

**Małgorzata Baran-Łucarz**

Uniwersytet Wrocławski

<https://orcid.org/0000-0001-9310-0606>

[malgorzata.baran-lucarz@uwr.edu.pl](mailto:malgorzata.baran-lucarz@uwr.edu.pl)

## ***Personality as a correlate of pronunciation attainment: The case of formal setting with explicit pronunciation-focused instruction***

The paper reports a study examining which Big Five personality traits correlate with pronunciation attainment of students who had been offered systematic long-term explicit pronunciation-focused instruction. The participants were 47 English majors just finishing their one-year course of practical English phonetics at the University of Wrocław, Poland. The five personality traits were measured with the use of a Polish version of Goldberg's instrument, i.e. IPIP-BFM-50 (Struś, Ciecuch, Rowiński, 2014). The personality traits were then correlated with the students' pronunciation proficiency represented by their (1) phonological competence, (2) pronunciation of selected vocabulary, and (3) accuracy in pronunciation operationalised as correct production of selected segments, rhythm, and consistency in using a chosen native English accent (RP or GA) when reading aloud a short passage with focus on its meaning. All of the judged aspects of pronunciation were explicitly drawn attention to and practised during the course of phonetics. The results of correlation analyses revealed that Openness to experience and Conscientiousness were significantly and positively linked to pronunciation attainment, with the former showing moderate and large effect sizes, and the latter, small and moderate effect sizes.



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**Słowa kluczowe:** Wielka Piątka, wymowa, środowisko formalne, eksplicytna instrukcja w zakresie wymowy

## 1. Introduction

Individual learner differences (IDs) have been attracting the interest of second language acquisition (SLA) researchers for several decades. This is due to the fact that they determine “how learning proceeds” (Cohen, Dörnyei, 2002: 170), “the speed of acquisition” and “ultimate level of attainment, with a few achieving native-like competence and others stopping far short” (Ellis, 2004: 526). Some (e.g., Dörnyei, 2005: 2) even suggested that IDs are “the most consistent predictors of L2 learning success (...) and no other phenomena investigated within SLA have come even close to this level of impact”. In spite of the consensus regarding the importance of IDs in foreign language (FL) learning (e.g., Botes et al., 2020; Teimouri et al., 2019), there are still several questions in this area lacking clear cut answers. While some internal factors in SLA, such as anxiety, motivation, aptitude, and learning strategies, have been explored more thoroughly, others, such as personality, have still not been researched extensively enough (Piechurska-Kuciel, 2020). This seems surprising, taking into account the fact that not only do linguists assume personality may be a crucial determinant of success in FL learning, but that this is also suggested by teachers’ observations in the classroom (Dewaele, 2022). Moreover, while some (sub)skills affected by personality have been looked at more frequently, the influence of personality traits on learning other language aspects, such as pronunciation, has not yet been explored sufficiently. Taking into consideration the evident link between pronunciation and one’s identity (Guiora et al., 1972; Walker, 2011) and the fact that learning this subskill is strongly affected by emotions (Baran-Łucarz, 2014), exploring the role of personality in pronunciation acquisition in depth appears to be necessary. A better understanding of this relationship could help to make pronunciation/phonological instruction (PA) more effective, by tailoring it to the students’ personality profiles and needs. Consequently, to fill this gap, a study aiming at examining the relationship between the Big Five personality traits and the level of pronunciation was carried out. Its first part (Baran-Łucarz, 2023) concentrated on exploring the potential link between the level of accentedness and personality traits in the case of lack of explicit and systematic pronunciation instruction. The results showed that Openness to experience was the only

correlate of accentedness, modified by several other internal factors. In this paper, the second part of the project is reported. This delved into the potential relationships among the Big Five personality traits and pronunciation attainments in a formal setting, in which this time, unlike in the first part of the project, students were provided with systematic pronunciation training and explicit phonological instruction. Before, however, the research and its results are presented, a brief literature review is offered, focused on earlier studies attempting to inquire into the role of personality with reference to success in pronunciation learning.

## **2. A brief overview of earlier studies on IDs and personality as determinants of FL pronunciation attainment**

The level FL learners reach in their pronunciation depends on two types of factors, i.e. external (environmental/contextual) and internal (learner). While the former embraces differences in the type, quality and amount of input the students are provided with, the latter refers to several IDs which moderate the effects of the external variables (e.g., Celce-Murcia et al., 2010; Derwing, Munro, 2015; Mora, 2022; Pennington, Rogerson-Revell, 2019). The IDs whose relation to successful pronunciation learning has been explored are: age (e.g., Granena, Long, 2013), aptitude (e.g., Saito et al., 2017), working memory (e.g., Mora, 2022), cognitive style (e.g., Baran-Łucarz, 2022), anxiety (e.g., Szyszka, 2017; Baran-Łucarz, 2016), motivation (e.g., Baran-Łucarz, 2017; Nagle, 2018), willingness to communicate (e.g., Baran-Łucarz, 2014), beliefs and attitudes (e.g., Baran-Łucarz, 2017; Jarosz, 2019), and ethnocentric tendencies (e.g., Gatbonton et al., 2011; Szyszka, Baran-Łucarz, in press). Despite the fact that now more studies examining the significance of personality for L2 pronunciation learning have been conducted, this is evidently scant when compared to research scrutinizing other individual factors with reference to pronunciation learning. In 2005, Dörnyei claimed that personality is one of the most powerful predictors of success in SLA, next to aptitude, motivation, learning style and strategies. Piechurska-Kuciel (2022: 218) explains that “the impact of the construct is essential in daily interaction”. Since L2 learning constantly involves interaction with other people, both in naturalistic (TL native speakers, other L2 users) and classroom settings (other learners, the teacher), and with the learning materials, it can indeed be shaped by personality. As stressed above, the evident link between personality and identity (Guiora et al., 1972; Walker, 2011), and the fact that practising pronunciation is strongly emotionally loaded (Baran-

Łucarz, 2014), tapping into the link between the two – personality and pronunciation attainments – appears to be vital.

There are several taxonomies of personality. However, nowadays the most popular one examined by SLA researchers is the Five Factor Model, also known as the Big Five Model (BFM) or simply – the Big Five (McCrea, Costa, 2004). It posits “five broad dimensions of personality domains (...) that can describe an individual, regardless of language or culture” (Piechurska-Kuciel, 2002: 222). Based on Struś, Ciecuch and Rowiński (2014), the can be introduced as follows (Baran-Łucarz 2023: 382):

- Emotional stability (vs. Neuroticism) – the level of emotional stability and resistance, and tolerance to frustration
- Extraversion (vs. Introversion) – the level of activity, energy, sociability, social self-confidence
- Openness to experience (vs. low Openness) – the level of intellectual openness, creativity, imagination use, attitude towards novelty
- Agreeableness (vs. low Agreeableness) – attitudes towards people, the level of trust and sentiments
- Conscientiousness (vs. low Conscientiousness) – the level of organization, diligence in pursuing goals and performing tasks, proneness to order and dutifulness

It is still unclear if and in what way personality determines proficiency in FL pronunciation, fluency, comprehensible speech or level of accentedness. Some studies (Baran-Łucarz, 2011; Derwing, Rossiter, 2002; Szyszka, 2011) have revealed that anxiety – the major component of Neuroticism – is negatively correlated with accuracy in pronunciation. The trait that has captivated the attention of most researchers interested in IDs and pronunciation is Extraversion. However, the results of various studies on this are not only inconsistent, but sometimes even contradictory. While Daele (2005) and Oya et al. (2004) found no link between Extraversion and pronunciation accuracy, other studies have shown that in a classroom setting, it is a correlate of learners’ global impression (Oya et al., 2004), fluency (Rossier, 1976), and pronunciation proficiency (Zárate-Sánchez, 2017). Finally, some (Busch, 1982) have found Extraversion to be negatively correlated with pronunciation accuracy. Hu and Reiterer (2009) examined the connection between numerous traits of personality and pronunciation correctness. In their study, Extraversion, Openness to experience and Neuroticism were found to be non-significant correlates of pronunciation. However, weak and moderate correlations were found in the case of Conscientiousness and Agreeableness, with the “more talented persons” being “more agreeable and less Conscientious” (Hu, Reiterer, 2009: 120). In contrast, Zárate-Sánchez (2017: 227) reported that Extraversion and Neuroticism were significant predictors of foreign accent, with

the results being .36 and .59 at  $p < .01$ , respectively. It is important to clarify, however, that the outcomes of Hu and Reiterer (2009) and Zárte-Sández (2017) must be viewed with caution since it is unclear if the participants had been phonetically trained and, if so, what the characteristics of formal pronunciation instruction and practice were. Finally, in the first part of the project already mentioned briefly in this paper (Baran-Łucarz, 2023), it was found that the level of the students' accentedness, without them being provided with any explicit PA, was correlated with the Big Five personality traits, and showed a weak relationship only with Openness to experience (-.26 at  $p < .025$ ). The link was found to be further shaped by motivation to reach nativelike pronunciation, attitudes towards the sound of English, pronunciation self-perceptions, and strategies applied in autonomous learning. Additionally, the qualitative outcomes suggested the importance of Agreeableness, which was observed to be very high, or high, among learners with the lowest levels of accentedness. In the second part of the project, reported herein, attention shifts to pronunciation accuracy and explicit pronunciation-focused instruction, with the research question being as follows:

RQ: Are any Big Five personality traits – Emotional stability, Extraversion, Openness to experience, Agreeableness, Conscientiousness – significant correlates of pronunciation attainments of students who had been provided with explicit pronunciation-focused instruction and systematic pronunciation practice?

### 3. Methodology

#### 3.1. Participants

The participants of this part of the project were 47 Polish majors of English (34 females and 13 males), who had just completed a 60-hour course of practical phonetics at the Institute of English Studies, University of Wrocław. The students' age ranged from 19 to 23, with an average of 20.2. Before they began studying, their level was assumed to have been upper intermediate (B2–C1, according to the CEFR), which was suggested by their very good results on the high-school leaving exams in English. All of them attended 90 minutes of practical phonetics every week, run by the same trained and experienced English pronunciation teacher and researcher. It is important to clarify that they were the same students who participated in the first part of the project (Baran-Łucarz, 2023). The number of subjects, however, was this time smaller, since some of them moved to other groups taught by another teacher, due to changes in the schedule introduced in the second semester. Before

the course, none of the students were provided with explicit PA systematic pre-planned practice. Only 36% of the subjects claimed they had taken part in lessons with native speakers of English for a few months. However, all of the subjects exposed themselves regularly to authentic English outside the classroom “by listening to songs (87%), watching English films in their original language version (82%) and short videos on Tiktok (73%), and speaking with foreign friends (native (28%) or non-native speakers (72%)) in English either live (15%) or online through communicators (85%)” (Baran-Łucarz, 2023: 384). While studying in the first year of English Philology, in addition to the course of phonetics, the subjects took part in obligatory practical courses in grammar, vocabulary, writing, and speaking. They also attended classes in British and American literature, linguistics, descriptive grammar, and history of the UK and USA. All of these courses were taught in English by qualified and experienced Polish academics and researchers, with the exception of speaking, which was taught by an American native speaker (semester 1) and a British native speaker (semester 2). Finally, it is important to add that at the beginning of the course none of the participants declared to be unwilling to reach a nativelike level of pronunciation, with 55% being very highly motivated, 38% highly motivated, and the remaining being unsure. When the course was coming to an end, the motivation of the participants did not differ considerably. Small changes from being highly motivated (5 points on the 6-point scale; see information on the scale in the next subsection) to very highly motivated (6 points on the scale) or vice versa were observed in the case of eight students. Additionally, one learner who was earlier motivated to reach a nativelike accent seemed to become less sure of his/her aim (a change from 5 to 4 points on the scale), and two participants changed their answers from being undecided, to rather unwilling to reach a nativelike level (change from 4 to 3 points on the scale). Due to the latter two students being outliers in terms of their concern for nativelike pronunciation, their results were not taken into account in further data analyses.

### 3.2. The phonetics course

The main aim of the course of phonetics the participants took part in was to help them reach the C1 level of CEFR in pronunciation, which is one of the requirements of the undergraduate study programme. More specifically, the students were expected to gain the ability to “articulate virtually all of the sounds of the target language with a high degree of control” and to “self-correct if he/she noticeably mispronounces a sound”, controlling at the same time stress rhythm and intonation (Council of Europe, 2018: 136). The points

of reference were standard models of pronunciation, i.e. modern Received Pronunciation (RP) or General American (GA), which complies with the expectations of the majority of the students in our institute (Baran-Łuczcz, 2022). After a diagnosis of each student at the beginning of the course, they were assisted in deciding on either RP or GA as their target for the future. Although initially all of the students declared a wish to approach one of the standard accents, they were allowed to keep their L1 accent and set a high communicative level as their main aim. As recommended by most phonodidactics (Derwing, Munro, 2015; Pennington, Rogerson-Revell, 2019; Sardegna, 2023; Szpyra-Kozłowska, 2015), three main aspects were systematically developed during the course, i.e. phonetic and phonological competence, perceptive capacities, and articulatory skills.

Each class of 90 minutes would focus on 1–2 segments, complemented with practice of selected suprasegmental features. The lesson usually opened with a game-like warm-up activity (e.g., Hancock, 2017), homework checking, and reading aloud words and dialogues practised during earlier classes. Then articulatory features of new sounds were drawn attention to, usually through an inductive (guided discovery) approach, by comparing them to features of L1 counterpart sounds. Basic features of connected speech, and characteristics of RP and GA were drawn attention to. This phase was then followed by simple gymnastics of articulators, exercises in perception, and transcription of selected vocabulary items or phrases. Next choral repetition of words and sentences, and practising reading dialogues in which the new sound appeared in various contexts took place in pairs, during which the teacher would approach each pair to provide individual feedback and help. The class would usually end with a communicative task or relaxing game-like activity and assigning homework.

Authentic materials, such as short film excerpts and songs, were implemented during almost every class. It is vital to add that the participants' autonomous pronunciation learning skills were gradually developed by them sharing ideas during a few phonetics classes on cognitive, memory, affective, social and metacognitive pronunciation strategies that were effective in their case (Szyzka, 2017). Finally, each student had at least three individual 20-30-minute meetings with the teacher, where more detailed feedback was given and aims for the nearest future were together decided on. Some participants met more often, either in person or on-line, responding to the invitation to see the instructor whenever they wished and felt more feedback was needed. The continuous presence of the teacher in the participants' pronunciation development in this study complies with the need observed also by other phono-didactic educators, e.g., Sardegna (2023). Finally, since in this part of the study it is crucial that the participants *did* receive



systematic PI, which had particular characteristics, to make the picture of the PI more complete it is worth adding that 56% of the students *strongly agreed* and 32% *agreed* that most of the time during the classes they did not feel anxious; 77% felt usually either *highly* or *very highly* engaged, and 82% found most of the classes either *enjoyable* or *very enjoyable*.

### 3.3. Instruments; data collection and analysis procedures

#### 3.3.1. The measure of personality and background information questions

The first set of data, enabling the examination the subjects' personalities and control of extraneous variables, were gathered at the beginning of the phonetics course. They were collected with the use of questionnaires designed in Microsoft Forms and sent out to the students by Teams. Before distributing the questionnaires, the students filled out consent forms, in which it was made clear that their participation in the study was voluntary, and the data provided by them would be used anonymously for scientific purposes. Having agreed, the subjects were requested to use either a nickname or number consistently throughout the whole project.

The participants' personality traits were examined with the application of a Polish standardized version (Struś, Ciecuch, Rowiński, 2014) of Goldberg's (1999) instrument, called the International Personality Item Pool–Big Five Model–50 (IPIP–BFM–50). The choice of this particular tool was dictated by the fact that it was designed for researchers rather than for individual diagnosis, is free of charge and exhibits sound psychometric characteristics. The instrument is a 50-item questionnaire with a 5-point Likert scale (from 1 – strongly disagree – to 5 – strongly agree), in which each of the five personality traits is addressed by 10 items. For every personality dimension the student could score 10 to 50 points; the higher the score, the higher the degree of his/her particular dimension. In this study, the tool revealed a satisfactory level of internal consistency with Cronbach's alpha ranging from .89 to .92 depending on the personality trait.

The questionnaire sent at the onset of the phonetics course was proceeded by several open and Likert scale questions, whose goal was to control some extraneous variables. First of all, the participants were asked to self-assess their motivation to speak with a natively like accent (choosing a digit from 1 to 6, where 1 meant '*I definitely want to speak English with my first language accent.*' and 6 – '*I want to achieve an English native like accent very much.*'). They were also inquired about their previous stays abroad, experience with studying English ('*Where were you studying English?*'), exposure



(type and amount) to English outside the classroom, pronunciation learning in a formal setting (*'How was pronunciation explained and practised during your English classes?'*), their chosen standard accent references (British vs. American), and the nationalities of their prior English teachers (native vs. non-native speakers; how long the teachers taught them). At the end of the course, another short questionnaire with a 6-point Likert scale was filled out by the participants. It consisted of exactly the same question about motivation as the one asked before the course, and three other inquiries concerning the following: anxiety, engagement and enjoyment (*'How would you assess your level of ..... experienced most of the time during the phonetics classes?'*), in which 1 denoted 'very low' and 6 – 'very high'.

### 3.3.2. Pronunciation Attainment Test (PAT)

As already mentioned above, the level of pronunciation (pronunciation attainment/pronunciation proficiency) was operationalised by three aspects: (1) phonological competence, (2) pronunciation of selected vocabulary, and (3) accuracy in pronunciation represented by correct (RP or GA treated as a reference point) production of selected segments, rhythm, and consistency in using a chosen native English accent (RP or GA) when reading a short passage with focus on its meaning. Phonological competence was measured by the sum of outcomes on three written tests in which the following areas were assessed: students' knowledge of characteristics of particular sounds (e.g., place, manner, voicing of consonants, characteristics of vowels), the articulatory differences between them and L1 counterpart sounds, features of GA and RP, and correctness of transcriptions of vocabulary items and short phrases. For each test, the participants received grades on a scale from 2 (fail) to 5 (the highest credit), the scheme used in formal assessment in Polish education at tertiary level, which were based on their percentage scores. For the purpose of this study (the application of a continuous scale in statistical analyses of data), the credits were converted into a 9-point scale in the following manner: 2 = 1pt; 3- = 2pts; 3 = 3pts; 3+ = 4pts; 4- = 5pts; 4 = 6pts; 4+ = 7pts; 5- = 8pts; 5 = 9pts. This way of transforming the grades into points was followed in the case of all aspects of the pronunciation attainments. The pronunciation at lexical level was measured with two lists of 47 words read aloud and recorded (one after the winter semester, and the other after the summer semester). The lexical items selected for these lists were drawn attention to during the course, and transcribed in class, or autonomously by the students, as one of their homework assignments. Many of the words were also cho-

sen for the IPA tests. The students, however, did not know which words would appear on the list. Finally, accuracy in pronunciation was judged on the basis of a short monologue read aloud, recorded and judged, by using an analytical (rather than an impressionistic/holistic) approach. The participants had 1 minute to familiarize themselves with the text before reading it aloud. While reading aloud, they were encouraged to draw attention to its main plot, by being told that its content would be discussed later on in class. This instruction was added so as to shift the students' attention from pronunciation to meaning, to make the task less pronunciation-controlled and to be able to better observe the pronunciation habits formed after the 30-week course of phonetics. The final grade for this task consisted of the sum of points received for (1) accuracy in pronouncing selected segments, word stress, rhythm (weak and strong forms), and (2) consistency in using typical features of either RP or GA (rhoticity/non-rhoticity, flapping, differences in vowel production e.g., /ɑ:/ vs. /æ/). When the former is concerned, the chosen sounds were those that are found to be frequently mispronounced by Poles (Szpyra-Kozłowska, 2015), with some leading to accented speech and others more to lower intelligibility. These were as follows: aspiration, alveolar place of articulation of /t/ and /d/, velar /ŋ/ n in contexts not allowing for /k/ or /g/ after it, post-alveolar fricatives and affricates, pairs of long and short vowels, and /æ/ vs. /ʌ/. For each feature the participants could gain from 1 to 4 points depending on the accuracy and frequency of correct production. The total number of points were turned into grades and then again to the 9-point scale. Thus, for this task the participants could get from 2 to 18 points. All the recordings were made with the use of a Rode NT-USB microphone attached to an Asus NX90JQ laptop with an internal sound card and with Praat (version 6.4.13). The assessment of pronunciation in the monologues was conducted by the phonetics teacher of the participants. Additionally, samples of 25 students were evaluated by another Polish phonetics teachers with over 25 years of experience in teaching English pronunciation. Since the interrater reliability was acceptable (Cronbach's alpha = .82), the assessment of the first judge was considered reliable and it was the judgements of this assessor that were eventually used in this paper.

#### 4. Presentation of results

To be able to answer the research question, a quantitative analysis of data was carried out with the use of SPSS 23. Table 1 presents the descriptive statistics of the IPIP-BFM-50 scores. The highest means are in the case of

Openness to experience, Agreeableness and Conscientiousness, all of which appear to be important personality dimensions of those aiming at high proficiency levels in FLs (see Piechurska-Kuciel, 2020). The relatively high mean of Conscientiousness implies that what might have helped some of the participants succeed in learning English is, among many other characteristics, them being hard-working, diligent and well-organised. Others might have worked less diligently, compensating their effort e.g., with frequent exposure to the TL, or an inborn talent for FLs. When Extraversion is concerned, its mean is lower than that of the dimensions mentioned above. At the same time, it reveals the highest SD. These two facts suggest that Extraversion is not a decisive factor in reaching high levels in FLs (at least when measured by communicatively-oriented written and oral tests, as is the case of the Polish final school-leaving exams). In other words, since all of the students were accepted to the institute, they all represented good English, irrespective of whether they were highly Extroverted, highly Introverted or middle-of-the-roaders. What might be considered surprising is the mean of Emotional Stability, strictly related to anxiety, which is the lowest of all the means. It seems unexpected that individuals majoring in English as a FL, constantly exposed to the need to speak in the target FL, reveal relatively low levels of this personality trait.

**Table 1. Descriptive statistics for the Big Five personality traits**

	Emotional stability	Extraversion	Openness to experience	Agreeableness	Conscientiousness
Mean	25.12	29.40	37.57	39.29	33.53
SD	6.48	8.05	5.20	4.77	7.33
Min	10	10	10	10	10
Max	50	50	50	50	50
Low	15	11	23	23	17
High	40	45	48	48	48

Table 2 shows the descriptive statistics of the outcomes of the Pronunciation Attainment Test. As the results depict, there is still space for many students to progress in all aspects tested with the PAT. Since none of the assumptions underlying Pearson correlation (independence, scales, normality, linearity assumptions) were violated, further calculations could be carried out to answer the research question, i.e. to examine the existence of links between any of the five personality dimensions and pronunciation attainments.

**Table 2. Descriptive statistics for different aspects of the Pronunciation Attainments Test**

	Competence	Lexis	Pronunciation accuracy	Total
Mean	16.96	13.44	15.21	28.65
SD	4.69	2.55	2.58	4.77
Min	3	2	2	4
Max	27	18	18	36
Low	8	8	8	16
High	24	18	18	36

Finally, Table 3 provides the results of correlation analyses. As the table depicts, two dimensions of personality, i.e. Openness to experience and Conscientiousness were found to be significantly correlated with all the aspects of the PAT. The latter shows low (pronunciation accuracy) and moderate correlations (competence, pronunciation of lexis and the total attainment), with small and medium size effects, respectively. In the case of Openness to experience, the links range from low (competence), through moderate (pronunciation accuracy and total attainments) to high (pronunciation of lexis), showing from small to large effect sizes (Plonsky, Oswald, 2014).

**Table 3. Results of Spearman correlation between pronunciation attainments and the Big Five personality traits**

	Emotional stability	Extraversion	Openness to experience	Agreeableness	Conscientiousness
Competence	-.112	.062	.238*	.102	.333**
Lexis	.036	.185	.621***	.059	.397***
Pron. Acc.	-.058	.022	.440***	-.172	.219*
Total	.009	.115	.571***	-.052	.334**

Note.: \* $p < .1$ ; \*\* $p < .05$ ; \*\*\* $p < .01$ ;

## 5. Discussion of results

The quantitative data presented above allow us to answer the research question. The outcomes of this specific study suggest that the pronunciation level of learners who are offered explicit pronunciation-focused instruction and systematic pronunciation practice is significantly correlated with two personality dimensions, namely Openness to experience and Conscientiousness.

As in the studies of Daele (2005), Oya et al. (2004), Hu and Reiterer (2009) and in the first part of the project focused on formal setting deprived of pre-planned focus on pronunciation (Baran-Łucarz, 2023), no link was found between Extraversion and any of the PAT aspects. It is important to stress that during the course various presentation techniques and approaches (deductive and inductive), types of tasks (controlled and communicative; with the use of authentic materials, controlled pronunciation focused tasks, and pronunciation applications), and grouping arrangements (individual, pair, group work) were offered. Moreover, it seems vital that the learners got to know numerous direct and indirect pronunciation strategies and were encouraged to try using them in autonomous learning. Finally, the potential differences between the needs of Extraverted and Introverted learners could have been levelled by the possibility of working individually with the teacher, where the students received personalised feedback and were helped in noticing the areas to improve and in planning the ways to exercise them. Some students requested for more face-to-face meetings with the phonetics teacher. Most of them were Extraverted learners.

Unlike in the study of Zárate-Sánchez (2017) and analogously to the results of Hu and Reiterer (2009) and (Baran-Łucarz, 2023), the level of Emotional stability, i.e. the ability to stay calm and in control of emotions, was not found to be a significant correlate of any outcomes of the PAT. An explanation for this may lie in the fact that most students found the class anxiety-free, enjoyable and engaging. Good classroom dynamics and the supportive atmosphere during the lesson might also explain the lack of link between the degree of Agreeableness of the students and their pronunciation proficiency. Such a friendly setting and positive emotions accompanying pronunciation practice might help reduce the typical negative feelings of low scorers on this personality dimension, such as distrust and emotional indifference to other people, and thus lead to lowering the affective filter and to better learning results.

With regard to Conscientiousness, it does not seem surprising that hard, diligent, thorough, systematic and well-organised work on pronunciation can lead to better results. It is also explainable that the effect size is bigger in the case of gaining phonological competence and correct pronunciation of vocabulary which simply needs to be memorised, than in the case of accuracy in pronunciation, which results from developing new articulatory habits at segmental and suprasegmentals levels and from becoming consistent in using a particular accent. The latter is undoubtedly more difficult and demands more time and effort for the improvement to be noticeable. What appears to be even more important in establishing installing new pronunciation habits than actual work is reflectivity, introspective skills, cognitive

openness and high consciousness and awareness, which are characteristics of individuals with high degrees of Openness to experience. The high correlation coefficient ( $r = .62$  at  $p < .01$ ) in the case of pronunciation of lexis implies that switching on awareness and raising cognitive involvement of the students might be particularly beneficial when getting to know and memorising pronunciation of new words (e.g., by comparing the different pronunciations of cognates in the TL and L1, or identifying properly and incorrectly placed word stress). Moreover, it is not surprising that this personality domain accounts also for higher phonological competence. Finally, it must be stressed that all these observations concern the situation when learners reveal high levels of motivation to reach a nativelike accent.

## 6. Conclusions

The study reported here suggests that two personality dimensions of the Big Five – Openness to experience and Conscientiousness – are significant correlates of pronunciation attainments when learners are provided with explicit pronunciation instruction and practice. The outcomes also indirectly reveal the power of reflectivity in pronunciation learning and lend support to the fact that effort and systematic practice can indeed enhance progress in pronunciation. Consequently, it seems that reflectivity and a systematic approach to pronunciation practice need to be developed among students aiming at high levels of this subskill. The outcomes also suggest the importance of an anxiety-free learning environment, and of engaging and enjoyable tasks. Despite the fact that two personality domains have been identified as correlates of pronunciation attainments in a setting offering explicit pronunciation instruction and practice, it must be underlined that the mosaic of learner variables determining the FL pronunciation level is complex, dynamic and interrelated with multiple external factors. Thus, this study can be considered only another small step forward in explaining variability in pronunciation attainments among FL learners.

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