

Accents and Pronunciation

Attitudes of Italian University Students of Languages

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Perceptual, Affective and Cognitive Factors of L2 Pronunciation and Foreign Accent A Survey with Italian University Students Majoring in Languages

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Abstract This contribution investigates the opinions of 372 first-year students from Ca' Foscari University of Venice about pronunciation and foreign accent in the languages chosen as main subjects. Although a native-like accent is highly valued, students do not simply equate good and accent-free pronunciation. They are confident in assessing the pronunciation of other L2 speakers but show considerable uncertainty about self-assessment and pronunciation deficits. L2 pronunciation is mostly associated with pleasure for them. The main predictor of responses is proficiency level, followed by target languages, linguistic biography and motivation for enrolling in the course.

Keywords L2 pronunciation. Foreign accent. Self-evaluation. Self-assessment. Self-awareness. Affective factors of L2 pronunciation. Italian university students. Language attitudes.

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1 Introduction

Attitudes have a significant role in language learning in general and in the learning of pronunciation in particular (Dörnyei, Csizér, Németh 2006). Empirical evidence has shown that attitudes can be the best predictor of phonetic accuracy (Suter 1976; Elliot 1995), and that positive attitudes result in better outcomes in pronunciation learning, partly due to the fact that motivation is stronger (Gao, Hanna 2016). L2 speakers who have greater confidence and more positive attitudes towards the target language (Moyer 2007) or who are more concerned with the pronunciation of L2 (Elliot 1995; Shively 2008; Nagle 2018) are likely to be judged as having less-accented L2 speech.

Despite the progressive increase in available research data on learners' attitudes and their importance, the activity of teachers, both in the classroom and in their lesson planning, continues to rely heavily on personal insights into the learning process (Derwing, Munro 2005; Levis 2005). This is a particularly problematic aspect, considering that several authors have reported the discrepancies between the beliefs of learners and those of teachers (Drewelow, Theobald 2007; Brown 2009; Hu, Tian 2012; Huensch 2019).

As Huensch (2019) recalls, most of the studies on linguistic attitudes, just like those on the teaching of pronunciation (Thomson, Derwing 2015), take into consideration almost exclusively English as a foreign or second language. There is a dearth of studies on attitudes towards pronunciation in a foreign language carried out in Italy, especially at university level. In order to gather first-hand information on the students of the Department of Linguistic and Comparative Cultural Studies at Ca' Foscari University of Venice, the research group *Accento straniero in studenti universitari di lingue straniere* developed a questionnaire for large-scale data collection relating to students' attitudes towards pronunciation in a foreign language and its learning, towards the pronunciation of Italian, and towards English as a lingua franca. The opinions of 372 freshers, mostly with L1 Italian and having a wide range of L2 as chosen main subjects (including English, Spanish, French, German, Russian and eight other foreign languages), were collected through a combination of Likert-type and open questions.¹

The questionnaire consisted of six sections. Section A collected personal data and information on students' linguistic biographies;²

We thank Pavel Duryagin for his advice on statistical analysis and David Newbold for a thorough proof-reading of a prior version of this chapter. All remaining errors are our own.

1 For a more detailed overview of the survey cf. Arroyo Hernández 2021.

2 See the contribution by Jamet to the present volume (ch. 1).

Section B contained statements designed to elicit students' general attitudes towards foreign accent and pronunciation, and their feelings about their own accents;³ Section E was dedicated to the notion of English as a Lingua Franca;⁴ Section F elicited informants' opinions on the pronunciation of Italian;⁵ finally, Sections C and D, on which this contribution will be focusing, gathered data (separately for the two chosen main subject languages) on some perceptive, affective and cognitive factors of L2 pronunciation, as perceived by informants.

Among other things we were interested in understanding how students self-rate their pronunciation quality and if they equate 'good' to 'accent-free' pronunciation. We also wanted to verify how they evaluate their ability to judge their own L2 accent and that of other L2-speakers and if they make any difference between the two tasks. Another group of questions points to the pronunciation-related feelings of the informants, assuming that pleasure should be a prevailing factor, as well as to the perceived influence of mood and physical condition on pronunciation. Finally, we explore the amount of knowledge about L2 pronunciation and foreign accent that students believe they possess.

Besides drawing a picture of these attitudes and self-evaluations, we explore how target language, proficiency level and a series of other learner variables (first language, amount of language learning, motivation) do influence responses. Proficiency level will prove to play a major role in explaining variance in students' answers, but also the language to which they refer, the amount of previous language learning, and their motivation for enrolment in the degree programme all have a certain importance.

A brief review of the research concerned with perceptive, affective and cognitive factors on L2 pronunciation (§ 2) is followed by a section (§ 3) introducing the main hypothesis orienting our research and several methodological premises; subsequently, results are first presented (§ 4) and then discussed (§ 5), before some concluding remarks are offered (§ 6).

2 Background

As Derwing and Munro (2009) recall, it is not impossible for an L2 learner to achieve excellent competence in the foreign language but aspiring to the acquisition of a native-like accent involves several

3 See the contribution by Dal Maso and Duryagin to the present volume (ch. 2).

4 See the contribution by Newbold to the present volume (ch. 4).

5 See the contribution by Dal Maso and Duryagin to the present volume (ch. 2).

risks and is an unrealistic goal for the average student. In recent years, in the field of pronunciation research, the idea has been gaining ground that the ultimate goal of the learner of a foreign language must be to achieve a comfortable intelligibility, which is socially acceptable, and no longer a native-like accent (Levis 2005; Steed, Delicado Cantero 2018; Mellado 2012, 18-19; for a recent review of the state of the art of research, see Jarosz 2019). Although this idea is progressively establishing itself among foreign language teachers, who are aware of the change of perspective in favour of intelligibility (Jarosz 2019; Huensch 2019), the results of questionnaire-based research on learners' attitudes continue to reveal a clear preference for the native accent (Nowacka 2012; Muñoz García, Contreras Roa 2019; Dao 2018 to name just a few studies).

The concept of 'foreign accent', commonly identified with the degree of phonetic difference that non-native speaker speech exhibits if compared to native norms, is not without complications. It is a perceptual phenomenon, since it requires a judgment by the listener, to the point that, for Saito, Trofimovich and Isaacs it can be defined as "rater's perceptions of the degree to which L2 speech is influenced by his/her [the speaker's] native language and/or colored by other nonnative features" (2016, 224). As Munro, Derwing and Morton recall, "[w]hen understanding or evaluating foreign-accented speech listeners are affected not only by properties of the speech itself but by their own linguistic backgrounds and their experience with different speech varieties" (2006, 111), which explains results such as those obtained by Scales et al. (2006) when analysing the perception of native and foreign accents among a group of university students: there was a clear lack of consistency in the results, since the informants expressed a decided *a priori* preference for native-like accents as the objective of their own learning, but subsequently they were not able to distinguish between native and foreign accents. According to the authors, this contradiction showed that the students had an idealised conception of what the native accent to which they aspired sounded like - which may be related to the fact that, as Nagle and Huensch (2020) point out, learners who are studying the L2 out of personal and/or professional interest may not come into contact with proficient L2 speakers other than their instructor during the first few years of foreign language study. Scales et al. (2006) found, however, an almost perfect correlation between the accent the students voted easiest to understand and the one that participants preferred; similarly, Derwing and Munro (2009) found comprehensibility to be the main factor guiding listeners' preferences for potential interlocutors, while accentedness appeared to be a less important variable, along with voice quality, fluency and others. It may be presumed, therefore, that for an accent to be judged as good or desirable by language learners there exist features other than the simple lack

of foreign accent. The interest declared by the students towards obtaining a good pronunciation and the preference for the native accent may lead one to think that they identify good pronunciation with the absence of a foreign accent. However, there are no studies that examine the extent to which this identification is actually established by learners, a gap that our research aims to fill.

When faced with the question of assessing pronunciation, accent strength, comprehensibility, and other dimensions such as intelligibility or irritability, it is ultimately what listeners perceive that matters, and judgment data, as Derwing and Munro put it, are the “gold standard” (2009, 478). Research on perception and assessment spans two groups of variables: on the one hand, those related to the evaluator - native vs. non-native, expert vs. non-expert etc. -; on the other hand, those relating to the subject evaluated, which may or may not coincide with the evaluating subject. When L2 listeners evaluate the intensity of the foreign accent in foreign language production, their observations usually agree with those of native judges (Munro, Derwing, Morton 2006; Derwing, Munro 2013; Lappin-Fortin, Rye 2014; Levis, Sonaat, Link 2017), the convergence being greater the higher the level of competence of the L2 listeners. The situation changes when we talk about self-assessment, since there are divergences between the self-evaluations of the learners and the evaluations of external judges (Ehrlinger et al. 2008; Foote 2010; Schlösser et al. 2013; Mitterer, Eger, Reinisch 2020; Saito et al. 2020), even when the learners are advanced (Dlaska, Krekeler 2008).⁶ As Gaffney (2018, 238) observes, few researchers have attempted to explain this mismatch, but several various potential causes have been suggested, such as the amount of L2 experience and feedback (Trofimovich et al. 2016), psychosocial factors (Dlaska, Krekeler 2008), and individual factors such as self-esteem (Tan, Teo, Ng 2011) or extroversion (Gaffney 2018). In contrast with this disparity of causes, probably interconnected, most divergences recorded in the various studies tend to be in line with the Dunning-Kruger effect (Kruger, Dunning 1999; Dunning et al. 2003), a cognitive bias by which the subjects with lower proficiency tend to overrate themselves, while those at the top of the scale tend to undervalue themselves. Mitterer, Eger and Reinisch (2020) hypothesised that L2 learners may perceive their own accent as more target-like than that of their peers because of a mere-exposure effect - by which repeated exposure to stimulus makes it more likeable -, or because of the comprehension advantage carried by their own voice.

Research requiring students to assess their pronunciation usually provides participants with recordings of their own productions (al-

⁶ For a more detailed overview of relevant research cf. Paschke 2021.

tered or not), which must be rated in terms of quality. To our knowledge, there are few exceptions to this approach. In order to examine the ability of Spanish-speaking subjects to accurately evaluate their own level of pronunciation proficiency in English, Hammond (1990) required participants to globally rate their own pronunciation according to five categories: Excellent, Good, Average, Poor, Very Poor. Using a similar method, Waniek-Klimczak, Porzuczek, Rojczyk (2013, 7) for Polish BA- and MA-English-students determined an average self-rating score of $M = 3.26$, i.e., between “good” (3) and “very good” (4). However, when asking the same population to self-rate the statement “I think that my pronunciation in English DOES NOT contain features characteristic for Polish pronunciation”, Waniek-Klimczak, Rojczyk, Porzuczek (2015, 28-9) found their informants fairly hesitant with an average score of $M = 2.8$ on a 5-point Likert scale. Steed and Delicado Cantero (2018), researching attitudes of Spanish students in Australia, found that more than two thirds (68%) had a positive self-perception regarding their confidence pronouncing Spanish, an optimistic view in line with the high percentage of students who considered Spanish easy to pronounce. Muñoz García and Contreras Roa (2019), in their survey of French students studying English and Spanish, found that on a 10-point scale, students evaluated their pronunciation in English more positively ($M = 6.89$) than in Spanish ($M = 5.90$). Baran-Łucarz (2011) investigated whether the actual level of FL learners’ pronunciation and the pronunciation level perceived by students could be considered significant sources of anxiety. Both levels were found to be significant, with perceived level being more significant than actual level. It could, therefore, prove useful to ask students about their self-attributed competence.

It has been theorised that for the linguistic system to develop, L2 learners need to notice and then minimise the gap between the target linguistic system and the learners’ own conception of it (Schmidt 2001). Consequently, to facilitate the acquisition of L2, it is interesting to determine if L2 learners can correctly assess their performance, and at what point in the learning process. The divergence between self-perceived competence and competence perceived by external subjects also deserves attention because it has behavioural consequences, affects trust and the desire to communicate in the classroom (de Saint Léger 2009; de Saint Léger, Storch 2009) and, more generally, the desire to use a foreign language (Baran-Łucarz 2014). Along with the intuitive idea that a faulty self-assessment can result in under-confident learners avoiding participating in foreign language interactions, we can suggest another one, perhaps less obvious: in the case of over-confident learners, insufficient self-assessment skills can encourage students not to take advantage of the opportunities that may arise to improve their pronunciation, whether in the classroom or outside (Gaffney 2018, 238). The question may

arise as to whether students consider their self-attributed assessment and self-assessment skills to be reliable – and to what extent. Yule, Damico and Hoffman (1987), in a study involving 56 subjects, found a complex interaction over time between simply identifying a sound contrast in English and being confident that the identification is accurate – that is, between accuracy level and self-monitoring skills. The study also found that teaching had a positive effect on developing self-monitoring skills, which, in turn, according to the authors, could place students in a much better position, when listening to a native speaker, to respond more quickly when they know their identifications are secure and to ask for repetition, confirmation, or clarification when they are aware that their identifications may be inaccurate (Yule, Damico, Hoffman 1987, 768). To our knowledge, no other research has yet dealt with this issue, which could have interesting potential implications: low and high self-attributed assessment skills may have a different impact on students' pronunciation learning progress, especially in terms of motivation.

In addition to making holistic judgments about their own phonetic competence, learners may be more or less able to introspectively identify weak points or concrete problems that negatively affect their competences and, more generally, to reflect upon their progress towards more native-like speech. Studies of pronunciation awareness⁷ can differ in their operationalisation of 'awareness', and subsequently focus on whether students merely possess an understanding of the technical aspects of linguistic items, conceiving pronunciation as a system to be internalised (quantitative language awareness) or rather on whether they understand how these items can carry meaning and play a role in successful communication, thereby conceiving pronunciation as a way to understand and express meaning through interaction (Kennedy, Trofimovich 2010, 177; Kennedy, Blanchet, Trofimovich 2014, 90). Various researchers have found a link between self-awareness and phonetic competence. Kennedy and Trofimovich (2010), in a study developed within the framework of a pronunciation course in English as a Second Language, which focused on suprasegmental aspects of discourse, found that the informants' self-awareness, measured through volume and quality of the entries written in a weekly journal, significantly correlated with ratings of their pronunciation; students who received better evaluations in terms of accent, comprehension and fluency tended to show significantly more qualitative language awareness. Kennedy and Blanchet (2014) found

⁷ As Inceoglu (2021, 3-4) observes, there exists a variety of sometimes interchangeable terms by which to refer to the learner's language awareness of L2 phonology, including phonological awareness, metaphonetic or metaphonological awareness, phonetic or phonological sensitivity, and pronunciation awareness.

that the ability to perceive aspects of connected speech in French L2 was related to the quality of their language awareness. In a follow-up study with the same participants, Kennedy, Blanchet and Trofimovich (2014) examined the development of the pronunciation of intermediate French L2 students over a semester through the journal entries written by the students, finding, in line with previous studies, an association between qualitative awareness and a more accurate connected speech, better intonation, and greater fluency. Given the relationship between the quality of awareness and the competence of learners, researchers have wondered if it is possible to stimulate the development of awareness in the classroom, in a more or less explicit way. Chang (2006), working with L1 Mandarin English learners, showed that explicit teaching in conjunction with metalinguistic discussion can raise awareness of phonological form. Ramírez Verdugo (2006) found that fostering awareness can result in improved learners' intonation, and Couper (2011) linked explicit instruction aimed at developing awareness to an improvement in consonant clusters. In recent work with Australian learners of French L2, Inceoglu (2021) examined the relationship between explicit instruction, learner's pronunciation awareness and the development of competence in phenomena of connected discourse (*enchaînements* and *liaisons*). The author found a significant improvement in the production of connected speech features, analysed in oral recording of reading passages, and an effect of pronunciation (self-)awareness, measured through learners' reflective journal entries on pronunciation improvement. In light of these results, and the evidence that many L2 speakers cannot identify their own pronunciation deficits (Derwing, Rossiter 2002), we may assume with Mitterer, Eger and Reinisch "that external feedback may be essential for pronunciation training to highlight those aspects of the accent that should be improved" (2020, 10) and that in order to assess the need for this external feedback it is convenient to examine the quality of the (self-)awareness. To our knowledge, nevertheless, no research has yet explored the connection between student's quantitative and qualitative (self-)awareness and the will to increase this awareness. Volition is considered a core motivational element, but the link between proficiency and the will to acquire knowledge about pronunciation may be not so straightforward: Shively (2008), for instance, found that L2 speakers with extreme (i.e., the highest and lowest) concern for improving pronunciation scored more for accuracy than their peers.

A student of foreign languages will normally possess some knowledge regarding the typical pronunciation learning progress of speakers with whom she shares her L1: for instance, a Greek learner of English will not be completely unaware of what a typical Greek person studying English sounds like, or of the main difficulties which need to be faced by Greek learners. Parallel to the divergences between

assessment and self-assessment, the relationship between this kind of ‘encyclopaedic’ general awareness and self-awareness is a cognitive aspect which has not yet received attention.

Along with the cognitive and perceptual aspects outlined so far, a large body of studies has investigated affective issues and their relationship with pronunciation in L2. Pronunciation anxiety is perhaps the affective factor that has been most frequently linked to (lack of) proficiency. Broadly defined as the negative emotional reaction that a person experiences in a situation in which a language is used (Gardner, MacIntyre 1993), anxiety has been related to lower levels of linguistic performance, as shown in a recent meta-analysis of 97 studies (Teimouri, Goetze, Plonsky 2019). Research carried out by Zárata-Sández (2017), which analyses the relationship between personality and pronunciation in the foreign language, indicates that emotional instability (neuroticism), expressed through nervousness, anxiety and worry, was the strongest predictor of L2 accent. Baran-Łucarz has presented pronunciation anxiety as a multifaceted construct referring to the feeling of apprehension and worry experienced by non-native speakers in oral-communicative situations, due to negative self-perceptions of pronunciation, to a set of different beliefs related to pronunciation (such as its importance for successful communication or attitudes towards the sound of the target language) and to fears of negative evaluation (by classmates, teacher, native speakers or other non-native speakers), on the basis of pronunciation (Baran-Łucarz 2014, 453). Pronunciation self-efficacy (perceptions about one’s inborn predispositions to acquire or learn a foreign language’s phonological system) and self-assessment seem to play a crucial role in preventing or fostering anxiety (Baran-Łucarz 2014, 453). The student’s self-assessment and self-awareness seem relevant if we consider findings such as those in Baran-Łucarz (2011), who investigated whether the actual level of FL learners’ pronunciation and the pronunciation level perceived by students could be considered significant sources of anxiety. Both levels were found to be significant, with perceived level being more significant than actual level. Szyszka (2011) pointed out that the most anxious learners tend to give a more negative evaluation of their pronunciation, while the more confident and relaxed ones evaluate themselves more positively. Positive Psychology, as advocated for L2 pronunciation by Dewaele and MacIntyre (2014; 2016), Dewaele et al. (2016), propose a holistic view on humans and the inclusion of L2 learners’ positive emotions such as foreign language enjoyment (FLE). MacIntyre and Gregersen (2012) observed that the effects of positive emotions go beyond pleasurable feelings: they improve students’ ability to notice things in the classroom environment and strengthen their awareness of language input which, in turn, fosters learning. Positive emotions, such as pleasure, a fundamental source of intrinsic motivation, also help

eliminate the lingering effects of negative emotions. Reiterer et al. suggest that “enjoying the melody of a new language might activate additional affective learning pathways in the learner’s brain and support auditory memory” (2020, 199). Contrary to the overwhelming focus on negative emotions, a place for positive emotions should be found when dealing with self-assessment, self-awareness and ultimately pronunciation proficiency.

As far as we know, research into the interface between cognitive and affective factors, and more precisely into the extent to which affective factors can have an impact on pronunciation proficiency, has not yet addressed the subject from the learner’s point of view, that is to say, examining how students themselves perceive affective factors as having a positive or negative effect on their pronunciation in the L2.

The studies we have reviewed so far report on empirical research which addresses issues related to the ones on which the present contribution is focused. Nevertheless, we have not found, in any previous research, questionnaire studies involving big numbers of informants sharing the same L1 but studying a wide range of different L2s and taking into account a varied amount of independent variables such as level of proficiency, type of motivation, or linguistic background, to name just some.

3 Method

3.1 Questionnaire Questions

In this paper we analyse the answers to a series of 14 5-point Likert questions (plus 1 final open question) which were presented twice, once for each of the two languages selected by the students as major subjects for the BA degree programme: in Section C of the questionnaire with reference to “language A”, i.e. the first foreign language in their study programme (questions C01-C14), in Section D with reference to “language B”, i.e. the second foreign language in their study programme (questions D01-D14). It should be remembered that all languages can be “A” or “B” and that there is no difference in study requirements (see ch. 1). The Likert questions are divided in thematic subsections here, but were presented to the students without subsection titles and in random order. In any case, the last question was always the open question (C15/D15), where students had the chance to write comments (for the original Italian version of all questions see the Appendix). Reverse scoring was applied to some questions in order to maintain the same ‘meaning’ of high/low scores within the same subsection. From now on, the (identical) questions of Sections C and D are numbered with the codes CD01, CD02 etc.

Self-assessment of pronunciation

CD01. I have a good pronunciation in this L2.

CD02. I have a strong foreign accent in this L2. [reverse scoring]

Variability of one's pronunciation

CD03. When I am nervous or tired my accent in this L2 becomes stronger.

CD04. When I am comfortable I can pronounce this L2 with a better accent.

Ability to (self-)evaluate the pronunciation quality

CD05. I do not understand how strong my foreign accent is in this L2. [reverse scoring]

CD06. Listening to others I can distinguish a good pronunciation in this L2 from a poor one.

Affective aspects of pronunciation

CD07. I like to read aloud in this L2, in class or even on my own.

CD08. I feel ridiculous when I imitate the pronunciation and melody of a native speaker of this language. [reverse scoring]

CD09. I enjoy pronouncing this L2.

CD10. It is a struggle to articulate this L2 well. [reverse scoring]

Knowledge about pronunciation

CD11. I know well what my pronunciation problems in this L2 are.

CD12. I would like to understand better what my pronunciation problems in this L2 are. [reverse scoring]

CD13. I know the pronunciation problems typical of Italians who speak this L2.

CD14. I can't explain what the typical Italian accent in this L2 consists of. [reverse scoring]

Final open question

CD15. Would you like to tell us something else about your accent in this L2, about the particular difficulties in pronouncing this L2, about how you feel pronouncing it or would you like to leave a comment on the questions in this section?

For each question (CD01-CD14) a 5-point Likert scale was provided:

- 1 = I strongly disagree
- 2 = I disagree
- 3 = I neither agree nor disagree
- 4 = I agree
- 5 = I strongly agree

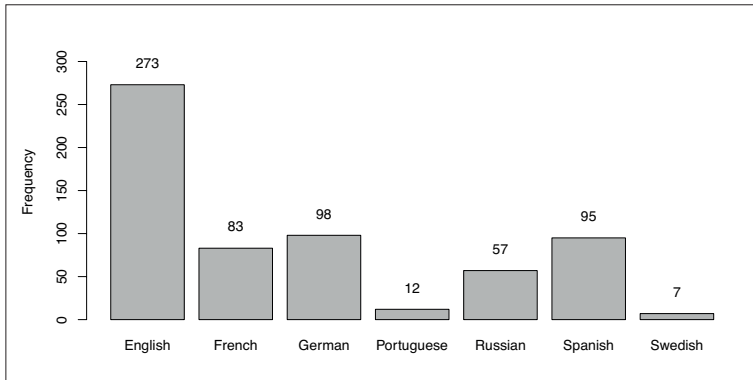
3.2 Participants and Answers

A total of 372 first-year students took part in the online survey: 199 in the first months of the academic year 2019-20 and 173 in the first semester of the academic year 2020-21 (see ch. 1 for details). All the answers given by the 372 participants in Sections C and D of the questionnaire were pooled for analysis, and labelled CD01, CD02 ... CD15. If the self-attributed proficiency level in one of the two languages was “zero”, no answers were collected. For this reason, the total number of answers is not $(372 * 2 =) 744$, but 640. Furthermore, we omitted 8 series of answers referring to a language in which the informants declared a native proficiency level, because the real status of this language might vary between a full native command (the case of South Tirolean students with German L1) and a heritage language used only in family contexts and without complete schooling (e.g., the case of students coming from Romanian families). Moreover, the majority of questions were not appropriate for respondents with a native command (CD01-05, 08, 10-12). Thus, we could not expect consistent answers. The remaining responses were 632 (given by 366 participants: 193 from the first cohort and 173 from the second).

3.3 Languages

The languages selected by students are one of our main predictors for the answers given to questions CD01-CD14. However, with very low numbers of answers per language one would not expect meaningful results. For this reason we omitted the answers for Catalan and Modern Greek which each had only a single informant. Moreover, we filtered 5 answers which referred to LIS (Italian Sign Language), because terms like ‘pronunciation’ and ‘accent’ are unlikely to be interpretable for LIS students. Finally, British and American English (it. *inglese*, *anglo-americano*) were put together in the category “English”. In this way we ended up with 625 answers to Sections C and D of the questionnaire which are distributed by language as shown in chart 1.

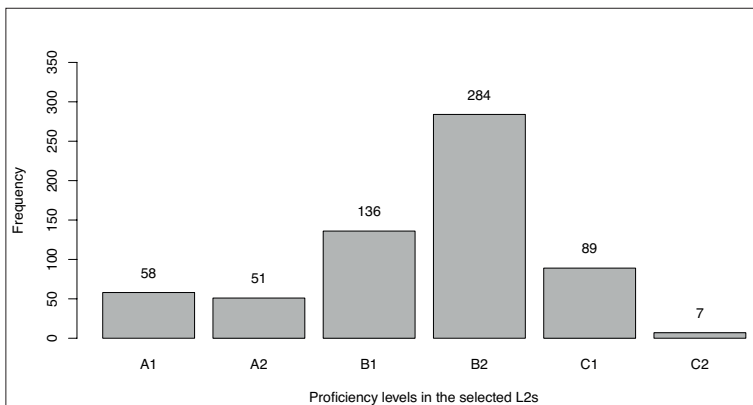
Chart 1 Distribution by language of 625 (series of) responses



3.4 Proficiency Levels

Our second main predictor for answers given in Sections C and D of the questionnaire is the self-declared proficiency level. The distribution by level of the 625 answers is shown in chart 2 in terms of the six levels of the *Common European Framework of Reference for Languages* (Council of Europe 2001).

Chart 2 Distribution by proficiency level of 625 (series of) responses



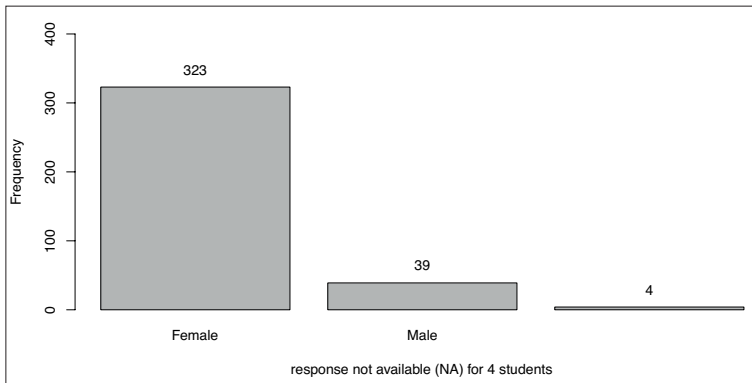
While languages and levels are specific for each of the 625 series of answers to questions CD01-CD14, the following independent variables are the same for the 2 answer series given by the same student (1 for the “A” language, 1 for the “B” language). The number of responses is equal to that of the remaining students, i.e. 366.

3.5 Other Independent Variables

3.5.1 Gender

The 366 students involved in the analyses were distributed by gender as shown in chart 3 (data missing for 4 informants).

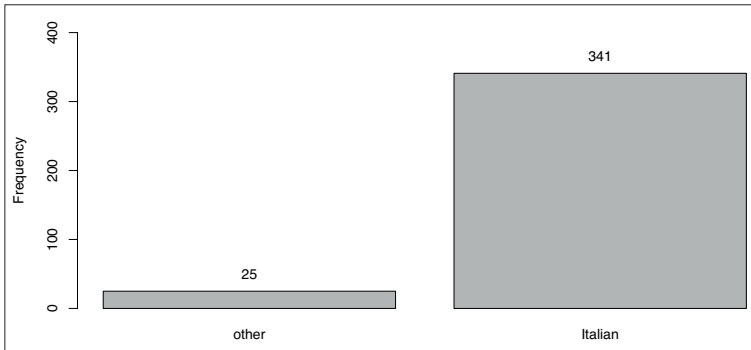
Chart 3 Distribution of respondents by gender



3.5.2 First Language

Among the 366 students who were the object of the analysis, 339 declared that Italian was their first language, acquired at home and then studied at school. This category included a few informants who started with an Italian dialect and then acquired standard Italian at school. We do not distinguish between the two groups because it is virtually impossible that these persons, growing up in Italy, in their early childhood were not exposed to standard Italian, in the first place by being exposed to TV programmes. 27 respondents chose the option “other” and recorded their specific situation. Many of these statements confirm that the first language was different from Italian (Arabic, Albanian, Moldovan/Romanian, Ladin, Spanish), while others indicated bilingual family contexts (Tyrolean dialect/Italian, French/Italian, Chinese/Italian, Slovak/Italian); some students simply state that they learned Italian at school (after arrival in Italy), but 2 respondents choose the option “other” because they had acquired both standard Italian and an Italian dialect in their families. These 2 informants (Stud0232, Stud1034) were included in the “Italian” group [chart 4].

Chart 4 Distribution of respondents by first language



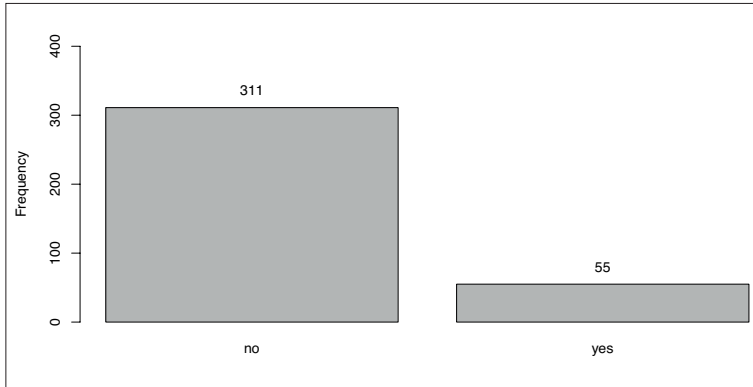
3.5.3 Pluricultural Experience

The first part of the questionnaire contained the following question about bilingualism: “A07. As a child or teenager, did you learn another language, other than Italian, that you master (or mastered) at the level of a native speaker or in any case with great spontaneity?”. This formulation was intended to include not only simultaneous bilinguals (coming from mixed families), but also subjects who had acquired a second language later in their lives, predominantly because their families had immigrated to Italy. The students who answered “yes” had to specify the language(s) and if they still used it. Among the 366 respondents, 104 answered “yes”, and 262 “no”. The proportion of bilingual students (28%) seemed quite high. A closer look at the individual answers made it clear that a number of respondents declared themselves as bilingual because of the languages studied at school, especially English. Such a wide concept of ‘bilingualism’ is not excluded by the wording of the question and is also documented in the literature (cf. Paradowski, Bator 2016), but would be quite useless for our research because – in a wide sense – all of our respondents are bilingual. However, since 262 students did not consider themselves bilingual, it is clear that this item suffered from an inconsistent interpretation.

Moreover, there is evidence (Dewaele, McCloskey 2015) that attitudes to foreign language pronunciation – especially to foreign accent – are influenced more by substantial pluricultural experiences than simply by the number of languages that the subject knows. For this reason we established a new category of “Pluricultural status” which we defined for all participants based on the answers to different questions (native proficiency, a school year abroad, self-declared bilingualism justified by a language not taught in Italian schools, important intercultural experiences abroad). Based on this

method the pluricultural status of the respondents was distributed as shown in chart 5.

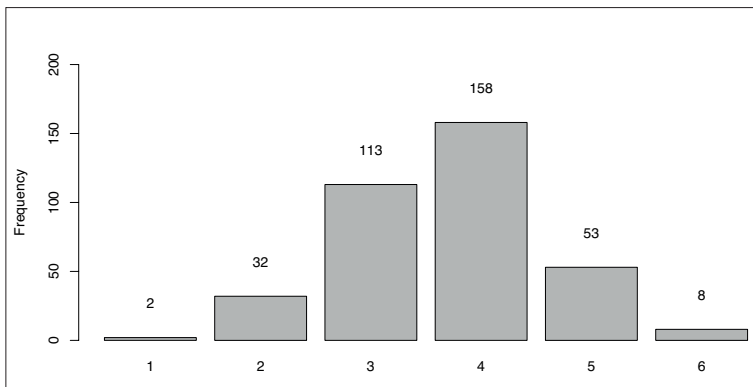
Chart 5 Distribution of respondents by pluricultural status



3.5.4 Number of Foreign Languages Studied at School

Another hypothetical predictor of pronunciation attitudes could be the extent of plurilingualism (in a broad sense, including low proficiency languages); this data was derived from the answers to questions A08-A15 about languages studied at school and presents the distribution shown in chart 6.

Chart 6 Distribution of respondents by number of languages studied

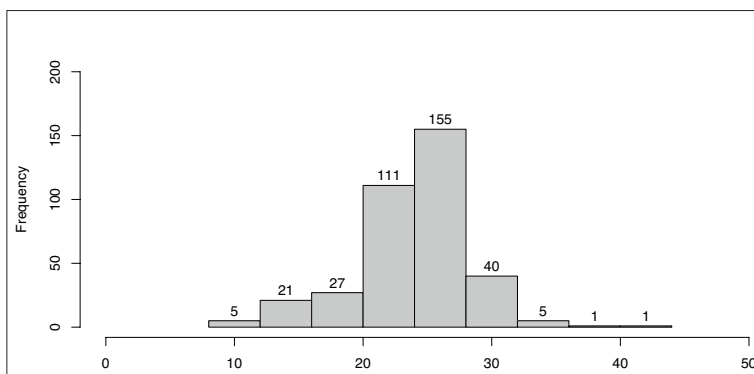


As can be seen from the chart, the majority of informants (153) studied 4 foreign languages, in second and third place follow those who studied 3 languages (113) or 5 languages (53). These 3 groups together constitute 89% of the population.

3.5.5 Years of Language Study

A second variable related to previous language learning might be the total number of years of foreign language study [chart 7], again derived from the answers to questions A08-A15; if in A15 the additional language was without temporal information, we calculated 1 year.

Chart 7 Distribution of respondents by total years of foreign language study



3.5.6 Motivational Coefficient

The final question of the biographical section of the questionnaire (A19) was about the motivations for enrolment in the foreign language degree programme. In a list of 13 possible motivations, the respondents had to choose those which applied to themselves. There was no limitation for the number of choices. Table 1 lists all possible choices, the number of students who chose each one, and a classification as extrinsic or intrinsic motivation (with 2 neutral ones). For details see chapter 1 of this volume.

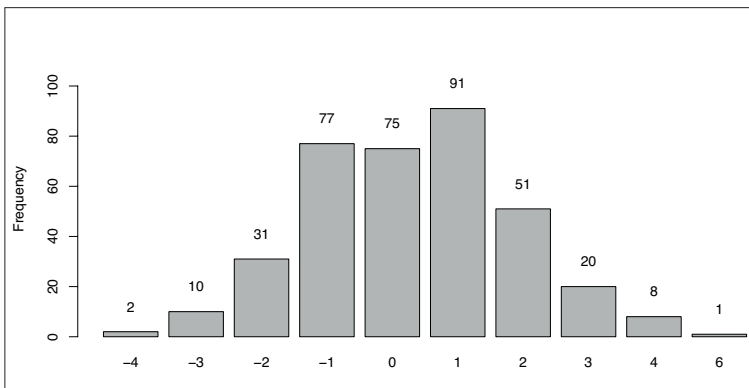
Table 1 Motivations for degree course enrolment selected by 366 respondents

Motivation	Count	Characteristic
1. At school I was good in languages	179	extrinsic
2. Because at school I have never studied foreign languages well	24	neutral
3. I had a good language teacher at school	90	neutral
4. By exclusion (e.g., of scientific subjects)	32	extrinsic
5. Following a stay in a different linguistic context	67	intrinsic
6. Because this degree programme is present in Venice, i.e., close to my home	40	extrinsic

Motivation	Count	Characteristic
7. Because I like literature	111	intrinsic
8. Because I am interested in linguistics	74	intrinsic
9. Because I am curious to know other cultures	233	intrinsic
10. Languages are my passion	227	intrinsic
11. I would like to teach languages	91	intrinsic
12. Because foreign languages give me the opportunity to move abroad	207	extrinsic
13. Good job prospects in the globalised world	231	extrinsic

The motivational coefficient was calculated by adding 1 for every intrinsic motivation (+1) and subtracting 1 for every extrinsic motivation (-1). Chart 8 shows the distribution of the resulting coefficients. The majority (91 students out of 366) had a motivational coefficient of 1, i.e., they chose one more intrinsic than extrinsic motivation. Consider, however, that there are 6 intrinsic motivations in the list, while only 5 are extrinsic.

Chart 8 Distribution of respondents by motivational coefficient



One question in Section A of the questionnaire focused on the (current or past) daily use of a second language. We did not use this data for the analysis, because the daily use of one L2, e.g., English, is expected to have different impacts on the two degree course languages, e.g., English and French, at least if one of these is the language of daily use and the other is not.

3.6 Research Questions (RQ) and Hypotheses

The present chapter deals with perceptual, affective and cognitive factors of L2 pronunciation and foreign accent as seen by 1st year students enrolled in a foreign language degree programme of an Italian university.

Our principal aim was to investigate the attitudes and opinions expressed by the informants: How do they judge their pronunciation quality, their ability to evaluate an L2 pronunciation, their knowledge of pronunciation? Secondly, we wanted to explore which independent variables might influence these judgements.

Since in Section C and D the informants were first of all asked to specify the languages they had chosen as main subjects of study and to rate their corresponding CEFR levels, before answering the same series of 14 Likert-type questions (CD01-CD14) separately for each language with a minimum level of A1, it seemed natural, first of all, to investigate the role of language and proficiency level – two independent variables which are different for the two series of answers given by the same subject. In addition to the research questions, we will also formulate some hypotheses for these two variables.

The biographical features (gender, bilingualism, language studies etc.), in contrast, might predict the answers in Section C/D of the questionnaire only to the extent that they are independent of language and proficiency level. With regard to biographical/individual variables we will explore possible effects but will not formulate hypotheses.

Perception of L2 pronunciation and accent

Questionnaire questions CD01-CD02

RQ 1: How do informants self-rate their pronunciation quality?

RQ 2: What do their ratings depend on?

Hypothesis 1: The pronunciation self-ratings depend on the self-reported proficiency level.

RQ 3: Do informants equate 'good pronunciation' with absence of a 'strong foreign accent'?

Hypothesis 2: Considering the widespread native pronunciation ideal of learners we expect them to equate the two concepts.

Questionnaire questions CD05-CD06

RQ 4: How do informants evaluate their ability to judge the own accent and that of other L2 speakers?

RQ 5: What does their self-reported ability to judge L2 pronunciation depend on?

Hypothesis 3: The self-reported ability to judge L2 pronunciation depends on the self-reported proficiency level.

RQ 6: Do informants make a difference between the ability to judge their own pronunciation and that of other L2 speakers?

Hypothesis 4: In line with findings of real differences, we expect that the informants are less sure about their ability to judge their own L2 pronunciation.

Affective factors

Questionnaire questions CD07-CD10

RQ 7: Knowing that emotions (positive and negative ones) are crucial for pronunciation, what are the pronunciation-related feelings of the informants?

Hypothesis 5: The pronunciation-related feelings of the informants are mostly positive because otherwise they would not have chosen to enrol for a foreign language degree programme.

RQ 8: On which variables do the pronunciation-related feelings of the informants depend?

Hypothesis 6: The pronunciation-related feelings depend on level of proficiency (better command means more enjoyment) and language (in line with widespread stereotypes and universal tendencies).

Questionnaire questions CD03-CD04

RQ 9: How do informants assess the influence of situational mood and feelings on their L2 pronunciation?

RQ 10: On which variables do the importance of mood and feelings for L2 pronunciation depend?

Hypothesis 7: In the eyes of informants, the influence of moods and feelings on the quality of their L2 pronunciation decreases with greater (self-reported) proficiency.

Cognitive factors

Questionnaire questions CD11-CD14

RQ 11: Are informants convinced that they understand their own specific L2 pronunciation problems and/or those of (other) Italians?

RQ 12: On what does the self-reported L2 pronunciation knowledge depend?

Hypothesis 8: The self-reported L2 pronunciation knowledge depends on the declared proficiency level in that language.

RQ 13: Are informants less confident about awareness of their own pronunciation deficits compared to that of other speakers?

Hypothesis 9: Informants believe they have less awareness of their own L2 pronunciation deficits compared to what they believe they know about the pronunciation problems of other speakers.

4 Results

4.1 Statistics

Likert items produce ordinal, not parametric (or interval) data. Some authors (e.g., Kuzon, Urbanchek, McCabe 1996; Jamieson 2004) criticise and reject the use of parametric statistics; others recommend 11-point scales (e.g., Wu, Leung 2017) or ‘real’ Likert scales, i.e., the sum of single Likert items measuring the same construct (Carifio, Perla 2007), in order to approximate interval data. Still others hold that the robustness of parametric statistics makes them suitable even for the analysis of single Likert item responses (Geoff 2010; Sullivan, Artino 2013). In the present study this controversy is relevant for the choice of the regression model: linear or ordinal (probabilistic).

Since Section C/D of the questionnaire is organised by topic, with each 2 or 4 items covering the same construct, we decided for the ‘middle way’, i.e., using the means of 2 or 4 items. In this way the 5-point scale is *de facto* extended to 9 points (in the case of 2 items) or even 17 points (4 items) and the data should undoubtedly be suitable for linear regression. Since the majority of respondents have given 2 series of answers (for the two languages studied in their degree course) we use a linear mixed-effects model, with students as (intercept) random effect.⁸ The linear mixed-effects model (“lmer” of the R-library “lme4”) delivers t-tests for each experimental effect; subsequently degrees of freedom and p-values are estimated based on the Satterthwaite method as implemented in the R-library “lmerTest”. The fixed effects are computed for the following independent variables (with range of values in brackets):

Language-specific predictors:

- language (English, French, German, Portuguese, Russian, Spanish, Swedish)
- level of proficiency (A1, A2, B1, B2, C1, C2)

Student-specific predictors:

- gender (female/male),
- first language (Italian/other),
- pluricultural experience (yes/no),
- number of foreign languages studied (range 1 ... 6),
- total years of language studies (range 11 ... 44),
- motivational coefficient (range -4 ... 6: higher coefficients stand for more intrinsic motivation).

⁸ Cf. Winter 2013 for an introduction to mixed models.

After running a comprehensive linear mixed-effects model, we perform a stepwise backward model selection using the step-function of the R-library “lmer” (cf. Kuznetsova, Brockhoff, Christensen 2017, 8-9). We report estimates and p-values only for predictors of the final, optimised model. Assumptions of regression models (normal distribution and homoscedasticity of residuals) are tested by means of visual inspection (cf. Winter 2020, 109-12).

Before computing means for a specific group of (2 or 4) Likert items, it is necessary to reverse some scores. For example, for the two questions regarding self-assessment of pronunciation (CD01: “I have a good pronunciation in this L2”; CD02: “I have a strong foreign accent in this L2”) we must reverse the scoring of CD02, so that high values (4 or 5) mean a good, almost accent-free pronunciation, and low values (1 or 2) mean a bad pronunciation and/or one with a strong accent. Rescoring thus means converting 5 to 1, 4 to 2, 2 to 4, and 1 to 5, while 3 remains unchanged. Reverse scoring affects the answers to CD02, CD05, CD08, CD10, CD12, and CD14 (cf. the question list above).

A great part of the results that go beyond the description of answer distribution thus deal with dependent variables that are arithmetic means computed from single answers as shown by the following list:

Self-assessment of pronunciation:	$CD0102 = (CD01+CD02)/2$
Emotional variability of one’s pronunciation:	$CD0304 = (CD03+CD04)/2$
Ability to (self-)evaluate the pronunciation quality:	$CD0506 = (CD05+CD06)/2$
Enjoyment of pronunciation:	$CD0710 = (CD07+CD08+CD09+CD10)/4$
Knowledge about pronunciation:	$CD1114 = (CD11+CD12+CD13+CD14)/4$

Sometimes we want to compare the responses to single items (e.g., the answers to item CD01 and to item CD02) in order to detect correlations, but also differences in distribution. In this case we resort to:

- Kendall’s rank correlation to verify if there is a systematic link between two series of responses;
- the Wilcoxon rank test to demonstrate that the difference between two (Likert-type) distributions is not the result of chance.

All calculations and plots were carried out with the R software (R Core Team 2020) and with several supplementary R packages, above all “lme4” (Bates et al. 2015), “lmerTest” (Kuznetsova, Brockhoff, Christensen 2017) and “likert” (Bryer, Speerschnieder 2016).

4.2 Visualisation of Likert responses

Chart 9 gives an example of how responses to Likert-type questions are visualised. All bars are centred, i.e., the “neither agree nor disagree” option is displayed in the middle and labelled with the corresponding percentage. In the left-hand margin, the overall percentage of the 2 disagree options is shown (e.g., 11% in CD01), while the overall percentage of the 2 agree options is displayed on the right (e.g., 55% in CD01).

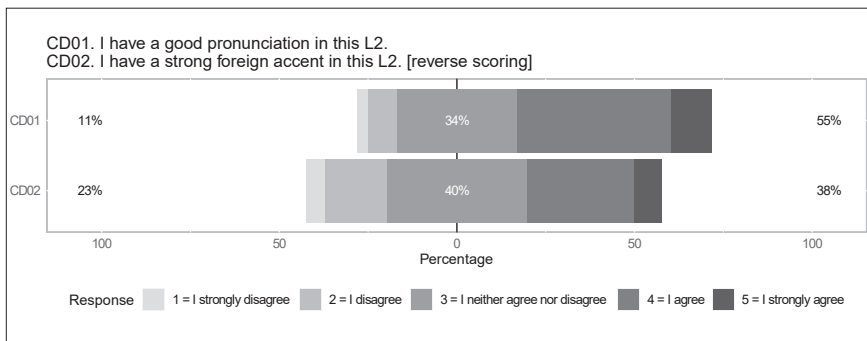
In the questions with reverse scoring, the percentage on the left side is that of agreement with the original statement (without rescoring). For example, 23% of the respondents agreed with the statement CD02 “I have a strong foreign accent in this L2”, but due to rescoring the percentage of agreement and the corresponding bar segments are displayed on the left side, vice versa for disagreement.

The answers to the questions in the Section C/D of the questionnaire were not mandatory. Nevertheless, there was never more than one missing answer in each question. Thus, we have 624 answers for CD01, CD02, CD06, CD07, CD11, CD13 and CD14. All the other questions have the maximum of 625 answers.

4.3 Perception of L2 Pronunciation and Accent

4.3.1 CD01-CD02. Self-Assessment of Pronunciation

Chart 9 Responses to questions CD01-CD02



RQ 1 How do informants self-rate their pronunciation quality?

Chart 9 shows that the majority of respondents (55%) are sure that they have a good pronunciation (CD01), while somewhat fewer (38%) also believe that they do not have a strong foreign accent (CD02). On the whole, however, both bars tend to the right side, i.e., they express the students’ belief in their own pronunciation quality. What is no-

ticeable is the extremely high proportion (34% and 40%) of respondents who are undecided.

RQ 2 What do their ratings depend on?

Hypothesis 1: The pronunciation self-ratings depend on the self-reported proficiency level.

To answer the question and to test Hypothesis 1, we performed a linear mixed-effects analysis of the relationship between the self-rated pronunciation quality (computed for each subject as the mean of CD01 and reverse scored CD02) and the following independent variables (as fixed effects): language, proficiency level, gender, first language, pluricultural experience, number of foreign languages studied, years of preceding foreign language study, motivational coefficient. The variable ‘student’ was set as (intercept) random effect, because different respondents might have different, i.e., more or less rigorous, rating scales, and because each student could give up to 2 series of responses (if they had a level of at least A1 in both major subject languages). The linear mixed-effects model produces three significant predictor variables: Language, CEFR_Level and First_Language. Performing a stepwise backward model selection, we find five significant variables: Language and CEFR_Level at the highly significant α -level of $p < 0.001^{***}$, First_Language at $p < 0.01^{**}$, and Number_L2 and MotivCoefficient at the minimum α -level of $p < 0.05^*$. After the elimination of Years of L2 study and Pluricultural_status from the model, the fixed effects for the significant predictors are those displayed in table 2.

Table 2 Mixed model for self-rated pronunciation quality (CD01, CD02)

Predictors	Estimates	Confidence intervals	p
(Intercept)	2.56 ***	2.17 – 2.96	<0.001
Language [French]	-0.17	-0.36 – 0.02	0.073
Language [German]	-0.30 **	-0.49 – -0.11	0.002
Language [Portuguese]	0.22	-0.25 – 0.70	0.358
Language [Russian]	0.12	-0.15 – 0.39	0.376
Language [Spanish]	0.16	-0.02 – 0.34	0.076
Language [Swedish]	-0.59 *	-1.19 – -0.00	0.049
CEFR_Level [A2]	0.50 ***	0.22 – 0.79	0.001
CEFR_Level [B1]	0.73 ***	0.47 – 0.99	<0.001
CEFR_Level [B2]	0.94 ***	0.68 – 1.21	<0.001
CEFR_Level [C1]	1.33 ***	1.03 – 1.64	<0.001
CEFR_Level [C2]	1.87 ***	1.27 – 2.46	<0.001
First_Language [Italian]	-0.37 **	-0.61 – -0.13	0.002

Predictors	Estimates	Confidence intervals	p
Number_L2	0.08 *	0.02 – 0.15	0.013
MotivCoefficient	0.04 *	0.00 – 0.08	0.037
N Student_ID	366		
Observations	623		

* p<0.05 ** p<0.01 *** p<0.001

First, some explanations for those who are not familiar with the output of linear regression models. The intercept-value corresponds to a (hypothetical) student with all variables at their reference level (usually the first in alphabetical order or '0' in case of numeric data), i.e., a student of English, at level A1, with a L1 "other" than Italian, no previous foreign language study and perfectly balanced extrinsic and intrinsic motivations (MotivCoefficient = 0). This (non-existing) student would have an average of 2.56 in CD01 and CD02, i.e., they would self-rate their pronunciation as quite bad, in any case below the indecision-level of 3 ("neither agree nor disagree"). If the answers of the student refer, e.g., to German, the estimate corresponding to "Language [German]" tells us that the model predicts an even lower self-rating of Intercept + Estimate = 2.56-0.30 = 2.26. If the student is at level B2, on the other hand, the model predicts a CD0102-value which is 0.94 higher (3.20). Furthermore, if the first language is not Italian but "other" this value remains unchanged; otherwise it drops by 0.37. That means students who did not acquire Italian as their first language, but Arabic, French, Portuguese etc., self-rate their pronunciation at a slightly higher level. Finally, every L2 studied at school has a small positive effect of 0.08, and also negative or positive values of the motivation coefficient (range -4 ... +6), multiplied by the corresponding estimate of 0.04, can move slightly up or down the predicted average value of CD0102. The information in the column "Confidence intervals" means that with a probability of 95% the real contribution of the predictor is within the indicated range (2 standard errors below and above the estimate). Thus, for example, there is a 95% probability that the real contribution of the motivational coefficient is between 0.00 and 0.08.

The last column of the table with the p-values for every single predictor tells us that not only the proficiency-variable CEFR_Level as a whole is significant, but also every single level, and with very low p-levels, compared to level A1. This means that the null hypothesis related to our Hypothesis 1, in other words: the idea that the self-reported proficiency-level does *not* predict the (averaged) answers to CD01 and (reverse scored) CD02, must be rejected. Hypothesis 1 can thus be regarded as confirmed. Moreover, as one would expect, the estimates increase from level to level, which means that the high-

er the CEFR level, the higher the confidence in one's own pronunciation quality. Running the model with CEFR_Level as ordered (categorical) variable ($A1 < A2 < B1 < B2 < C1 < C2$), it turns out that the best fit is a linear order ($p < 0.001$), not a quadratic or cubic one. Therefore, it would be legitimate to substitute the levels by numbers (1, 2, 3, 4, 5, 6), but here we prefer the categorical variable because it produces estimates for every single level.

We will now explore the role of other predictors, for which we have not formulated hypotheses. The Language variable as a whole was significant in the stepwise backward model selection, but not each of the languages has an equally significant deviation (estimate) from English (which is the default and comprised in the intercept). For French, German and Swedish, the deviation from English is negative, but only for German (*) and Swedish (**) it is significant. So for these languages the participants evaluated their pronunciation quality as worse when compared to English. For the other languages the estimate is positive, but not significant. However, French and Spanish both approach the α -level of $p < 0.05$.

Among the biographical predictors, the negative estimate for First Language [Italian] means that students who as their first language had acquired standard Italian or an Italian dialect (usually in combination with standard Italian), self-rated their pronunciation quality significantly ($p < 0.01^{**}$) lower (-0.37 points) than those who acquired Italian later, because their L1 was different. Finally, the number of L2s studied at school which ranges from 1 to 6 (difference: 5) can at best affect the CD0102 response for $5 * 0.08 = 0.40$. Similarly, the motivation coefficient (range -4 ... 6) can create a difference of at most $10 * 0.04 = 0.40$ points between the most extrinsically and the most intrinsically motivated students.

RQ 3 Do informants equate 'good pronunciation' with absence of a 'strong foreign accent'?

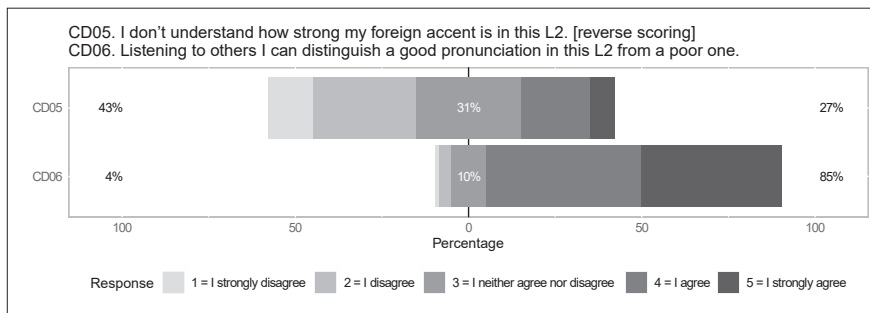
Hypothesis 2: Considering the widespread native pronunciation ideal of learners we expect them to equate the two concepts.

To answer this research question, we no longer average the answers to the 2 questions (CD01, CD02), but compare them with each other. If the learners equate the two concepts, there should be a very high correlation between the answers to these questions. Since the possible responses (1, 2, 3, 4, 5) are ordinal (and not interval) data, we apply a rank correlation statistic. Kendall's rank correlation for CD01-CD02 amounts to $\tau = 0.43$ ($Z = 12.48$, $p < 0.001^{***}$), which is a medium, but not very high correlation. Thus, one might suppose that informants do not fully equate the concepts of good and accent-free pronunciation. The smaller percentage of agreement and the higher degree of indecision for CD02 [chart 9], as compared to CD01, point

in the same direction. The confirmation comes from the Wilcoxon test (used instead of t-tests for paired ordinal data) which delivers $V = 39138$, $p < 0.001^{***}$, which means that the null hypothesis corresponding to Hypothesis 2 cannot be rejected: the distribution of answers to the two different questions is significantly different, because the students surveyed do not equate “good pronunciation” with absence of a “strong foreign accent”. A substantial part of them think that a good L2 pronunciation is compatible with a foreign accent.

4.3.2 CD05-CD06. Ability to (Self-)Evaluate the Pronunciation Quality

Chart 10 Responses to questions CD05-CD06



RQ 4 How do informants evaluate their ability to judge the own accent and that of other L2 speakers?

From the stacked bar of CD06 in chart 10 we can see that the great majority of respondents (85%) believe that they can distinguish a good pronunciation from a poor one when listening to other L2 speakers. Only 4% think they cannot. Even the percentage of undecided (10%) is very low compared to that in other items. On the other hand (question CD05), far fewer respondents (27%) are convinced they can understand how strong their own foreign accent is. The majority (43%) believe they are unable to do so, and almost a third (31%) have no clear opinion. Even taking into account that the two questions use different concepts (pronunciation quality vs. foreign accent) the difference is striking.

RQ 5 What does their self-reported ability to judge L2 pronunciation depend on?
Hypothesis 3: The self-reported ability to judge L2 pronunciation depends on the self-reported proficiency level.

As for Hypothesis 1, we performed a linear mixed-effects analysis of the relationship between the self-rated pronunciation evaluation ability (computed for each subject as the average of reverse scored CD05 and of CD06) and a list of independent variables as fixed effects: language, proficiency level, gender, first language, pluricultural experience, number of foreign languages studied, years of preceding foreign language study, motivational coefficient, while the variable ‘student’ was set as (intercept) random effect. The LME model produces four significant predictor variables: Language, CEFR_Level, First_Language, and Number_L2. Performing a stepwise backward model selection, the same four predictors are confirmed: CEFR_Level is highly significant ($p < 0.001^{***}$), while the other three are significant at α -level=0.05 [tab. 3].

Table 3 Mixed model for self-rated pronunciation evaluation ability (CD05, CD06)

Predictors	Estimates	Confidence intervals	p
(Intercept)	3.19 ***	2.81 – 3.58	<0.001
Language [French]	-0.19 *	-0.35 – -0.02	0.026
Language [German]	-0.24 **	-0.41 – -0.08	0.004
Language [Portuguese]	0.05	-0.36 – 0.46	0.817
Language [Russian]	-0.29 *	-0.53 – -0.05	0.016
Language [Spanish]	-0.04	-0.20 – 0.11	0.594
Language [Swedish]	-0.37	-0.90 – 0.15	0.164
CEFR_Level [A2]	0.15	-0.10 – 0.41	0.244
CEFR_Level [B1]	0.39 **	0.15 – 0.62	0.001
CEFR_Level [B2]	0.38 **	0.14 – 0.62	0.002
CEFR_Level [C1]	0.59 ***	0.32 – 0.86	<0.001
CEFR_Level [C2]	1.20 ***	0.67 – 1.73	<0.001
First_Language [Italian]	-0.29 *	-0.53 – -0.04	0.022
Number_L2	0.08 *	0.01 – 0.15	0.018
N Student_ID	366		
Observations	624		

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

First of all, we can substantially confirm Hypothesis 3: the self-reported proficiency level in the target language is a very good predictor of the (averaged) answers to CD05 and CD06, even if CEFR_Level A2 does not reach significance compared to A1 (included in the intercept). It should be noted that the transition from level B1 to level B2 is not accompanied by an increase in the self-perceived assess-

ment ability (compared to A1): both estimates are around 0.38/0.39.

With regard to the target languages, it is striking that almost all languages (except Portuguese) have a negative estimate, i.e., in these languages the participants believe that they have less ability to assess L2 pronunciation (compared to English). The negative difference (about -0.2/-0.4) is significant for German (**), French (*) and Russian (*). Finally, the predictors `First_Language` and `Number_L2` behave in a similar way as in CD01-CD02: respondents with an L1 other than (only) Italian self-rate their pronunciation assessment ability 0.29 points higher, and every L2 studied at school contributes to the dependent variable with 0.08.

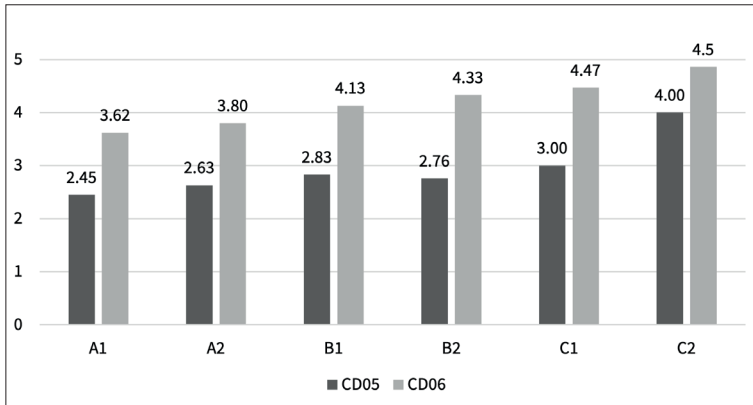
RQ 6 Do informants make a difference between the ability to judge their own pronunciation and that of other L2 speakers?

Hypothesis 4: In line with findings of real differences, we expect that the informants are less sure about their ability to judge their own L2 pronunciation.

That this hypothesis cannot be rejected is already made clear by a glance at the two stacked bars in chart 10 and on the percentages of the answer options chosen by the participants. So we do not expect a high correlation between the two answers. Indeed, Kendell's rank correlation gives the very low value of $\tau = 0.042$ with a p-value of 0.2246, which is surprising because it means that we cannot exclude that there is absolutely no correlation between the two self-ratings. The Wilcoxon test ($V = 4184.5$, p-value $< 2.2e-16$) confirms that the distribution of answer options is significantly different for the two questions CD05 and CD06. Therefore, Hypothesis 4 is confirmed.

Exploring possible reasons for the very different responses to the two questions, chart 11 with mean response values shows that, while agreement with CD06 (assessment of others' pronunciation) increases constantly over proficiency levels, the confidence in self-assessment does not, especially in the middle of the field (A2-B1-B2), which includes about 75% of the responses:

Chart 11 Mean response values for questions CD05, CD06 divided by proficiency level

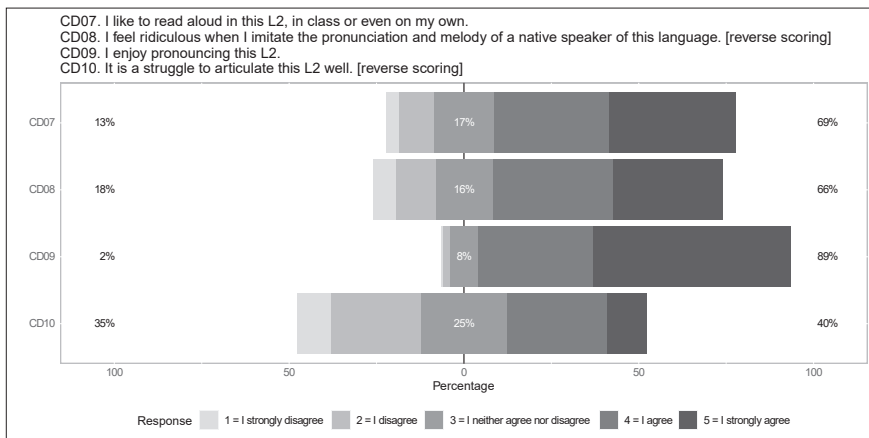


While the progression of CD06 is what one might expect, the answers to CD05 do not show a similar constant advancement. There seems to be some confusion in the central proficiency levels, which reminds us of the extremely high percentage of undecided respondents in CD05. In part this might be caused by the formulation of the question (see § 5).

4.4 Affective Factors

4.4.1 CD07-CD10. Enjoyment of Pronunciation

Chart 12 Responses to questions CD07-CD10



RQ 7 Knowing that emotions (positive and negative ones) are crucial for pronunciation, what are the pronunciation-related feelings of the informants?
 Hypothesis 5: The pronunciation-related feelings of informants are mostly positive because otherwise they would not have chosen to enrol for a foreign language degree programme.

As can be seen from chart 12 of the four Likert items, the great majority of respondents (89%) generally enjoy speaking the L2 in question CD09, and at least 2/3 of the first-year students like to read aloud (CD07) and do not feel ridiculous when imitating a native speaker (CD08). This provides a clear confirmation of the hypothesis about prevailing positive feelings. In contrast with this rosy picture, the responses to CD10 are much more balanced: 40% deny that it is a struggle to articulate the L2, but 35% think the opposite. It seems that for part of the population interviewed, enjoyment of L2 pronunciation is compatible with making hard efforts to articulate it.

RQ 8 On which variables do the pronunciation-related feelings of the informants depend?
 Hypothesis 6: The pronunciation-related feelings depend on level of proficiency (better command means more enjoyment) and language (in line with widespread stereotypes and universal tendencies).

As before, we computed a linear mixed-effects (LME) model of the relationship between general enjoyment of L2 pronunciation (computed as the means of scores CD07 to CD10) and a list of independent variables (as fixed effects): language, proficiency level, gender, first language, pluricultural experience, number of foreign languages studied, years of preceding foreign language study, motivational coefficient, while the variable ‘student’ was set as (intercept) random effect. The LME model produced three significant predictor variables: Language, CEFR_Level and the motivational coefficient. Performing a stepwise backward model selection, all three were significant at an α -level of 0.001. The estimates of the reduced model can be found in table 4.

Table 4 Mixed model for general enjoyment of L2 pronunciation (CD07-CD10)

Predictors	Estimates	Confidence intervals	p
(Intercept)	3.27 ***	3.03 – 3.51	<0.001
Language [French]	-0.05	-0.21 – 0.10	0.511
Language [German]	-0.24 **	-0.40 – -0.08	0.003
Language [Portuguese]	0.44 *	0.05 – 0.83	0.029
Language [Russian]	0.16	-0.07 – 0.39	0.171
Language [Spanish]	0.31 ***	0.16 – 0.46	<0.001

Predictors	Estimates	Confidence intervals	p
Language [Swedish]	-0.35	-0.86 – 0.15	0.170
CEFR_Level [A2]	0.23	-0.02 – 0.48	0.070
CEFR_Level [B1]	0.38 ***	0.16 – 0.61	0.001
CEFR_Level [B2]	0.50 ***	0.27 – 0.72	<0.001
CEFR_Level [C1]	0.88 ***	0.62 – 1.14	<0.001
CEFR_Level [C2]	1.13 ***	0.62 – 1.64	<0.001
MotivCoefficient	0.09 ***	0.05 – 0.13	<0.001
N Student_ID	365		
Observations	624		

* p<0.05 ** p<0.01 *** p<0.001

Now we can answer RQ 8: the pronunciation-related feelings of informants depend on the target language, the proficiency level and the motivational coefficient. Thus, in line with Hypothesis 6, pronunciation enjoyment increases steadily with the overall command of the language, leading to an advantage for level C2 of more than 1 point on the Likert scale compared to level A1. Similarly, the target language seems to be a relevant predictor for pronunciation-related feelings: Spanish (***) and Portuguese (*) increase, German (**) and Swedish (n.s.) reduce pronunciation enjoyment (compared to English), while French (n.s.) and Russian (n.s.) remain in between. This result seems compatible with the idea of stereotypes and universal phonological preferences (see the discussion for details). Finally, the motivational coefficient turned out to be highly significant (***). Taking into account the range of this variable (from -4 to +6), we can conclude that enrolment motivation has a potential impact on the (averaged) answers CD07-CD10 of almost 1 point on the Likert scale (10 times the estimate of 0.09).

Exploring the question of enjoyment vs. effortlessness of pronunciation, we tested the idea that for some languages, usually considered to be languages with difficult pronunciation (like German or French), enjoyment (CD09) was rated high compared to ease of pronunciation (CD10), while for others (like Spanish or Portuguese) it was the opposite. For the arithmetical difference CD09-CD10 we thus expect higher values for the first, but lower values for the second group of languages (compared to English). Lower values are also expected for higher levels of proficiency. In a stepwise backward model selection only language and proficiency level proved to be significant predictors of the difference CD09-CD10, so we reduced the model to these two variables [tab. 5].

Table 5 Mixed model for the difference between enjoyment (CD09) and effortlessness (CD10) in L2 pronunciation

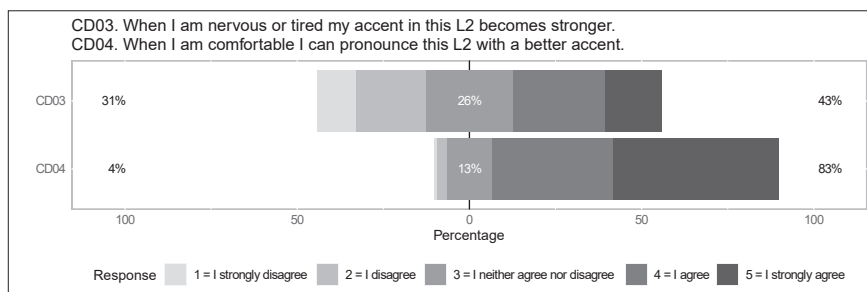
Predictors for the difference CD09-CD10	Estimates	Confidence intervals	p
(Intercept)	1.62 ***	1.20 – 2.04	<0.001
Language [French]	0.67 ***	0.39 – 0.96	<0.001
Language [German]	0.43 **	0.15 – 0.72	0.003
Language [Portuguese]	0.38	-0.33 – 1.08	0.294
Language [Russian]	0.44 *	0.03 – 0.85	0.035
Language [Spanish]	-0.30 *	-0.57 – -0.04	0.024
Language [Swedish]	1.45 **	0.55 – 2.36	0.002
CEFR_Level [A2]	-0.24	-0.68 – 0.20	0.284
CEFR_Level [B1]	-0.36	-0.76 – 0.04	0.080
CEFR_Level [B2]	-0.50 *	-0.90 – -0.09	0.016
CEFR_Level [C1]	-0.60 *	-1.06 – -0.14	0.011
CEFR_Level [C2]	-1.59 ***	-2.49 – -0.69	0.001
N Student_ID	366		
Observations	625		

* p<0.05 ** p<0.01 *** p<0.001

Swedish (**), French (***), Russian (*), and German (**) turned out to be languages with relatively high differences (compared to English) between enjoyment (CD09) and ease of pronunciation (CD10), while Spanish (*) reveals a smaller difference than English. Portuguese, contrary to the initial idea, is comparable to German, but the estimate is not significant. The proficiency levels prove to be in line with expectations, but only the levels from B1 to C2 reach significance.

4.4.2 CD03-CD04. Emotional Variability of Pronunciation

Chart 13 Responses to questions CD03, CD04



RQ 9 How do informants assess the influence of situational mood and feelings on their L2 pronunciation?

The bar chart of the responses to questions CD03 and CD04 [chart 13] shows an overwhelming majority (83%) who think that they pronounce better when feeling comfortable (CD04) and only 4% of respondents who feel that their mood does not impact pronunciation quality. When it comes to the negative impact of nervousness and fatigue, however, far fewer informants (43%) admit an influence, while many are undecided (26%) or disagree (31%).

RQ 10 On which variables do the importance of mood and feelings for L2 pronunciation depend?

Hypothesis 7: In the eyes of informants, the influence of moods and feelings on the quality of their L2 pronunciation decreases with greater (self-reported) proficiency.

To answer the question, we ran the usual linear mixed-effects (LME) model for the relationship between emotional variability of L2 pronunciation (computed as the means of scores CD03 and CD04) and a list of independent variables (as fixed effects): language, proficiency level, gender, first language, pluricultural experience, number of foreign languages studied, years of preceding foreign language study, motivational coefficient, while the variable 'student' was set as (intercept) random effect. The comprehensive LME model produced only some single significant predictor levels: Language [German] and CEFR_Level [C1]. Performing a stepwise backward model selection, only Language resulted significant at α -level 0.05. The estimates of the reduced model can be found in table 6.

Table 6 Mixed model for self-rated emotional variability of L2 pronunciation (CD03, CD04)

Predictors	Estimates	Confidence intervals	p
(Intercept)	3.78 ***	3.69 – 3.87	<0.001
Language [French]	-0.04	-0.19 – 0.10	0.574
Language [German]	-0.23 **	-0.37 – -0.09	0.001
Language [Portuguese]	-0.34	-0.70 – 0.03	0.069
Language [Russian]	-0.13	-0.30 – 0.05	0.157
Language [Spanish]	0.01	-0.13 – 0.15	0.927
Language [Swedish]	0.09	-0.38 – 0.56	0.702
N Student_ID	366		
Observations	625		

* p<0.05 ** p<0.01 *** p<0.001

First of all we must conclude that the self-reported emotional variability of L2 pronunciation, measured as the averaged answers to CD03 and CD04, does not depend on proficiency level. In other words, the null hypothesis linked to Hypothesis 7 cannot be rejected. Furthermore, taking into account the minimal impact of the language estimates and, above all, the absence of significance (with the exception of German), we must conclude that the language variable has no relevant impact on emotional variability of L2 pronunciation. Only German seems to predict a slightly lower emotional variability of L2 pronunciation.

Exploring the data further, we found a very low correlation between responses CD03 and CD04 (Kendell’s tau = 0.11, p<0.01), leading to the idea that only one of the two items might depend on proficiency. Indeed, while there is no correlation between CD03 and the proficiency level (expressed as ordinal variable: 1, 2, 3, 4, 5, 6) (tau = 0.006, p = 0.85 n.s.), the answers to CD04 show a significant (although low) correlation with proficiency (tau = 0.16, p<0.001). Exceptionally (see § 4.1 above) we ran a linear mixed-effects model for a single Likert item. Running a comprehensive model with subsequent stepwise backward model selection, for CD03 no predictor turned out to be significant. Performing the same operation for CD04, both Language and CEFR_Level turned out to be highly significant (p<0.001). The optimised model gives the estimates shown in table 7.

Table 7 Mixed model for the influence of comfort on L2 pronunciation (CD04)

Predictors for CD04	Estimates	Confidence intervals	p
(Intercept)	3.58 ***	3.29 – 3.88	<0.001
CEFR_Level [A2]	0.18	-0.13 – 0.49	0.251
CEFR_Level [B1]	0.66 ***	0.38 – 0.94	<0.001
CEFR_Level [B2]	0.78 ***	0.50 – 1.07	<0.001
CEFR_Level [C1]	0.91 ***	0.59 – 1.23	<0.001
CEFR_Level [C2]	0.92 **	0.29 – 1.55	0.004
Language [French]	-0.08	-0.28 – 0.12	0.423
Language [German]	-0.25 *	-0.45 – -0.05	0.013
Language [Portuguese]	0.35	-0.13 – 0.84	0.156
Language [Russian]	0.36 *	0.07 – 0.64	0.014
Language [Spanish]	0.22 *	0.04 – 0.40	0.019
Language [Swedish]	0.34	-0.29 – 0.97	0.289
N Student_ID	366		
Observations	625		

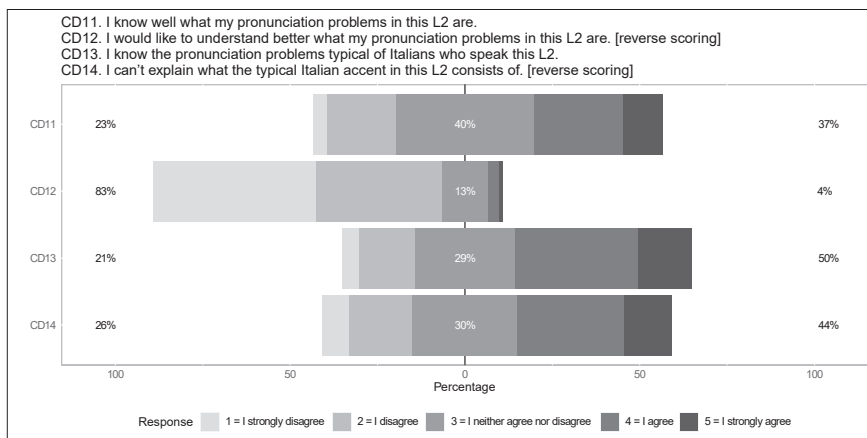
* p<0.05 ** p<0.01 *** p<0.001

Contrary to our expectations, with increasing proficiency level informants express a growing agreement with the idea that, when they feel comfortable, they can speak with a better accent. The approval of statement CD04 also prevails at low levels, but it increases with higher levels of self-reported proficiency. Furthermore, three languages exhibit a significant difference to English: for German, students are less convinced that being comfortable improves their L2 accent, while for Russian and Spanish they believe (more than in the case of English) that feeling comfortable entails a positive effect.

4.5 Cognitive Factors

4.5.1 CD11-CD14. Knowledge about Pronunciation

Chart 14 Responses to questions CD11-CD14



RQ 11 Are informants convinced that they understand their own specific L2 pronunciation problems and/or those of (other) Italians?

Looking at the bar chart for the relevant questions (see **chart 14**, leaving CD12 aside for now), informants appear to be relatively confident about their knowledge of L2 pronunciation problems, with only 21-26% giving negative answers and 37-44% expressing agreement with the three statements. But we should notice the very high proportion of “neither agree nor disagree” choices: about 30% for the pronunciation of other speakers (CD13-CD14) which is even higher (40%) when it comes to informants’ own pronunciation (CD11). Considering the relatively low degrees of certainty and approval in CD11, not surprisingly almost all respondents (83%) want to know more about their pronunciation problems (with only 13% undecided and 4% not approving). But since we are in an educational context and interviewing students at the beginning of their degree course, it would be strange if respondents had not answered in this way. It is likely that even students who think they are well aware of their pronunciation problems would want to learn more about them.

RQ 12 On what does the self-reported L2 pronunciation knowledge depend?
Hypothesis 8: The self-reported L2 pronunciation knowledge depends on the declared proficiency level in that language.

To answer the question, we ran the usual linear mixed-effects (LME) model for the relationship between L2 pronunciation knowledge (computed as the means of scores CD11 to CD14) and a list of independent variables (as fixed effects): language, proficiency level, gender, first language, pluricultural experience, number of foreign languages studied, years of preceding foreign language study, motivational coefficient, while the variable ‘student’ was set as (intercept) random effect. In this comprehensive LME model most languages and proficiency levels, as well as Number_L2, turned out to be significant. Performing a stepwise backward model selection, Language and CEFR_Level are significant at α -level 0.001, the number of L2 at α -level 0.05. The estimates of the reduced model are shown in table 8.

Table 8 Mixed model for the self-rated L2 pronunciation knowledge (CD11-CD14)

Predictors	Estimates	Confidence intervals	p
(Intercept)	2.39 ***	2.07 – 2.70	<0.001
Language [French]	-0.11	-0.26 – 0.04	0.136
Language [German]	-0.34 ***	-0.49 – -0.19	<0.001
Language [Portuguese]	-0.31	-0.68 – 0.06	0.101
Language [Russian]	-0.30 **	-0.51 – -0.08	0.007
Language [Spanish]	-0.18 *	-0.32 – -0.04	0.012
Language [Swedish]	-0.85 ***	-1.32 – -0.38	<0.001
CEFR_Level [A2]	0.26 *	0.03 – 0.50	0.027
CEFR_Level [B1]	0.35 **	0.14 – 0.56	0.001
CEFR_Level [B2]	0.32 **	0.11 – 0.54	0.003
CEFR_Level [C1]	0.67 ***	0.42 – 0.91	<0.001
CEFR_Level [C2]	1.05 ***	0.57 – 1.52	<0.001
Number_L2	0.08 **	0.02 – 0.15	0.010
N Student_ID	364		
Observations	622		

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

First of all, on the basis of the model’s estimates, we can reject the null hypothesis related to Hypothesis 8 and confirm that the self-reported L2 pronunciation knowledge depends on the declared proficiency level in that language in the expected way, i.e., a higher CEFR level means more confidence in one’s own knowledge. All levels are significant compared to A1, but a closer look reveals a sort of stasis

between A2 and B2.⁹ Secondly, compared to English, the model suggests lower ratings for L2 pronunciation knowledge for all other languages, with Swedish (-0.85***), German (-0.34***), Russian (-0.30**) and Spanish (-0.18*) being significant.

RQ 13 Are informants less confident about awareness of their own pronunciation deficits compared to that of other speakers?

Hypothesis 9: Informants believe they have less awareness of their own L2 pronunciation deficits compared to what they believe they know about the pronunciation problems of other speakers.

To answer the question, we first compare the averaged answers CD11-CD12 (related to informants' own pronunciation) to the average scores of CD13-CD14 (which refer to other Italian speakers). The mean of all scores related to the learners' pronunciation is 2.48, that of other speakers 3.32. Is this difference significant? Kendell's rank correlation for the two variables is $\tau = 0.26$ ($Z = 8.23$, $p < 0.001$), which means that there is a medium-low, but significant correlation, while the Wilcoxon test ($V = 9889$, $p < 0.001$) proves that the distributions of the two answers are significantly different. This goes in the direction of confirming Hypothesis 9. However, it could be objected that the very special distribution of answers to CD12 (see above) might distort the results. So, in a second step, we compare the results of the very similar questions CD11 (mean score 3.21) and CD13 (mean score 3.40). The correlation coefficient is only slightly higher with $\tau = 0.33$ ($Z = 9.94$, $p < 0.001$), while the Wilcoxon test ($V = 24559$, $p < 0.001$) proves that there is a significant difference in answer distribution, as one can also observe comparing the two histograms in charts 15-16. This means we can confirm the hypothesis that the participants in this survey believe their knowledge about their own pronunciation problems is less developed than their knowledge about problems of other Italian speakers.

⁹ Also leaving out CD12 (which behaves differently from the other questions) and modelling the average scores of CD11, CD13 and CD14 only, the proficiency estimates continue to reveal a stagnation: A2 0.31*, B1 0.41**, B2 0.35**.

Chart 15 Distribution of responses for question CD11

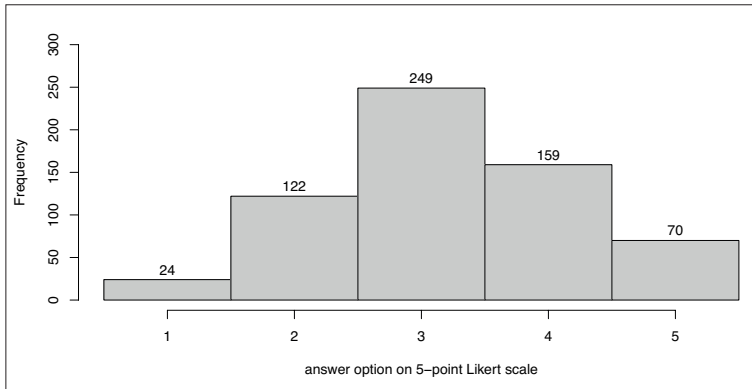
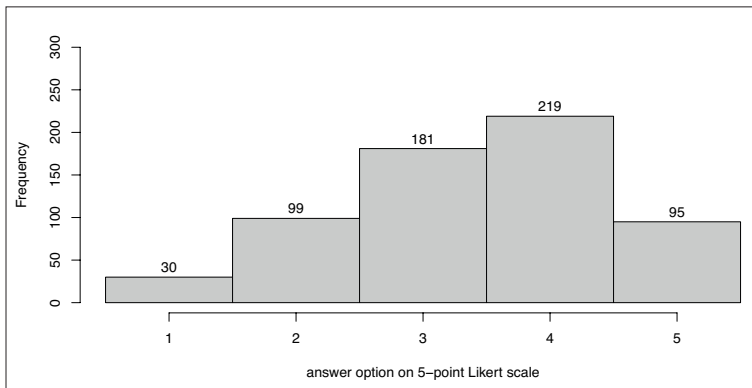


Chart 16 Distribution of responses for question CD13



5 Discussion

5.1 Perception and Evaluation

As previous research has noticed, foreign language students are able to assess other speakers' pronunciation, without differing much from native speakers' judgements (Munro, Derwing, Morton 2006; Wilkerson 2010; Derwing, Munro 2013; Mitterer, Eger, Reinisch 2020). Self-evaluation, on the contrary, is a different story: learners' judgments about the quality of their own pronunciation are not quite so reliable (Foote 2010; Lappin-Fortin, Rye 2014; Trofimovich et al. 2016; Mitterer, Eger, Reinisch 2020; Dlaska, Krekeler 2008). If the preceding studies effectively test the evaluative capacities of the informants with real samples, in the present study the informants were simply

questioned about the beliefs they had regarding the quality of their pronunciation and their abilities as evaluators of their own and others' pronunciation. Results show that, in some way, beliefs interestingly replicate real performances.

In line with other surveys (Hammond 1990; Steed, Delicado Canteiro 2018; Muñoz García, Contreras Roa 2019), self-evaluations of pronunciation quality are generally positive in our study, clearly above the average value of the rating scale, but with a third of the informants (34%) undecided. Ratings are somewhat lower and indecision is still higher (40%) when it comes to accentedness: a result comparable to that of Waniek-Klimczak, Rojczyk and Porzuczek (2015) who collected opinions about the absence of Polish accent in English. Our results depict informants who, on average, are only relatively confident when the evaluation refers to themselves. The high degree of indecision can be interpreted as students' awareness of real problems in self-evaluation detected in other studies. Even the positive self-ratings might partly be due to over-estimation of one's own performance (cf. Lappin-Fortin, Rye 2014; Mitterer, Eger, Reinisch 2020).

The level of self-reported general L2 proficiency is shown to be a fundamental predictor of self-ratings, a result which we expected (Hypothesis 1), although the small amount of previous research (referring to English as target language) is contradictory. While Waniek-Klimczak, Porzuczek and Rojczyk found a "strong correlation between self-rated proficiency and pronunciation" (2013, 7), no significant difference in foreign accent self-ratings between BA and MA students emerged in the same population (Waniek-Klimczak, Rojczyk, Porzuczek 2015, 29). Also Cieślicka and Rojczyk (2017, 75-6) did not find any significant differences in pronunciation self-ratings between Polish low (B1-B2) and high (C1-C2) proficiency speakers of English.

Another significant predictor is motivation for enrolment, which is in line with previous research. Deci and Ryan (1985, 257), after reviewing a number of experimental studies on the importance of intrinsic motivation in general academic learning, stated that "one can reasonably conclude that intrinsic motivation is associated with improved learning". Examining the interaction between motivation and achievement specifically in pronunciation learning, Smit (2002, 100) found that for her informants, advanced ESL students, chances of success were increased by "strongly felt feelings of inner motivation". Guinn-Collins (2011, 50), investigating English-speaking learners of Japanese, by means of a test of accentedness, found a significant correlation between intrinsic motivation towards accomplishment and a highly proficient accent. Informants in the present study who were intrinsically motivated significantly tend to attribute better quality to their own pronunciation. Given that real performance is not being examined in this case, the hypothesis that intrinsic or inward motivations may simply foster optimism and confidence in the informants

cannot be ruled out. Besides, the directionality of the relationship remains to be tested: longitudinal studies could possibly shed light on what comes first, intrinsic motivation or positive self-evaluation.

If the level of self-attributed proficiency and the nature of motivation were likely predictors, from our data other predictors emerge which are, as far as we know, unforeseen in the literature. In the first place, we observe that certain languages have significantly lower ratings than English. In particular, this is the case of German and Swedish. The lack of studies which, like the present one, examine different languages in a comparative way, complicates the interpretation of data.¹⁰ The reasons that penalise the pronunciation self-ratings could be strictly linguistic – that is, a greater objective difficulty of the phonetic-phonological system of the target language in relation to the L1 of the bulk of the informants, Italian – an aspect which will be dealt with later on – or of a sociolinguistic nature, for example the perception of greater demands on the part of teachers or the community of speakers of that language. Secondly, aspects of the linguistic biography of the informants have a significant impact on judgments: students whose first language is neither Italian nor one of its dialects, and who learnt Italian only later on, tend to evaluate themselves significantly more positively than the rest of their peers. In some way, this late bilingualism is reflected in a more positive view of one's own pronunciation. Assuming that bilingualism may increase phonetic skills in successively acquired languages, this more positive view would therefore be based on factual foundations. The fact that the number of languages previously studied at school also proved to be reflected in a higher confidence in one's own pronunciation, points in the same direction.

Two dimensions are intertwined in our questionnaire on evaluation of pronunciation: greater or lesser quality, greater or lesser intensity of the foreign accent. Being aware of a plethora of studies that report students' commitment to the goal of native-like pronunciation (Dalton-Puffer, Kaltenboeck 1997; Nowacka 2012; Waniek-Klimczak, Porzuczek, Rojczyk 2013; Waniek-Klimczak, Rojczyk, Porzuczek 2015; Brabcová, Skarnitzl 2018; Muñoz García, Contreras Roa 2019; Dao 2018¹¹), we expected that our informants would *not* distinguish between a 'good pronunciation' and one without a heavy foreign accent. The results, however, show that the informants do make a difference between the two

10 Only Muñoz García and Contreras Roa (2019), who interviewed French students, report higher L2 pronunciation self-evaluations for English ($M = 6.89$) than for Spanish ($M = 5.90$) on a scale from 1 to 10.

11 Some other studies have noticed that the general aim of native pronunciation is not as undisputed as it seems, e.g., Hammond, who found that, while 83% of his Spanish-speaking informants in Miami believed that a Spanish accent in English was a negative factor, only 20% felt that a foreign accent "was detrimental if individuals could otherwise express themselves in a second language" (1990, 146).

phenomena. The great interest that in previous studies learners systematically manifested towards obtaining a native-like pronunciation does not have to correspond to a real ambition to obtain such a level. As an informant from our study points out in a free-standing comment: "I want to clarify that I believe it is possible to have a good pronunciation even without losing the foreign accent and that these two elements (pronunciation and accent) do not necessarily need to be analysed in relation to each other".¹² The native-like pronunciation should therefore be interpreted perhaps not so much as a real goal but merely as an ideal which students naturally wish to strive for. An ideal that can even be imprecise, since, as Scales et al. (2006) found, sometimes learners who show a preference for the native accent are not able to recognise it effectively between different speech samples, a fact they attributed to the idealised conception of what the native accent aspired to actually sounded like. If, as Baran-Lucarz (2011) found, the self-attributed competence, if not satisfactory, can function as a source – even more important than actual competence – of linguistic anxiety, the compatibility between the presence of a foreign accent and a reasonably good pronunciation that our informants make compatible seems like good news. The elimination of foreign accent, as Derwing and Munro (2009) have pointed out, is not a realistic goal for the average student. Moyer (1999) reported that the pronunciation accuracy of native English speakers of German was rated higher for learners who had higher motivation to pursue a native-like quality of pronunciation: we should probably infer that it is not an ingenuous craving that is pushing the learners forward, but the ambition to improve.

The present study sought to measure the degree of confidence of the informants when carrying out evaluations. Again, as in the previous question, a specular panorama emerges to that produced by those studies which, unlike ours, attempt to measure the real accuracy of the judgments: in both cases a clear gap unfolds between evaluation and self-evaluation, thus confirming Hypothesis 4: informants are much more confident in their ability to assess the pronunciation of other learners than their own performance. As pointed out in the results section (§ 4), there is not even a modest significant correlation between the two series of answers. The reason might be, as could be seen, that while the self-rated evaluation of others increases steadily with the (self-declared) proficiency level, self-evaluation ability does not, especially between the most crowded intermediate levels B1 and B2.

It should be noted, in any case, that the formulation of the questions in the questionnaire may have played a non-negligible role in

12 Italian original: "Voglio precisare che ritengo si possa avere una buona pronuncia anche senza perdere l'accento straniero e che sono due elementi (pronuncia e accento) che non necessariamente vanno analizzati in rapporto tra loro" (Stud1191).

the results. While in one case (CD06) the question is about the ability to discern *binarily* between good and bad *pronunciations* (of others), in the other case (CD05) informants are asked about the ability to *grade* the strength of *foreign accent* present in their own pronunciation. Bearing in mind the fact that our informants tend to distinguish conceptually between a good pronunciation and a pronunciation devoid of foreign accent, further explanations can be hypothesised. First, that the evaluation of the degree of foreign accent can be more difficult than the evaluation of the overall quality of the pronunciation. Given that the foreign accent can be conceived as “a deviation from the generally accepted norm of pronunciation of a language that is reminiscent of another language, i.e. the speaker’s native language” (Jilka 2000, 9) there emerges the paradox that a foreign language student would have to know perfectly well the native norms that he is learning at that moment, to make such an assessment. However, taking into account the high rate of undecided (34%) in CD01, which refers to overall pronunciation quality, it seems clear that the divergent results of CD05 and CD06 cannot be fully explained by the wording of the questions. Essentially, informants are unsure about self-evaluation of L2 pronunciation as illustrated by the extremely high percentage (31-40%) of undecided in all three related questions (CD01, CD02, CD05).

The global self-perceived ability to evaluate L2 pronunciation improves as the level of proficiency declared by the informants increases, except between B1 and B2, which is – as already pointed out – a result of a step backwards in presumed self-evaluation ability, while the declared ability to evaluate others steadily increases. This result is in line with studies that found a correlation between proficiency and (experimentally tested) capability of native/non-native speech detection (Flege 1988; Wilkerson 2010). Also the different correlations between L2 speakers’ and native speakers’ evaluations of accentedness – 0.60-0.73 for “advanced ESL speakers” (Munro, Derwing, Morton 2006, 116, 120) vs. 0.88 for “high proficiency L2 speakers” (Derwing, Munro 2013, 169, 171) – could be interpreted as an experimental counterpart.

The self-perceived ability to evaluate one’s own and others’ pronunciation may also be conditioned by the language of study: the results indicate a lower degree of confidence (compared to English) for French, German and Russian. Except for Portuguese (with an insignificant positive estimate), all other languages turn out to have negative values, i.e., English is the language in which our informants believe they are best at evaluating L2 pronunciation. This is not surprising as students of English usually have the most opportunities to listen to various accents, including native ones.

Again, certain aspects of the linguistic biography of the speakers can play a relevant role. Informants with a L1 other than Italian are more confident in their evaluative abilities. This confidence grows also as the

number of L2s studied at school increases. This is plausible because the more plurilingual the informants are (in a more or less broad sense for the two predictors), and thus the greater their experience with different phonological systems, the better might be their ability to grasp subtle differences in pronunciation. The occasional incidence of predictors linked to the biolinguistic profile of the students in the results of our questionnaire points to the convenience of constructing and making operational in future studies a solid variable which, as the data and intuition seem to tell us, should be of capital importance. Munro, Derwing and Morton already indicated this direction in 2006, when they found that, in understanding and evaluating foreign-accented speech, listeners were affected not only by the properties of the speech itself but also by their own linguistic backgrounds and by their experience with different linguistic varieties. Moreover, Dewaele (2010, 80) found a highly significant effect of the number of languages known on self-perceived competence in various languages, and that values for self-perceived competence increased gradually from bilinguals to trilinguals and continued to rise from quadrilinguals to pentalinguals.

5.2 Cognitive Factors

Even if the role of declarative knowledge for L2 pronunciation is far from clear, it has been shown that L2 learners often cannot identify their pronunciation weaknesses and deficits (Derwing, Rossiter 2002; Dłaska, Krekeler 2008). Our informants seem to be aware of such deficits, even if 37% are quite confident that they know their pronunciation problems. But adding disagreeing and undecided responses, it turns out that almost two thirds are not sure about their difficulties. So, unsurprisingly, almost all informants (83%) want to learn more about their pronunciation deficits. This is very promising for language teaching, but it should be remembered that a merely theoretical teaching input would fail to meet the learners' needs. Rather it is necessary to give individual feedback to raise pronunciation awareness and to improve pronunciation (cf. Mitterer, Eger, Reinisch 2020, 10). The research into the effectiveness of pronunciation teaching (Ramírez Verdugo 2006; Chang 2006; Couper 2011; Kissling 2013; 2014; Inceoglu 2021) suggests that the most promising approaches are: a) a combination of metalinguistic and practical teaching, b) a focus on qualitative language awareness, i.e., a perception of the communicative relevance of certain features.

When it comes to the pronunciation problems of other L2 speakers, informants appear to be more confident of their knowledge (50%), but many (29%) are undecided and, when faced with the task to explain these problems (CD14), the percentage of confident respondents drops to 44%. This is still more than for the knowledge of personal pronunciation problems, but it seems reasonable: informants have some knowl-

edge of the typical problems of speakers of a certain L1 who face learning a L2. Thus, when asked about the pronunciation problems of other Italian L2 speakers, they can imagine people who have a strong accent and serious problems with segmentals. It is a matter of 'encyclopaedic' knowledge, acquired at school, which is enriched by direct experience. In contrast, learners do not have a 'background' knowledge about their own specific problems. Thus a student with good oral competence in a certain language may be aware of typical problems and, at the same time, may not be able to determine to what extent she personally participates in such problems; in other cases, the student may have overcome some typical problems, but be aware of having others (e.g., in the field of prosody), which perhaps she only intuitively, and about which she does not have any kind of encyclopaedic knowledge. In any case, there is a significant difference in the distribution of responses between questions related to the person's own problems vs. the problems of others, so Hypothesis 9 is confirmed. This seems plausible in the light of the answers to questions CD05 and CD06 (see above) and of experimental studies about self and others' pronunciation evaluation: self-evaluation is confirmed as being more difficult.

Self-reported L2 pronunciation knowledge above all depends (as claimed in Hypothesis 8, thus confirmed) on the declared proficiency level in that language; however, it does not increase steadily, but there is an evident stagnation between levels A2 and B2. As Yule, Damico and Hoffman (1987) recalled, the ability to analyse and evaluate the progress of learners evolves in an oscillating way, but it is also possible to venture some suppositions that could help explain this stagnation. As a requirement to start their university degree in languages, students majoring in English must provide evidence of a minimum level of B2. Consequently, it is feasible to imagine that, not wanting to declare in our questionnaire a level lower than the required one, some informants might have overestimated their real proficiency. On the other hand, at the upper end of the scale, we find students who claim to possess a C1 or even a C2 in English, which invites us to think that, in addition to their learning experience in the pre-university school context - where the normal exit level of proficiency is significantly lower - they have other relevant biographical experiences. It must be borne in mind that English is the most widely chosen language among our informants (44% of the responses analysed in the present study refer to English). Thus, a combination of biased self-declared proficiency level and truthful answers to the questions of Sections C and D by students of English could explain the stagnation observed in self-reported L2 pronunciation evaluation (CD05-CD06) and knowledge (CD11-CD14).

Finally, the self-reported L2 pronunciation knowledge also depends on the number of languages studied at school and on the target language. Compared to English, our respondents indicate lower

knowledge self-ratings for all other languages, with significant lower estimates for German, Russian, Spanish, and Swedish. This might be explained by the fact that in Italian schools English is taught for more years than every other foreign language and that pronunciation is an integral and important part of English teaching (materials) as opposed to other languages, e.g., German. Moreover, English pronounced by other Italian speakers can probably be encountered (and evaluated) much more easily than any other foreign language.

5.3 Affective Factors

Together with the perceptual and cognitive dimension, and closely related to these, our study examined the affective dimension of L2 pronunciation. Awareness of the influence of negative emotions, and especially anxiety, in the language learning process has generated a large volume of literature in the specific field of pronunciation. From our study emerges the figure of a student who, despite being aware of the difficulty involved in correctly articulating the L2 (only 35% deny the effort needed for articulation), can at the same time take pleasure in speaking (89%). A clear majority of respondents also like to read aloud (69%) and do not feel ridiculous when imitating native speakers (66%). This positive result was expected (Hypothesis 5) since the informants have freely chosen a degree course in foreign languages. Moreover, in line with our claim (Hypothesis 6), as the level of declared proficiency of the students increases, the enjoyment derived from pronunciation does as well. It is a hopeful outlook. The limitations in self-assessment and self-awareness and awareness of making mistakes are not an obstacle to experimenting with positive feelings. As one informant writes: “during my individual study, I regret not knowing where I make mistakes when I read aloud, although I really love it”.¹³

On the one hand, it should be remembered that positive emotion does not simply transmute into pleasant feelings but it also increases the learner’s ability to notice things in the classroom environment and strengthen their awareness of language input, which successively facilitates the assimilation of the foreign language (MacIntyre, Gregersen 2012). On the other hand, as Dewaele and MacIntyre (2014) demonstrated, enjoyment and anxiety, the main positive and negative affective constructs, are two independent dimensions, and not the ends of a continuum. In their study, just as in ours, positive emotions had a greater impact. Translating the principles of Positive

13 Italian original: “nello studio individuale mi dispiace non sapere dove sbaglio quando leggo a voce alta, nonostante mi piaccia da morire” (Stud0025).

Psychology, which offers a more holistic view on human behaviour, to language learning, Dewaele et al. (2018) propose moving away from the overwhelming focus on negative emotions and addressing to a greater extent positive emotions, which are conceptualised in labels such as “foreign language enjoyment” (FLE) (Dewaele, MacIntyre 2014; 2016; Dewaele et al. 2016). Ultimately, promoting positive emotions could be more profitable than preventing negative emotions. In relation to the latter, Baran-Łucarz (2014) conceptualised pronunciation anxiety as composed of four components: fear of negative evaluation, self-assessment and perceived self-efficacy, beliefs about pronunciation of a specific L2, and pronunciation self-image. The latter, defined as “[b]eliefs one holds about personal appearance – about the way one looks and sounds when speaking an FL [...]” (Baran-Łucarz 2014, 453), can be associated to the questionnaire statement CD08 (“I feel ridiculous when I imitate the pronunciation and melody of a native speaker of this L2”). A small, but certainly not negligible, part of our informants (18%) agreed with this statement, and another minority (13%) explicitly stated that they did not like reading aloud, in class or even on their own. As we can see from certain comments, some informants associate “imitation” with connotative nuances such as artificial, simulated, not real; that is, they understand “imitate” as “mimic” or “counterfeit”. One student noted: “In an attempt to mimic the pronunciation of a native speaker, my accent sounds ‘fake’ to me, as if I were trying too hard to replicate the sound”,¹⁴ while another affirmed: “When I try to speak alone or read aloud alone I seem to have a decent pronunciation, when I read in front of others I feel like I’m fake if I try to imitate the foreign accent”.¹⁵ These comments highlight that pronunciation self-image problems: a) are not necessarily linked to poor L2 pronunciation, and b) can emerge in combination with the fear of negative evaluation, which is another of Baran-Lucarz’s (2014) pronunciation anxiety components. Indeed, in an average classroom environment in Italy, students who display a very accurate pronunciation, close to the standard that serves as an ideal model, might be perceived by their peers as pretentious individuals, who are trying to show off, and by the same token belittle their own attempts at pronouncing the L2. It ought to be noted, in any case, that some of the respondents are not comfortable with L2 pronunciation, which is recognised as the most anxiety-provoking aspect of spoken language performance (Baran-Lucarz 2013).

14 Italian original: “Nel tentativo di imitare la pronuncia di un madrelingua, il mio accento mi suona ‘finto’, come se mi stessi sforzando troppo al fine di replicare il suono” (Stud1126).

15 Italian original: “Quando provo a parlare da sola o leggere ad alta voce da sola mi sembra di avere una pronuncia decente, quando leggo davanti agli altri mi sembra di essere finta se provo ad imitare l’accento straniero” (Stud1181).

In addition to proficiency, student motivation is another good predictor of positive pronunciation-related feelings: as is foreseeable, the more intrinsic the motivations of the informant, the healthier the affective relationship with the pronunciation learning process. This intrinsic motivation rooted in the student's desire to acquire the language thus correlates positively, both with the proficiency achieved (Pae 2008) and with the positive emotions that can drive learning forward, as emerges from our results.

Interestingly, the target language arises once again as predictor when measuring affective aspects (as claimed in Hypothesis 6). Compared to English, feelings are more positive for Spanish, Portuguese, and Russian, but more negative for German and Swedish (with no consistent result for French). The question that comes up spontaneously is whether the recurrence of German and Swedish (the latter without statistical significance however) should be attributed simply to a greater objective difficulty of these languages, due to the phonological distance that separates them from the main L1 of the study, Italian, or if a corpus of beliefs and opinions, of general linguistic attitudes and of attitudes specifically related to pronunciation, may be conditioning the affective attitudes of the informants who choose these languages. The study by Reiterer et al. (2020) concluded that, although sound preferences in languages were influenced by societal and individual cognitive factors, it could be noted that universal phonetic factors exerted an important influence. Some phonetic universals – systematic patterns of speech sounds that occur in most natural languages (such as particular segments and segmental sequences, the ratio of vowels to consonants, or characteristics of syllabic structure) – could be perceived as more pleasant to the human ear, so languages that exhibit more universal patterns are more likely to be liked than others. Reiterer et al. (2020) observed that Romance languages tended to sound, to the ears of informants, as more erotic, sweet, soft and melodious than Slavic or Germanic languages, such as German and Swedish. In this respect, it would be useful to establish the phonological distance between languages, in the line of Eden's work (2018), which, however, does not take Italian into account. For the second hypothesis (beliefs and opinions related to the target language pronunciation), it would be necessary to develop an investigation that combines the data of our questionnaire with subsequent surveys.

To conclude, some remarks about the emotional variability of pronunciation examined by our questionnaire. The informants consider their performance more likely to get better when it takes place in pleasant contexts rather than to worsen in situations of fatigue or nervousness. A similar agreement related to negative feelings was found in Derwing and Rossiter (2002, 161), where 40% of respondents reported an accent change when they were angry vs. 60% when excited or nervous. Contrary to what we expected (Hypothesis 7), the

increase in the level of self-declared competence does not lead to students considering their own performance less exposed to the influence of these situational affective factors. On the contrary, informants who have higher levels of general competence seem more aware of the gap that exists between potential phonic competence and actual performance and especially of the facilitating role of a pleasant and favourable context for the learner.

6 Conclusion

The present study has provided useful insights into identifying the beliefs of university students of foreign languages in Italy. The high number of informants and the variety of L2's studied by the participants confer robustness to an investigation whose main results, limitations, didactic implications and possible future developments are detailed below.

6.1 Key Findings

Our study offers an attempt at gathering quantitative data to provide a more detailed understanding of self-assessment and self-awareness in the field of L2 pronunciation learning. If the experimental studies indicated a substantial difference between the evaluation of samples of one's own pronunciation and that of others, our study shows that such a difference is also manifested in the perception of the learners. The greater effective difficulty in evaluating one's own oral discourse is mirrored in our data, so that, although as proficiency increases the values do actually improve, informants are unsure about their ability to calibrate their degree of phonetic acquisition as well as to diagnose the specific difficulties that stand in the way of their goal of native-like pronunciation, an objective that we must understand relatively dissociated from the total absence of a foreign accent. Contrary to the discrepancies that have emerged in the bibliography between the attitudes of teachers and students (Huensch 2019), our results show a student population who, despite taking a native-like accent as an ideal, in practice believe that the presence of a foreign accent is not an obstacle to having good pronunciation, therefore aligning with the beliefs of language teachers. In short, we should not propose solutions to a problem that, for the average Italian university student, the specific profile of our study, does not exist. In the same way, we did not find that the participants suffered particularly from the effects of linguistic anxiety, because from the results it emerges that, although the students are aware of the difficulties of learning pronunciation in L2 and of the toll to pay in emotional terms, positive emotions exerted a greater global influence. This fact is not surprising if we consid-

er that our informants have freely chosen to study languages at university. In this sense, it should be added that intrinsically motivated students, compared to those with more extrinsic motivations, tend to regard their ability to evaluate learning more optimistically. General optimism must, in any case, be modulated according to the specific language of study. Interestingly, some languages, such as German or Swedish have functioned as negatively significant variables in questions related to the assessment of the quality of pronunciation itself, the estimated ability to assess pronunciation, or the ability to detect the specific problems which penalise L2 pronunciation.

6.2 Study Limitations

Despite the numerical strength of the data – the product of a detailed and large-scale survey, which also reports a number of interesting free-standing comments – it is necessary to raise certain methodological reservations about the research. In the first place, the formulation of the questions in the questionnaire cannot completely escape the effects of the ‘negativity bias’. The very polarity of the items may have had an impact, and in practice “it may be more difficult to endorse a negative question with an agreement than to answer ‘no’ to the equivalent positive question” (Holleman et al. 2016, 3). Negativity can be explicit (*no, nobody*) or implicit (*forbid, restrict*) and associated to a word that “sounds harder and may therefore be more difficult to endorse” (3). In our case, for example, informants could have had more difficulty to express agreement with ‘negative’ statements like CD03 (“When I am nervous or tired my accent in this L2 becomes stronger”) than with the positively worded CD04 (“When I am comfortable, I can pronounce this L2 with a better accent”). In future studies this aspect should be considered carefully.

Regarding statistical aspects, the association of the most common L2 among the informants, English, as the intercept value, implies that the significance of individual languages in some sections must always be interpreted in relation to English. The possibility in future studies of subdividing the languages to articulate the comparison around variables such as Germanic vs. Romance could provide the data that our study has not been able to supply. Another drawback concerns statistical modelling: the biographical predictors Number_L2 and motivation (MotivCoefficient) sometimes (CD01-02) become significant only after a stepwise model selection, which is a controversial methodology (cf. Winter 2020, 276-7). These results, therefore, should be considered as provisional insights and starting point for successive research rather than ultimate outcomes.

The authors’ intuition led to hypothesise the influence of the composite variable ‘pluricultural status’ on the responses of the question-

naire. If, on the one hand, the variable, as it was conceived, has not been significant, we do observe the recurrence of significant values for simple variables. Thus, not having Italian as an L1 is associated with a more positive self-evaluation of competence, and the number of previously learned languages has a positive impact on confidence in one's own pronunciation. Hence, when the composite variable is not a significant predictor, but the simple variables seem to have a systematic impact on answer behaviour, we may presume that a better articulation of cultural status may lead to results along the lines of those found by Dewaele and McCloskey (2015), that is, to a significant reflection of these biolinguistic traits in the beliefs and attitudes of the informants.

6.3 Pedagogical Implications

To be aware of the attitudes of students, which play a fundamental role in learning the pronunciation of a certain L2, has implications for the organisation of teaching. The results of the present study suggest the convenience of actively intervening to correct the obvious deficits that the informants show when evaluating their oral production and identifying the critical aspects which penalise them. To the extent permitted by the usual time constraints, abundant external and personalised feedback should be provided: if, on the one hand, students have a certain amount of encyclopaedic information, which allows them to identify common difficulties among their peers, they lack a solid self-awareness that can guide them in their progress. Teaching which targets this lacuna would presumably be well received: teachers should be gratified to know that the informants may have gaps, but are at least aware of having them, and are willing to correct them. In addition, informants would have an important advantage: the emphasis on positive emotions (enjoyment) and its benefits, in terms of the ability to notice things in the classroom, to perceive gaps, to strengthen awareness and, ultimately, to learn. If the action of teachers has traditionally prioritised the prevention of potentially critical affective aspects, our data invites them to reinforce the pleasurable aspects of their learners' experience, including that of students who do not seem to enjoy speaking the L2.

Ultimately, our intuitions as teachers about the attitudes of foreign language students can be affected by the results of studies such as this one. We ought to pursue a greater accuracy in the description of this set of perceptual, cognitive, and affective mental representations in the groups with which we work in the classroom - which requires paying adequate attention to group variables, such as the specific language studied, as well as to individual variables, such as the biolinguistic profile. A more complete knowledge can lead to more focused teaching of pronunciation.

Appendix

Original questions of Section C/D of the questionnaire

Autovalutazione della pronuncia

- CD01. Ho una pronuncia buona nella lingua A/B.
- CD02. Ho un forte accento straniero nella lingua A/B.

Variabilità della propria pronuncia

- CD03. Quando sono nervoso o stanco il mio accento nella lingua A/B diventa più forte.
- CD04. Quando sono a mio agio riesco a parlare la lingua A/B con un accento migliore.

Capacità di giudicare un accento straniero

- CD05. Non capisco quanto è forte il mio accento straniero nella lingua A/B.
- CD06. Ascoltando gli altri riesco a distinguere una buona pronuncia nella lingua A/B da una scadente.

Aspetti affettivi della pronuncia

- CD07. Mi piace leggere ad alta voce nella lingua A/B, in classe o anche per conto mio.
- CD08. Mi sento ridicolo/a quando imito la pronuncia e melodia di un madrelingua della lingua A/B.
- CD09. Provo piacere a pronunciare la lingua A/B.
- CD10. È una fatica articolare bene la lingua A/B.

Sapere sulla pronuncia

- CD11. So bene quali sono i miei problemi di pronuncia della lingua A/B.
- CD12. Vorrei capire meglio quali sono i miei problemi di pronuncia nella lingua A/B.
- CD13. Conosco i problemi di pronuncia tipici degli italiani che parlano la lingua A/B.
- CD14. Non saprei spiegare in cosa consiste il tipico accento italiano nella lingua A/B.

Domanda finale aperta

- CD15. Vuoi dirci qualcos'altro sul tuo accento nella lingua A/B, sulle particolari difficoltà a pronunciare la lingua A/B, su come ti senti a pronunciarla oppure vuoi lasciare un commento sulle domande di questa sezione?

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