

### *The relationship between language anxiety and the actual and perceived levels of foreign language pronunciation*

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#### Abstract

The construct of anxiety has been captivating the interest of SLA researchers for a long time. Numerous observations show that most individuals experience anxiety when learning a foreign language (FL) and using it, both in classroom and real-life contexts, though to a different extent. An analysis of studies conducted on language anxiety (LA) throughout several decades (Horwitz, 2010) shows that researchers have focused, first and foremost, on examining the nature, symptoms and consequences of being anxious, proving its detrimental effect on FL and L2 learning and performance. However, the causes of LA seem to have been less thoroughly explored. The paper reports on a study investigating whether the actual level of FL learners' pronunciation and the pronunciation level perceived by students can be considered significant sources of anxiety. It is hypothesized that both pronunciation levels are related to LA, with the latter being a more important determinant of LA than the former. To measure the subjects' degree of anxiety, the Foreign Language Classroom Anxiety Scale (Horwitz, Horwitz, & Cope, 1986) was applied. The actual level of pronunciation was diagnosed with the use of a Pronunciation Test, consisting of a Perception Test and two Production Tests (word and passage reading). The perceived pronunciation level of the participants was measured with a questionnaire designed for the purpose of this research. The Pearson moment-correlation proved LA to be significantly correlated with both levels of pronunciation, with the relationship being more meaningful in the case of the perceived FL pronunciation level.

*Keywords:* language anxiety, actual pronunciation level, perceived pronunciation level, pronunciation self-assessment, accentedness

Anxiety experienced by individuals when learning and using a foreign language (FL) may have various sources. Discomfort in the FL classroom may result from worrying about not being able to understand or not being understood by other members of the class and the teacher or about being negatively evaluated by them. The bases for these worries may be the actual low level of pronunciation or the level of this FL aspect as it is perceived by the students themselves. The aim of this paper is to verify these claims, referring to the outcomes of a study carried out among Polish secondary school learners. Before presenting the research methodology and outcomes, a theoretical introduction of the concept of language anxiety (LA) is offered, followed by a discussion of the probable connections between LA and pronunciation. The presentation and discussion of quantitative data are followed by an analysis of information gathered with the use of interviews carried out with representatives of high and low anxiety students and a more detailed description of two participants. Finally, conclusions and limitations of the study are offered.

### An Overview of the Concept of Language Anxiety

Interest in anxiety as a significant determinant of general learning success grew after the mid 20th century, when researchers began realizing that affective factors, personality and motivation are as vital in learning as cognitive capacities (Shams, 2005). In language learning, it was not until the late 1970s that anxiety drew the attention of scholars. In their early attempts to define anxiety in language learning, they considered it to be a transfer of other types of anxiety into the language learning context. However, the lack of consistent results of research conducted in this area (Scovel, 1978; Young, 1991) led to the idea that a new construct of anxiety, different from other types and specific to the FL learning situation, is needed.

After the mid 1980s, Horwitz, Horwitz and Cope (1986) for the first time proposed the construct of language anxiety and a tool to measure it. Language anxiety was introduced as “a distinct complex of self-perceptions, beliefs, feelings, and behaviours related to classroom learning arising from the uniqueness of the language learning process” (p. 128). Gardner and MacIntyre (1993) emphasized the fact that LA, characterised by “derogatory self-related cognitions . . . , feelings of apprehension, and physiological responses such as increased heart rate” can appear not only when learning but also “when a situation re-

quires the use of a second language with which the individual is not fully proficient" (p. 5). All in all, LA can be considered a tension and worry that one feels in academic and social contexts, in the situation of both learning and using the target language (TL) that has not been fully mastered.

The complex nature of LA can be observed when analyzing the construct from the perspective of Spielberger's (1983) anxiety types (i.e., trait, state, and situation-specific anxiety). Usually, LA is considered situation-specific because it is found to occur repeatedly in the context of language learning and particularly during FL performance (Horwitz, 2001; MacIntyre & Gardner, 1993). However, according to some scholars (e.g., MacIntyre, 2007; Piechurska-Kuciel, 2008), LA can be viewed also as trait or state anxiety. It can be treated as a stable characteristic trait (Oxford, 1990), when viewed as a nervous reaction of an individual any time he/she attempts to learn or use the FL in various settings, irrespective of the skill or ability that is displayed. Finally, LA can also be a temporary state caused by numerous external or internal factors.

Since LA has proven to appear most frequently in the case of FL speaking and listening, certain types of performance anxieties involved in oral communication were believed to be related to the construct of LA, that is, communication apprehension, test anxiety and fear of negative evaluation (Horwitz et al., 1986).

Communication apprehension is presented by Horwitz et al. (1986) as "a type of shyness characterized by fear of or anxiety about communicating with people" (p. 127). More specifically, it is considered a worry experienced in interpersonal communicative settings about not being understood or not being able to understand (Horwitz et al., 1986). Observations show that communication apprehension in L2 is related to communication apprehension in L1 (McCroskey, Fayer, & Richmond, 1985) and is independent of the language used (Swagler & Ellis, 2003). As Horwitz et al. (1986, p. 127) posit,

people who have difficulty speaking in groups are likely to experience even more trouble when doing so in a foreign language class, where in addition to feeling less in control of the communicative situation, they also may feel that their attempts at oral work are constantly being monitored.

This claim reveals the intertwining of communication apprehension with the fear of negative evaluation, which, in turn, is connected with social anxiety, public speaking anxiety, and self-esteem. Watson and Friend (1969) define fear of negative evaluation as the "apprehension about others' evaluation, avoidance of evaluative situations, and the expectation that others would evaluate oneself negatively" (p. 449).

Finally, test anxiety, though linked entirely with the academic context, stems from the more general fear of failure (Horwitz et al., 1986). It is assumed to be caused by the lack of certainty about one's ability assessed in the test or by the feeling of not being adequately prepared for it. Experiencing this type of anxiety leads to difficulties in learning the material and its retrieval. Shams (2005) posits that test anxiety may have a broader scope, when interpreted as related to performance evaluation, that is, to continuous assessment of oral performance in the FL classroom and oral testing.

The three aforementioned types of anxieties, complemented with the dimension of worry and emotionality (Liebert & Morris, 1967), served as the basis for designing the most widely used measurement of language anxiety – the Foreign Language Classroom Anxiety Scale (FLCAS; Horwitz et al. 1986). As Horwitz (1986, p. 559) explains, the FLCAS is “a self-report measure which assesses the degree of anxiety, as evidenced by negative performance expectancies and social comparisons, psycho-physiological symptoms, and avoidance behaviours.”

The instrument proved to have high internal reliability, test-retest reliability and construct validity (Horwitz & Young, 1991). A correlation analysis conducted by Horwitz (1986) between the FLCAS and measures of communication apprehension (McCroskey, 1970), fear of negative evaluation (Watson & Friend, 1969), and test anxiety (Sarason, 1978) revealed significant results only in the case of test anxiety (a correlation of moderate strength), proving that the construct of LA is evidently distinct from the three types of anxiety and bound specifically with the FL learning process. In a factor analytical study of the FLCAS applied among students of Japanese (Aida, 1994), a four-factor model emerged, encompassing the following factors: speech anxiety and fear of negative evaluation, fear of failing, comfort in speaking with native speakers, and negative attitudes towards the FL class.

Numerous studies examining the nature and effect of LA on FL learning have proven that LA has a detrimental influence on both FL learning and performance (Horwitz, 2010). Usually, a significant negative correlation of moderate strength is found between results on the FLCA and course grades or outcomes on oral, vocabulary and grammar tests (e.g., Aida, 1994; Horwitz, 1986; MacIntyre & Gardner, 1989; Phillips, 1992; Saito & Samimy, 1996). According to some researchers (e.g., MacIntyre, 1999), LA can be considered the strongest predictor of success in FL learning. Although it is oral performance that has attracted most researchers (e.g., Phillips, 1992; Price, 1991), the influence of LA on learning other FL skills and particular aspects such as reading and writing (e.g., Hilleson, 1996; Saito, Garza, & Horwitz, 1999), listening (Elkhafaifi, 2005), or grammar (VanPatten & Glass, 1999) has also been explored.

Finally, some scholars have focused on exploring the issue of language anxiety sources. Young (1991) identifies six causes, some of which are directly related to the learner (e.g., personal and interpersonal anxieties), while others to the language course and teacher (e.g., instructor-learner interactions). On the other hand, Sparks and Ganschow (1991) posit that language anxiety may be connected with poor achievement caused by L1 learning disabilities.

### Language Anxiety and the Actual and Perceived Levels of FL Pronunciation

Some studies (e.g., Horwitz et al., 1986; Price, 1991) have already revealed that pronunciation can be considered a significant cause of language anxiety. Valuable and interesting data come from an experiment conducted more recently by Shams (2005), who compared the effectiveness of two approaches to pronunciation training, namely training in a listening laboratory and in a computer laboratory, in reducing LA. The study proved, among other things, that a 7-week pronunciation practice resulted not only in the improvement of this particular language aspect but also in a significant decrease of LA, irrespective of the pronunciation teaching approach applied.

The components of the FLCAS are derived from three related anxieties, that is, communication apprehension, fear of negative evaluation, and test anxiety. Taking the nature of these components into account, we can expect pronunciation to play an important role in LA, affecting each of the components. It may be assumed that a FL learner's actual level of pronunciation directly influences his/her ability to understand and to be understood by others, which, in turn, may determine the level of communication apprehension. Deficiencies in the pronunciation can also affect the impression made on classmates and the FL teacher's evaluation, which, when consistently negative during the FL course, can raise test anxiety and the fear of negative evaluation.

Early arguments relating the relationship between pronunciation skills and anxiety come from Horwitz et al. (1986). Using interviews carried out with FL learners when designing the FLCAS, they found out, among other things, that "anxious learners complain of difficulties discriminating the sound . . ." (Horwitz et al., 1986, p. 126). The difficulties may arise from little practice in perceptive and productive pronunciation and lack of meta-awareness of the TL phonetic system. Such actual problems related with the pronunciation skills may influence the learners' listening abilities and intelligibility level, raising at the same time communication apprehension in particular, and indirectly, the other components of the FLCAS. Interestingly, however, numerous observations reveal (e.g., Derwing, Munro, & Wiebe, 1998; Munro & Derwing, 2006)

that the pronunciation of phonemes rarely determines comprehensibility and intelligibility levels. In another study (Young, 1992), one well-known language specialist, Omaggio Hadley, stressed the fact that LA frequently derives from the fear of mispronouncing words, which can result from actual poor pronunciation at a lexical level. Low knowledge of how to pronounce certain vocabulary items can generate concern about not being able to understand fragments of spoken language and of being unintelligible, or cause the worry of being ridiculed by other learners due to word mispronunciation. It is, however, more probable that in both of the aforementioned studies LA is more strongly associated with the feelings and perceptions of the students about their pronunciation, that is, about their ability to discriminate sounds and to pronounce words correctly, than with their actual difficulties in these areas. We may also hypothesize that the lowered LA level after pronunciation training reported by Shams (2005) resulted not only from the improvement of pronunciation but also from the subjects' self-assessment and belief in their pronunciation skills being at a higher level after intensive pronunciation practice.

There are many reasons to believe that the level of pronunciation as perceived by learners themselves has a more profound influence on LA than the actual level. First of all, it seems worth returning to the definition of LA. Presented as a "distinct complex of self-perceptions, beliefs, feelings" (Horwitz et al., 1986, p. 128) and "derogatory self-related cognitions" (Gardner & MacIntyre, 1993, p. 5) connected with the process of FL learning and its use, LA can be particularly strongly affected by beliefs, feelings and perceptions of oneself as a FL learner and by many factors related to the learning process (e.g., beliefs and perceptions about the effectiveness of particular teaching approaches).

Many studies have already shown that learners' perceptions and pessimistic self-evaluations of their skills belong to the most important causes of LA. In an early diary study, Bailey (1983) found that the highly anxious participants perceive themselves as less skillful FL learners than their classmates. The LA level was also higher in the case of those learners who held negative perceptions of their rapport with the FL teachers. Gardner and MacIntyre (1993) reported a significant correlation between students' self-ratings and their level of LA, while Onwuegbuzie, Bailey and Daley (1999) concluded that highly anxious students have "negative perceptions of their scholastic competence . . . or negative perception of their self-worth" (cf. Horwitz, 2010, p. 165). A moderate correlation between students' self-assessment of all FL skills and their LA level was found by Piechurska-Kuciel (2008). Perceived teacher support has also been identified as a significant determinant of LA in the FL classroom (Piechurska-Kuciel, 2010).

As suggested above, it seems that the actual pronunciation level is related, first and foremost, to communication apprehension and only indirectly to

the fear of negative evaluation and test anxiety. On the other hand, although the perceived low level of pronunciation may also trigger worries about one's ability to understand spoken language and to be understood, it may have a particularly strong effect on the fear of being ridiculed by the other students and negatively evaluated by the teacher. Arguments for such a premise are provided, among others, by the research conducted by Price (1991). The interviewed learners with high levels of LA declared that the most anxiety-provoking task was talking in the foreign language in front of the whole class. They reported experiencing fear of ridiculing themselves and being laughed at by their classmates. One of the reasons for this apprehension was their worry about making pronunciation mistakes and their "great embarrassment" resulting from believing they had "terrible accents" (Price, 1991, p. 105). Worry caused by an inability to express themselves fully in the TL was mentioned only as the third stressor.

It seems worth adding that in a FL class whose members and teacher share L1, communication breakdowns caused by a poor level of pronunciation are rare, since the learners subconsciously acquire from each other, and sometimes also from their nonnative teacher, TL pronunciation typical for speakers of this L1. Thus, understanding each other in the classroom can be easier than understanding native speakers in real life or as heard in listening comprehension tasks. Another argument for LA being caused by the perceived level of pronunciation is related with accentedness, that is, the extent to which one's accent diverges from the TL norms (e.g., Derwing et al., 1998), rather than with intelligibility. The argument derives from the fact that usually it is speaking in front of the class (e.g., giving oral presentations) that is considered by FL learners most anxiety-breeding (Price, 1991; Woodrow, 2006; Young, 1992). Interestingly, although speaking in front of the class is reported by the participants in the research conducted by Woodrow (2006) to be most anxiety-generating, anxiety caused by oral presentations was found not to correlate significantly with actual oral performance. Although Woodrow did not explain the criteria for assessing the students' oral performance, the type of tasks they performed demanded, first and foremost, that they be communicative. The lack of relationship might suggest that learners experienced anxiety for reasons other than a worry about not being understood. The performance of FL learners can be assumed to be understandable for their friends and teacher, because the speakers can usually prepare for oral presentations, think over the content, vocabulary, and grammatical structures. The aspect they may find most difficult to control and impossible to improve given the time to prepare for the oral presentations is what they call the accent. When students consider their pronunciation ability low, this

can be one of the main causes of the fear of being negatively evaluated by the teacher or ridiculed by their classmates.

### The Study

To shed light on the relationship between LA and the actual and perceived levels of FL pronunciation, an empirical study was carried out. The analysis of the nature of LA, of the specificity of feelings related to one's FL pronunciation, and the review of earlier research constituted the basis for positing the following hypotheses (H):

- H1. There is a significant negative relationship between the level of LA and the actual level of FL pronunciation.
- H2. There is a significant negative relationship between the level of LA and the perceived level of FL pronunciation.
- H3. The relationship between the perceived level of FL pronunciation and LA is more meaningful than the relationship between the actual level of FL pronunciation and LA.

Additionally, an attempt was made to analyse more thoroughly the reasons why a low perceived level of pronunciation might lead to LA in the FL classroom. It is assumed that experiencing self-ridicule due to a high level of accentedness is a more important stressor than the fear of experiencing communication breakdowns caused by pronunciation deficiencies.

### Method

This subsection is aimed at providing information on how the study was conducted. It opens with a description of the learners involved in the study. What follows is a presentation of the instruments applied in the research, that is the Pronunciation Test, a Pronunciation Self-Assessment Measure (PSAM), the FLCAS, interviews with the subjects and teacher questionnaires. Finally, basic data gathering procedures are described.

**Participants.** The study involved a group of 43 students of an average secondary school (Pol. *liceum*), aged 16 or 17. They attended two second grade classes, each of which was divided into two groups, one at a pre-intermediate level, and the other at an intermediate level. Among the subjects there were 19 males and 24 females. The four groups were taught by two teachers, each with an experience of over 10 years in teaching. While the majority of the participants had never been to an English-speaking country, three of them had paid short 1- or 2-week visits to London. In addition to the school classes, 18 partici-



pants were studying English in language schools or had private tuition. However, none of the teachers running these courses were said to draw particular attention to pronunciation. All of them were nonnative speakers of English. Interestingly, only five students claimed they had regular, if rare (a few times a year), contact with native speakers of English.

#### Materials.

*Pronunciation Test.* The subjects' level of pronunciation was evaluated with the use of a Pronunciation Test composed of two major parts, a Perception Test and Production Test.<sup>1</sup> In the case of the former, learners chose vocabulary items that were read to them from among 21 sets of minimal pairs and identified main stress in six polysyllabic words. This part of the instrument was aimed at examining whether the students can perceive successfully sounds that are particularly difficult for Poles, such as [θ, ð, ŋ, ʃ, tʃ, i:, ɪ], and whether they can hear word stress properly. Every correct answer was credited with 1 point. Thus, each participant could achieve a maximum score of 27 points.

The Production Test consisted of two subparts: reading a list of words and a passage. Each was assumed to allow for a different degree of pronunciation monitoring and controlling. In both cases the articulation habits concerning segments and knowledge of the pronunciation of some vocabulary items were assessed.<sup>2</sup> The sounds that the students were credited for were the same as in the perception part and the knowledge of words was again represented by word stress. In the task consisting in individual word reading all of the seven sounds were evaluated three times, usually occurring in different contexts, that is, word-initially, word-finally and word-medially. Each time a vowel or consonant appeared, from 0 to 2 points were given for its articulation. When the evaluators had doubts about the participant's pronunciation of a segment or clearly heard it as still not an L2 sound but also as less strongly interfered by L1 habits of pronunciation, they gave 1 point. When certain about its correctness or incorrectness, the judges credited the articulation with 2 or 0 points, respectively. As already signaled, the criterion according to which the correctness of sound pronunciation was estimated was L1 interfer-

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<sup>1</sup> All the work related with the pronunciation assessment of the subjects, that is, designing the Pronunciation Test, conducting it, and evaluating the samples was done by Ms. Ewa Czajka as part of her MA thesis, *The Influence of Brain Dominance on Learning English Pronunciation* (Czajka, 2011), written under my supervision.

<sup>2</sup> To increase the reliability of the study, recordings of a few students were assessed by two evaluators: the MA student (Ms. Czajka) and a phonetics instructor (the author of this paper). The interrater reliability coefficients were as follows: .94 in the case of word reading and .98 in the case of passage reading (at  $p < .01$ ,  $df = 8$ ).

ence, for instance, replacing the English [i:] or [ɪ] with the Polish counterpart vowel. Altogether, a maximum score of 42 points could be achieved for the production of segments in the case of word reading. Additionally, from 0 to 2 points could be achieved by the subjects for word stress pronounced in six lexical items, with the same criterion of distributing points as in the case of segments. Thus, each participant could achieve 54 points for the more controlled production task. An analogous evaluation procedure was followed in the case of passage reading. However, minute differences appeared, that is, [tʃ] was assessed on two occasions, while the pronunciation of word stress was evaluated on the basis of five, and not six, words. Hence, the maximum score of 50 points could be obtained for passage reading. The performance of the participants was recorded by means of a SONY IC-P620 voice recorder and evaluated at a time convenient for the judges. The recording of each subject lasted on average 2 min and 30 s (Czajka, 2011).

It is important to emphasize that the subjects' pronunciation at the suprasegmental level was represented only by word stress, which accounted for about 20% of the maximum score on both Production Tests. Thus, the pronunciation level of the participants reflected to a large extent their habits of pronouncing individual sounds.

*Pronunciation Self-Assessment Measure.* To measure the participants' perceived level of pronunciation, a PSAM was designed. It had the form of a questionnaire written in the subjects' L1 consisting of eight items on a 5-point Likert scale. The testees were to agree or disagree more or less strongly with statements about their pronunciation level or finish the sentence with one of the five options provided. The content of the items was based on the theoretical considerations concerning which and how specific aspects of the learners' perceived level of pronunciation may determine their degree of LA.

The first three items concerned the participants' general views about their pronunciation level. The statements could be translated in the following manner: "I consider the level of my pronunciation of English . . . (very high, high, I don't know, low, very low)," "My pronunciation of English is heavily influenced by Polish" and "My pronunciation of English is close to that of English (British or American) native speakers." Next, the participants' perceptions of their abilities to produce and perceive segments and suprasegmentals were examined. The statements from this category were as follows: "I can pronounce the majority of English sounds correctly," "I can easily hear a difference between Polish and English sounds" and "The rhythm and intonation of my English utterances are correct." Finally, the last group of items was related to the subjects' beliefs about how important their pronunciation level is for

effective communication, that is, for understanding and being understood by others. They had the following form: "If I am not easily understood by others when speaking English, it is mainly due to my level of pronunciation" and "When I have difficulties understanding spoken English, it is mainly due to my pronunciation level." The participants could score from 8 to 40 points, with a high outcome displaying a high perceived level of pronunciation.

*The FLCAS.* The subjects' level of LA was measured by applying the FLCAS (Horwitz et al., 1986), translated into the participants' L1. The battery had the form of a 33-item questionnaire based on a 5-point Likert scale, and addressed the three types of anxiety considered by Horwitz et al. (1986) to be related to LA: test anxiety, fear of negative evaluation, and communication apprehension. The original version of the FLCAS has demonstrated a high level of internal reliability and test-rest reliability (Horwitz, 1991). It is also the Polish version of the instrument used in this study that revealed an acceptable internal consistency level (Cronbach alpha = .90). The subjects could score from 33 points (low anxiety) to 165 points (high anxiety).

*Interviews.* To verify the data achieved with the pen-and-pencil tests and learn more about the feelings and beliefs of high and low anxiety learners related to their perceived pronunciation level, a few representatives of each group were invited to semi-structured interviews. The conversations took from 10 to 15 min. They were carried out in the learners' L1. The interviews were recorded and then transcribed and analysed.

*Teacher questionnaire.* A 15-item questionnaire, based on a Likert scale and complemented with a few open questions, was filled out by the two teachers of English whose subjects were involved in the study. Its main aim was to provide information about the instructors' approach to pronunciation teaching. The teachers were questioned about the intensity and regularity of pronunciation practice provided in their English courses, and the techniques they used to introduce and exercise this aspect. Although the researcher was interested particularly in how pronunciation was taught to the subjects, the questions concerned also other aspects and FL skills, so as not to reveal that pronunciation was the main area of focus.

*Procedures.* The study was launched in October 2010 and began with gathering the pronunciation samples, which lasted approximately a month.<sup>3</sup> The

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<sup>3</sup> More details about the recording procedures can be found in Czajka (2011).

second phase of the data collecting process, that is, conducting the FLCAS and PSAM, took place in April 2011. Both of the questionnaires were filled out by the subjects during one of their English lessons within approximately 30 min in the presence of the author of this paper, who provided explanations when doubts about any items of the tests appeared. The participants were ensured that the information provided by them would be confidential and used only for scientific purposes. Finally, in May 2011, after the questionnaires and pronunciation samples had been evaluated, interviews with representatives of high and low anxiety students were carried out.

As the responses provided by the teachers in the questionnaire showed, pronunciation practice during the course was limited to modeling the pronunciation of new lexical items, correction of mispronunciations and occasional exercises offered in the course book. Thus, it can be assumed that neither the pronunciation habits of the participants nor their phonetic competence changed significantly within a few months, and that the distance in time between the first and last phase of data collection did not affect the outcomes of the study.

## Results

Quantitative data. The outcomes of each participant for the Pronunciation Test and PSAM were compiled and the basic descriptive statistics for each component were computed. The results of these calculations are presented in Table 1.

Table 1 Descriptive statistics for results of the Pronunciation Test (Perception Test and Production Tests), PSAM and FLCAS

	Perception Test (max = 27)	Production Test		PSAM (8-40)	FLCAS (33-165)
		Words (max = 54)	Passage (max = 50)		
<i>M</i>	22	19	16	23	90
<i>%</i>	81	35	33	-	-
<i>Mdn</i>	22	20	17	22	89
Low-High	17-26	5-36	5-31	14-35	45-127
<i>SD</i>	2.36	7.03	5.68	3.85	18.74

The descriptive statistics show and the Kolmogorov-Smirnov test proves that the outcomes for each of the subcomponents of the Pronunciation Test are normally distributed. However, the whole bell curve is either shifted towards the higher scores (Perception Test) or lower scores (both subparts of the Production Test).

The high mean score for the Perception Test (81%, i.e., an average result of 22 points out of a maximum score of 27 points) may suggest that the subjects

coped well with discriminating between certain English sounds and with identifying word stress. However, it must be remembered that the results might have been heavily affected by the form of the test. The choices the learners made between the two or three options provided could have been based on guessing, and the probability of the participants choosing the correct answer was high.

The outcomes of the Production Tests, with an average of 35% and 33% for word reading and passage reading, respectively, seem to suggest that the level of the participants' pronunciation was low. Contrary to the initial assumptions, the participants did not achieve higher scores for pronunciation in the case of word reading, a task that theoretically can be more easily monitored and controlled, than passage reading, in which monitoring is assumed to be at a lower level. Since one of the conditions allowing monitoring and controlling of one's output is competence (Krashen, 1982), it may be hypothesized that the subjects lacked phonetic metaawareness. What lends support to such an interpretation of the results are the outcomes of a study conducted by Bongaerts, Planken and Schils (1995), in which the monitor hierarchy of tasks was only confirmed in the case of subjects trained in Received Pronunciation.

The descriptive statistics for the PSAM, showing the subjects' perceived level of pronunciation, and for the FLCAS suggest that the results are normally distributed. The Kolmogorov-Smirnov test computed in the case of each variable confirmed the observations.

To verify the research hypotheses, the Pearson product-moment correlation coefficients were computed. However, before applying this statistical tool the three remaining assumptions underlying the Pearson  $r$  correlation, besides the normality assumption, were checked, that is, the scales assumption, independence assumption, and linearity assumptions. Since none of them was violated, further calculations were made. The outcomes are displayed in Table 2.

Table 2 Pearson product-moment correlation coefficients between results on the FLCAS, Pronunciation Test and PSAM.

	Perception Test	Production Test		PSAM
		Words	Passage	
FLCAS	-.13	-.15	-.26*	-.49**

$p < .05$ ; \*\*  $p < .0005$

As the table displays, no significant relationship was found between the extent of LA and the actual pronunciation level represented by the results of the Perception Test and one of the components of the Production Test, that is, individual word reading. However, a significant, though weak, correlation appeared between the scores on the FLCAS and the pronunciation evaluated on the basis

of passage reading. One of the matters that requires further exploration is the reason why the level of LA revealed a relationship with pronunciation assessed on the basis of passage reading only, although a comparable average level of pronunciation was revealed in the other productive task as well.

Finally, a significant negative correlation of moderate strength ( $r = -.49$ ) was found between the participants' degree of LA and their perceived level of pronunciation, which validates H2 and H3. The outcomes corroborate the assumptions that the perceived level of pronunciation is a more important determinant of LA than the actual level.

To provide further insight into the relationship between the perceived level of pronunciation and LA, a more detailed analysis of the PSAM results was carried out. The frequencies of choosing particular answers to all of the eight items in the test by high anxiety learners (HALs; those who scored above the FLCAS median;  $n = 21$ ) and low anxiety learners (LALs; those who scored below the FLCAS median;  $n = 21$ ) were noted. So as to make it easier to observe some tendencies the replies were classified into three groups: *agree*, *don't know*, and *disagree*, with the *strongly agree/disagree* responses treated as *agree* and *disagree*, respectively. The outcomes of organizing the data in this way are presented in Table 3.

Table 3 Distribution of responses to the PSAM provided by HALs and LALs

PSAM items	LA	Agree	Don't know	Disagree
1. General pronunciation level*	HAL	33.3%	47.6%	19.1%
	LAL	47.6%	52.4%	-
2. Close to native speakers of English	HAL	4.8 %	38.1%	57.1%
	LAL	23.8%	52.4%	23.8%
3. Heavily influenced by Polish	HAL	61.9%	38.1%	-
	LAL	38.1%	38.1%	23.8%
4. Pronouncing sounds correctly	HAL	33.3%	47.6%	19.1%
	LAL	47.6%	47.6%	4.7%
5. Perception of differences between L1/L2 sounds	HAL	80.9%	19.1%	-
	LAL	100.0%	-	-
6. Rhythm and intonation	HAL	9.5%	76.2%	14.3%
	LAL	33.3%	66.7%	-
7. Pronunciation and understanding spoken language	HAL	61.9%	33.3%	4.8%
	LAL	61.9%	19.05%	19.05%
8. Pronunciation and intelligibility level	HAL	66.7%	28.6%	4.7%
	LAL	71.4%	19.05%	9.5%

\* *high, don't know, low*

The distribution of responses to the opening question concerning the participants' perceived general level of pronunciation observed among the highly anxious subjects showed that 33.3% of them considered their pronunciation level to be low. However, what seems important to stress is that around half of

them (47.6%) were uncertain about the level of their pronunciation. The results can be considered more meaningful when compared with the distribution of responses provided by low anxiety subjects. Although 47.6% of them felt unsure about their level, the remaining subjects from this group believed their pronunciation skills to be either at a high or very high level. None of them acknowledged that their pronunciation was poor. Interestingly, an analogous pattern of responses in both high and low anxiety groups can be observed in the case of Question 4, which enquired about the participants' perceived ability to pronounce TL sounds correctly. This might imply that the subjects assumed their pronunciation level to be reflected, first and foremost, by the capacity to produce the TL segments 'correctly.' What is even more captivating is the fact that some respondents evidently distinguished between correct pronunciation of segments and the ability to pronounce them as native speakers do and without L1 accent, which is shown by the responses to Statements 2 and 3. It is in the case of these two items, strongly connected with the idea of accentedness, that the distributions of answers in the high anxiety group and low anxiety group seem to differ importantly. While 38,1% of the HALs were not sure if their pronunciation was heavily influenced by Polish, none of them disagreed with the statement and many (61.9%) considered the statement to be true about them. On the other hand, the low anxiety students were more lenient in assessing their level of accentedness, that is, 23.8% disagreed with the statement, 38.1% agreed with it, and 38.1% chose the answer *I don't know*. When asked whether they considered their pronunciation close to that of native speakers, as many as 57.1% of the highly anxious participants disagreed with the claim, 38.1% were uncertain, and only one person agreed with the statement. Among the low anxiety subjects 52.4% were uncertain, 23.8% disagreed, and many more than HALs (23.8%) considered the sentence true.

Furthermore, generally both the high and low anxiety participants perceived their ability to discriminate between Polish and English sounds to be high. With regard to the level of pronunciation at the suprasegmental level, as reflected in the ability to speak with proper intonation and stress, more low anxiety subjects than high anxiety ones perceived their abilities as proper. Interestingly, many of the students in both groups (76.2% of HALs and 66.7% of LALs) were incapable of deciding whether and to what extent this aspect of their pronunciation was correct or not.

Finally, the frequencies of responses of the highly anxious participants to Questions 7 and 8 might suggest at first glance that LA is related to and possibly caused, among others, by the belief that low pronunciation ability determines one's level of intelligibility and capacity to understand spoken language. However, it must be noted that the distribution of answers of the sub-

jects with a low level of anxiety is parallel to that of the highly anxious learners. Thus, the results from the PSAM might imply that the level of accentedness is a more important stressor than the belief in pronunciation affecting the level understanding and being understood. It must, however, be emphasized that this claim needs verification by the application of appropriate statistical tools and other methods.

Qualitative data. To triangulate the quantitative data and enable further insight into the relationship between the FL pronunciation level and the construct of LA, six subjects randomly chosen from among those who scored either over 1 *SD* above or over 1 *SD* below the mean for the FLCAS were asked to participate in interviews. The most important information elicited during the interviews is complemented with more detailed profiles of one HAL with particularly low actual and perceived pronunciation levels and one LAL with particularly high actual and perceived pronunciation levels.

*Tendencies among HALs.* The answers of the interviewees usually supported the observations of other researchers conducted in this area. There were, however, data that deviated from those achieved by other scholars. For example, among the highly anxious interviewees there were some who did not consider the FL class to be more stressful than other school subjects. However, most of the HALs considered speaking and listening to be the most anxiety-breeding skills. Moreover, they all assessed their pronunciation as poor (rather or very poor) and believed this was the reason why they did not manage well with and disliked listening and speaking, in particular. Four of the HALs interviewed claimed that they constantly compared themselves with others and feared humiliating themselves in front of them, particularly when talking in lockstep. They explained they avoided speaking at all costs due to their belief in sounding ridiculous, their deficiencies in vocabulary, and frequent uncertainty concerning the pronunciation of some words.

*Tendencies among LALs.* While the participants with a low level of anxiety also listed listening and speaking as the most difficult, only half of them claimed they felt stressed in the case of such tasks, particularly when producing longer turns. Like the HALs, they compared themselves with others. However, one of them shared the following observation, *'I compare myself with others when I perform different activities, but I think we all do it, don't we?'* Interestingly, all of them but one claimed they did not mind being less skilled than their classmates and they did not experience stress in such circumstances. Moreover, while two of them declared that their problems with under-



standing spoken language were often due to pronunciation deficiencies, four perceived their communication levels to be lower because of pronunciation difficulties. However, one of the LALs added, *'I can always ask the speaker to repeat, or try using another word when being unsure of the pronunciation of some words.'* Finally, the majority of the low anxiety interviewees accepted their FL identities and did not feel endangered by sounding different than when using L1. One of them said, *'I am still the same person when speaking a FL. I know I make several mistakes but I don't think they bother my classmates, they also make mistakes.'*

*Profile of Student A.* One of the participants was a female adolescent, whose both actual and perceived pronunciation levels were the highest among all the subjects. She was included in the group of subjects revealing a low level of LA, with 1.5 *SD* below the mean of the FLCAS. The student strongly opposed the idea of feeling stressed during English classes. She claimed she enjoyed both learning and speaking English and liked her FL image, that is, the interviewee entirely accepted the way she sounded while using the language, which explains why she frequently talked to herself and sang in English. The language aspects and skills she believed she was best at were pronunciation and listening. When asked directly about pronunciation, the learner answered, *'I have no problems with pronunciation.'* This supports the opinion provided by her in the PSAM, in which she strongly agreed with statements such as "In my pronunciation of English there is hardly any influence of Polish" or "My pronunciation of English is close to that of native speakers." Additionally, the subject believed that she could easily discriminate among English sounds and use suprasegmentals properly, since again she strongly agreed with statements inquiring about these matters. The scores Student A achieved for the Pronunciation Test, though higher than those of other students, imply that she was overestimating her pronunciation level.

Furthermore, she proved to have very high motivation to speak with a good accent, stating, among other things, the following: *'I love the sound of English,' 'I would like my pronunciation to be more native-like' and 'I would like to have the opportunity to practise pronunciation more often.'* She also agreed that pronunciation could affect the communicative level, mentioning situations in which she could not understand or was not understood due to her pronunciation deficiencies.

Moreover, the participant claimed she constantly compared herself to others and sometimes thought other students were better than herself at speaking. However, what seems to be most crucial is that she felt no fear of negative evaluation and did not mind being corrected when speaking, irrespective of the type of

error made or who corrected her. She held the following view: *'After all, everybody makes mistakes; it is most important to express yourself effectively.'*

Closing her profile, it seems worth mentioning that the student believed she knew her learning style and how to learn effectively and efficiently. Among others, she considered herself to be an auditory learner and to have a strong 'auditory memory,' which according to her was the main explanation for her good pronunciation. In the future she intended to study English and Polish philology.

*Profile of Student B.* Student B was a male adolescent, revealing a low actual level of pronunciation (1.5 *SD* below the mean for the Production Tests). At the same time, he was a HAL (1.5 *SD* above the mean for FLCAS). Although the student claimed he showed concern for pronunciation, his strong desire to speak well was not supported by actual practice and his attitude towards working on this aspect. The results on the PSAM questionnaire implied that his perceived pronunciation level was also low (1.5 *SD* below the mean for the PSAM), which the responses he provided during the interview confirmed. Interestingly, first the subject claimed he was quite good at this aspect, but his further responses did not support his earlier view. He had no doubt that his accent was determined by habits of pronouncing L1, and laughed at the thought that his pronunciation could be considered close to that of native speakers. Additionally, the interviewee believed his rhythm and stress were incorrect and that he could not produce many segments properly.

Furthermore, despite his low perceived pronunciation level and frequently experienced communication breakdowns, he did not associate his difficulties in understanding and being understood with his poor pronunciation, but rather with deficiencies in vocabulary and grammar. However, among his further justifications was the following one: *'I'm never sure if I am pronouncing things properly.'* What appears to be vital is that the learner had problems with accepting his L2 image and liking the way he sounded in English: *'I think at times I sound terrible or funny. I could sometimes utter a word in a more English-like manner, but prefer to say it more in the Polish way, so that others don't find it ridiculous.'* Additionally, both during the interview and in the FLCAS measure the subject confessed that he worried about making mistakes and did not like to be corrected by anybody. Finally, he tended to compare himself as a FL learner with his friends, and considered himself to be at a much lower level than others.

### Conclusions and Further Research Directions

The paper is an attempt to shed light on the relationship between LA and the actual pronunciation level of the students, as well as their perceptions about

their level of this aspect of the FL. The quantitative analysis of the data obtained in the course of this study showed that both the actual and perceived pronunciation levels correlated significantly with the degree of learners' LA, though in the case of the former it is only the pronunciation assessed in passage reading that was significantly correlated with results of the FLCAS. Moreover, the perceived pronunciation level was found to be more strongly related to LA than the actual pronunciation skills. It is important to stress that the direction of causality is not straightforward, that is, it cannot be stated firmly whether the actual or perceived levels of pronunciation lead to LA or whether it is LA that affects the level of FL pronunciation. Although causality is possible in either direction, the responses of the participants to the questionnaires might imply that it is the pronunciation levels that determined the amount of LA experienced in the FL classroom, rather than the other way round.

It was assumed that LA may be related to the perceived level of pronunciation for two reasons. First of all, perceiving one's pronunciation as poor might lead to the fear of not being able to understand spoken language and of being unintelligible. Secondly, it was expected that LA could arise from the students' belief that due to their high level of accentedness, they can be ridiculed by their classmates. The distribution of the participants' answers on the PSAM, complemented by their responses provided during interviews, might suggest that the subjects' degree of LA was more strongly related to their fear of being negatively evaluated due to their poor accent than to the worry of not being able to comprehend spoken FL or of being misunderstood by their classmates or the teacher.

In the light of such outcomes, it seems worthwhile to raise FL learners' pronunciation self-assessment. This can be done by introducing regular well-planned pronunciation practice, which would improve the FL learners' actual pronunciation level, and indirectly also their self-perceptions in this area. It may be even more important and beneficial to develop students' understanding of the fact that pronunciation errors are inevitable in the process of FL learning and that they are common among all students. The fear of being laughed at by others can be lowered by creating a positive classroom atmosphere, fostering good classroom dynamics and rapport between the teacher and learners. Furthermore, it is the teacher's approach to pronunciation teaching, his/her degree of tolerance of learners' mispronunciations, ways of providing feedback and correcting pronunciation errors that might importantly shape the students' fear experienced during FL learning. What might be as detrimental as ignoring pronunciation in the FL classroom is too much attention drawn to this language aspect and setting unrealistic goals for students.

The responses provided by the subjects in the interviews suggest that the relationship between pronunciation and LA might be moderated by several variables, such as concern for pronunciation, motivation to speak with a good accent and level of competitiveness. Moreover, certain personality traits, such as thickness of ego boundaries (Hartmann, 1991), revealed by sensitivity to opinions of others, the ability and need to distance oneself and defend one's identity, might be important variables shaping one's LA level related to pronunciation. It is this direction that further research should follow.

Finally, feelings shared by HALs suggest that evidently one can experience a pronunciation-specific type of anxiety. While some may feel concern that their pronunciation deviates too much from TL native speakers, others might become anxious due to believing that they sound and look ridiculous when uttering segments and suprasegmentals other than those of their native language. Consequently, it appears that the way learners perceive their pronunciation may cause not only competence-based anxiety, but also identity-based anxiety (Stroud & Wee, 2006). Further investigation in this area is sure to demand the construction of a pronunciation anxiety scale that can measure the worries of students related to pronunciation learning and usage inside and outside the classroom.

### Limitations of the Study

Due to several limitations of this study, its outcomes must be viewed with caution. One of the main limitations of the present research is the low number of participants involved in it. Furthermore, it is important to note that the PSAM was a first attempt to observe the self-perceptions of FL learners in this area. There is no doubt that this tool requires many amendments, as well as examination in terms of its validity and reliability. The tests aimed at measuring the students' actual pronunciation level also need verification. Considering the fact that the comprehensibility and intelligibility levels are affected more significantly by prosodic features than by segments (e.g., Derwing, Munro, & Wiebe, 1998; Munro & Derwing, 1995) and that communication apprehension is one of the components of the FLCAS, the test should permit a more thorough evaluation of learners' pronunciation at the suprasegmental level. Additionally, the Pronunciation Test could be complemented with other tasks, such as sentence reading and free speech. Finally, the outcomes of the Pronunciation Test could be considered more reliable if more judges, including native speakers and experienced phoneticians, were involved in evaluating the samples.

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