0.0334	
adj R <sup>2</sup> change	0.0225		0.0388		0.0129	
F change	2.7434**		5.8800**		1.6150	

Notes: Enter method. \* Significant at the 0.10 level; \*\* significant at the 0.05 level; \*\*\* significant at the 0.01 level.

### Concluding Remarks

The purpose of this study was to contribute to a better understanding of the relationship between personality and academic success. Our data was based on our primary questionnaire survey of 408 BAM and BI students of University of Debrecen.

To examine our hypothesis if personality has a significant effect on the academic performance we used one sample t-test first. We found that in the BAM major ESFJs, in the BI major ENFJs outperform significantly the other personality types. To better understand the amount of the contribution of the examined variables to the academic performance we analyzed the factors by linear regression. We can conclude that in the BAM major besides being ESFJ (as the result of the t-test), one's gender, INFJ and ESTJ personality type has a positive whilst work experience a negative effect on the grades. In the BI major we reinforced the results of the t-test: ENFJ is still a significant factor, in addition age have a positive contribution to the performance. Merging the two majors with the listed variables we can explain the almost 12% of the influence on the grades.

We can conclude that the nature of the relationship between personality and academic success vary from major to major. Moreover, personality and its impact on academic performance may be affected by cultural traits, as well. Future research therefore might extend our examination to other business and non-business major programs domestically and internationally to reveal the common and specific patterns in the contribution of personality to the academic success.

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