

## **Effects of listener and speaker characteristics on foreign accent in L2 Spanish**

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### **Abstract**

In the current study, native (L1) Castilian Spanish judges listen to a variety of L1 and second language (L2) speakers reading a paragraph in Spanish and rate the level of foreign accent. They also identify, when possible, the speaker's dialect of Spanish, providing commentary on the reasons for their choice. This study measures the effects of both listener and speaker characteristics on foreign accent rating and dialect identification. The listener characteristics of residential history and experience with L2 Spanish significantly affect foreign accent ratings. Speaker characteristics including motivation to speak a particular dialect, L2 proficiency level, social networks, and the production of regional features are also explored. All have significant effects on foreign accent ratings.

**Keywords** foreign accent, second language phonology, second language pronunciation, Spanish language learners, perception

### **1. Introduction**

It is widely acknowledged that “many adult learners speak their L2 with a foreign accent” (Zampini, 2008, p. 225). Listeners hear a person speak and judge both that person and their speech based on how foreign they sound (Hayes-Harb & Hacking, 2015). It is also commonly understood that “accents are widely associated with social values like correctness, desirability, prestige, and power” (Moyer, 2013, p. 102). L2 speakers who exhibit foreign accents can be evaluated more negatively on a personal level (Flege, 1987). Accent can signal a person's in-group or out-group status perhaps even more so than physical appearance (Moyer, 2013). While foreign accents may not be relevant for communicative purposes, they still affect how a speaker is perceived and have real world implications.

In the present study “accent is a set of dynamic segmental and suprasegmental habits that convey linguistic meaning along with social and situational affiliation” (Moyer, 2013, p. 11). If L1 speakers have an accent, L2 speakers have a foreign accent, or speech that deviates from these L1 habits. Foreign accent is still often included as part of assessment measures of oral competence in academic settings (Levis, 2006), despite a shift from decreasing foreign accent toward increasing comprehensibility (Derwing & Munro, 2009).

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One way to improve one's accent could be to target a specific variety and use features from this variety. It is widely thought that acquiring "native-speaker (NS) patterns of variation" leads to higher proficient language users (Bayley & Regan, 2004, p. 325). What this variation could look like in terms of speech production, could include adopting the phonological features salient to the target language variety under study. The current study will shed light on the connection between the use of regional features and foreign accent. In the present study, "*dialect* refers to a fully functioning language variety with its own vocabulary and grammar, as well as discursive style, in addition to a distinct accent" (Moyer, 2013, p. 10). Adult language learners are capable of producing regional features, often as a result of study abroad (e.g., George, 2014; Regan, Howard, & Lemée, 2009; Reynolds-Case, 2013; Salgado-Robles, 2011) or prolonged contact with L1 speakers after such sojourns (Geeslin & Gudmestad, 2008). Much less is known about how the production of regional features by L2 speakers is perceived by L1 listeners. The present study seeks to determine if listeners can detect a dialect in L2 speakers and to identify aspects of their speech that contribute to this dialect.

While the foreign accent of L2 English speakers has been widely studied, L2 Spanish speakers are less studied (Jesney, 2004), with a few exceptions (González-Bueno, 1997; Llanes, 2016; Martinsen, Alvord, & Tanner, 2014; Schoonmaker-Gates, 2013). In addition, previous research has primarily focused on speaker characteristics, leaving out listener characteristics, with some exceptions (Schoonmaker-Gates, 2013). The present study fills this gap by examining how both speaker characteristics (motivation to speak a certain linguistic variety of Spanish, strength of Spanish-speaking social networks, production of regional features, and proficiency level in Spanish) and listener characteristics (familiarity with L2 Spanish and residential history) affect foreign accent ratings of L2 Spanish speakers.

### 1.1. *Speakers and Foreign Accent Rating*

Several factors have been known to affect foreign accent ratings of L2 speakers including both phonological factors and extralinguistic factors, such as the quality and quantity of contact with Spanish and proficiency level. Each of these factors will be discussed in more detail.

Flege, Munro, and MacKay (1995) found pronunciation to be the key factor in identifying late learners of English (L1 of Italian) as non-native speakers, but did not identify the specific pronunciation features that correlated with stronger foreign accent ratings. Trofimovich and Isaacs (2012) investigated this by having experts analyze the speech errors of 40 L2 English speakers (L1 French speakers). They then divided the 19 types of errors into four categories (phonology, fluency, lexis/grammar, discourse). Novice judges (L1 English speakers) rated both the level of accentedness (how foreign the speaker sounds) and comprehensibility (ability to understand the speaker) in the 40 speech samples. These ratings were then compared with the errors found to determine which specific items accounted for foreign accentedness. Word stress and rhythm were found to be significant predictors of accentedness, while, type frequency, word stress, and grammatical accuracy were significant predictors of comprehensibility. Finally, three experienced

judges, all native speakers of English, reported on which of the 19 items influenced their accentedness and comprehensibility ratings. All of these comments were based on phonological phenomenon, with 27% of the comments focusing on segmental errors. Surprisingly, the comments on intonation were specific only to comprehensibility and not to accentedness. The four comments specific to accentedness and not comprehensibility dealt with vowels and consonants, syllables, the nativeness or non-nativeness of the sound, and rhythm. In this study, only the experienced judges, three English teachers, provided commentaries on the items that affected their decisions. It remained unclear what pronunciation features inexperienced raters would find relevant to their ratings and how they would contribute to dialect identification.

Study abroad has been shown to positively affect foreign accent rating, with beginning through advanced university student learners of Spanish rated as sounding statistically significantly less foreign than their counterparts who had not studied abroad, but still significantly more foreign sounding than native speakers (Martinsen et al., 2014). Similarly, study abroad resulted in significant improvement in foreign accent rating from a pretest to a posttest in native speaking Spanish children aged 10-11 and adults aged 19-33 who studied abroad in Ireland for three months and were rated on their English (Muñoz & Llanes, 2014). No significant differences were found in similar groups of participants who did not study abroad but completed English language classes at home in Spain (Muñoz & Llanes, 2014). Llanes (2016) found that study abroad resulted in weaker foreign accents in the English of 8 native Catalan/Spanish-speaking eleven-year-old learners studying abroad in Dublin both one week after the sojourn and also ten months later, but the 6 comparable at-home learners improved their foreign accents significantly during the 12 months. These studies affirm the clear advantage to studying abroad and decreasing one's foreign accent, but also indicate that foreign accent can be weakened at home too; it may just take longer to view significant improvements in at-home learners. It remains unclear why raters assign a particular rating and what makes them believe the participant sounds foreign.

Study abroad alone is not always sufficient for improving one's accent, but contact with the language under study can dramatically improve one's foreign accent. Díaz-Campos (2004) found a contact threshold, with four days per week or four hours of contact with the target language outside the classroom resulting in lower foreign accent ratings for 24 learners of Spanish abroad. In addition, speaking more of the target language both inside and outside of the classroom correlated with sounding less foreign (Muñoz & Llanes, 2014). Moyer (2004) also found more frequent interactions in German for 25 advanced immigrant learners in Berlin correlated with weaker foreign accent ratings by native German speakers. In addition to contact with the target language, less contact with one's native language correlated with a weaker foreign accent for Italian speakers of English (Flege, Frieda & Nozawa, 1997; Piske & MacKay, 1999), but Piske, MacKay, and Flege (2001) found age of arrival to be stronger than L1 use in terms of decreasing foreign accent. Guion, Flege and Loftin (2000) found those who exhibited higher

rates of use of their L1, in this case Quichua, were rated as having stronger foreign accents in Spanish, but later attributed this to age of acquisition through a follow up study. George (2014) found more reported contact with Spanish and less reported contact with English mid semester correlated with the production of the regional feature, [θ]. The context of contact was more important than the frequency of contact with the L2, with formal contact in work or school environments less effective than informal contact at home or in leisure contexts in terms of decreasing foreign accent (Derwing et al. 2007; Moyer, 2011).

Research on social networks and the use of regional features provides additional insight into contact with the target language and dialect development. For L2 learners to acquire the procedural knowledge involved with the acquisition of phonological variation, a social network is needed (Moyer, 2013, p. 13). Geeslin and Gudmestad (2008) found that participants who had stayed in contact with their host family and friends after returning from their time abroad used salient dialectal features more than those that did not remain in contact with their hosts. Pope (2016) investigated the relationship between social networks and the production of the regional feature [θ] in four university students sojourning in Madrid for the academic year. Two of the students with strong Spanish-speaking social networks produced [θ] 98% and 90% of the time in read and spontaneous speech, respectively. Two students with weak Spanish-speaking social networks demonstrated varying results with one producing [θ] 67% of the time, and the other producing this feature only 2% of the time. This case study provides evidence that social networks do lead to more use of regional features. George (2014) also found that stronger Spanish-speaking social networks correlated with [θ] production in learners studying abroad in Spain for the semester. For 23 university students abroad in Buenos Aires, Pozzi (2017) found social network to be one of the strongest predictors of the morphosyntactical regional feature, vos (second person singular informal), but this factor was not a significant predictor for the production of the phonological feature sheísmo/zeísmo (the realization of /j/ as or [j] or [ʒ]).

Moyer (2013) reviewed studies of advanced L2 learners and attributed their motivation to sound native-like as influential in reaching such an advanced level in their L2. In addition to motivation, Martinsen et al. (2014) found that level of instruction, which can be related to proficiency level, was also a statistically significant predictor of foreign pronunciation rating for learners of Spanish.

Phonological factors have been found to affect foreign accent rating as well. These include pronunciation of individual sounds (Major, 1987; Munro, Derwing & Flege, 1999; Riney, Takada & Ota, 2000), prosodic aspects of speech (Anderson-Hsieh, Johnson & Koehler, 1992; Jilka, 2000; Magen, 1998; Major, 1986; Munro, 1995) and speech rate (Munro & Derwing, 1998, 2001). In addition, comprehensibility and intelligibility have also been known to affect foreign accent ratings (Munro & Derwing, 1995a, 1995b, 1997, 1999). Regarding studies focusing on L2 Spanish production and phonological factors, González-Bueno (1997) manipulated the voice onset time (VOT) in native English speakers production of Spanish words. These L2 Spanish learners, whose VOT of [k] was between 15 and 35 milliseconds,

or closer to native-like norms, were perceived as sounding less foreign and more native-like by native Spanish-speaker judges.

### *1.2. Listeners and foreign accent and dialect identification*

This area is fairly well researched with English speaking listeners (e.g., Gui, 2012; Isaacs & Trofimovich, 2011; Winke & Gass, 2013), but not with Spanish-speaking ones (Schoonmaker-Gates, 2013). While research on Spanish speaking listeners tends to focus solely on speaker characteristics (Schoonmaker-Gates, 2013), studying the characteristics of the listeners illuminates foreign accent rating results and dialect identification.

L1 listeners tend to rate L2 speech as sounding less foreign if they have more exposure and experience with L2 speech (Derwing & Munro, 1997; Flege & Fletcher, 1992; Thompson, 1991). Blanco, Tagtow, Smiljanic, and Rajka (2013) found that more experience with speakers of a particular type of foreign accent, in this case Spanish accented English versus Korean accented English, outside of the laboratory led to shorter processing times of these accents in the laboratory. L2 listeners with more previous dialect exposure rated L1 speech as sounding less foreign and non-native speech as sounding more foreign than L2 listeners with less previous dialect exposure (Schoonmaker-Gates, 2013).

Studies on dialect identification have focused on measuring differences between L1 and L2 listeners and on familiarity with certain dialects due to residential history and previous linguistic experiences. The results of these studies have shown that L1 listeners are better at identifying dialects than L2 listeners (Cunningham-Andersson, 1996; Sullivan & Karst, 1996). In addition, a more varied or longer residential history results in an increased ability to identify dialects for both L1 (Baker, Eddington, & Nay, 2009; Clopper & Pisoni, 2004; Díaz-Campos & Navarro-Galisteo, 2009) and L2 listeners (Cunningham-Andersson, 1996; Sullivan & Karst, 1996). This research has all focused on the dialect identification of L1 speakers. L2 speakers are capable of developing second dialects (D2s) to varying degrees (Siegel, 2010), but little is known about how this D2 is perceived by L1 listeners including whether or not they can identify the D2, particularly when dealing with Spanish.

### *1.3. Research Questions*

The research questions that inform the current study are as follows:

- 1a. How do L1 listeners from Spain rate foreign accented speech by various L2 Spanish speakers as compared to their L1 counterparts?
- 1b. Can these listeners identify specific dialects of the speakers?
- 1c. If so, what pronunciation features caused the raters to choose their ratings (i.e. intonation, vowels, a specific regional feature, etc.)
2. How do listener characteristics (time away from Spain and experience with L2 Spanish) affect foreign accent ratings? Other listener characteristics, such as level of education, socio-economic status and gender, were excluded from this study, since previous studies found experience with L2 speakers and experiences living

outside one's home country to have an impact on foreign accent ratings.

3. What is the role of speaker characteristics (motivation to speak a target dialect, proficiency level, social networks, and production of regional features) on foreign accent ratings?

## 2. Methodology

### 2.1. Speakers

Sixty-three participants were recorded reading two short paragraphs about Madrid in Spanish. More information on the paragraphs is included in Section 1.3. Forty-one participants had recently studied abroad in a Spanish-speaking country for one semester, while 10 at a comparable point in their Spanish career had never studied abroad. Two of the participants studying abroad in Spain were heritage speakers of Spanish and each had one parent born in Mexico, while the participants themselves were born and raised in the USA. The participants also included 12 native speakers of Spanish from the same countries where the students had studied abroad (Spain, Ecuador, Venezuela, Argentina, and Chile). More information about the speakers is detailed in Table 1.

Table 1

#### *Background Information of Speakers*

Context	Number and Gender	Average Age
Study Abroad: Spain	19 females, 6 males	20.64
Study Abroad: Spain - heritage speaker	2 females	21.5
Study Abroad - Ecuador	3 females, 1 male	21.5
Study Abroad - Venezuela	3 female, 1 male	20.8
Study Abroad - Argentina	1 male, 1 female	18.5
Study Abroad - Chile	1 male, 1 female	22.5
No study abroad	1 male, 9 females	19.9
Native speakers - Ecuador	1 female, 1 male	29.5
Native speakers - Venezuela	2 males	29.5
Native speakers - Argentina	1 female, 1 male	37.5
Native speakers - Chile	1 female, 1 male	34.5
Native speakers - Spain	2 females, 2 males	NA

The speakers who studied abroad in Latin America and those who did not study abroad were Spanish majors or minors all in their fourth year of Spanish language studies at a large Midwestern university. Those that studied abroad in Spain came from various U.S. universities and colleges and all were Spanish majors or minors. The speakers were L1 speakers of English with the exception of the two heritage learners studying abroad in Spain who were dominant in English but also heard and spoke Spanish at home to varying degrees.

### 2.2. Listeners

The eight listeners consist of three females and five males. They were elicited using various online venues and were chosen because they were educated speakers from Spain who were not linguists. All are L1 speakers of Spanish,

born and university educated in Spain, with various occupations, but none are teachers of Spanish as a second language. Table 2 displays more information about each listener. The listeners completed an online survey, involving a short questionnaire about their background and a series of 30-second sound samples in Spanish.

Table 2  
*Background Information for Listeners*

Listener #	Gender (Age)	Occupation	Experience with L2 Spanish	Residential History: Location (Years)
1	F (32)	Economist	Limited	Santiago de Compostela, Spain (32)
2	M (34)	Software/Law	Limited	Madrid, Spain (21) Germany (2) Netherlands (2) Minnesota, USA (2)
3	F (57)	Professor (Subject not specified)	Some	Madrid, Spain (9) Valladolid, Spain (5) Madrid, Spain (14) Connecticut, USA (2) Michigan, USA (12) Minnesota, USA (12)
4	F (30)	Teacher (Subject not specified)	Some	A Coruña, Spain (25) Salamanca, Spain (1) A Coruña, Spain (2) Greece (4)
5	M (24)	Student (major not specified)	Limited	Tenerife, Spain (24)
6	M (34)	Scientific Translator	Some	Oviedo, Spain (29) Segovia, Spain (2) Whales (2) Barcelona, Spain (1)
7	M (31)	English teacher	Some	Bilbao, Spain (22) Pennsylvania, USA (2) Washington DC, USA (3) Bilbao, Spain (4)
8	M (28)	Teacher (Subject not specified)	Some	Ponferrada, Spain (18) Salamanca, Spain (5) Portugal (1) United Kingdom (1)

### 2.3. *Data collection and analysis*

The current study utilizes techniques originating from the matched-guise test, designed by Lambert and his colleagues (1960), which involved the same speaker reading the text in different languages to measure participants' attitudes toward French and English in Montreal. In the present study, the students of Spanish were recorded reading a text, chosen for its number of possible tokens of regional features of different varieties of Spanish. From the larger text, two sentences were extracted. Most speakers read these two sentences in about 30 seconds. The regional features

included in these sentences were five possible tokens of [x], six of [θ], 1 of [ʃ] or [ʒ], and 15 of /s/-weakening. Other possible regional features could have been produced. Read speech was chosen over spontaneous speech for three reasons. First, it was to control for what the listeners would hear, so grammatical or lexical errors would be less likely to occur. Second, in previous studies on regional features developed abroad (e.g., George, 2014, Ringer-Hilfinger, 2012) there were so few tokens of geographically indexed features in spontaneous speech, that read speech was used in the present study instead. Finally, lexical or morphosyntactical choices in spontaneous speech could link a speaker to a particular place without focusing on the speaker's pronunciation. The goal of the current study is to determine the influence of pronunciation, as opposed to other items such as lexical choices, on foreign accent.

The data, including the speech samples and speaker characteristics, were collected at the end of a semester abroad for the participants who had studied abroad in Spain, after returning from a semester abroad for those who studied abroad in Latin America, and during the fourth year of university study for those that did not study abroad. The L2 speakers' data was collected alongside the L2 speech samples in Spain. The Latin American L1 speakers' data was collected in the USA. at the same time as the L2 speakers who never studied abroad. The L1 and L2 speech samples were recorded using a Marantz digital recorder.

As part of an online survey, listeners heard a 30 second sample of each speaker and then selected a number from 1 (no foreign accent) to 7 (strong foreign accent). Flege (1984) found that it is possible to detect an accent in a very short 6-word speech sample. Interval scales have been determined to be an effective way to measure foreign accent (Southwood & Flege, 1999). The order of the speakers was random. After assigning a foreign accent rating, listeners identified any specific dialect they detected, indicated the degree of the dialect from 1 (sounds a little bit like the dialect) to 7 (sounds a lot like the dialect) and reported why they chose that particular dialect or variety of Spanish. This could include, for example, intonation, specific sounds, or other items. It should be noted that it is unclear if the listeners understood the term intonation. While the listeners are educated through at least university level, they are not linguists, so their conceptualization of intonation may be different from the linguistic definition of the term. The speakers were all familiar with regional sounds, even though they did not define these using phonetic terms. Finally, listeners answered background questions included in the survey to determine their experience with L2 speakers, residential history, and other background information.

The background questionnaire filled out by the speakers in Spain was used to determine the extralinguistic factors that may have affected their foreign accent ratings. Motivation was determined based on participants' responses to a question about whether or not they tried to speak a specific dialect of Spanish and their identification of this dialect. Social network strength was determined based on participants' identification of the frequency, context, and variety of Spanish spoken with interlocutors. Information about the dialects spoken by their current and previous Spanish teachers was also gathered. Spanish proficiency level was determined based on students

choosing the number between 1 (low) and 5 (like a native speaker) which best represented their skill levels in reading, writing, speaking, and listening. The four numbers were then averaged to determine their proficiency score and any numbers below 2.9 were considered low proficiency, while above 2.9 were considered high. It is important to remember that low does not mean novice, it is simply a way to group the learners that rated themselves lower than the other learners. To determine production of regional features the researcher listened to each speech sample and determined if the speaker used regional features or not. These features included [θ], [x], [ʃ / ʒ], and /s/-weakening. Since those who studied in Ecuador resided in a place with speakers who would not typically exhibit any of these features, those students were excluded from the analysis. Information about the participants' progress in their Spanish major, previous Spanish courses taken, and travel to Spanish-speaking countries prior to studying abroad was also elicited.

To analyze the data, first, the average foreign accent ratings for L1 and L2 speakers were calculated for each listener. The speakers were then divided into two groups of L2 speakers (Spain and Latin America) and four groups of L2 speakers (Spain study abroad, Latin America study abroad, no study abroad, heritage speakers studying abroad in Spain). The data was analyzed quantitatively via one-way ANOVAs to determine significant differences between listener characteristics (those who left Spain vs. those who stayed in Spain and those with previous L2 Spanish experience vs. those without) and speaker characteristics (no, some or strong motivation to speak a target variety of Spanish, low or high Spanish proficiency, weak or strong Spanish-speaking social networks, and no or some use of regional features). The qualitative analysis revealed the number of dialects identified and the listeners' reports on which pronunciation features influenced their decision. In order to determine the agreement among the listeners' ratings, a Cronbach's alpha analysis was run to determine interrater reliability. This analysis is used to show the degree to which the listeners are reliable and consistent when rating the speakers. The Cronbach's alpha analysis revealed that the eight judges rated the samples with an excellent level of consistency ( $\alpha = 0.934$ ). A coefficient of .90 to 1.0 is considered excellent (George & Mallery, 2003.) The following scale applies to Cronbach's alpha for interrater reliability: Excellent:  $\alpha > .9$ , Good:  $\alpha > .8$ , Acceptable:  $\alpha > .7$ , Questionable:  $\alpha > .6$ , Poor  $\alpha > .5$ , and Unacceptable:  $\alpha < .5$  – (George & Mallery, 2003, p. 231).

### **3. Findings**

#### *3.1. Foreign accent rating*

The first part of the first research question asks how listeners from Spain rate speech by and L2 Spanish speakers. As evident in Table 3, listeners assign on average higher foreign accent ratings to L2 speakers and lower foreign accent ratings to L1 speakers. This difference resulted in significance ( $p > .001$ , Mann-Whitney U Test). The L2 speakers included the HL speakers, and even when they were not included, there were still significant differences.

Table 3  
*Foreign Accent Ratings from 1 (native-like) to 7 (very foreign)*

Listener (Sex, Age)	L1	L2
1 (F, 32)	1.08 (0.29)	3.67 (1.15)
2 (M, 34)	1.17 (0.39)	4.17 (1.82)
3 (F, 57)	1.25 (0.87)	4.83 (1.26)
4 (F, 30)	1.00 (0.00)	5.67 (1.51)
5 (M, 34)	2.83 (2.21)	5.19 (1.08)
6 (M, 31)	1.67 (0.49)	4.75 (1.45)
7 (M, 28)	1.08 (0.29)	4.90 (1.51)
8 (M, 24)	2.92 (2.68)	6.34 (1.18)
Total	1.63 (1.45)	4.93 (1.58)

To further address the first research question on how listeners rate both L1 and L2 speech, Table 4 shows the foreign accent rating averages for various groups of L1 and L2 speakers. Differences in foreign accent ratings among the groups were significant ( $p > .001$ , Mann Whitney U test). The Tukey HSD post hoc test revealed significant differences in foreign accent ratings between the L2 Spain SA and L2 Latin America SA ( $p > .001$ ). Not surprisingly, both L1 groups significantly differed from all L2 groups. The L2 groups that did not differ statistically were as follows: L2 Spain SA and No SA ( $p = .448$ ), L2 Spain SA and HS SA Spain ( $p = .064$ ), L2 Latin America SA and No SA ( $p = .072$ ), HS SA Spain and No SA ( $p = .536$ ).

Table 4  
*Foreign Accent Ratings by Speaker Groups*

Listener (Sex, Age)	NS Spain rating	L2 Spain SA	NS Latin America	L2 Latin America SA	HS SA Spain	No SA
1 (F, 32)	1.00 (0.00)	3.92 (1.12)	1.13 (0.35)	3.08 (1.00)	4.0 (2.83)	3.67 (1.00)
2 (M, 34)	1.00 (0.00)	4.75 (1.80)	1.25 (0.46)	3.67 (1.37)	2.0 (0.00)	3.78 (2.11)
3 (F, 57)	1.00 (0.00)	5.04 (0.98)	1.38 (1.06)	4.33 (1.61)	4.50 (3.54)	5.00 (0.87)
4 (F, 30)	1.00 (0.00)	6.04 (1.10)	1.00 (0.00)	5.25 (1.91)	4.50 (3.54)	5.44 (1.42)
5 (M, 34)	1.00 (0.00)	5.40 (0.96)	3.75 (2.19)	4.82 (1.40)	5.00 (0.00)	5.11 (1.05)

6 (M, 31)	1.00 (0.00)	5.04 (1.43)	2.00 (0.00)	4.00 (1.41)	4.00 (2.83)	5.11 (1.05)
7 (M, 28)	1.00 (0.00)	5.32 (1.38)	1.13 (0.35)	4.17 (1.70)	4.50 (3.54)	4.78 (0.83)
8 (M, 24)	1.00 (0.00)	6.63 (0.71)	3.88 (2.85)	5.67 (1.87)	6.00 (1.41)	6.56 (0.73)
Total	1.00 (0.00)	5.28 (1.19)	1.63 (1.45)	4.37 (1.70)	4.31 (2.21)	4.93 (1.44)

Table 5 addresses the second part of the first research question on if listeners can identify a specific regional dialect of each speaker. After the listeners identified the level of foreign accent, they then were asked to identify any specific dialect they heard. Table 5 lists the number of L1 and L2 dialects correctly identified. In Table 5, *correctly* for L2 speakers relates to either the place of study abroad or the target dialect identified by the learner.

Table 5  
*Number of Correct Dialects Identified by Listeners*

Rater (M/F, age)	# NS dialects identified	# Correct	# L2 dialects identified	# Correct
1 (F, 32)	6/12	6/6 (1 (Spain))	0/49	NA
2 (M, 34)	5/12	5/5 (2 (Spain))	3/49 (2 Spain)	2/3
3 (F, 57)	2/12	2/2 (1 (Spain))	1/49	0/1
4 (F, 30)	2/12	2/2 (1 (Spain))	1/49	0/1
5 (M, 34)	5/12	4/5 (0 (Spain))	10/49 (6 Spain, identified as LA)	3/10
6 (M, 31)	4/12	4/4 (4 (Spain))	4/49 (1 (Spain))	4/4
7 (M, 28)	6/12	2/6 (2 (Spain))	1/49	0/1
8 (M, 24)	0/12	NA	0/49	NA
Total	31% (30/96)	83% (25/30)	5% (20/392)	45% (9/20)

Together the eight listeners correctly identified 83% of L1 dialects and only 45% of L2 dialects. The Spain dialect was most often correctly identified in both L1 and L2 speakers, which is not surprising since listeners often rate their own variety as sounding less foreign than any other varieties (Schoonmaker-Gates, 2013). The most common reason provided for identifying the L1 speaker dialects was intonation. It is unclear if this refers to pitch contour (pitch patterns) or pitch range. Other reasons consisted of the identification of segmental features or specific sounds, including /x/, /s/-weakening, /θ/, /s/, and /j/.

Some listeners were better than others at identifying dialects. Five of the eight listeners were accurate 100% of the time identifying a variety of L1 dialects. These same five listeners were less accurate identifying L2 dialects with only one exhibiting 100% accuracy, but, overall identifying a dialect only 5% of the time.

The majority of L2 speakers did not have a perceived identifiable dialect and this could have been due to the lack of use of salient dialectal features and/or the listeners not being familiar with those target dialects. Listeners

tend to be better at identifying dialects they are more familiar with, so that could be why they had trouble identifying L2 dialects. However, the listeners in the current study rated the L1 speakers from Latin America as sounding significantly less foreign than the L2 speakers who studied abroad in Latin America ( $f(1) = 78.168, p > .001$ ). It is also possible that the speakers' strong foreign accent prohibited the listeners from identifying a dialect.

The listeners who rated L2 speakers with high foreign accent ratings claimed it was due to intonation and non-native pronunciation of /t/, /r/, /l/, and /x/. The influence of the L1 was evident for [r] and [t]. Some of the speakers pronounced [ɹ] instead of [r] or [r] as is the most common pronunciation in the Spanish-speaking world. There are other acceptable pronunciations of [r], but the speakers did not produce those either. Some speakers pronounced [t] as alveolar and possibly with aspiration, like in English, and not dental with no aspiration, like in Spanish.

For those with low foreign accent ratings, the listeners specifically mentioned their intonation and the following dialectal features: /θ/, /j/, /s/ aspiration, retention of /s/. These often corresponded to the place of study abroad, however many that studied abroad in Spain were perceived as having a Latin American dialect due to their lack of Castilian Spanish features. Of those 9 students who had never studied abroad, only two were rated as sounding slightly like having a distinct dialect. For one participant, no specific dialect was identified. One listener rated another as sounding slightly Castilian (Spain) and a different listener rated the same speaker as sounding slightly Latin American. Despite the fact that these speakers had never been abroad, two out of nine were perceived as having slightly identifiable dialects, proving that study abroad is not always necessary to start to develop a specific dialect of the target language.

Of the two heritage speakers of Mexican descent in this study, one was perceived as sounding slightly Mexican due to her intonation and one was perceived as sounding Castilian due to her pronunciation of /x/ and /θ/. The one that sounded Castilian also exhibited, on average, a lower foreign accent rating. The use of these two regional features could have led to this lower rating.

### 3.2. *The listener and speaker characteristics*

Tables 6 and 7 illuminate the results of the second research question which addresses the effects of listener characteristics on foreign accent ratings. Listeners 1, 2, and 5 reported little to no experience listening to L2 Spanish, while listeners 3, 4, 6, 7, and 8 reported some experience listening to L2 Spanish although none were Spanish teachers. Table 6 details the comparisons between these two types of judges. Previous L2 Spanish listening experience resulted in significantly higher foreign accent ratings.

Table 6

*Foreign Accent Rating Based on Listeners' Previous Experience with L2 Speech*

	Mean Rating (SD) of L2 speakers (including HSs)	Mean (SD) of NSs
No L2 experience (N=3)	4.34 (1.52)	1.69 (1.51)
Some L2 Experience (N=5)	5.29 (1.58)	1.58 (1.43)
Statistical significance	F (1) = 35.491, p > .001**	F (1) 0.130, p = .719

\*\* Significant at the .01 level

Table 7 shows differences in foreign accent ratings by those listeners who left Spain, their country of origin, to live elsewhere for at least one year and those who remained in Spain. Those judges who left Spain rated L2 speech as sounding significantly less foreign than those who never left Spain.

Table 7

*L1 Listener Characteristics*

	Mean Rating (SD) of L2 speakers (including HSs)	Mean (SD) of L1s
Left Spain (N=2)	4.42 (1.35)	1.51 (1.32)
Never left Spain (N=6)	5.11 (1.62)	1.96 (1.78)
Statistical significance	F(1) =13.958, p > .001**	Mann-Whitney U result: p=.448

\*\* Significant at the .01 level

To address the third and final research question on the L2 speaker characteristics that affect foreign accent ratings, Table 8 highlights the results of motivation, proficiency level, Spanish-speaking social networks and the use of regional features.

Table 8  
*L2 Speaker characteristics Mean Rating (SD)*

Motivation			Statistical Significance
None	Some	Strong	F(2) = 7.90, p = >.001**
5.23 (1.53)	4.84 (1.54)	4.55 (1.59)	LSD Post hoc:
Proficiency			None and Some: p = .082
			None and Strong: p = .000**
			Some and Strong: p = .208
Spanish-speaking social networks			
Low	High		
5.58 (1.40)	4.74 (1.58)		F(1) = 19.867, p = >.001**
Regional Features			
Weak	Strong		
5.21 (1.46)	4.38 (1.67)		Mann-Whitney U result: p = >.001**
Regional Features			
None	Some		
5.24 (1.41)	4.00 (1.71)		Mann-Whitney U result: p = >.001**

\*\* Significant at the .01 level

All four of the speaker characteristics resulted in significant differences in terms of foreign accent ratings. L2 speakers who were strongly motivated to speak a specific variety of Spanish were rated as sounding significantly less foreign than those with no motivation to speak a certain dialect. Similar to previous studies (e.g., Martinsen et al., 2014), proficiency level played an important role. L2 speakers who self-rated their Spanish proficiency as higher, between 2.9 and 5.0 on a 1-5 scale, were rated as sounding significantly less foreign than those who rated their proficiency as lower. Social networks also have their advantages in terms of resulting in decreased foreign accent ratings. L2 speakers with weaker Spanish-speaking social networks were rated as sounding significantly more foreign than their counterparts with stronger social networks. The production of regional features resulted in the largest difference of foreign accent ratings. Speakers who produced some regional features were rated as sounding significantly less foreign than those who produced no regional features. Since those who studied in Ecuador resided in a place with speakers who would not typically exhibit any of these features, those students were excluded from the analysis. It is worth noting that the results were significant even when they were included.

#### 4. Discussion

The first research question asks how listeners from Spain rate foreign accented speech by various L2 Spanish speakers. The answer is that they are rated as sounding significantly more foreign than their L1 counterparts. This is not surprising given the plethora of research with similar results (e.g., Flege, et al., 1995; Martinsen et al., 2014). These similar findings present in the current study and previous research could be because accents are fairly easy to detect and are often the first thing that L1 speakers notice about L2

speakers (Moyer, 2007). From a social standpoint, L2 speakers are often perceived as less intelligent due to their accents (Siegel, 2010).

In response to the second part of the first research question about if Spaniards can identify specific dialects of these speakers, the answer is sometimes but not very well. The listeners rated L1 Latin Americans as sounding significantly less foreign than L2 speakers, but identifying a specific dialect was in general more difficult. All but one listener identified the dialect of at least two L1 speakers from Latin America, however only 3 listeners correctly identified L2 dialects. On the one hand, this could be because the judges never resided in Latin America, so it could be more difficult to identify those dialects. This is in line with previous research that found residential history of L1 listeners to be associated with dialect identification (e.g., Díaz-Campos & Navarro-Galisteo, 2009; Baker, Eddington, & Nay, 2009; Clopper & Pisoni, 2004). On the other hand, the Latin American L1 speakers resided in the U.S, which could have influenced their speech, particularly their dialect.

The third part of the first research question, about what characteristics caused the raters to choose their ratings, revealed that intonation was the most common followed by regional features and sounds different in the L1 ([t], [r], and [r]). This is at least partial evidence of the importance of using regional features in one's speech in order to sound less foreign, but also points to the importance of developing target-like intonation and target-like sounds that differ from their L1 counterparts. It is unclear which aspect of intonation the listeners are taking into consideration. When using novice listeners, Trofimovich and Isaacs (2012) found word stress and rhythm to be associated with stronger foreign accent ratings of L2 English speakers. With experienced listeners, vowels and consonants, syllabus, sounds native or non-native like, and rhythm were most commonly identified as attributing to higher foreign accent ratings. This aligns partially with the current study, since after intonation consonants were the second most popular feature associated with higher foreign accent ratings. The listeners attributed L2 dialects to specific regional features of Central Spain (/θ/ and /x/) and Argentine (/j/) dialects alongside intonation.

In response to the second research question on how listener characteristics (time away from Spain and experience with L2 Spanish speech) affect foreign accent rating, the answer is that the listeners who always resided in Spain rated L2 Spanish speakers as sounding more foreign. Surprisingly, the listeners who exhibited more previous experience listening to L2 Spanish, rated the L2 speech as sounding more foreign. Leaving Spain meant living in an English-speaking country for those six raters, which implies they are likely to speak with a foreign accent themselves in English and possibly hear more accented speech in both Spanish and English. The current study aligns with previous ones in terms of more varied and longer residential history correlating with lower foreign accent ratings, but does not align in terms of previous experience with L2 Spanish. This could be due to the self-reported nature of the data, which did not account for the quality of the previous L2 Spanish experience.

Finally, in response to the last research question on the role of speaker characteristics (motivation to speak a target dialect, proficiency level, social networks, and production of regional features) on foreign accent rating, stronger motivation to speak a target dialect, higher proficiency in Spanish, stronger Spanish-speaking social networks in the target dialect, and production of salient regional features resulted in a weaker foreign accent ratings. These speaker characteristics are also seen in previous studies. For example, Moyer (2013) found the most advanced learners were the most motivated to sound native-like. Higher proficiency in the L2 was attributed to weaker foreign accents in Martinsen, Alvord, and Tanner's (2014) study too. Stronger social networks may be attributed to more contact in the L2, similar to Muñoz & Llanes (2014) and Díaz-Campos (2004). L2 learners with weaker foreign accents may seek out more L1 speakers, since they may feel more comfortable to do so (Moyer 2004 and 2007) or they may be discouraged to interact with locals because of their strong foreign accent (Moyer 2013).

On the background questionnaire, participants were asked if they were trying to use a specific variety of Spanish or not. Of the students who had not studied abroad, only one identified a target dialect. Specifically, she stated that she tried to speak Mexican Spanish, due to the fact that her boyfriend was from a Mexican border town in the USA. where Spanish is widely spoken. While the others could not identify a target dialect, five stated that they tried to sound less American when speaking Spanish. One stated that she tried to mimic her previous Spanish teachers, all of whom were American. Only three mentioned with whom they currently speak Spanish and only one could identify a dialect of the interlocutor and that dialect was Mexican. The four students who studied abroad in Ecuador were not trying to sound Ecuadorian when they spoke, but two were trying to sound less American, and one said she did try to sound like a local when she was living in Ecuador. All of the Ecuadorians were currently in contact with native-Spanish speakers, most of whom were Ecuadorian. Of the two who had studied in Chile, one tried to sound Chilean and one did not. The one who tried to mimic the Chilean accent was in contact via video chat with his host family and also spoke in Spanish regularly to his Venezuelan roommate. The other participant, despite not purposefully trying to sound Chilean, spoke regularly in Spanish to her native Spanish-speaking husband, and may have accommodated her Spanish to his dialect. All four of the Venezuelan study abroad participants tried to sound Venezuelan. However, only one spoke regularly to her Venezuelan boyfriend. Similarly, both Argentine study abroad participants tried to sound Argentine. One video chatted weekly with her former host family in Argentina and the other spoke regularly to other Americans that had previously studied in Argentina. Of the Spain study abroad participants who produced regional features, 86% (6/7) were aiming for a target dialect of Castilian Spanish. On the other hand, only half (9/18) of those participants who studied abroad in Spain and spoke with no regional features tried to sound like Castilian Spanish speakers. Regarding the two heritage speakers, the one who tried to sound Castilian received lower foreign accent ratings than the one who did not try to sound Castilian. The majority of the speakers who had studied abroad in Spain returned to

the USA. shortly after completing their fall semester abroad to finish their education. For this reason, their goal was not always to adopt the dialect spoken where they studied.

## **5. Conclusions**

This study identifies both speaker and listener characteristics associated with stronger foreign accent ratings. For students who desire to decrease their foreign accent, strong motivation to speak a target dialect, a self-rated higher proficiency level, a self-reported stronger Spanish-speaking social network, and the use of regional features could be essential. Study abroad coupled with strong social networks could be the key to reducing foreign accent ratings, since speakers who never studied abroad did not produce any regional features. Unlike other studies, listeners in the current study with previous L2 Spanish listening experience assigned higher foreign accent ratings than listeners without these experiences. Likewise, listeners who left their country of origin for two or more years assigned stronger foreign accent ratings than those who never left their country of origin. This study highlights both speaker and listener characteristics and how they affect the foreign accent ratings of L2 Spanish speakers. Regarding speakers, since the majority of L2 learners of Spanish were not perceived as sounding like any particular dialect, these learners could possibly benefit from instruction on the incorporation of phonological dialectal features in order to sound less foreign. This could also help the learners overcome sounding like a learner and possibly make their speech more comprehensible. In terms of listeners, they tend to be more sympathetic toward L2 speakers if they have had more contact with these speakers and more time away from their home country. Listeners could also benefit from instruction on speakers outside their home county, raising awareness about different dialects in Latin America as well as L2 Spanish. Future studies should take into consideration both speaker and listener characteristics as both could affect the results.

### *5.1. Limitations and future directions*

This study has two main limitations that future studies could address. First, only eight listeners rated the speech samples. A future study could include both L1 and L2 speaking listeners with a variety of previous experiences with L2 Spanish and of target varieties of Spanish. A more in-depth background of each listener could be obtained. The fact that the listeners were from different places within Spain could have affected their ratings, particularly with the one judge from Tenerife, located on the Canary Islands, where the target variety of Spanish is markedly different than the varieties spoken by the other listeners. In the future, spontaneous speech could be rated instead of read speech. Knouse (2013) found that beginning learners produced a regional feature after studying abroad in Spain, so it would be possible to include more participants of varying proficiency levels in a future study. In the current study, all participants were enrolled in or recently completed advanced Spanish courses. Participants with experiences in different target-language speaking countries as well as more heritage speakers of various backgrounds and proficiency levels could also strengthen a future study.

The second limitation deals with the manner in which the variables determining the speakers' characteristics were measured. For example, L2 proficiency was self-rated. A future study could include a more objective measure such as ACTFL's OPI or the DELE exam. To measure motivation to speak a target dialect, an additional measure could be used, such as responding to statements on a Likert scale. In the current study, the judges may not have relied solely on regional features when assigning their ratings, as many indicated they gave higher foreign accent scores due to the intonation and the non-native like pronunciation of certain sounds, such as [r] and vowels. Previous studies resulted in VOT affecting foreign accent ratings, with speakers with more native-like VOT times receiving lower foreign accent ratings (González-Bueno (1997)). Therefore, a future study could control more for regional features and other pronunciation features that affect listener's ratings. Social networks were self-reported and could use a questionnaire similar to Kennedy's (2012) to ascertain a more complete picture of each participants' social network and contact in all languages spoken. However, the data for this current study was collected in 2011.

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