EFFECTS OF GENDER AND INTERACTION OF GENDER AND PERSONALITY TRAITS ON FOREIGN LANGUAGE ANXIETY

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Abstract: *The aim of this paper is to determine the effects of gender and personality traits on foreign language anxiety, and the effects of gender-personality traits interaction on the foreign language anxiety. The research conceived in this way has the potential to further clarify the existing inconsistent results of the studies when it comes to investigating gender differences in foreign language anxiety. The study was conducted on the sample of 296 engineering students who attended the English language course. The data were collected using the Foreign Language Classroom Anxiety Scale (Horwitz et al. 1986) and the International Personality Item Pool (IPIP). The results show that females experience higher level of foreign language anxiety than males. Emotional Stability and Intellect as personality traits are predictors of foreign language anxiety, and the effect of Emotional stability on language anxiety is more evident in men in comparison with women, while the effect of Intellect is more evident in women in comparison with men. Accordingly, it can be said that, Emotional stability has a stronger effect on language anxiety for men, while Intellect displays a stronger effect on language anxiety for women. Pedagogical implications of the research indicate that teaching strategies and curriculum can correct certain psychological effects in foreign language learning.*

Keywords: *gender; personality traits; interaction; language anxiety; foreign language learning;*

1. Introduction

Foreign language anxiety is a subjective sense of tension, fear, nervousness and worry in the learning process. Since foreign language is a specific type of learning, foreign language anxiety makes an integral part of that process (Horwitz and Young, 1991: 28). MacIntyre and Gardner

(1991) define it as a fear that is experienced when we are required to use a foreign language which is insufficiently mastered. This type of anxiety affects the learning itself and represents a reaction that students perceive as a threat to their sense of security and self-confidence. The literature recognizes three types of anxiety: trait anxiety, state anxiety and situation-specific anxiety (MacIntyre and Gardner, 1991: 89).

Trait anxiety refers to anxiety in any situation (Spielberger, 1983) and it is defined as a permanent predisposition. Unlike the relatively stable emotional condition that occurs when describing trait anxiety, *state anxiety* is an immediate feature that is not always present, and for example, occurs during an important exam (MacIntyre and Gardner, 1991). Higher levels of trait anxiety lead to higher levels of state anxiety in stressful situations. *Situation-specific anxiety* is the third type of anxiety. It is defined as a sense of discomfort, and respondents experience it in specific moments as reaction to the given situation (Woodrow, 2006). This type of anxiety facilitates the exploration of language anxiety, since it allows a number of factors leading to this condition to be considered. There are many theories about the roots of language anxiety. Some researchers (Horwitz and Young, 1991) believe that it can be viewed as a symptom of other forms of anxiety, *oral communication apprehension, fear of negative social evaluation,* and *(language) test anxiety*.

1.1. Gender related effects on foreign language anxiety

Studies on the influence of gender on foreign language anxiety provide different, inconsistent results. Some studies (Campbell and Shaw, 1994; Kitano 2001) suggest that females are less susceptible to foreign language anxiety than males. Studies conducted among secondary school students in France (MacIntyre et al. 2002) have found that the degree of anxiety among male students is constant over the course of three years (7th to 9th grade, or 12-14 years old), while among female students there is a decrease in the transition period from 8th to 9th grade.

Contrary to these results, a series of researches suggest that girls have a greater fear of learning a foreign language (Abu-Rabia, 2004; Arnaiz and Guillen, 2012; Faber, 2012; Donovan and MacIntyre, 2004; Elkhafaifi, 2005; Furnham and Haeven, 1999; Machida, 2001; Piechurska-Kuciel, 2008).

The results of a study that explores Arabic as a foreign language (Elkhafaifi, 2005) indicate that the level of fear of learning is higher among girls. Similarly, in a study exploring Japanese as a foreign language (Machida 2001), the results suggest higher levels of anxiety among girls in comparison with the boys. A study conducted in Spain (Arnaiz and Guillen,

2012) also reports that girls show higher anxiety levels than boys in learning English as a foreign language, especially in oral communication and evaluation.

Contrary, there is a third series of studies that failed to find any significant gender-based difference in foreign language anxiety (Dewaele and Ip, 2013; Dewaele et al. 2008; Donovan and MacIntyre, 2005; Matsuda and Gobel, 2004; Onwuegbuzie et al. 1999). Dewaele and his associates (Dewaele et al. 2008) failed to find significant gender differences in language anxiety, but their data suggest that girls are more prone to the fear of public appearance while speaking a foreign language or debating with their peers. The results of another study (Dewaele and Ip, 2013) indicate that certain personality traits can mediate the relationship between gender and language anxiety. Evident inconsistencies in research results suggest the importance of further investigation of the interactive effects of gender and personality traits on language learning anxiety.

1.2. Big five personality traits

Studies aimed at examining the relationship between personality traits and language anxiety have shown that some personality traits have a significant effect on language anxiety. They were most often investigated in the framework of the Big Five model which includes *Extraversion*, *Neuroticism* (in some models called *Emotional Stability*), *Agreeableness*, *Conscientiousness* and *Openness to Experience* (instead of this factor, some studies isolate the factor called *Intellect*). In studies aimed at determining the predictive power of personality traits in language anxiety as a criterion, *Extraversion*, *Emotional Stability/Neuroticism* and *Conscientiousness* were most often highlighted as significant predictors.

Neuroticism is the inclination of individuals scoring high in this trait towards experiencing negative feelings, anxiety, tension, and general emotional responsiveness. Opposite to this dimension is *Emotional Stability* (Digman, 1990; Lee and Ashton, 2005). Previous studies suggest that there is a strong relation between *Emotional Stability/Neuroticism* and language anxiety (MacIntyre and Charos, 1996; Lynn and Martin, 1997; Dewaele, 2013). Dewaele (2013) also found a close relationship between *Neuroticism* and anxiety in learning a second, third or fourth foreign language in two groups of students. He reports that higher levels of *Emotional Stability* in students imply lower language anxiety and vice versa. However, the relation between *Neuroticism/Emotional Stability* and language anxiety is not as simple as it seems at first glance. Namely, MacIntyre and Charos (1996) failed to find any significant relation between *Neuroticism* and language anxiety.

Some previous studies point to the negative correlation between *Extraversion* and language anxiety (Brown et al. 2001; Dewaele, 2013; MacIntyre and Charos, 1996). People with higher levels of *Extraversion* generally have a positive opinion of themselves, they are energetic, and have an increased tendency towards external stimulation that they provide through interaction with other people. On the other hand, introvert individuals are prone to experiencing discomfort or they are indifferent to social interaction and thus, they are rather reserved than lively by nature. This result (Brown et al. 2001) is explained by the fact that extravert people generally feel more comfortable in situations that allow them to interact and converse with other people, and thus, demonstrating knowledge in foreign language can be characterized as such opportunity. Nevertheless, Dewaele (2013) reported a moderate relationship between *Extraversion* and language anxiety, and only in one subgroup.

Finally, the dimension of *Conscientiousness* refers to the tendency of being organized in terms of time and physical environment, accuracy and perfection, diligence as well as considering the facts carefully when making decisions (Smederevac and Mitrovic, 2009). Gregersen and Horwitz (2002) have reported that perfectionists show higher levels of language anxiety. Especially students in their pursuit of perfection are more concerned and experience high level of stress when dissatisfied with what they have shown in conversation in a foreign language. Due to the mistakes they have made they feel anxious in comparison with the individuals who are not pursuing perfection by nature. Students with higher levels of anxiety also set themselves higher standards in language communication and they are more afraid of being evaluated (Smederevac and Mitrović, 2009).

1.3. Gender differences across dimensions of personality

Previous research in psychology of personality traits has shown significant and time-stable gender differences across a number of personality traits - *Emotional stability/Neuroticism*, *Extraversion* and *Conscientiousness*, regardless of the cultural context. In their study covering 37 countries, Lynn and Martin (1997) suggest that in all of these countries women on average are scoring higher on *Neuroticism* than men, while in 34 out of 37 countries men on average are scoring higher on the dimension of *Extraversion*. In another study covering 26 countries, Costa et al. (2001) found that although gender differences were low compared to individual variations within a gender, the findings are the same in several different cultures across the sample of university students and adult

individuals. Women had higher means on *Neuroticism* and *Agreeableness*, while men had higher values on *Extraversion*. These findings are in line with Feingold's results (1994), who found higher average values of anxiety on the sub-dimension of *Neuroticism* in the group of women.

A study of gender differences in personality traits in 49 countries (Schmitt et al. 2008) found a higher degree of *Neuroticism*, *Conscientiousness* and *Extraversion* in females. In addition, another study (Muller and Schwieren, 2012) indicates the presence of significantly higher values on the dimensions of *Neuroticism*, *Conscientiousness*, *Extraversion*, *Openness* and *Agreeableness* in females.

According to the author's knowledge, the predictive value of gender-personality traits interaction has not yet been explored in South-East Europe, and it is also very rare in general, and can be found in only two papers by Gargalianou et al. (2015; 2016). Earlier studies relating to language anxiety (MacIntyre, 1995; 2007) suggest that some personality traits have the status of a predictor of inter-individual differences in language anxiety, but a lot of unexplained variances remain, leaving room for examining the effects of a number of other variables. Therefore, it can only be concluded that studying the interaction of variables is significant both from the prognostic and the cognitive side. Analyzing the interactions provides a clearer insight into the nature of the relationship between the two phenomena, as two or more variables often have combined effects on the third variable. The analytical framework for studying the interactions usually implies that one variable changes the relationship between the other two variables. A moderating variable can alleviate, amplify, or represent some type of suppressor when considering the relationship between the two other variables (Međedović, 2013).

The results of recent study (Gargalianou et al. 2016) have shown that gender is a moderator of relationship between some personality traits in relation to language anxiety, in particular *Emotional Stability*, *Conscientiousness* and *Extraversion*. The results suggest that people who achieve high scores on *Emotionality* (*Neuroticism*) and *Conscientiousness*, and low scores on *Extraversion* display higher levels of language anxiety (Dewaele, 2013; Gregersen and Horwitz, 2002), and this effect is more pronounced in women. Thus, in the study conducted by Gargalianou et al. (2016), almost all gender differences in relation to language anxiety can be explained based on differences in personality traits.

1.4. The aim and purpose of the research

Bearing in mind that results of previous research suggest that personality traits have a significant predictive role in relation to language

anxiety, and that some studies suggest the existence of gender differences in the manifestation of language anxiety, *the subject of this study* is the influence of personality traits on the gender-dependent manifestation of language anxiety.

From the above, *the basic aims of this research* are derived. First the influence of gender will be explored on the level of appearance of language anxiety, then the effects of personality traits on language anxiety and, finally, the effects of gender-personality traits interaction in the context of foreign language anxiety. In this way, the research has the potential to further clarify the existing inconsistent research results when it comes to exploring gender differences in language anxiety.

2. Method

2.1. Sample

The research was conducted on a sample of 296 students from the Faculty of Technical Sciences, University of Novi Sad, who attended the *English language course for specific purposes*. The percentage of respondents per department is shown in Table 1. The average age of students in the sample is 20.16 years (SD = 1.4), and the gender sample structure is relatively uniform (48% of male respondents). When it comes to the length of English language learning, it ranges from 2 to 18 years (AS = 12, SD = 2.37).

Table 1: Structure of the sample

Department	N	%
Power engineering	81	27.4
Civil engineering	14	4.7
Mechanical engineering	41	13.9
Industrial management	156	52.7

2.2. Instruments

English Language Classroom Anxiety Scale (Foreign Language Classroom Anxiety Scale – FLCAS: Horwitz, Horwitz, & Cope, 1986) *translated in Serbian language*. FLCAS represents a self-describing measure of language anxiety, or anxiety in English language teaching composed of 33 questions. The answers to the questions are provided in the form of a five-point scale of Likert type (1 - completely disagree, 5 -

completely agree). The reliability of internal consistency of the scale as a whole in this study is α = .94.

IPIP-50 (IPIP Big Five Broad Domains: Goldberg, 1992). The *IPIP-50* questionnaire represents the operationalization of the Big Five model, which is publicly available within the IPIP pool. Each personality trait in the Big Five domain was estimated through 10 questions followed by a five-point Likert scale (1 - completely disagree, 5 - completely agree). The reliability of the scale expressed by the Kronbach alpha coefficient is as follows: *Extraversion* α = .75, *Conscientiousness* α = .73, *Agreeableness* α = .77, *Emotional Stability* α = .86 and *Intellect* α = .71.

2.3. Data analysis

All statistical procedures were realized in the SPSS 23 statistical environment (IBM Corp., 2015). A Hierarchical Multiple Regression Analysis (HMRA) was conducted in order to test the effects of gender, personality traits and their interaction on language anxiety among students. The analysis of moderation in the statistical package PROCESS was conducted for the obtained significant effects of interaction (Hayes, 2012).

3.Results

3.1. Preliminary analyzes

The basic descriptive indicators for variables of importance in the research are shown in Table 2. Values of asymmetry in the distribution of results (skewness) and kurtosis in the distribution of results suggest that the distribution of scores on all the variables is approximately normal.

Table 2: Descriptive indicators for variables included in the research

	N	Min	Max	AS	SD	Sk	Ku
Extraversion	296	15	49	32.95	6.32	-0.07	0.04
Conscientiousness	296	15	50	35.74	6.03	0.00	-0.31
Agreeableness	296	20	50	37.83	5.92	-0.19	-0.44
Emotional stability	296	12	50	32.07	7.85	0.07	-0.30
Intellect	296	23	50	35.89	5.45	0.15	-0.39
Language anxiety	296	37	157	87.81	24.28	0.09	-0.13

Note: Min – Minimum. Max – Maximum. AS – Arithmetic mean. SD – Standard deviation. Sk – Skewness. Ku – Kurtosis.

A Hierarchical Multiple Regression Analysis (HMRA) was conducted in order to test the effects of gender, personality traits and their interaction on the level of language anxiety among students. In the first HMRA, the variable of gender was introduced in the first step, the personality traits according to the Big Five model in the second step, and the gender-personality traits interaction in the third step. In this way, values of the VIF coefficient for all predictors exceeded the value of 10 (they ranged from 11.64 to 99.44), pointing to multicolinearity in the model (Field, 2013).

3.2. Basic results

Since the reliability of estimation of the parameters within the first model was distorted due to multicolinearity, two separate models were tested: one that tested the independent predictive contribution of gender and personality traits, and one in which only gender-personality traits interactions were defined as predictive variables. In both models, language anxiety was taken as a criterion.

Table 3 shows the results that suggest that both steps in the first tested model are statistically significant. The variable of gender explains 2% of the criterion variance, while the personality traits of the Big Five model explain an additional 17% of the criterion variance.

Table 3: Proportion of explanation of variance in language anxiety as a criterion variable for predictors of gender and Big Five personality traits

model	R^2	R^2	F	df1	df2	p
1	0.02	0.02	6.33	1	289	0.012
		ΔR^2	ΔF			
2	0.19	0.17	11.57	5	284	0.000

Partial contributions of predictors are shown in Table 4. The first step of the model where gender is the only predictor is statistically significant. The positive value of the regression coefficient suggests that female respondents are scoring slightly higher on language anxiety. However, with the introduction of personality traits, the predictive contribution of gender drops below the level of statistical significance, and *Emotional Stability* and *Intellect* appear as significant predictor. The values of beta coefficient suggest that lower *Emotional Stability* (or higher *Neuroticism*) and lower *Intellect* predict higher scores on language anxiety.

Table 4: <u>Partial contributions of predictors in predicting language anxiety as a criterion</u>

model	predictors	β	t	p	VIF
1	gender	0.15	2.52	0.012	1.00
2	gender	0.05	0.82	0.414	1.20
	Extraversion	0.06	0.91	0.361	1.29
	Conscientiousness	0.09	1.60	0.110	1.17
	Agreeableness	-0.01	-0.16	0.875	1.35
	Emotional stability	-0.30	-5.06	0.000	1.19
	Intellect	-0.30	-5.11	0.000	1.22

Note: β – standardized beta coeffcicient. Tol – Tolerance. VIF – Variance Inflation Factor.

Tables 5 and 6 show the results of multiple regression analysis in which only interactions between gender and personality traits are defined as predictive variables. The model as a whole explains 12% of the criterion variance of language anxiety and it is statistically significant (Table 5).

Table 5: <u>Proportion of explanation of variance in language anxiety with gender-personality traits interaction as a predictor</u>

model	R^2	F	$df1$	$df2$	p
1	0.12	7.98	5	285	0.000

The results given in Table 6 indicate a significant predictive contribution in explaining language anxiety for the interaction between gender and the following personality traits: *Extraversion*, *Conscientiousness*, *Emotional Stability* and *Intellect*.

Table 6: <u>Partial contributions of gender-personality traits interactions as predictors of language anxiety</u>

Predictors	β	t	p	Tol	VIF
gender x Extraversion	0.27	2.21	0.028	0.20	4.99
gender x Conscientiousness	0.49	4.01	0.000	0.21	4.86
gender x Agreeableness	0.21	1.44	0.151	0.14	7.02
gender x Emotional stability	-0.32	-3.82	0.000	0.43	2.34
gender x Intellect	-0.61	-4.33	0.000	0.16	6.41

Note: β – standardized beta coefficient. Tol – Tolerance. VIF – Variance Inflation Factor.

For the obtained significant interaction effects in the previously described model, a moderation analysis was conducted using the PROCESS statistical package (Hayes, 2012). The obtained results are graphically presented in Figure 1.

1a)   Gender-Conscientiousness interaction

1b)   Gender-Emotional stability interaction

1c) Gender-Intellect interaction
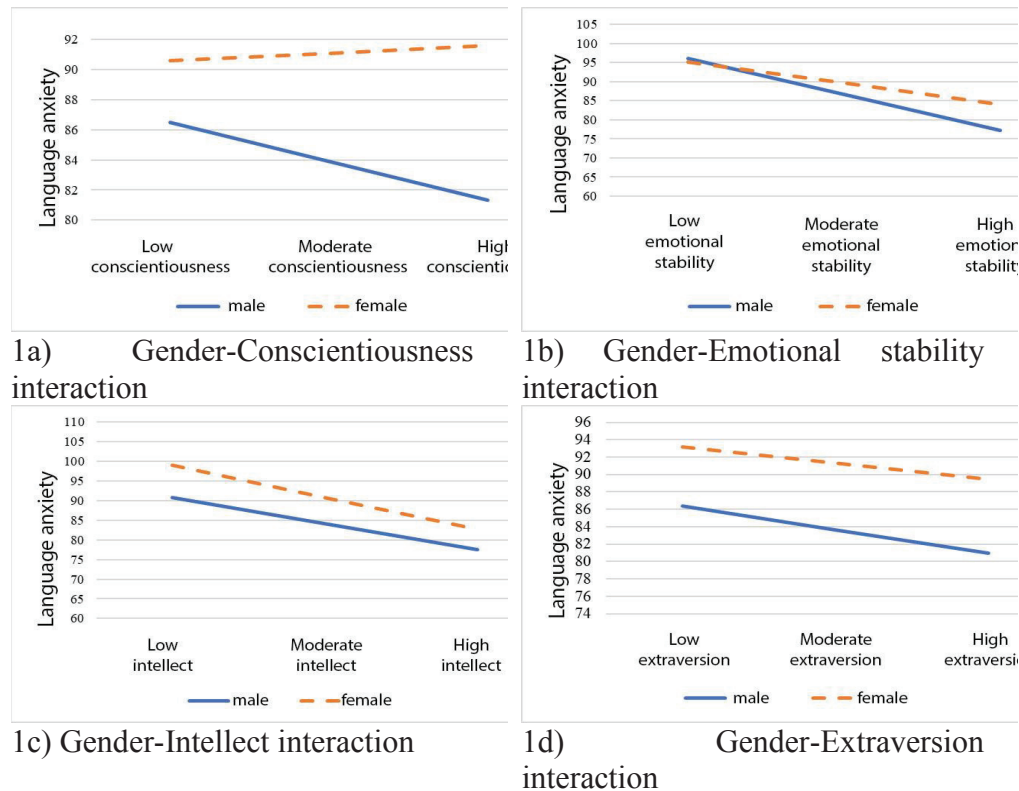

1d)   Gender-Extraversion interaction

Figure 1: Graphic presentation of interactions that have been shown in the regression model as significant predictors of language anxiety

The obtained results of analysis of moderation suggest that *Conscientiousness* neither has significant effects on language anxiety in the group of male (B = -0.43, p = 0.188) nor in the group of female respondents (B = 0.08, p = 0.808) (Figure 1a).

Emotional stability has a significant negative effect on language anxiety in the group of male respondents (B = -1.20, p = 0.000) and a negative effect in the group of female respondents (B = -0.70, p = 0.006) (Figure 1b).

Intelligence has a significant negative effect on language anxiety in the group of male respondents (B = -1.22, p = 0.001) and negative effect in the group of female respondents (B = -1.50, p = 0.000) (Figure 1c).

Finally, *Extraversion* does not have a significant effect on language anxiety neither in the group of male respondents (B = -0.43, p = 0.190) nor in the group of female respondents (B = -0.29; 0.31, p = 0.340) (Figure 1d).

4. Discussion

This paper investigates the effects of gender, the Big Five personality traits and the gender-personality traits interaction on foreign language. First, the effects of gender were tested on the level of language anxiety, then the effects of personality traits, and finally the effects of gender-personality traits interaction. In this way, the study has clarified the existing inconsistent results of previous studies with regard to the examination of gender differences in language anxiety.

In the tested model that examined the independent predictor of gender and personality traits the gender variable explains 2% of criterion variable, while personality traits explain 17% of criterion variable in language anxiety.

The partial contribution of gender as a predictor is statistically significant, and the positive value of the regression coefficient indicates that female respondents score higher on language anxiety. These results are in line with the results of Gargalianou et al. (2015). With the introduction of personality traits in the regression model, the predictive contribution of *Emotional Stability* and *Intellect* reaches the level of statistical significance, while gender in this step of the model loses the status of a statistically significant predictor. These results are also significantly in line with previous researches (Cohen et al. 2003; Gargalianou et al. 2015). Finally, the obtained results suggest that lower levels of *Emotional Stability* and lower levels of *Intellect* indicate higher levels of language anxiety.

Interactions between gender and personality traits as predictive variables explain 12% of criterion variance of language anxiety, and this model as a whole is statistically significant. Significant predictive contribution has the interaction between gender and personality traits of *Extraversion*, *Conscientiousness*, *Emotional Stability* and *Intellect* in the context of language anxiety as a criterion. These results are somewhat in line with the results reported by Gargalianou et al. (2015), but in their research personality traits explain 65% of gender differences, primarily *Emotional stability* and *Conscientiousness*.

Finally, the obtained results indicate that gender moderation significantly affects the relationship between *Emotional Stability* and *Intellect* on one hand and language anxiety on the other. Thus, *Emotional Stability* and *Intellect* are consistently present as personality traits of relevance when considering language anxiety and its gender based

manifestation - first in the model that contains gender and personality traits, then in the model that contains only gender-personality traits interactions (where gender interaction with *Extraversion* or *Conscientiousness* appears as an important predictor) also when testing the moderation. According to the presentation in Figure 1, it can be said that the significant effects of moderation have the same direction for both genders, with the values obtained suggesting a slightly greater (faster) change in levels of language anxiety with the change in levels of personality traits.

The effect of *Emotional Stability* is more pronounced in male respondents, while the effect of *Intellect* is more pronounced in females. Thus, it can be concluded that the increase of *Emotional Stability* leads to "faster" changes in scores on language anxiety in male than in female respondents, while for the personality trait of *Intellect* the score on language anxiety changes faster in women than in men. Bearing in mind that the previous researches have shown consistently that women exhibit lower scores on *Emotional Stability* than men (e.g. Schmitt et al. 2008; Weisberg et al, 2011), and that they are more likely to express anxious response (McLean et al. 2011), in the analysis of moderation in the context of language anxiety this result can mean that greater emotional stability is not sufficient to "amortize" the anxious response in females in the situation of foreign language learning. As *Intellect* does not particularly appear as a significant factor in the context of language anxiety in previous studies, and that usually no gender differences were recorded in the context of this trait (Schmitt et al. 2008), the obtained result in this study showed that *Intellect* is more important in the group of female than in the group of male respondents, that is, women scoring higher on the personality trait of *Intellect* achieve lower scores on language anxiety than men equally scoring on this personality trait. This result should be further examined.

5. Conclusion and pedagogical implications

It can be concluded that this research has made substantial contribution to the further clarification of the complex relationship between gender, personality traits and language anxiety among university students. Firstly, women have greater fear of learning a foreign language than men. Secondly, *Emotional Stability* and *Intellect* as personality traits are predictors of language anxiety, that is, students scoring higher on these traits tend to score lower on language anxiety. Thirdly, the effect of *Emotional stability* on language anxiety is more pronounced in men than in women, while the effect of *Intellect* is more pronounced in women. Accordingly, it can be said that in men, *Emotional stability* has a stronger effect on language anxiety than in women, while in women *Intellect* displays a stronger effect on language anxiety than in men.

This study has shown that this complex phenomenon is worth researching at university level. The obtained results confirmed that language anxiety affects students of both genders, reinforcing the fact that more attention should be paid to the immediate interaction between teachers and students. Pedagogical implications of the research indicate that there is a need for a wider consideration of impact of several related factors on language anxiety. Since *Emotional Stability* and *Intellect* significantly influence the effects of language anxiety, teaching strategies and curriculum can correct certain psychological effects in foreign language learning. Also, potential methods and techniques for alleviating anxiety should be explored, enabling students to realize their full potential and achieve maximum success in studying and future careers. During the teaching process, it is necessary to stimulate the atmosphere of relaxed dialogue with mutual respect, building awareness of empathy and tolerance in students. Students should be encouraged to engage in dialogue and active participation in the teaching process, and the language of teaching materials should be at appropriate level in order to stimulate the adoption of new material. Teachers, in cooperation with students, should find ways to overcome problems by sharing the sense of anxiety and discomfort with their peers. Thus, the teaching process needs to be approached with more knowledge and the desire to respond in timely and adequate manner.

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