

Appendix A

The reliability of Chinese-accented speech stimuli was verified according to a two-stage pre-test explained below

Method

Firstly, an overt questionnaire concerning the non-technical description of the main linguistic features relating to the main foreign-accented speech (e.g. Chinese, Arabic, Romanian, or Albanian) documented in Italy was administered to about one hundred students at Siena University. The main feature used for the description of Chinese-accented speech was the pronunciation of the Italian alveolar trill /r/, which is realized as lateral [l], given the fact that trill phones are absent in Chinese (Mandarin) phonology (Duanmu, 2005¹). Thus, a Chinese male speaker read some Italian sentences from the CLIPS corpus containing several words with /r/. Secondly, a number of listeners were asked to assign the nationality (among a list of choices) to the Chinese speaker uttering the Italian sentences. A perceptive pre-test was conducted in order to identify the most salient traits for the recognition of a “Chinese accent” among samples of L2-spoken Italian. The pre-test, carried out in the form of an on-line survey, asked participants to guess the origin of a subject after listening to short, spoken excerpts. The Italian samples were uttered by three different males, originating from three different countries (China, Spain or France). A total of 85 participants took part in this pre-testing phase.

Results

Samples spoken by the Chinese subject were recognized as performed by a native Chinese speaker with a high accuracy (from 82.7 to 97.5% of the answers) in sentences documenting the simplification of the alveolar trill /r/ uttered as an alveolar flap /ɾ/, or as an alveolar lateral approximant /l/. In these sentences, the substitution of the trill phone was indicated as the first and the most recognizable trait of Chinese-accented Italian speech (50 to 85% of the answers).

¹ Duanmu, S. (2005). Chinese (Mandarin), Phonology of. In K. Brown (Ed.), *Encyclopedia of language and linguistics* (2nd ed., p. 2). Oxford, UK: Elsevier.

Appendix B

The selection of stimuli words for the Implicit Association Test was balanced on the phonematic findings described in Appendix A, as well as on the basis of the number of syllables (two) and the duration in milliseconds (ranging from 289 to 670 ms; the two sample sets' similarity was established through a t test: $t = -2.67$, $p = .01$). We also tried to keep the variation range between the sound durations as small as possible in order to avoid an incidence of fluency on the participant response (Dragojevic & Giles, 2016)². The limited duration of stimuli does not represent a pitfall, since an accented speaker's ethnic membership can be identified by just listening to 30 ms of speech or as soon as a voice on the phone says 'hello' (Purnell, Idsardi, & Baugh, 1999³). Moreover, every word was evaluated for its lexical frequency, extracted from the CoLFIS corpus (Bertinetto, Burani, Laudanna, Marconi, Ratti, Rolando & Thornton, 2005)⁴; words with a total dispersion inferior to .50 were discarded from the stimulus. Words with a recognizable emotional, behavioural or moral connotation (i.e. *padre*, 'father'; *bravo*, 'good'; *fretta*, 'hurry') were discarded as well (see Table. 2). The selected spoken words were then equalized for loudness using Audacity® software and trimmed to assure no delay at the beginning of each clip.

The polar-attribute categories used in the test refer to the warmth dimension and fall under the labels "buono" (good) and "cattivo" (bad). Each category is composed of eight visual stimuli, namely single written words. The selected terms represent general concepts immediately referable to a scholastic environment; they are summarized as follows (the English translation is provided in brackets):

BUONO: *attenzione* (care), *tranquillità* (quietness), *impegno* (engagement), *cortesia* (politeness), *gentilezza* (kindness), *collaborazione* (cooperation), *rispetto* (respect), *educazione* (education).

CATTIVO: *disordine* (disorder), *aggressività* (aggression), *pigrizia* (laziness), *indifferenza* (disregard), *maleducazione* (rudeness), *odio* (hatred), *rumore* (noise), *scortesia* (impoliteness).

The participant is instructed to classify each stimulus in a category that appears on the right or on the left side of a screen. The subject's inputs are submitted by pressing either the "E" or the "I" key on a keyboard and are registered in terms of time reaction (in milliseconds). The elicitation of shorter reaction times for stimuli belonging to the hypothesis-consistent pairing and longer reaction times for stimuli belonging to the hypothesis-inconsistent pairing would be interpreted as an indication of a more positive implicit attitude toward an Italian accent and of a more negative implicit attitude toward Chinese-accented speech. The design of the test was created using Inquisit Lab™ software (version 5.0.9) and included 5 experimental blocks:

1. Auditory stimuli-only classification;
2. Hypothesis-consistent pairing classification (20 + 40 trials);
3. Auditory stimuli-only classification, but with inverted position;
4. Auditory stimuli-only classification, but with inverted position;
5. Hypothesis-inconsistent classification (20 + 40 trials).

Hypothesis-consistent and hypothesis-inconsistent blocks were presented in inverted order to 50% of the subjects in order to balance the results. Participants sat alone in a sound-controlled room in front of the screen of a Windows™-based laptop, with 15" monitor and a built-in standard keyboard. The auditive stimuli were submitted through AKG semi-open studio headphones (model K 240 MK II) plugged into the computer's headphone port.

² Dragojevic, M., & Giles, H. (2016). I don't like you because you're hard to understand: The role of processing fluency in the language attitudes process. *Human Communication Research*, 42, 396-420. doi:10.1111/hcre.12079

³ Purnell, T., Idsardi, W., & Baugh, J. (1999). Perceptual and phonetic experiments on American English dialect identification. *Journal of Language and Social Psychology*, 18, 10-30. doi:10.1177/0261927X99018001002

⁴ Bertinetto, P.M., Burani, C., Laudanna, A., Marconi, L., Ratti, D., Rolando, C., & Thornton, A.M. 2005. *Corpus e Lessico di Frequenza dell'Italiano Scritto (CoLFIS)*. <http://linguistica.sns.it/CoLFIS/Home.htm>

Table 1. Distribution of non-native inhabitants in Italian districts and regions.

| District | Region | <i>Non-native inhabitants every 100,000 inhabitants</i> |
|-----------------|----------------|--|
| Prato | Tuscany | 15,775 |
| Piacenza | Lombardy | 14,184 |
| Reggio Emilia | Emilia Romagna | 13,533 |
| ... | ... | ... |
| Florence | Tuscany | 12,139 |
| Milan | Lombardy | 12,118 |
| ... | ... | ... |
| Rome | Lazio | 11,761 |
| ... | ... | ... |
| Italy (average) | | 8,098 |
| ... | ... | ... |
| Oristano | Sardinia | 1,597 |

Table 2. Audio stimuli for the IAT with their English translation, lexical dispersion, and duration.

| Stimulus word | Lexical Dispersion | Duration (ms) | |
|-----------------------------------|-------------------------------|-------------------------|-------------------------|
| | | Standard Italian | Accented Italian |
| <i>altre</i> ‘others (fem.)’ | .97 | 298 | 598 |
| <i>capra</i> ‘goat’ | .54 | 430 | 480 |
| <i>carne</i> ‘meat’ | .86 | 432 | 480 |
| <i>coro</i> ‘choir’ | .77 | 324 | 464 |
| <i>credo</i> ‘(I) believe’ | .85 | 293 | 461 |
| <i>gregge</i> ‘flock’ | .61 | 462 | 597 |
| <i>mare</i> ‘sea’ | .90 | 386 | 416 |
| <i>neri</i> ‘black’ (pl. m. adj.) | .90 | 380 | 489 |
| <i>parco</i> ‘park’ | .74 | 491 | 597 |
| <i>parte</i> ‘part’ | .86 | 539 | 452 |
| <i>prendo</i> ‘(I) take’ | .73 | 485 | 441 |
| <i>rosa</i> ‘rose’ | .82 | 462 | 434 |
| <i>strada</i> ‘street’ | .95 | 502 | 670 |

Table 3. Statements in the overt questionnaire for teachers from Istituto Sassetti Peruzzi (ISP) and Liceo Scientifico Copernico (LSC), with mean and standard deviation (in brackets). Participants were asked to choose among one of four categories ranging from 1 (*strongly disagree*) to 4 (*strongly agree*).

| N° | Statement (English translation) | Mean (SD) | |
|---|--|---------------|---------------|
| | | ISP | LSC |
| a) The importance assigned to the learning and maintenance of a heritage language | | | |
| 1. | It is important that non-native students preserve their native language* | 1.750 (.829) | 1.667 (.758) |
| 2. | It is important that non-native students persist in studying their native language* | 1.979 (.924) | 1.664 (.757) |
| 3. | In a classroom it is important to speak only Italian | 2.688 (.939) | 2.767 (1.073) |
| 4. | I ignore students who do not speak Italian in the classroom | 1.146 (.408) | 1.367 (.765) |
| 5. | The presence of non-native students allows the students to establish a dialogue with different cultures* | 1.292 (.611) | 1.3 (.466) |
| 6. | I think that teachers and students should always speak Italian in the classroom | 2.833 (.986) | 2.833 (.913) |
| 7. | The preservation of heritage languages undermines the acquisition of the Italian language | 2 (.913) | 1.967 (.999) |
| b) The relationship between the student's origin and his/her educational success | | | |
| 8. | Students with non-native accents have more difficulty in interacting with people | 2.063 (.988) | 2.133 (.860) |
| 9. | Non-native students show persistent language weakness | 2.813 (.781) | 2.5 (.861) |
| 10. | Non-native students have learning difficulties | 2.833 (.956) | 3.567 (.679) |
| 11. | Students who acquire a good level of Italian are very successful at their career | 2.896 (1.025) | 3.133 (.819) |
| 12. | The presence of non-native students allows all the students to grow up with fewer prejudices* | 1.396 (.637) | 1.333 (.479) |
| 13. | Students with non-native accents find it more difficult to interact with others | 2.104 (.872) | 1.8 (.761) |
| c) Overt ideology toward non-standard accents at school | | | |
| 14. | It is important that non-native students learn the Italian language without an accent | 1.813 (.882) | 1.667 (.711) |
| 15. | It is good to have non-native students in the classroom* | 1.458 (.644) | 1.467 (.507) |
| 16. | I think that pronunciation is not relevant if students are able to communicate | 2.021 (.829) | 1.967 (.718) |
| 17. | I like that my students are able to communicate, and their accent is not relevant* | 1.438 (.609) | 1.367 (.615) |
| 18. | The presence of non-native students allows the students to establish a dialogue with different cultures* | 1.292 (.576) | 1.3 (.535) |
| 19. | Students speaking a good level of Italian are more respected than students speaking a non-native Italian | 1.646 (.946) | 1.967 (.809) |
| 20. | It is important that Italian students learn the Italian language without local or regional accents | 2.354 (1.090) | 2.133 (.819) |
| 21. | Students without non-native accents have more relationships with their classmates than students with non-native accents | 3.146 (.913) | 3.233 (.679) |
| 22. | An eyewitness without a non-native accent is more reliable than an eyewitness with non-native accent | 1.5 (.736) | 1.2 (.551) |
| 23. | Students without a non-native accent express their opinion better than students with non-native accents | 1.813 (.905) | 1.5 (.63) |
| 24. | I prefer that students with non-native accents become more involved in the classroom discussion* | 1.792 (.706) | 2.033 (.928) |
| 25. | I do not tolerate pronunciation mistakes, even if the pronunciation is comprehensible | 1.417 (.759) | 1.233 (.430) |
| d) The cultural and educational background that each teacher has to face in multilingual educative contexts | | | |
| 26. | My educational background and my knowledge are totally appropriate when facing the challenges of a multilingual classroom* | 2.292 (.763) | 2.8 (.61) |
| 27. | I have an easier relationship with Italian parents than non-native students' parents | 3.021 (.829) | 3.467 (.629) |
| 28. | In my classroom there is a high level of integration among native and non-native students* | 2.125 (.665) | 2.433 (.858) |
| e) The strategies employed in order to deter/encourage multilingualism in the classroom | | | |
| 29. | I ignore students' mistakes if they speak in a comprehensible way* | 2.604 (1.056) | 2.333 (.922) |
| 30. | I like that my students understand differences among cultures* | 1.458 (.611) | 1.6 (.770) |
| 31. | I sometimes give instructions using regional varieties and/or English* | 1.979 (1.164) | 1.667 (.994) |

* The Likert response values for these items have been recoded.

Table 4. Statements in the overt questionnaire for students from Istituto Sassetti Peruzzi (ISP) and Istituto Datini (ID), with mean and standard deviation (in brackets). Participants were asked to choose among one of four categories ranging from 1 (*strongly disagree*) to 4 (*strongly agree*).

| N° | Statement (English translation) | Mean (SD) | |
|--------------------------------------|---|-------------|-------------|
| | | ISP | ID |
| <i>For Chinese students</i> | | | |
| 1a. | Italian teachers are patient* | 2.62 (.898) | 2.38 (.843) |
| 2a. | Italian teachers do not like Chinese students | 1.81 (.647) | 1.71 (.624) |
| <i>For other non-native students</i> | | | |
| 1b. | Italian teachers are patient* | 1.72 (.984) | 2.23 (.868) |
| 2b. | Italian teachers do not like Chinese students | 1.44 (.854) | 1.65 (.842) |

* The Likert response values for these items have been recoded.