Evaluating Differences in Language Perceptions Between Latin American Spanish and Other Romance Languages

Anna Poret

Received February 26, 2025
Accepted May 09, 2025
Electronic access May 31, 2025

In 2021, 23% of Latino Spanish speakers reported facing criticism for speaking Spanish in public spaces. While many studies center around Spanish language perceptions, there is a lack of research comparing Latin-American Spanish dialects to other Romance languages. Furthermore, sociolinguistic research is generally conducted with adult participants. Considering these gaps in knowledge, the goal of this study was to evaluate perceptions of Latin American Spanish, French, and Italian speakers through phonaesthetic qualities and implicit social perceptions. Participants (N = 101; adolescents age 14-18), a majority of which from a linguistically and culturally diverse town, listened to recordings of the three languages and rated them on a 7-point Likert scale based on speakers' characteristics and the sounds of their voices. The main findings were that Spanish was perceived as most familiar, trustworthy, and friendly, which is consistent with past sociolinguistic research. Participants perceived the French speaker as most competent, and the Spanish speaker as least competent, based on findings from the questions regarding intelligence, status, and income. Additionally, while the French speaker was perceived as most likely to be an executive at a firm or an attorney, the Spanish speaker was perceived as most likely to be a retail store salesperson or work behind the counter at a local store. These results were particularly interesting given the diversity and prevalence of Latin-American Spanish dialects in the participants' town. These findings indicate that implicit biases exist in adolescents- even those living in a diverse community - against Latino Spanish speakers and suggest a need to educate and raise awareness around these implicit biases.

Keywords: sociolinguistics, language perception, phonaesthetics, Romance languages, Latin American Spanish

Introduction

Judgment of others, in any context, can influence the way we think, act and treat other people. Whether that judgment is caused by past experiences, prejudice or implicit bias, it is significant. In 2021 alone, 23% of Latino Spanish speakers reported facing criticism for speaking Spanish in public spaces[1]. While these types of incidents can be rooted in racism and colorism, the resulting linguistic basis is substantial. Because of the linguistic component to these judgments, researching perceptions of languages is imperative. Phonaesthetics, the study of beauty and pleasantness associated with sounds, can help with understanding where these judgments come from. Furthermore, identifying patterns in judgment of language can help to make people more aware of their possible biases, and in doing so, lessen this influence on their behavior.

While research on linguistic perceptions is thorough, the research mostly highlights a history of glamorization and assent towards romance languages, contrasting research on social perceptions of Spanish-speaking Latinos. While there are many different accents in Latin America, accents from Spain tend to be perceived as much more distinct and different from any Latin American accent. The purpose of this study is to evaluate both the phonaesthetics and social biases related to Latin American Spanish as compared to other romance languages in a diverse NY neighborhood among a sample of high school students. Responses will help improve the scientific understanding of social perceptions of the romance languages, including feedback from both native English and Spanish speakers.

Review of Literature

Romance Language Perception

Faster sounding languages were found to be perceived as more beautiful and melodious, while languages with larger consonant clusters were perceived as less beautiful and melodious[2]. This pattern explains why some voices can be particularly appealing along with why the Romance languages are seen as so beautiful. Even when studying lesser learned and spoken European languages, romance languages were still rated among the most erotic and beautiful of all the studied languages[2,3].

Findings from much of this research relate to the romance languages being perceived as "pleasant to listen to", "melodic" and/or other positive descriptors[2]. Similar results were found by Kogan et al. (2021)[4] in which perceptions of 16 European

languages were studied, with participants rating each language based on 22 different descriptors. In Kogan et al's study, romance languages (French, Italian, Spanish, Basque) also placed at the top of ratings in many categories of positive descriptors (eros, beauty, softness/sweetness, culture, etc.)

Phonaesthetic Qualities

Perceived F0 (i.e., fundamental frequency) is one way research measures the frequency at which the vocal folds vibrate when voiced speech sounds are made (per the National Institute of Health)[5]. Meaning, since it measures the frequency of vocal fold openings, it is also known as pitch. Perceived F0, rather than measured F0, drives perception of threat in voices. However F0 differences would only be interpreted by a listener as a difference in pitch[6]. This quality of speech may be especially relevant in Spanish language research as on average, English speakers speak English at 135 Hz as compared to Spanish speakers speaking English at 180 Hz[7].

This goes to show that phonaesthetic qualities behind language perceptions are not widely understood by the listener, but can affect study results (correlation between perceived pleasantness could relate to perceived pitch). Though a study participant may not understand what F0 is, if you ask them how excited a speaker sounds, that could indicate perceived high pitch, and in doing so also would indicate perceived high F0.

Perceived personality in voices can be summarized in two different categories of traits, that being trust/likability/warmth and strength/power/dominance, and the gender of listeners was not found to influence the evaluations of the voice of the speakers[8]. Researchers in the field of psycholinguistics have evaluated phonaesthetic qualities of languages and how those qualities relate to social perceptions of languages. However, statistics surrounding judgments of languages show a discrepancy between the average response to the spoken language, Spanish, and the treatment of the speaker, many Latino people[1].

While all dialects of Spanish are categorized with Romance languages, Latin American dialects are understudied, even while Latino speakers are sometimes criticized for speaking Spanish in public. Furthermore, sociolinguistic research around Romance languages has not studied adolescents, who traditionally have access to language education through their school's language requirements, as compared to adults who do not have language education requirements. In particular, New York State schools require students to have at least one credit of foreign language classes, and in the high school attended by most of this study's participants, 5 years of classes are required.

Spanish Dialect Differences

Across different Spanish speaking countries there are many different accents and dialects; each accent and dialect comes with different ways of pronouncing words and in some cases different words for specific objects. For example, someone with a Rioplatense accent (spoken in parts of Argentina and Uruguay) may pronounce a phrase like "me llamo" (me ya-mo) as "me zha-mo" or "me ja-mo" (English sound of j in the word "java"), the opposite of a phenomenon known as yeísmo. One specific characteristic of Spanish, the syllable-final /s/ (for example if one were to pronounce "los brazos" as "lob-braso") can be used to distinguish Mexican Spanish from Puerto Rican Spanish[9].

These dialectal differences contribute to the uniqueness of accents and diversity within language and culture, but also allow for implicit judgements to be specific to people from particular parts of the world, thus risk prejudicially charged social interactions.

In another Miami study, researchers found that though syllable-final /s/ deletion is a common feature among Caribbean Spanish speakers, a reversal of this deletion was found to be most salient among upper middle social status Cuban males, appearing to be conscious of the linguistic prestige associated with the sibilant[10]. This reversal shows that some dialectal features can be seen as synonymous with status; just as older generations of Cuban immigrants made conscious decisions to speak differently to separate themselves from the political image of Cuba, members of younger generations are still making similar speech-related decisions. When negative ideas around a country or culture (in this case Cuba, following the Cuban Revolution) become apparent, it signals Spanish speakers of that culture, on an often-subconscious level, to try to assimilate to a larger population in order to separate themselves from the image of the country.

However, not all research referring to Spanish is using a widely-spoken dialect or accent. For example, in Kogan et al. (2021)[4], Spanish is included in the study, however "Spanish" refers to Peninsular Spanish (a specific accent), not South American or Caribbean Spanish. Focusing on Peninsular Spanish is not necessarily a flaw in the research; it is important, however, to take note of who exactly the research is including. In many cases, research inadvertently yet systematically excludes a large portion of the Spanish-speaking people they may seem to be representing.

Pattern of Opposite-Affinity Bias

Affinity bias is a very common type of cognitive bias in which a person is favorably biased towards a person or thing they perceive as most similar to themselves. In sociolinguistic research, affinity bias could be seen as simply as a French speaker rating a recording of another French speaker more positively than a speaker of a different language. However, in Miami-Dade County, an area with a high population percentage of Cuban immigrants, participants rated Peninsular Spanish higher than both Cuban and Colombian Spanish in terms of competence traits (in-

telligence, self-confidence, trustworthiness)[11]. This occurrence demonstrates the opposite of an affinity bias: a predominantly Cuban sample of people not favoring a Cuban dialect.

In a previous Miami study, Spanish speakers ranked Peninsular Spanish more favorably than Latin American varieties of Spanish- especially Caribbean ones[12]. This again demonstrated the opposite of an affinity bias, Miamians biased against Latino Spanish speakers. These studies show that 1) There is a pattern of more negative perceptions and attitudes towards Caribbean dialects, and 2) People, in this case both Latino Spanish speakers and/or Miamians, can be biased against the dialect of Spanish they speak or are most familiar with.

This pattern is surprising given the prevalence of affinity bias in research. Often in research it is found that people favor whoever or whatever they perceive as most similar to themselves. This phenomenon impacts healthcare, the workplace, education and many other parts of the world. That is, since past research shows the prevalence of the opposite of an affinity bias, it is important to research this phenomenon to better understand peoples' implicit associations. This pattern of bias informs my research design; just as Callesano's research focused on a dialect spoken among a population, so too my research centers around a Latin American dialect of Spanish in a population with a high percentage of Latin American Spanish speakers.

Implicit Bias in Language

The National Institute of Health defines implicit bias by the "subconscious feelings, attitudes, prejudices, and stereotypes an individual has developed due to prior influences and imprints throughout their lives." In language, these biases can be seen as attached to specific accents and dialects as representatives of larger groups and cultures. For example, how strong and positive representation of different groups in media can contribute to a more positive rating of a speaker from that group. In a study surveying Spaniards' perceptions of Latin American immigrants, it was found that the status ratings of an Argentitian speaker could've been higher than those of a Colombian speaker because of their representation in media, along with the pattern of early Argentinian immigrants holding prestigious occupations in Spain[13].

Seeing as how societal contributions are factored into linguistic judgments, this begs the question, "Can this pattern be the same across American cities with large populations of Latin American immigrants as well?". In a similar study conducted in Miami-Dade County, it was found that the income assigned to the Peninsular voice was significantly greater than both the Cuban and Colombian voices, despite Cuban immigrants making up so much of the Miami population[12]. Once again, in research representing Columbian and Cuban speakers in both the recordings and the participants, results showed negative bias towards Columbian and especially Cuban speakers[11].

Though ratings of the language family that Spanish belongs to are high, there is a significant trend in negative attitudes and judgements towards the demographic making up the majority of its speakers. The disparity between ratings of Spanish (often studied using Peninsular dialects) and the experiences of Spanish speaking Latino people is important to understand for the context of this research. The conclusion could then be drawn that the population of different groups within cities doesn't automatically yield positive impressions, whereas positive representation in media may have a much more significant impact.

This research was designed with the intention to learn more about both perceptions of phonaesthetic qualities and implicit social perceptions of Latin American Spanish, compared to French and Italian. Keeping in mind that most research focuses on European Spanish with a sample of adults, this research design offers an entirely new perspective. Learning more about perceptions of a more representative dialect of Spanish, along with judgements made by adolescents is an important, different perspective to be researched in the fields of sociolinguistics and phonaesthetics. Understanding implicit bias in language, and how students' environment and psychology affects their bias is a central focus of this study.

Research Questions

- How do perceptions of the phonaesthetic qualities of Latin American Spanish compare to perceptions of those of French and Italian?
- How will implicit social perceptions of the Latin American speaker compare to perceptions of the French and Italian speakers?

Goal

To evaluate perceptions of Latin American Spanish speakers as compared to French and Italian speakers through phonaesthetic qualities and implicit social perceptions of the three languages.

Methods

Language Recordings

Recordings of 3 phrases in 3 languages (Latin American Spanish, French, and Italian) were done by all female, bilingual speakers each reading the same passage in their specific language. Two teachers within my school district, and a third professor from a college in New York volunteered to create the recordings for this study. The French speaker and Italian speaker both speak in European dialects, and were both educated by teachers who spoke European dialects. The Latin American Spanish speaker is a first generation Puerto Rican immigrant, who has maintained her Spanish fluency. All phrases that were recorded were first

read through and edited to ensure they were spoken using the speaker's natural vocabulary. Participants heard the languages in a different order depending on which of the following groups the first letter of their last name fit into: (A-I), (J-Q), or (R-Z). Questions regarding qualities of the voice, and perceptions of the speaker were asked after listening to each recording.

The sentences spoken were chosen from a traveler's handbook from a chapter outlining common phrases needed to check out of a hotel while traveling. These sentences were chosen because they were unlikely to elicit a significantly positive nor negative response, as they weren't impolite and also weren't overly friendly or nice.

English: I'd like the bill, please. I'll be checking out today. Please send someone up for our baggage.

Italian: Vorrei il conto per favore. Pagherò e partirò oggi. Per favore lei manda qualcuno a prendere le mie valigie.

French: Je voudrais l-addition, s'il vous plaît. Je pars aujourd'hui. Faites monter quelqu'un pour les valises, s'il vous plaît.

Spanish: Quisiera la cuenta, por favor. Pienso marcharme hoy. Haga el favor de mandar a alguien para recoger nuestro equipaje.

Demographic survey

Age, gender, ethnicity, places the person has lived and familiarity of languages, including what languages the participants speak, what level of fluency they had in each language and how well they recognized the languages from the recordings was collected through a demographics survey. This helped to attest to their linguistic and personal background.

Phonaesthetic Ratings

The phonaesthetic rating was taken from The University of Vienna Phonaesthetics Group (2023). On a scale of 1-7, participants rated each language based on qualities, such as beauty, orderliness and structure. Scores were averaged, with 1 meaning least beautiful, orderly or structured, and 7 meaning most.

Implicit Bias

The implicit bias questionnaire was taken from Callesano et al. (2019). On a 7 point scale of likeliness, participants rated how likely the speaker was to have traits in common with certain statements, and what jobs and income participants thought the speakers had on a scale of ten thousands, and jobs requiring different education levels.

Procedure

Participants took the test in a quiet room free of distractions. If participants opted to take the test in-school, they were separated from each other, wearing headphones (or any form of personal audio device) and took the test completely independently. If participants opted to take the test at home, instructions directed students to take the test independently in a room with appropriate conditions to hear the recordings.

The participants completed the study in one sitting in approximately 15 minutes. They listened to each recording in order of labels "Language 1", "Language 2", "Language 3". After each language, they completed phonaesthetic ratings, the implicit bias test and demographic questions pertaining to their familiarity with the language. This was repeated 3x for each of the languages. Participants were permitted to listen to the recordings multiple times while answering the questions that correspond to the language recording, but not after they had moved on to the questions corresponding to a different language. They could not go back to compare the languages while answering questions. The recordings were counterbalanced. The remainder of the demographic questionnaire was completed after completing all 3 recordings, so that people didn't take their linguistic and personal background into consideration while answering the questions, and so that the participants didn't factor in familiarity when responding to questions.

Each participant took the same tests, hearing the same recordings, and answering a total of 31 questions. The 31 questions were made up of 9 Phonaesthetic Rating questions, 13 Implicit Social Perceptions questions (for the first two sections, participants answered each question with reference to each of the three recordings) and 9 Demographics questions. Participants could only take the survey after they had already filled out the participant assent and parental consent forms.

Data Analysis

Data were organized using Google Sheets and uploaded to DataClassroom where an ANOVA was run to determine if there were statistical differences in the average scores based on perceptions of variables including beauty, orderliness and status between these different languages. A Chi-Squared Test of Independence was used to determine if there was a statistically significant difference between language guessing accuracy across the three languages. DataClassroomU was also used to run a Kruskall-Wallis test to determine if there was a statistical difference in median scores of likeliness (converted into a number value) that the speakers in the recordings were to behave in a certain way or have a certain occupation. Post-hoc tests were run for further analysis of relationships between perceptions of the three languages.

Mentor/Mentee Role

Mentee created voice recordings, designed rating tasks in response to the recordings, and created the demographics survey. Mentee also recruited participants, and analyzed the data. Men-

tor communicated with the mentee as needed through email during the process of the study and helped with data analysis.

Results

Demographics

A total of 101 students participated in this research, and are included in the data. In this study, demographics were an important aspect in evaluating biases, particularly the aforementioned opposite-affinity bias. Based on the demographics (none of the participants speaking French or Italian as their native language), it can be determined whether the perception of the speakers is purely a coincidence (all of the data shown had statistical significance meaning it was not a coincidence), or a bias towards a group viewed as dissimilar or similar to themselves. Though 29% of participants selected only "Hispanic, Latino or Spanish origin", 45% of participants selected the "Hispanic, Latino or Spanish origin" box as one of or all of their selections (see figure 1 and table 1).

Including those who selected multiple options more accurately explains the demographics of the participants, and it also explains the high frequency of Spanish as a second language. Because of these demographics, a negative rating of the Spanish speaker, being a Latino Spanish speaker, would continue the pattern of the opposite of an affinity bias in sociolinguistic research. The majority of participants were familiar with Spanish (67%), and several were familiar with French (18%) and Italian (12%). Also, of Spanish speakers, 16 spoke it as their first language, 45 as their second, and 6 as their third.

The gender balance was almost equal, with 52 participants identifying as female, 48 as male and 1 as other. The gender of participants was not a focus of this research, the sole importance being that the makeup of participants indicated that the study was a representative sample. Similarly, the average age was 15.6 which is consistent with the average age of high school students.

Figure 1

What category best describes you? Please select all that apply.

White or Caucasian	44 %
Hispanic, Latino, or Spanish origin	29 %
White or Caucasian, Hispanic, Latino, or Spanish origin	12 %
Asian	5 %
Black, AfricanAmerican, or African, Hispanic, Latino, or Spanish origin	3 %
White or Caucasian, Other:	2 %
White or Caucasian, Asian	2 %
Which category best describes you? Please select all that apply.	1 %
Asian, Native Hawaiian or Other Pacific Islander	1 %
Prefer not to say	1 %
White or Caucasian, American Indian or Alaska Native	1 %
White or Caucasian, Asian, Hispanic, Latino, or Spanish origin	1 %

Table 1

Gender and language use

Gender			Languages		
(Female %)	(Male %)	(Other %)	%L1 Spanish	%L2 Spanish	%L3 Spanish
52	48	1	16	45	6

Evaluating Phonaesthetic Quality Ratings

The first section of the survey involved questions about phonaesthetics, the beauty and pleasantness associated with the sound of speech, along with perceived intelligence and other warmth and competence qualities. Warmth and competence qualities traditionally have an inverse relationship, meaning that, for example, when a language is perceived as very compassionate or friendly sounding it is less likely to also be perceived as very intelligent and/or confident.

Beauty/Sweetness Rating

The French was rated as significantly more beautiful/sweeter than the Italian and Spanish recordings (p¡0.01), and there was no significant difference between the ratings of Italian and Spanish. This opposes the patterns of the University of Vienna Phonaesthetic Group's research, in which both French and Italian were perceived as the most beautiful when compared to other European languages (see table 2 and figure 2). In their study they had more similarities between each speaker, in that all speakers were European, whereas my study intentionally compared a non-European Spanish speaker to European-American French and Italian Speakers.

Figure 2

Beauty/Sweetness Ratings Across Italian, Spanish and French.

Note: Box and whiskers plot shows the median value (line), interquartile range (box), and the extent of the data (whiskers above and below at min / max data points).

Intelligence

French was rated as significantly more intelligent sounding than both Spanish and Italian (p¡0.01), while Spanish and French had

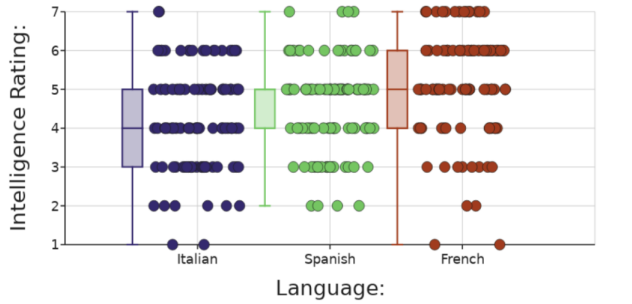
Table 2

Comparing Beauty/Sweetness in 3 Languages

	Beauty/Sweetness			
	Mean	Median		p
Spanish	4.9	5	French-Spanish	<0.01
Italian	3.8	4	Italian-Spanish	0.43
French	5.2	6	French-Italian	<0.01

comparatively little indication that they were different. Between Spanish and Italian there was some confidence in the groups being different, but not enough to indicate causation (see figure 3 and table 3).

Figure 3



Note: Box and whiskers plot shows the median value (line), interquartile range (box), and the extent of the data (whiskers above and below at min / max data points).

Table 3

Comparing Intelligence in 3 Languages

	Intelligence			
	Mean	Median		p
French	5.2	5	Italian-French	<0.01
Spanish	4.6	5	Spanish-French	<0.01
Italian	4.2	4	Spanish-Italian	0.19

Status (how sophisticated)

French was perceived as significantly more sophisticated sounding (of higher status) than both the Spanish recording and the Italian recording (p¡0.01), which were not different (see figure 4 and table 4).

Figure 4

Status Ratings Across Italian, Spanish and French

Note: Box and whiskers plot shows the median value (line), interquartile range (box), and the extent of the data (whiskers above and below at min / max data points).

Table 4

Comparing Sophisticated in 3 Languages

	Status			
	Mean	Median		p
French	5.7	6	Italian-French	<0.01
Spanish	4.6	4	Spanish-French	<0.01
Italian	4.5	5	Spanish-Italian	0.78

Familiarity

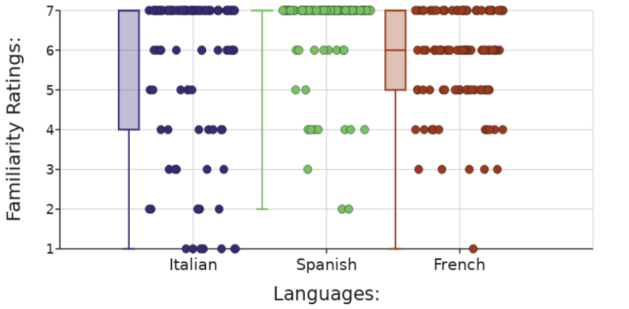
Participants rated Spanish as significantly more familiar sounding than both Italian and French (p¡0.01) (see figure 5 and table 5) which makes perfect sense given the demographics of the sample and the high prevalence of Spanish language knowledge in the sample. Participants answered the language familiarity question after each recording.

Liked/Disliked

Participants rated voices from very unpleasant (1) - (7) pleasant, and both the French and Spanish recordings were found

Figure 5

Familiarity Rating Across Italian, Spanish and French.



Note: Box and whiskers plot shows the median value (line), interquartile range (box), and the extent of the data (whiskers above and below at min / max data points).

Table 5

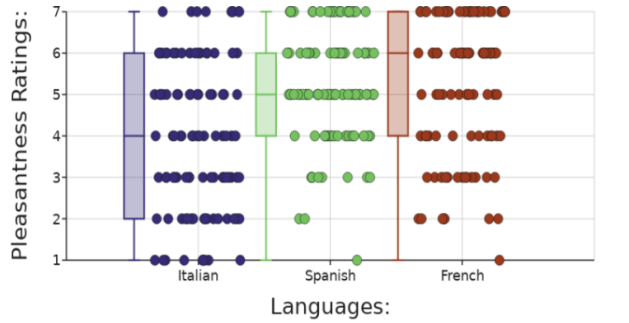
Comparing Familiarity in 3 Languages

	Familiarity			
	Mean	Median		p
French	5.6	6	Italian-French	0.97
Spanish	6.5	7	Spanish-French	<0.01
Italian	5.6	7	Spanish-Italian	<0.01

to be perceived as significantly more pleasant than the Italian recording (p¡0.01) (see figure 6 and table 6).

Figure 6

Comparing Pleasantness Across Italian, Spanish and French



Note: Box and whiskers plot shows the median value (line), interquartile range (box), and the extent of the data (whiskers above and below at min / max data points).

Table 6

Comparing Pleasantness in 3 Languages

	Pleasantness			
	Mean	Median		p
French	5.1	6	Italian-French	<0.01
Spanish	5.2	5	Spanish-French	0.98
Italian	3.9	4	Spanish-Italian	<0.01

Implicit Perceptions Ratings

The second section of the survey involved questions about socio-cultural implicit associations of languages, relating to warmth and competence traits, along with language guessing accuracy.

Language Guessing

French was the most accurately guessed, then Spanish, then Italian (p¡0.01) (see figure 7 and table 7). This finding is especially interesting given that most bilingual participants spoke Spanish, so it would be most likely for Spanish guesses to be the most accurate. With the exception of a few outliers, such as participants guessing language families like Slavic and Germanic, 83-92% guessed exactly right. “Exactly right” meaning that while many participants may have used hesitant language (ex. “I think the first recording was of Spanish”), they still guessed the language right, while some included other guesses and indicated that they were not sure which language they heard (ex. “Maybe Italian or Spanish?). Participants responded to Spanish with the most certainty.

Current Income

Both the Spanish and Italian speakers were perceived to have a lower income than the French speaker (p¡0.01), however Spanish had the lowest range and median (see figure 8 and table 8).

Perceived Income in 5 Years

French was still perceived as making significantly more than the Spanish and Italian speakers (p¡0.01). Italian had the lowest minimum, and the median only increased by 10 thousand compared to Spanish which increased by about 35 thousand. The median for French only increased by about 5,000, meaning that though the French speaker had the highest perceived income, it also had the lowest perceived economic mobility (see figure 9 and table 9).

Figure 7

Comparing Language Guessing Across Italian, Spanish and French

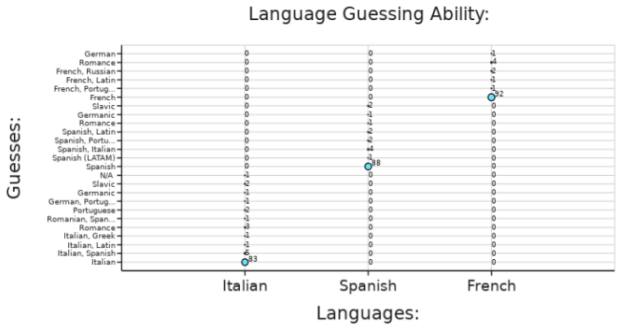


Table 7

Comparing Language Guessing in 3 Languages

	Language Guessing		
	Accurate Guesses	p	Interpretation of p-value
French	92	<0.01	Extremely strong confidence that
Spanish	88		there is a difference in guessing
Italian	83		accuracy between groups.

Figure 8

Comparing Guessed Income in 3 Languages

Note: Box and whiskers plot shows the median value (line), interquartile range (box), and the extent of the data (whiskers above and below at min / max data points).

Table 8

Comparing Guessed Income in 3 Languages

	Guessed Income			
	Mean	Median		p
French	85.7	90	Italian-French	<0.01
Spanish	67.4	60	Spanish-French	<0.01
Italian	70.6	80	Spanish-Italian	0.66

Figure 9

Comparing Guessed Income in 5 Years in 3 Languages

Note: Box and whiskers plot shows the median value (line), interquartile range (box), and the extent of the data (whiskers above and below at min / max data points).

Table 9

Comparing Guessed Income in 5 Years in 3 Languages

	Guessed Income in 5 Years			
	Mean	Median		p
French	100.8	100	Italian-French	<0.01
Spanish	86.8	90	Spanish-French	<0.01
Italian	85.6	90	Spanish-Italian	0.94

Prefers speaking Native Language over English when speaking with someone bilingual:

The Spanish speaker was perceived as most likely to prefer to speak their native language over English in a conversation with

someone who speaks both languages, when compared to Italian (p=0.03) (see figure 10 and table 10).

Figure 10

Comparing Language Preference in Conversation in Three Languages

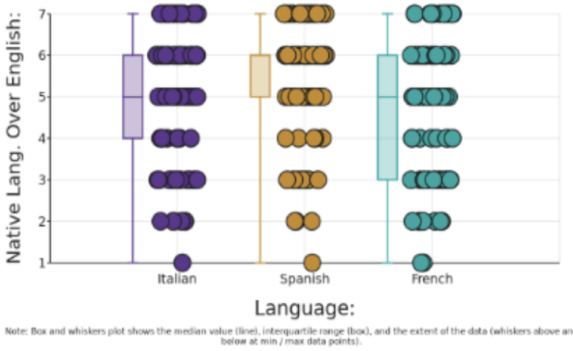


Table 10

Comparing Language Preference in Conversation in 3 Languages

	Mean	Median		p
French	4.8	5	Italian-French	0.39
Spanish	5.4	6	Spanish-French	0.89
Italian	5.0	5	Spanish-Italian	0.03

Trustworthiness

The Spanish speaker was perceived as significantly more trustworthy than both the Italian (p=0.05) and French speaker (p=0.03), though all had a relatively spread out range with roughly the same medians and the same maximums (see figure 11 and table 11).

Physical Attractiveness

The Italian speaker was perceived as the least physically attractive, with French being the more significantly attractive compared to Italian (p¡0.01) than Spanish (p=0.05) (see figure 12 and table 12).

Figure 11

Comparing Trustworthiness Across Italian, Spanish and French

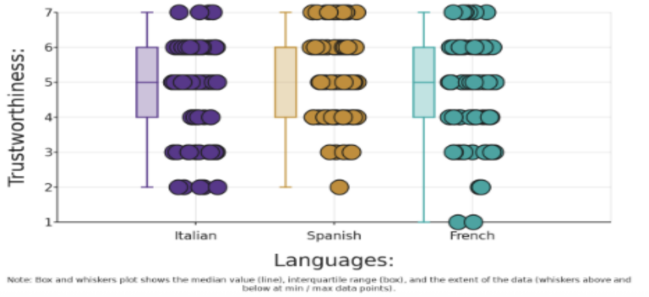


Table 11

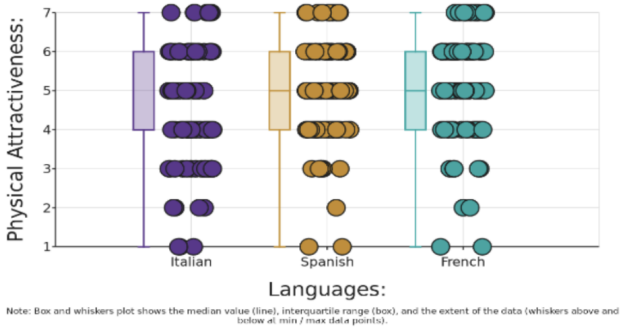
Comparing Trustworthiness in 3 Languages

Trustworthiness in 3 Languages

	Mean	Median		p
French	4.9	5	Italian-French	1.00
Spanish	5.3	6	Spanish-French	0.03
Italian	4.9	5	Italian-Spanish	0.05

Figure 12

Comparing Physical Attractiveness in 3 Languages



Kindness

The Spanish speaker was perceived as significantly more kind than both the French and Italian speakers (p¡0.01), with there being no difference between the ratings of the French and Italian speakers (see figure 13 and table 13).

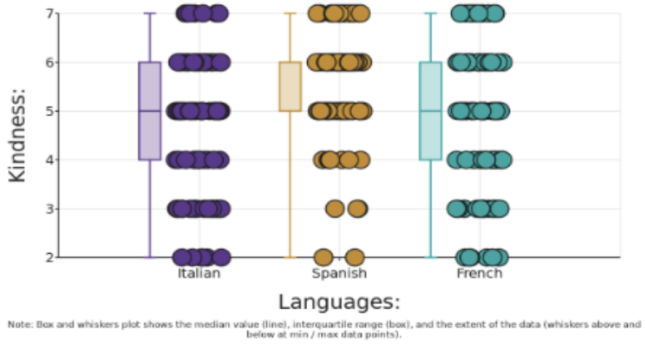
Table 12

Comparing Physical Attractiveness in 3 Languages

	Physical Attractiveness 3 Languages			
	Mean	Median		p
French	5.1	5	Italian-French	<0.01
Spanish	5.0	5	Spanish-French	0.55
Italian	4.5	4	Italian-Spanish	0.05

Figure 13

Comparing Perceived Kindness in 3 Languages



Note: Box and whiskers plot shows the median value (line), interquartile range (box), and the extent of the data (whiskers above and below at min / max data points).

Table 13

Comparing Perceived Kindness in 3 Languages

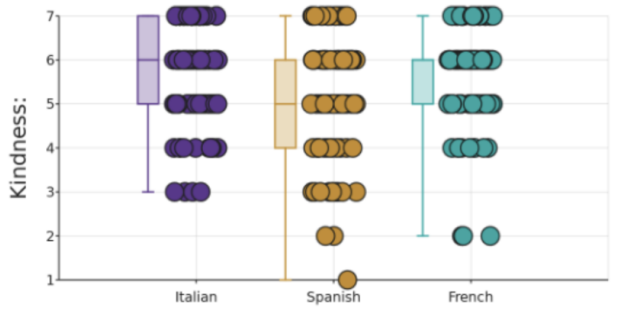
	Perceived Kindness 3 Languages			
	Mean	Median		p
French	4.9	5	Italian-French	1.00
Spanish	5.7	6	Spanish-French	<0.01
Italian	4.8	5	Italian-Spanish	<0.01

Self-Confidence

The Spanish speaker was perceived as significantly less self-confident sounding compared to the French and Italian speakers (p¡0.01), with both the lowest range and the lowest median (see figure 14 and table 14).

Figure 14

Comparing Self-Confidence in 3 Languages



Note: Box and whiskers plot shows the median value (line), interquartile range (box), and the extent of the data (whiskers above and below at min / max data points).

Table 14

Comparing Self-Confidence in 3 Languages

	Self-Confidence 3 Languages			
	Mean	Median		p
French	5.7	6	Italian-French	1.00
Spanish	5.1	5	Spanish-French	<0.01
Italian	5.7	6	Italian-Spanish	<0.01

Outgoing

The Italian speaker was perceived as significantly more outgoing than the Spanish (p¡0.01) and French speakers (p¡0.01) (see figure 15 and table 15) , which follows the similar results of the self-confidence question in which the Italian speaker had very high self-confidence ratings.

Friendly

The Spanish speaker was perceived as significantly more friendly than the Italian speaker (p=0.01), which was also perceived as significantly more friendly than the French speaker (p=0.03) (see figure 16 and table 16).

Works Behind the Counter at a Local Store

Spanish was perceived with strong confidence as most likely to work behind the counter when compared to Italian (p=0.01) and French (p¡0.01), followed by Italian, then French (see figure 17 and table 17).

Figure 15

Comparing Outgoingness Across Italian, Spanish and French

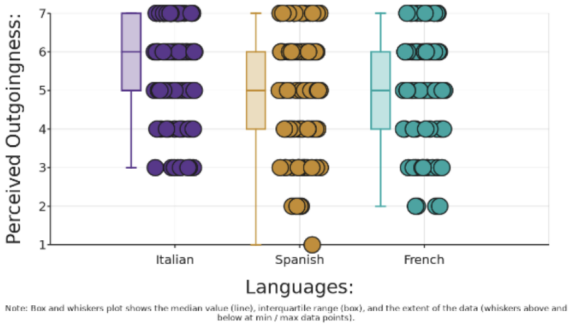


Table 15

Comparing Outgoingness in 3 Languages

	Outgoingness 3 Languages			
	Mean	Median		p
French	4.9	5	Italian-French	<0.01
Spanish	4.9	5	Spanish-French	1.00
Italian	5.6	6	Italian-Spanish	<0.01

Figure 16

Comparing Perceived Friendliness in Italian, Spanish and French

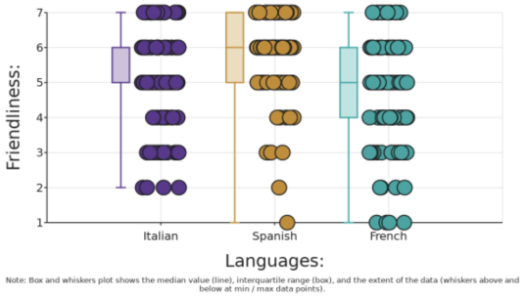


Table 16

Comparing Perceived Friendliness in 3 Languages

	Friendliness 3 Languages			
	Mean	Median		p
French	4.6	5	Italian-French	0.03
Spanish	5.8	6	Spanish-French	<0.01
Italian	5.2	5	Italian-Spanish	0.01

Figure 17

Comparing Likelihood of Working Behind the Counter in 3 Languages

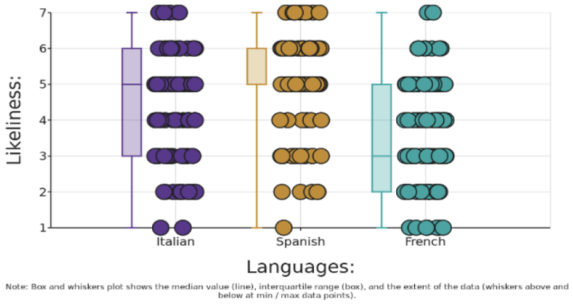


Table 17

Comparing Likelihood of Working Behind the Counter in 3 Languages (at a Local Store)

	Works Behind the Counter Likelihood in 3 Languages			
	Mean	Median		p
French	3.6	3	Italian-French	<0.01
Spanish	5.1	5	Spanish-French	<0.01
Italian	4.5	5	Italian-Spanish	0.01

Salesperson at a Retail Store

Spanish was perceived with extremely strong confidence as most likely to work as a salesperson at a retail store when compared to both Italian (p=0.01) and French (p¡0.01) (see figure 18 and table 18). This result could be caused by the same influences as in the results for the likelihood the speaker works behind the counter at a local store (see figure 17 and table 17).

Executive at a Firm

The French speaker was perceived as significantly more likely to be an executive at a firm than the Italian and Spanish speakers

Figure 18

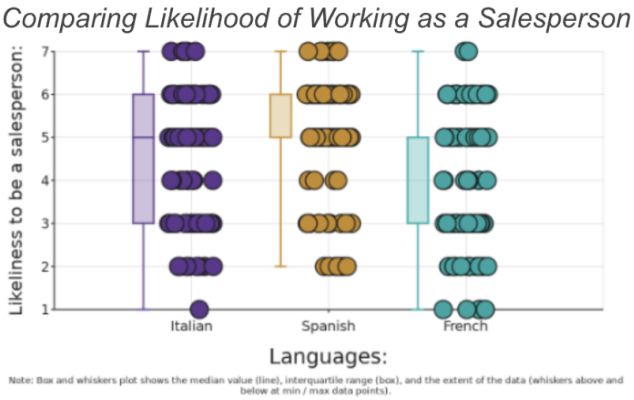


Table 18

Comparing Likelihood of Working as a Salesperson in 3 Languages (at a Retail Store)

Works as a Salesperson Likelihood in 3 Languages

	Mean	Median		p
French	4.1	5	Italian-French	1.00
Spanish	5.0	5	Spanish-French	<0.01
Italian	4.4	5	Italian-Spanish	0.01

(p¡0.01) which follows the other high competence ratings seen in the results (see figure 19 and table 19).

Figure 19

Table 19

Comparing Likelihood of Being an Executive at a Firm

Executive at a Firm Likelihood in 3 Languages

	Mean	Median		p
French	4.8	5	Italian-French	<0.01
Spanish	4.1	4	Spanish-French	<0.01
Italian	4.0	4	Italian-Spanish	1.00

Attorney

French was perceived as the most likely to be an attorney, with strong confidence when compared to Italian (p=0.02) and only some confidence when compared to Spanish (p=0.09) (see figure 20 and table 20).

Figure 20

Comparing Likelihood of Working as an Attorney in 3 Languages

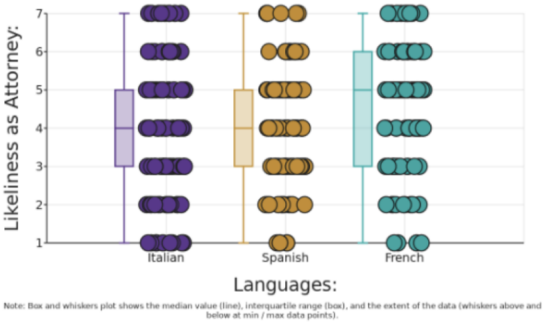


Table 20

Comparing Likelihood of Working as an Attorney in 3 Languages

Works as an Attorney Likelihood in 3 Languages

	Mean	Median		p
French	4.5	5	Italian-French	0.02
Spanish	4	4	Spanish-French	0.09
Italian	3.9	4	Italian-Spanish	1.00

Discussion

The findings of this study supported my hypothesis that perceptions of the phonaesthetic qualities and implicit social perceptions of Latin American Spanish were more negative in terms of competence than French and Italian. In this study, warmth and competence were the grouped traits that were evaluated, with occupation prestige - the respect and status associated with different jobs and income - being an important part of the participants' perceptions of the speakers' competence. In past research, studies focused on exclusively European dialects of Romance languages, with them consistently finding high warmth and competence ratings. The influence of French media and culture in the U.S has fostered a general positive impression of French speakers, including such attributes as intelligence, worldliness and savoir faire. This impression and the results of French stereotypes in America can be supported by the findings of this study.

The high competence ratings of French were based on significant intelligence and sophistication ratings along with high income and high likelihood of having jobs that require an advanced degree. This impression fits the positive, competent cultural image (imagined by participants) of the French speaker as a professional, knowledgeable or even cosmopolitan character and the other high competency ratings of French speakers in research, both in this research regarding the high intelligence ratings and in past research. Many of the positive results could be caused by overall ideas surrounding French culture and the impression of the French culture and language having an association with professionality, sophistication and eliteness, however this study only evaluated correlation, not causation.

Also, ratings of French highlight its features as both warm and competent which opposes results of past linguistic research. Overall, findings followed the pattern of positive competence ratings and attitudes towards the French speaker: the most sophisticated, intelligent, pleasant and making the highest income. This could be indicative of a greater overall positive perception of French language and culture or it could have a greater implication over perceptions of Spanish speakers and their incomes, having the lowest perceived median income. Additionally, historically prevailing ideologies of Europeans as superior, along with historical and cultural stereotypes of French can contribute to these positive perceptions of the French speaker especially in contrast with the non-European, Spanish speaker.

Findings in the implicit association section for Spanish continued the pattern of high likeliness ratings for the Spanish speaker to work a job that has a lower educational and overall qualification requirement. This result could be attributed to prejudice or implicit bias against Latino Spanish speakers (represented by the Spanish speaker in this study), reflection of experience in relation to the pop. demographics, and/or in part caused by the aforementioned high competence ratings of the French speaker. Additionally, the perception of the Spanish speaker as sounding least confident could be the result of a prejudice against Spanish speakers especially in a professional setting or influenced by the speaker's own accent, but there is no evidence of causation based on the results of the study.

High warmth ratings of Spanish could be in part due to the familiarity of Spanish to the participants and in part due to the high competence ratings of the French speakers (the more competent the speaker is perceived as, the less warm they'll be perceived as, with friendliness being a warmth trait). Participants' high rating of Spanish familiarity is corroborated by the 67% fluency of Spanish among participants. Considering in previous studies a Caribbean dialect of Spanish would be rated as less beautiful than other dialects of Spanish, it is interesting to see a Puerto Rican speaker's recording be rated as significantly more beautiful than an Italian recording.

By contrast, the Puerto Rican Spanish speaker was associated with a lower overall occupational prestige than both the French and the Italian speakers. While the Spanish speaker had an equal income 5 years from now, the claim could not be made that this result was due to a wholehearted belief in the economic mobility of Latino people. A possible explanation is similar to the economic principle of diminishing marginal returns in that the more progress that has already been made, the harder it is to achieve incremental gains.

Relatedly, participants may perceive those "starting at a higher income" as having less capacity to increase their income in the future, whereas those perceived as starting with a lower income (in this case the Italian and more significantly, the Spanish speaker) may be seen as having greater capacity to increase their income in the future. This could be due to the high rates of Spanish-English bilingualism within both the sample and the population, making the idea of bilingual Spanish speakers choosing to speak Spanish with each other a more familiar idea and therefore more likely. Following the often-inverse relationship of warmth and competence, Spanish was perceived as of a lower current income, but received very positive warmth ratings. These findings in the warmth category could be corroborated by the high familiarity rating; familiarity and trustworthiness ratings tend to go hand in hand, the high prevalence of Spanish speakers within both the sample and the population could explain this result. However, the results as a whole suggest that despite the high prevalence of Spanish fluency among participants, they disfavored the Spanish speaker, and proved my hypothesis.

Negative warmth ratings of Italian oppose patterns in past research in which Italian would be perceived as among the most pleasant of surveyed languages among other European languages, and also studies of different dialects of Spanish in which a Caribbean accent would be perceived as less pleasant compared to other, particularly European dialects. However, any significant ($p¡0.05$) negative ratings of the Italian speaker could

simply be attributed to the raspiness of the Italian speaker's voice rather than the sociocultural impression of physical attractiveness across Italian culture. While raspy voices have been somewhat romanticized when in certain contexts (i.e. jazz and blues singers), in the context of an audio-based survey, clarity and smoothness of voice is more likely to be associated with beauty. So, the discrepancies between past researcher's findings and this study's findings surrounding Italian ratings may be much more true to the speaker than the language.

Limitations

There was limited access to bilingual women who could make the recordings for the study and even more limited access to native speakers of the studied languages. Therefore, there was not the opportunity to pick the most neutral sounding voice as I would've preferred. In one of the recordings in particular, the teacher's voice was 1. recognizable as her (none of the other teachers in the recordings were recognized, did not affect the study) and 2. relatively raspy or husky sounding. This may have biased people's ratings and made them focus less on the language and more on the speaker's voice in particular. Additionally, all speakers were American or at least had been living in America for a longer period of time, so while their dialect wasn't American, ideally a French speaker from France and an Italian speaker from Italy would've yielded more accurate results. If the study had used multiple speakers per language, there would've been a better representation of each language.

Given the diversity of the majority of participants', it is possible that if participants could recognize the specific dialect spoken by the Spanish speaker, their result could be varied based on cultural familiarity. Additionally, sampling was random and focussed on adolescents primarily within one high school; if research was focused more broadly on the general population, conclusions from this research could apply to a larger group.

Possible Confounding Variables

Two of the speakers were/are teachers at the school attended by the vast majority of the participants. Though the majority of participants said nothing about recognizing their voices, it is plausible that they did recognize their voices and their implicit perception ratings were based on their knowledge of the teacher rather than the hypothetical image of the speaker.

Conclusion

This research focused on adolescents' perceptions of Italian, French, and Spanish, the Spanish being spoken in a non-Peninsular dialect. All questions asked were ultimately made so that the answers to the questions would give an overall impression of the languages in terms of warmth and competence traits, which usually have an inverse relationship. That is, if one language is perceived as more intelligent, sophisticated and organized than another, they would also be likely to be perceived as less warm, familiar, and pleasant. My study found that French was perceived to be the most intelligent and sophisticated sounding language. The French speaker was perceived as making the most amount of money in both the current income and income in five years (all significant findings). This shows an overall high competence rating for French, when compared to Spanish and Italian. Spanish was the most familiar to participants, given the number of bilingual participants, and had no difference from ratings of the Italian language in most categories, and French in some categories. However, for the current annual income, Spanish had the lowest maximum and minimum. In regards to the implicit social perceptions questionnaire, the pattern of high competence ratings of French was continued. French was rated as most likely to be an attorney and to be an executive at a firm. In contrast, the Spanish speaker was rated as most likely to work behind the counter at a local store and to work as a salesperson at a retail store. These findings, coupled with the low ratings in the phonaesthetics questionnaire show a continuity in the pattern of negative attitudes and judgements towards Latino Spanish speakers, particularly towards a Puerto Rican Spanish speaker. This overall negative rating is surprising given that 14% of participants listed specifically a Caribbean country as a country they felt most closely reflects their cultural identity, and the speaker is Puerto Rican. Moreover, 42% listed a Latin American country as a country they felt most closely reflects their cultural identity. Often there is a prevailing misconception that people will inherently favor someone or something most similar to themselves, but based on my findings, there are far more possibilities. People and, as seen in this study, adolescents are fully capable of internalizing prejudice. The prevalence of an affinity bias in research rests in the idea that who you are, based on your upbringing or demographics, determines how you see the world; implicit associations and prejudice can transcend such factors. This study's findings contribute to the pattern of the opposite of an affinity bias seen in much of Callesano et a., 2019.

Application

Society

Implicit bias is the unconscious judgements people make that are caused by underlying prejudices. This form of bias can be summed up as a mental shortcut; your mind forms links between two ideas, regardless of legitimate connection, and causes your mind to go through an automatic process linking the two ideas. People can develop these shortcuts based on past experiences, the media we absorb or the prejudices we are taught. Researching and acknowledging implicit bias can help to stop

letting it affect different aspects of life. Specifically, with the application of language, it is important to be welcoming of all languages as linguistic diversity is an important part of cultural diversity. Also, these biases are within an adolescent sample, most implicit bias research is focused on adults. While many analogies may make implicit biases seem fairly innocuous, they change the way we think, and can change the way we behave too. When an unknown bias develops it can be the root of discrimination and violence, and understanding these biases is an important step in ending them.

Education

Language education tends to center around European dialects. Particularly in Spanish education that phenomenon can be harmful, given that the majority of Spanish speakers are not European. Along with this lessening the quality of Spanish education by making it less realistic to real life interactions, it also lessens it by creating a less welcoming environment to native Spanish speakers who learned any dialect other than Peninsular. Past research shows that a teacher's expectations of a student has a direct, negative effect on a student's attainment rates, and thus their academic success [14].

Knowing, based on this study's findings, that students can internalize linguistic prejudice, it is imperative that teachers are aware of this phenomenon and make an effort to address the issue. It is important for people to be aware of their possible biases as in professional and academic capacities especially, as it can have a direct effect on those you lead; perceived teacher prejudice affects extrinsic motivation of students [15].

Many native Spanish speakers experience judgment from teachers on the basis of the differences between accents and dialects. Ideally with more research in this field there would be greater awareness of the issue and Spanish (along with other language) classes would be taught from a less Eurocentric perspective.

Future Research

In the future, there will be a lot of research opportunities in studying perceptions of different dialects of Spanish. Ideally, dialects from different areas of Spanish-speaking Latin America would be studied, such as Cuban and Colombian. Or, being more relevant to the population the sample would be taken from, Ecuadorian and Dominican dialects. Furthermore, future research will focus on how people's cultural and social backgrounds affect their perceptions of different dialects. Speaker's voices in future research will not cause any confounding variables and will not bias perceptions of the languages.

References

1 L. Noe-Bustamante, *Latinos experience discrimination from other Latinos about as much as from non-Latinos*, https://www.pewresearch.org/short-reads/2022/05/02/latinos-experience-discrimination-from-other-latinos-about-as-much-as-from-non-latinos/.

2 S. Reiterer, V. Kogan, A. Seither-Preisler and G. Pesek, *Foreign language learning motivation: Phonetic chill or Latin lover effect? does sound structure or social stereotyping drive fll?*, https://www.sciencedirect.com/science/article/abs/pii/S0079742120300037?via.

3 A. Winkler, V. Kogan and S. Reiterer, *Phonaesthetics and personality-why we do not only prefer romance languages*, https://www.frontiersin.org/articles/10.3389/flang.2023.1043619/full.

4 V. Kogan and S. Reiterer, *Eros, Beauty, and phon-aesthetic judgements of language sound. we like it flat and fast, but not melodious. comparing phonetic and acoustic features of 16 European languages*, https://www.frontiersin.org/articles/10.3389/fnhum.2021.578594/full.

5 T. Zhang, M. Dorman and A. Spahr, *Information from the voice fundamental frequency (F0) region accounts for the majority of the benefit when acoustic stimulation is added to electric stimulation*, https://doi.org/10.1097/aud.0b013e3181b7190c.

6 J. Tompkinson, M. Mileva, D. Watt and A. Mike Burton, *Perception of threat and intent to harm from vocal and facial cues*, https://doi.org/10.1177/17470218231169952.

7 M. Farías, *A comparative analysis of intonation between Spanish and English speakers in tag questions, wh-questions, inverted questions, and repetition questions*, https://www.scielo.br/j/rbla/a/XZbmXGHBPPkDMtNXgnBPw7K/?lang=en#:~:text=The.

8 C. Baus, P. McAleer, K. Marcoux, P. Belin and A. Costa, *Forming social impressions from voices in native and foreign languages*, https://doi.org/10.1038/s41598-018-36518-6.

9 M. Díaz-Campo and I. Navarro-Galisteo, *Perceptual categorization of dialect variation in Spanish*, http://www.lingref.com/cpp/hls/11/paper2212.pdf.

10 A. Lynch, *A sociolinguistic analysis of final /s/ in Miami Cuban Spanish*, https://www.sciencedirect.com/science/article/abs/pii/S0388000108000235?via.

11 S. Callesano and P. Carter, *Latinx perceptions of Spanish in Miami: Dialect variation, personality attributes and language use*, https://www.sciencedirect.com/science/article/abs/pii/S027153091830377X?via.

12 P. Carter and S. Callesano, *The social meaning of Spanish in Miami: Dialect perceptions and implications for socioeconomic class, income, and employment*, https://doi.org/10.1057/s41276-017-0105-8.

13 W. Chappell and S. Barnes, *Stereotypes, language, and race: Spaniards' perception of Latin American immigrants*.

14 C. Fisher, S. Wallace and R. Fenton, *Discrimination Distress During Adolescence*, https://doi.org/10.1023/A:1026455906512.

15 J. Wayman, *Student Perceptions of Teacher Ethnic Bias: A Comparison of Mexican American and Non-Latino White Dropouts and Students*, https://dx.doi.org/10.1353/hsj.2002.0006.