

**Socialized Perception and L2 Pronunciation among Spanish-Speaking Learners of English in Puerto Rico**

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## **Dedication**

To my devoted parents, Isabel and Mariano, who gave me the gift of knowledge; the most valuable requirement for a successful future.

To both my favorite offspring, Samara and Cristian, who constantly encouraged me to continue; no matter what the circumstances, or revision.

To my wonderful sister Daisy, who showed me that siblings can overcome anything; together.

To my thoughtful family and friends, especially those near and far who were there for me; no matter the time or distance.

To everyone who had words of encouragement, positive attitudes, and unlimited patience since the very beginning of this long journey and never knew the influence of their noticeable accents in the chapters of my life, my deepest genuine gratitude for the motivation and faith in me and my abilities to pursue my goals.

This is only the beginning!

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Dr. Robert Dupey's insight and positive suggestions were always welcomed as an important position of reader on my committee. His motivation and personal interest in accents added more professionalism to this dissertation. Dr. Dupey's visionary perception helped me improve the research and methodology immensely.

A welcomed addition was Dr. Michael Sharp who stepped forward as an extra reader to complete my committee. With his unique accent, Dr. Sharp brought in further questions and comments specifically referring to the recorded Puerto Ricans' English pronunciation. Dr. Sharp's observations were clarified in the phonological data and results obtained in the research questionnaire.

An important member of my committee originally included Dr. Mervin Alleyne. It was his expertise on the topic of socialized perception that made him a valuable part of my team and investigation. Even after Dr. Alleyne's retirement, his desire to continue on my committee did not diminish. It is with great sadness in my heart, he could not be with us to see the final product, but his legacy will truly live on.

My total appreciation and gratitude to this extraordinary group of individuals who were an immense part of molding my investigative research and my future, and making me aware of the accents of others.



## **Abstract**

The purpose of this study is to validate the following hypothesis: First, spoken accents have a major influence and can affect listeners' personal attitudes and second, native Puerto Rican speakers will speak English as a second language without wanting to sound like a North American English speaker. This study will contribute to research on the importance of language attitudes in showing that socialized perception strongly influences both the listeners and speakers.

The research presented here examines attitudes towards Puerto Ricans speaking English with varying degrees of Spanish accents among students at the University of Puerto Rico at Arecibo (UPRA). Ten university students participated in the recorded oral reading portion of this investigation. After examining specific features based on linguistic analysis, six of the voices with similar characteristics were chosen as the representative Puerto Rican speakers of English. Questionnaires were administered to over 100 students in advanced English classes who listened to recordings of the six readers.

The results were analyzed and divided into specific areas of interest, such as high school, gender, etc. The detailed analysis revealed differences among male and female responses when asked the same questions, while the primary hypothesis was supported when referring to socialized perception and the consequences of having a spoken accent. An unexpected and extremely unanticipated result was discovered upon analyzing the statistical data and encountering evidence which would debate or refute one of the basic premises regarding the Accommodation Theory, as well as assertions contrary to my own predictions. The final portion of the results uncovered personal comments and assumptions made towards both the Puerto Rican and North American accented voices.

## **Biographical Information**

Marisol Santiago Pérez was born on the Island of Puerto Rico, in the town of Arecibo. Her parents, Mariano Santiago Pérez and Isabel Pérez Quiñones, moved to the United States, like many other Puerto Rican families in the massive exodus of the time. In Chicago, Illinois, Marisol Santiago Pérez, learned what it was like to be bilingual. Her primary years of study took place in St. Stephen's School and St. Ann's High School. She also discovered what it was like to be a minority during these educational years, considering she and another family were the only Puerto Ricans in the school, and the neighborhood.

The family's return to the Island transferred her studies to the bilingual program in Arecibo's Dra. María Cadilla de Martínez High School. After graduating with honors, she then continued her B.A. studying at the Colegio Universitario Tecnológico de Arecibo (CUTA) which had a transfer program at the University of Puerto Rico, Rio Piedras Campus, in the Teaching of English to Students of Other Languages (TESOL). While working at the University of Puerto Rico at Arecibo (formally CUTA, now UPRA) as an English Laboratory Technician, Ms. Santiago continued her graduate studies at her Alma Mater for an M.A. in Linguistics. As a tenure English Professor at UPRA, Professor Santiago Pérez returned to further her education at the UPR, Rio Piedras for her Ph.D. in Linguistics.

As an Arecibeña, Chicagoan, and bilingual, she hopes to broaden others' views regarding identity with her educational background on culture, language, bilingualism, phonology, and social perception.

## Chapter 1: Introduction

We all have accents even if the variety we speak is called “standard,” such as Standard American English or Standard British English. We have accents as we speak our mother tongue and any other of the language(s) we use to communicate our ideas, opinions, and emotions. Having a particular way of speaking reflects who we are, and how others interpret or perceive this unique way of speech can be very influential.

This chapter will introduce the concepts of *accents*, and *socialized perception* and *identity*, which will be explored in depth later in the dissertation. The justification for the dissertation research and its significance will then be examined. Finally, I will state the broad research objectives and specific research questions to be addressed by this research.

### Accents

Walt Wolfram and Natalie Schilling define *accent* as 1) “A popular label for dialect, with particular reference to pronunciation” and 2) “Speech influenced by another language (e.g. ‘She speaks with a French accent.’) (2016, p. 391). Rosina Lippi-Green focuses on the latter understanding of “having an accent” in her 1997 book, *English with an Accent: Language, Ideology and Discrimination in the United States*. Referring to accent generally, as “a loose reference to a specific ‘way of speaking’”, Lippi-Green states that “accents are loose bundles of prosodic and segmental features distributed over geographic and/or social space” (1997, p.42). . Lippi-Green defines *non-accent* as, “not any particular variety of US English, but a collectively held idea, which brings with it a series of social and regional associations” (p. 41).

According to Braj Kachru (1990) those who speak a different variety of a native “model” language, primarily acquired as a second language are considered to speak a transplanted and non-native variety. However, to fully grasp the concept of a non-native accent, one must first identify the norm, or standard native variety of the language, something very difficult to do. As James and Lesley Milroy point out the concept of a standard is not necessarily tied to any specific variety of a language but is “an idea in the mind rather than a reality – a set of abstract norms to which actual speech may conform to a greater or lesser extent” (1991, p. 22).

### **Socialized Perception and Identity**

As Bonny Norton has pointed out:

It is through language that a person negotiates a sense of self within and across different sites at different points in time, and it is through language that a person gains access to – or is denied access to – powerful social networks that give learners the opportunity to speak (2000, p. 5).

Socialized perception, though conceived of in the context of social groups, is based on individual observations. What is observed by others can be what places people in specific categories. Identity is, in this sense, “created” by the observations of others. Claude Hagege (2009) stresses the connection of “others” in the concept of “individual” identity, stipulating that identity is reflected by others towards oneself. Philip Riley states: “Socially speaking ‘identity’ is a quality which is ascribed or attributed to an individual human being by another human being. We do need other people to tell us who we are . . . what groups we are and are not members of” (2004, p. 94).

Riley maintains that “identity can by definition only be treated with reference to others, since others are its principal source. . . . identity is as much the product of the gaze of others as it is of our own making” (2007, p. 87).

An accent can be defined as a social stigma and also a linguistic phenomenon, depending upon the point of view. There are a number of derogatory labels which can be attached to having an accent; a speaker can be perceived as being illiterate, lacking a formal education, and lacking proficiency in one or two languages. Yet on the positive side having an accent can be considered the complete opposite; a speaker can be perceived as intellectual, intriguing, sexy, and belonging to a specific group., unique and belonging to another culture.

### **Research Justification**

Discussing language and ethnicity, Wolfram and Schilling-Estes have highlighted the need to study Latino varieties of English, including that spoken in Puerto Rico. “By comparison [to studies of African American English], Latino English is still underrepresented . . . despite the fact that it is now the largest minority group in the US. Latino English outside the mainland is even more underrepresented, which is something that studies of Puerto Rican English on the island can begin to address” (2006, p. 191) Puerto Ricans and North Americans view their language and culture differently reflecting A. Wayne Glowka’s assertion that “language attitudes are generally shared by the members of a cultural group” (1993, p 205). Thus, when the Hispanics speak English, their pronounced Spanish accent is accepted among themselves “as the norm within their own communities” (p., 205). However, once in formal settings these same individuals and their spoken English are viewed as deficient because of these accents. This so-called

“accented English” appears to be synonymous with “nonstandard English” (p. 208).

Negative perceptions stem from many different sources, including a perceived low social status for Spanish-speaking people and unaccented English as the optimal expectation. On the other hand, unaccented English could be negatively perceived as turning one’s back on Spanish culture. Accented English, however, could have covert prestige and could be seen as reflecting positively on Spanish as a symbol of ethnic identity, .

My intention is, thus, also to further explore covert prestige with the expectation of encouraging second language learners not only to accept their speech differences and come to terms with them, but also to open the narrow views of others to accept and embrace these linguistic differences. By analyzing the speech variation of languages and the necessity of “belonging,” we can further add to our understanding of attitudes which exist towards the speakers themselves, their cultures, and their languages. Therefore, in my attempt to analyze accents and attitudes towards them, I hope to provoke more awareness and acceptance of linguistic differences by both individuals and groups of second language speakers and the people they are in contact with.

### **Significance to My Professional Experience and Puerto Rico**

During my pedagogical studies, I initially assumed that native Puerto Ricans are inhibited in speaking English with North Americans because of their Spanish accents. However, I have also noticed and experienced the inhibition for Puerto Rican near-native English speakers because of their pronunciation, in other words, because of the American-sounding accents. Because of both of these accents the feeling of inadequacy, self-esteem, and even fear can take over and overpower the native Puerto Rican speakers, which can restrict or limit their participation in English conversations.

I have observed certain continuous repeated reactions to Puerto Ricans in the same language situations upon listening to or speaking with accents. As Christine Weedon illustrates, there is a direct connection between language, society, and individuality: “Language is the place where actual and possible forms of social organization and their likely social and political consequences are defined and contested. Yet it is also the place where our sense of ourselves, our subjectivity, is constructed” (1997, p. 21)

Identity is intrinsic to language and how it is spoken. I will analyze the noticeable pronunciation of native Puerto Ricans speaking English with a marked Spanish accent and associate this aspect to identity and acceptance. In this study, the following assertions will be validated: First, spoken accents do have a major influence and can affect listener’s attitudes towards the speaker and second, the socialized perception of the native Puerto Rican towards the American accented speakers will affect their own perspective when speaking English as a second language. This study will add to the importance of language attitude in proving that ambivalent attitude is very influential for both the listener and the speaker as well when the listeners rejected the American accented speakers as Puerto Ricans but in the long run, still wanted to sound like them.

### **Research Objectives**

To stimulate individuals to accept their own identity differences in speech as well as those of others, more research and analysis are needed. My intention is, thus, to further explore identity with the expectation of encouraging second language learners not only accept their speech differences and come to terms with them, but also to open the narrow views of others to accept and embrace these linguistic differences. By analyzing the speech variation of languages and the necessity of ‘belonging,’ it can furthermore add to

our understanding of attitudes which exist towards the speakers themselves, their cultures, and their languages. Therefore, in my attempt to analyze accents and attitudes towards them, I hope to provoke more awareness and acceptance of linguistic differences by both individuals and groups of second language speakers and the people they are in contact with.

The purpose of this study is to discover how language accents affect the attitudes of others through socialized perception of identity. A spoken accent conveys to others the speakers background information such as heritage and identity. Can the form of speaking a language affect others? Can people be accepted or rejected because of the specific type of language they speak? The possible answers to these questions will be put in perspective and evaluated using other studies in the same field by linguists who have also researched these areas.

### **Research Questions**

This research is directed towards the importance of socialized perception and second language pronunciation among Spanish-speaking learners of English in Puerto Rico. The critical fact that everyone speaks with an accent is examined specifically because of the reaction of others upon noticing this phonological difference. What significance is there in having a noticeable accent? What negative or positive characteristics are given to the speaker by the Puerto Rican listeners? Does the spoken accent affect the Puerto Rican listeners' perception of categorizing the speaker as native or non-native Puerto Ricans? What are the consequences of having an accent? Can inclusion or exclusion of specific groups influence the spoken language of individuals? Do others, including the speaker, perceive spoken accents, their spoken accent, or any



specific spoken accent? How does having a different accent affect the individuals themselves or other individuals? How do Puerto Ricans react when hearing other Puerto Ricans speak English with a native North American English accent? What negative or positive characteristics are perceived by the listener when hearing an accent? When the second language is being processed, does the individual want to sound like a native speaker? What are the factors that others perceive as the reasons or causes for an accent? Do native Puerto Rican second language learners want to sound like North American native speakers of English? Finally, and most importantly, are these perceived differences a major factor of incorporating or excluding individuals from being considered Puerto Ricans?

To test the hypothesis of verifying how influential attitudes are of native Puerto Ricans towards other Puerto Ricans who speak English with a North American accent, I have analyzed the native Puerto Rican Spanish markers in speaking English and associated it with the aspects of identity and acceptance. The research questions explored are:

1. How do native Puerto Ricans react when listening to other Puerto Ricans speak English with near native accents in English?
2. Is the fact that an islander, born and raised in Puerto Rico, speaks English with near native accents in English a negative or positive element?
3. What would the consequences be of having this specific North American accent?
4. Would Puerto Ricans be motivated not to sound like a native English speaker to maintain their identity?

5. Do Puerto Ricans speaking English as a second language want to sound like North American speakers when speaking English?

The fundamental interest of this investigation consists of examining how the language markers underlying a “Spanish accent” affect the attitude of other Puerto Ricans and how the accent reflects identity. The project incorporated investigative questions referring to two specific topics of interest, attitudes and language accents, paraphrased as: what are the consequences or effects of having a distinct language pronunciation, and are the people accepted or rejected because of the particular way they speak a language?

The influence of English on the Caribbean island of Puerto Rico has always been controversial and a major issue of importance in government policies and among the natives of our island. English has been seen as a negative factor in terms of substitution or replacement of the native tongue and has been stated as the influential cause for the corruption of the Spanish language in Puerto Rico. My objective is to widen the view of speaking with an accent and focusing on the positive point of view for all Puerto Ricans, and other nationalities as well. With further investigations, research, and awareness, having an accent should be a positive characteristic towards individuality; and inclusion.

## **Chapter 2: Historical Background and Theoretical Framework Review of Literature**

This chapter will begin with a brief insight into the history of Puerto Rico as a colony of Spain and subsequently a territory of the United States and later commonwealth. Puerto Rico's relationship with both countries has importantly impacted education, language policies, and the Puerto Rican community. Both language use in Puerto Rico and attitudes toward speaking Spanish and English reflect the complicated history of the island. The chapter continues with a review of relevant literature in the field.

### **Brief History of Puerto Rico**

#### **Location and origins of Puerto Rico.**

Puerto Rico is situated in a chain of islands located in the northeastern corner of the Caribbean Sea, north of the Equator. It occupies a strategic position at the center of the Antilles Islands located in the Atlantic Ocean. Geographers divide the Caribbean into the Greater and Lesser Antilles. Puerto Rico is classified as the smallest of the Greater Antilles because of its position at the easternmost tip of the island chain, and although at 100 by 35 miles in size, it is smaller than Cuba, Jamaica, and Hispaniola (Haiti, and the Dominican Republic), Puerto Rico is also included as one of the larger islands of the Lesser Antilles. Along with its smaller satellite islands, Puerto Rico is also classified as an archipelago. Recognized for its strategic location as early as the sixteenth century, Puerto Rico was identified as the "Antemural de las Indias" "Intramural of the Indies"[Translation by author] referring to its crucial or central location, and also considered and referred to as the "Key to the Americas" (Sanchez, 2007).

Fernández, Méndez, and Cueto (1998) point out that historically Puerto Rico has been an island of territorial conquests. On Christopher Columbus's second voyage, he arrived at the island first known as Borinquen on November 19, 1493 proclaiming the newly "discovered" land to belong rightfully to Queen Isabella I of Castile and King Ferdinand II of Aragon. Columbus was greeted by the Taínos, the original indigenous inhabitants, estimated by Fernández, Méndez and Cueto to have been around 30,000-60,000 people during that time. These numbers have been altered dramatically by the Puerto Rican historian and Jesuit priest, Fernando Picó, who estimates the Taíno population to have been only about 6,000 people, while, according to Cancel and Feliciano (2012, p. 68) other estimates raise this conservative figure to 15,000.

Columbus' conquest for Spain gave him the authority to rename the island. He at first called it San Juan Bautista which was later changed by Juan Ponce de Leon to Puerto Rico after discovering gold in 1511.

According to anthropologist Osvaldo Garca Goyco the origin of the name Taíno was believed to have originated through the colonizers interpretation of the word *taino* which the native people used to refer to each other. Diego Álvarez Chanca states the meaning of *taino* to be "good person" while *Borinkén*, referring to the Island, meant the land of the "altivo señor" (roughly translated to higher being or lord). The Taínos were believed to have come from a mixture of the "Arcaico" and the Aruaca Indians, going back almost 1500 to 2000 years before the arrival of the Europeans on the island. Lamentably, the extinction of the Taínos as a people is reported to have occurred half way through the 16<sup>th</sup> century due to the exploitation of the Indians for extracting gold, the abusive punishments they suffered, and failed attempts at uprising in defense of their

land. Nonetheless, the Taíno heritage of Puerto Rico survives in the mitochondrial DNA of some of the current population (Martínez - Cruzado, 2005). However, more obviously, the Spanish language spoken in Puerto Rico contains linguistic traces of the Taíno language. For example, the current names of 38 municipalities, 78 towns, 37 barrios (neighborhoods), 25 rivers, and 83 streams or brooks in Puerto Rico are from Taíno sources. Many of the native flowers and fauna still preserve their authentic indigenous names to this day also (Sanchez, 2007).

Due to the demise of the Taino population, African slaves were subsequently brought to the island to continue the Spanish exploitation of human labor in mining and agriculture. According to the first census on the island, administered by Alejandro O'Reilly in 1765, African slaves represented 12.6% of the population, some 5,037 people, most of whom resided in the San Juan area. As a result of contact among the three groups, the composition of today's Puerto Rican population consists of a mixture of Taínos, Spaniards, and Africans. (Sanchez, 2007). Among the names which reflect the mixed genetic inheritance are the terms *mestizo* which refers to descendants of Spanish and Indian ancestry and *mulato* ("mulatto") which refers to descendants of Spanish and African ancestry.

### **The Spanish colonizers in Puerto Rico.**

As stated above, since the arrival of the Spaniards in 1493, Puerto Rico has been in constant colonization. Because of its strategic geographical position in the Caribbean, Puerto Rico became known as the "Key to the Antilles," and the Spanish built fortified structures at the entrance of the bay for the security and protection of San Juan. The Castillo San Felipe del Morro was constructed at the mouth of San Juan harbor to protect

the city and island from the constant attacks of other nations looking for territorial gain or position. For the first half of the sixteenth century France and Spain fought for control of the Mediterranean Sea in Europe, and these conflicts also led to French attacks on the Spanish colony of Puerto Rico in 1528, 1538, 1540, 1541, 1552, and 1554. During the seventeenth century, the English and Dutch also attacked the island (Sanchez (2007)). As a consequence of the ongoing pirating and pillaging, the island's inhabitants were reduced to 6,000 by the 1700's.

By the beginning of the nineteenth century, the political abuses under the Spanish crown led to revolts, protests, and calls for independence by Puerto Ricans. The population of Puerto Rico began to focus on social justice and political rights, and a sense of Puerto Rican patriotism arose.

### **The American era.**

The American territorial expansion spread from the original 13 colonies of Britain across the continent post-independence in the eighteenth century, and this expansion continued throughout the nineteenth century as the United States of America added new territories and created new states. Seizing the opportunity presented by more territorial conflict between the Spanish monarchy and Cuba, the Americans took advantage of this to intervene between the two. The situation arose when Spain presented "The Letter of Governmental Autonomy to Puerto Rico and Cuba" to resolve the conflicts. While Puerto Rico debated over Spain's proposal, Cuba rejected the autonomy causing Spain to declare war. America's response to this situation was sending the ship, the *Maine*, to Havana as an act of "good will." The Spanish-American War began with the explosion of the *Maine* in Cuba on February 15, 1898.

On December 10, 1898, Spain signed the Treaty of Paris, thereby surrendering Spanish territorial possessions to the United States. Spain relinquished the possessions of the Philippines, Guam, and Puerto Rico, and with this exchange, there resulted a completely different outcome for these islands. For two years, from 1898 to 1900, a United States military government was in command over the entire island, and once again the Puerto Ricans had no say.

Political changes in the twentieth century came with the Foraker Act, which established a civil government led by Americans, which did not help the accumulated resentment of the Puerto Ricans towards the ongoing contradictions, intolerance, aggressions, and internal political divisions which resulted from being ruled from afar by another country. According to José Toro-Sugrañes, this era in history came to be called “*revolución sin sangre*” meaning “*revolution without blood*” [translated by author] (1995, p.118). Although The Jones Act approved by the US congress conferred US citizenship on Puerto Ricans in 1917, it wasn't until “*Operation Bootstrap*” that economic stability was brought to Puerto Rico by introducing manufacturing plants on the island, principally consisting of American companies.

Unfortunately, The Great Depression, which began in 1929, and two major hurricanes, San Felipe in 1928 and San Ciprián in 1932, devastated the island. Hunger, unemployment, and poverty were the results. With The New Deal, implemented by President Franklin Delano Roosevelt in 1933, more job opportunities were created along with reforestation of the island and construction of roads and bridges, and other public services (Sanchez, 2007). Puerto Rico as a US territory still had no native-born governor until Jesus T. Piñero was named by President Harry S. Truman in 1946 and Luis Muñoz

Marín became the first governor elected in 1948. The final political move by the US Congress (to date) was in 1950 when Law 600 was passed establishing an autonomous government for Puerto Rico.

The situation remains the same after 67 years, and so does the recurring arguments over the political status. According to Sanchez (2007):

1. As a Commonwealth, Puerto Rico does not receive the benefits of state programs or political power, such as voting in presidential elections and having voting members of Congress, which the other 50 states receive. A Resident Commissioner is elected for Washington, but has no voting rights.
2. However, Statehood would imply the utilization of English for official state business and education, should the status of Puerto Rico change.

During our current immigration crisis, particularly with such US movements as “English Only” for the whole nation, the controversy continues, and the courts are filled with cases dealing with these issues.

### **Language History of Puerto Rico and Education**

#### **Spain’s public education instruction.**

As noted above, the Taíno language spoken in Puerto Rico at the time of the Spanish conquest did not survive. The Spanish language thrived and was spoken throughout Puerto Rico wherever the Spaniards settled. However, as a colony of Spain, Puerto Rico early on did not develop a system of formal education.

One of the most distinctive characteristics of the Spaniard Regime was the resistance of the spread of education on the island for fear of resistance to an unjust political system (Cancel & Feliciano, p. 320). As a result, 90% of the population were



reported to be illiterate. In the Spaniards' view of formal education, the skills of reading and writing were considered to be a social privilege throughout the eighteenth century.

However, during the beginning of the 1800's public schools were established in all towns and in some important barrios of the island and the importance of education in Puerto Rico was noted. Because of the Catholic Spaniards' control over the island, the Church in charge of education. Puerto Rican children were taught separately, boys from girls, and likewise the teachers were segregated by gender. Private schools were also opened, and there was also homeschooling. According to the 1860 Census there were 122 public schools and 25 private ones, 454 teachers and 3,488 students. By 1867 registration was up to 10,081 but the political situation was unstable reflecting changes in governments. The effect of this was the instability of educational ideas from one leader to another.

For example, from 1851 to 1865 Governor Juan de La Pezuela established *la Academia de Buenas Letras* and a scale of promotion for public teachers, but was terminated and replaced by Governor Messina's *Junta Superior de Instrucción Pública*. This established that all districts had to have a high school, first class elementary schools for 17 municipalities and second class for the rest. In 1868, Governor Sanz fired ALL the Puerto Rican teachers and slowly substituted them with teachers from Spain. Because of insufficient Spanish teachers who did not want to travel or teach at a colony, it could not be completed. In 1873, Governor Baldrich ordered elementary education to be obligatory, but it was not completed. Baldorioty de Castro was denied permission in 1878, by Governor La Serna, to open a Collage in Mayaguez. By 1884, there were 501

Public Schools on the island and 24,130 students, still divided by gender, covering all the municipalities and almost all the barrios of Puerto Rico.

**America's public education instruction.**

After over 300 years of Spanish reign, the final conquest of colonization in Puerto Rico came with the Americans when ceded to the US as the outcome of the Spanish-American War. The changes in sovereignty from Spain to the United States radically changed the economic, governmental, and educational aspect of Puerto Rico, who had always used the Spanish language as the principle foundation of communication and the medium of instruction in all grade levels in Puerto Rico. Linguistically in the past, Puerto Ricans had used the Spanish language as the primary source of language, but now the English language had to be incorporated on the Puerto Rican island.

It is here where government and school theories and strategies were implemented. Experts were needed to express their views on language emphasizing diverse variables such as the phonetic structure, social environment, psychological stimuli, and not to mention the most important aspect of all; the individual learner.

Puerto Rico's past political situations have been a major influential factor in the development in the sense of nationalism or patriotism, which includes language. Since the arrival of the Spaniards on the Island since 1898, when PR was ceded to the US as the outcome of the Spanish-American War, the Spanish language had always been spoken by the Puerto Ricans and was the medium of instruction in all grade levels in Puerto Rico. Throughout history, the educational approaches on teaching and learning English in Puerto Rico have been in continuous change. The enforcement and imposition of English on the Island has taken its toll in the course of pedagogical history.

## **English Education in Puerto Rico**

### **Elementary and secondary education.**

A scholar in Puerto Rican history, Francisco Scarano emphasizes the lack of primary education received during the final period of the Spaniard reign due to few teachers, schools, and funding. By the end of the 19<sup>th</sup> Century, specifically 1899, analphabetism was calculated at an 80%. Realistically, only two out of ten Puerto Ricans over ten years of age could read and write; the women with even more limited educational studies. The Puerto Rican Census of 1935 confirms a reduction of this percentage to 41 in 1930 and 35% in 1935 with the American invasion, takeover. Although the Spaniards had introduced Puerto Rico's language policies, the Americans immediately incorporated the English language into the curriculum. There were major changes to the educational instruction of English.

The first change in 1900, presented by the Commissioner of Education, Dr. Martin Brumbaugh, introduced English into the Puerto Rican schools as a subject as early as first grade. While the elementary level (1-8) was gradually being introduced to the second language as a subject, the complete opposite was occurring in secondary level (9-12) where English was the medium of instruction and Spanish was given as a subject. This lasted five years until the next Commissioner, Roland Faulkner, enforced English as the language of instruction in all grade levels in 1905. Commissioner Edwin G. Dexter imposed English in all the subject areas at all levels, including first grade from 1907 -1912. All teachers had to know English and pass an exam to be approved as teachers. Protests from teachers and students continued because of the imposition of the English language. After years of this system, in 1916 Commissioner Paul Miller reintroduced Spanish from grades 1-4 as a medium of instruction and in grades 5-12 both English and Spanish were the languages of

instruction. In 1937, Dr. José Padín made Spanish the primary language in elementary levels and doubled the 45 minutes of English as a subject in the seventh and eighth grades. This continued after three years, but Commissioner José Gallardo did change the secondary level policy once again combining English and Spanish as the means of instruction in 1937. Dr. Gallardo instructed that both languages should be incorporated by dividing the subject matter, some given in English and the others in Spanish. The last and final change occurred in 1947 when Commissioner Mariano Villaronga introduced the last major change which is currently in effect still today. Because of all the controversy and nationalism, the results are the Puerto Rican government declaring Spanish as the official language of Public Instruction in PR. Presently, Spanish continues being the vernacular language of instruction and English is taught as a second language in all grade levels in Puerto Rico.

### **Americanization.**

Without a doubt, the major educational American accomplishment was the installment of public instruction, free and obligatory, with the integration of the genders in the classrooms, but it came with a price: Americanization. This action is the process of diffusing American values. This was a conscious effort on behalf of the American authorities to transform the Puerto Rican culture into “a species or prototype of the American.” (Cancel & Feliciano, p. 320).

The Education Commissioner was appointed directly by the North American President until 1920. The U.S. government made all these changes to public instruction with the intention of “Americanizing” the Puerto Ricans. Zentella (1981, p.219) states the original purpose to be, “Americanize Puerto Rico with a vengeance during the first fifty years of its occupation.” During the beginning of the Military Government in PR, Victor

S. Clark affirms the campaign to convert Puerto Ricans into “good Americans”. The American Army stressed an aggressive campaign integrating alternative values to its citizens by substituting patriotic symbols such as the distribution of American flags in the public schools.

According Aida Negrón de Montilla (1977, P. 322), the speakers of the Commission of Insular Issues in Americanization in Puerto Rico and the Public School system, wrote:

We believe that the public school system which now prevails in the United States should be provided for Porto Rico [id.] and that the same system of education and the same character of books now regarded most favorable in this country should be given to them...The teachers in these schools should in a great part be Americans who are familiar with the methods, system, and books of American schools, and they should instruct the children in the English language.

Porto Rico [id.] is now and is henceforth to be part of the American possessions and its people are to be American... At present only one of every on the island can read and write...Why, therefore should we attempt to teach the other nine Spanish instead of English?

Negrón de Montilla (p. 250) comments: “Sus ideales están en nuestras manos [de los norteamericanos] para ser creados y moldeados. Si americanizamos las escuelas y se inspira con el espíritu americano a los profesores y a los alumnos... la Isla se volverá en sus simpatías, puntos de vista y actitudes... esencialmete americana.”

“Their ideologies are in our hands [North Americans] to be created and molded. If we Americanize the schools and inspire the teachers and students with the American spirit...

the Island would become in their feelings, point of views and attitudes... essentially American.” [Translation by author.]

Negrón de Montilla summarizes the American goal towards education, quoting members of the Board of Education (1900): Victor S. Clark, President, “mold the mind of Puerto Rican children and inspire them with the American spirit;” Samuel M. Lindsay, “extend to PR the American principles of government, ideologies, and conduct of life, embedding respect and love to past heroes and for the history of the Republic;” Paul Miller: “make the professors and alumni convert into efficient propagandists, willing and able to take part in molding public opinion in patriotic terms;” and Roland Falkner. “ make English the vehicle of teaching (to convert the two places into one).”

The original idea was to create a different conscious in the Puerto Ricans; the American ideas, values, and symbols. It wasn’t until 1921 that the first pro-American Puerto Rican was assigned the position of Commissioner of Education: Juan B. Huyke, “... implantar el espíritu de América el los corazones de nuestros niños—sumergirlos en la vida national.” “... implant the spirit of America in the hearts of our children—immerging them in the life of the Nation.” [Translation by author.] The concept of “educar para americanizar” “educate to Americanize” [Translation by author.] continues to be put in practice with all the Commissioners.

### **Public university system.**

The University of Puerto Rico was founded in 1903 to help with the preparation of more teachers on the island. According to Isabel Picó Vidal, a 95% of graduates from 1903 to 1923 were teachers. Later, with another higher learning institution opening in 1912 in Mayagüez, Colegio de Agricultura y Artes Mecánicas (CAAM), other fields of

concentrations were studied in the areas of Engineering, Chemistry, Agriculture, among others. A private institution of higher learning, Polytechnic Institution, later changed to the Interamerican University, was also founded during that same year in San German.

The Caribbean island of Puerto Rico has a particular historical background different from the other US territories because of its strategic position. Puerto Rico's connection to the U.S. has influenced the Islanders' identity as well as the economic, social, and political aspect. Because of the status as Commonwealth, both languages, Spanish and English, are taught and spoken on the Island, which has brought constant controversy about the native Spanish language and the spoken English taught in Puerto Rico, as a first language, second, or even foreign language.

This situation must be analyzed in order to understand the present day situation in Puerto Rico, and will be discussed fully in the following chapter. The sense of identity has been compromised among the population because of the manner of speaking of either of the two languages, but the focus will be geared towards the second language spoken on the Island: English.

Though the importance of English has consistently been stressed, the obligation of speaking it has consequences. When encountering a situation with peers, Puerto Ricans speaking a second language (English) with a near native like pronunciation can affect other Puerto Ricans' desire to join in the conversation either negatively or positively depending upon many factors. The expectations of this investigation are to confirm my hypothesis as to the negative or positive effects of having an attitude with speakers with accents can not only hinder communication, but the individuals involved as well.

## Theoretical Framework and Review of Literature

As Robert Le Page (1979) states when specifying “focusing” on languages, language varieties must be seen as separate entities. Languages and language varieties should not be classified as superior to others, having more complex structures, or having less grammar, etc. Each language or variety should not be evaluated, compared, or even treated as inferior to any other language or variety. Le Page also reaffirms that speakers with a specific accent form a group of solidarity and identity. In Le Page’s 1979 studies done on various communities, he measured the consistency between group structure and language. His findings on the accent of individuals found that depending upon which community you identify with or belong to, your accented speech will have that specific type or style of language spoken.

An important illustration of the research of linguist Clare Johnston (2000) who focused on the different types of English dialects in Britain. These dialects exhibited significant variation in vocabulary, grammar and pronunciation, including variation in loudness, tempo melody, and even tone. Johnston acknowledges *accents* as a pronunciation that everyone has while *dialects* deal specifically with grammar and vocabulary as well. Moreover, people can speak varieties considered Standard English with regional accents which can spread to other areas or not, depending upon social prestige and the histories of the regions involved. Because of the widespread use of English, there are many identities associated with use of the English language and the varieties spoken around the globe.

Language, culture and identity have been investigated over the last few decades by numerous linguists focusing on varieties of English (and English-lexifier creoles) including Michael Aceto, John Alegeo, Vijay Bhatia, Kingsley Bolton, Kimberley



Brown, Salikoko Mufwene, Natalie Schilling and Walt Wolfram. Language variety has been categorized using the concepts of localized varieties, non-native varieties, second language varieties and new varieties.

When discussing language variety as found on Caribbean islands, Mervyn Alleyne (2005) examines identity and the important role that “race” plays in the manner in which people see themselves as well as how others see them. The combination of both culture and racial identification make up the term *ethnicity* including speech or individual language. Alleyne explores these attributes in the Caribbean communities in an in depth analysis which includes Puerto Rico. His historical background on the island of Puerto Rico is significant in terms of developing the English language factor and its contribution on the island. Alleyne reveals the intimidation and effects that English has had on Puerto Rico’s culture, people, and language. The controversy as to whether to maintain Spanish dominance on the island or allow bilingualism to infiltrate still remains unsolved to this present day mainly because of the political identity issue. This language issue is primarily political due to old colonial vs. new national identity as stated in Alleyne’s research. In any case, Latin America continues to constantly seek and preserve the Spanish Language and avoid “Anglicisms” (English words literally pronounced in Spanish) reflected in the Puerto Rican use of its Spanish language dictionaries from Spain and the introduction of new Spanish terms that come into daily use.

Another linguist focusing on language and identity within social groups is Norma Mendoza-Denton. She associates the relationship of the speaker within social groups in her Language and Identity study (2001), referring to both concepts with a number of variations. It is essential, Mendoza-Denton stresses, for the individual or group to come

to terms with his/her own identity or “essence.” According to Mendoza-Denton it was William Labov’s studies from the 1970’s on that first motivated other specialists’ interest in such studies studying language in society. Based on his studies linguists were able to create their own linguistic models and have advanced studies examining language and identity which have had a major she states has had an important impact on public perception as well.

Wolfram and Schilling (2016) discuss numerous recent studies which examine aspects of language and identity among African-Americans, and Spanish/English bilinguals. Controversially, such speakers have in the past been perceived to be linguistically confused or even “semi-lingual” (Cummins 1979) or “alingual” (Melía 1973). Other focuses with correlation to language and identity are: gender role studies by Susan Gals (1978) and Jack Sidnell (1999), standardization of languages by Hubert Devonish (2001), Joshua Fishman’s *Language and Nationalism* (1973) which reinforces both terms on an individual basis, Leticia Galindo’s (1995) research with language contact and attitudes and David Crystal’s trajectory of *English As a Global Language* (2003).

In this last study, Crystal lists all of the territories where English is used as a first and second language and includes Puerto Rico’s close to 4 million inhabitants on the island in 2001. Of these islanders only 100,000 claim to use English as a first language while 1,840,000 state English as a second language. However, questions about the latter group include: Do they *not* know or use English at all? Do they not use it ever or in their normal daily activities on the island? Do they speak some English but consider their speech to be a different type of English in contrast to standard North American varieties?

As a means of communication, some Spanish speaking people have integrated English into their daily lives, but what about the others? In the United States this language shift among minorities is referred to as “Anglicization” by Calvin Veltman (1983, p. 202).

François Grosjean has been studying bilingualism for decades, In recent books (2008, 2015) Grosjean focuses his attention not only on the acquisition of languages and accents but also on how and why accents develop. Whether the influence of the first language on the second is more linguistic or sociolinguistic, he strongly emphasizes that having an accent does not reflect on the intelligence of the individuals. Grosjean has studied both the negative and positive aspects of accents. He has noted that the major disadvantage of a non-native accent is not blending into a group, but on the contrary, an accent may also be an advantage because one stands out and is recognized as “different” or unique. The way others perceive and treat bilinguals can also have a negative effect if there is hostility or discrimination toward that nationality or culture but again, the positive side of having an accent is attracting others and having them intrigued or interested in the bilinguals’ background. Other disadvantages of the accent of a bilingual is that it may give the wrong impression of the individual’s intelligence or proficiency of the language or culture and also an accent may result in incongruence when the voice or accent does not match the name or origin of the person who is bilingual. Another disadvantage mentioned by Grosjean may be nervousness. The accent may be even thicker or more pronounced than usual because of anxiety or tension. Yet, on the positive side, having an accent allows you to be a unique individual.

The attitudes toward a language correspond to a number of factors which include the language, per se, the individual bilinguals, and the environment they find themselves in. In view of a language in a multilingual society, the de-valorization of one or more languages may occur while valuing others. On the other hand, in the acquisition of a second language that may leave traces of an accent, society is permitted to judge (either positively or negatively) on their accented-ness. The intensity of the accent also plays an important role in society. The mild accents represent status traits, whereas the strong ones are associated with solidarity traits.

Jennifer Jenkins (2009) studies the use of English as a lingua franca in the context of underlying attitudes and their potential effects. Jenkins (2009, p. 204) asserts that though the subjects strive to perfect their English and have a native-like accent they feel “the desire to project their own local identity in their English. Having their own local and English as a Lingua Franca (ELF) identities in their English would give them greater confidence as both English speakers and English teachers.” Jenkins concludes that the participants no longer consider it necessary to imitate the native speakers in order to communicate effectively in ELF. The value of speaking English is placed on communication or capability of speaking another language as well as one’s own. In other words, being any type of bilingual (ELF/ESL/WE, i.e. World English) is a tremendous advantage to being only a native monolingual.

According to Josiane Hamers (2002, p. 221) an essential development in acquiring a second language is the importance of the “bilingual’s culture identity.” It is crucial for the bilinguals to identify with their first language in a solid manner in order to avoid internal conflicts in society. When society decides to discourage “dual

membership” (p. 221), negative outcomes ensue both for the community and the bilingual. If on the other hand, there is a positive attitude towards the second language, the tendency is to encourage speaking the language.

Hamers maintains that the way the bilingual is perceived by others relies on their accent, since not only is it “a marker of society and cultural distinctiveness, but also this perception will be influenced by non-linguistic markers of ethnicity” (p. 227) as well. However, although it is a rarity to find bilinguals who speak both their languages without an accent, there are exceptions for those that speak both “with a standard native accent” (p. 228). Bilingualism, therefore, extends from a fluent native-like language to “minimal proficiency in a second language” (p. 7). Therefore, stereotyping can be attributed to language varieties used and other cultural and ethnic clues that “can influence the perception of the listener” (p. 226) in today’s society.

Braj Kachru (1990, p. 101) points out that there are many who claim that English is just not taught or learned “properly” because it has not reached the level of “English as the ultimate model to be imitated by those learning the language.” Kachru’s linguistic argument discusses language attitudes between native speakers of various varieties of English in comparison to speakers of the non-native varieties of English, such as Filipino, West African, Indian English, etc. Attitude is the number one factor of importance used in labeling these varieties of English used not only generally but by scholars in linguistics. The linguistic intolerance which specialists use to make a stronger case in learning or not learning English because of prejudice or a focus on purism in English is still noticeable.

Kachru examines sympathetically so-called Third World countries using varieties of English as models with their specific conditions and needs: “It will, therefore, be appropriate that the native speakers of English abandon the attitude of linguistic chauvinism and replace it with an attitude of linguistic tolerance... Let us, therefore, appreciate and encourage the Third World varieties of English too” (p. 113). Even though American English has power and status and can be considered an or even the undeniable economic and military power, it does not mean that that variety is the most favorable. (Other authors, e.g. Gardner, Clement, Giles, Coupland, Tajfel and Turner have also supported the view that second language learners are influenced by the identification of the target language.)

Embedded in human society are relationships and behaviors that are very complex. The concept of identity referring to sociolinguistics is a form of negotiation depending upon which social group one pertains to. In dealing with languages, prestige can be associated with different factors ranging from historical, geographic, economic, and social levels. These levels can be rated from higher to lower and are usually parallel to each other according to Wolfram (1999) who states that there is no situation, “... in the United States where low-prestige groups have high-prestige language systems.”

It was William Labov who in 1966 first studied the correlation between prestige and pronunciation, specifically in his well-known studies of New York City’s variation in r-less pronunciation. Depending on the *r* pronunciation, it was associated to the employees’ status of high, middle, or lower class. Labov introduced the term *covert prestige* when speakers who used non-standard dialects were considered “bad” or “inferior” equating this to low-prestige. This specific language usage is the connection or

the signal of group identity, according to Labov's covert prestige. Subsequent research on pronunciation and prestige has focused on the correlations between language use and characteristics or categories such as: high, middle, or low class; male or female; heterosexual or homosexual; formal or casual, etc.

Since the 1970's Peter Trudgill has studied speech patterns in British English, finding, for example that working class women use more Standard English compared to men. Since the late 1970's Farida Abu-Haidar has studied varieties of Arabic, and her conclusions about women's speech echo those of Trudgill. In a study in Baghdad on the prestige in the Arabic language, for example, Abu-Haidar concluded that Arabic women are more conscious of prestige than are men.

This dissertation research will explore potential gender differences with respect to attitudes toward the variation in the pronunciation of spoken English produced for the study. In addition, issues concerning pronunciation and prestige, native vs. non-native speech, and language and identity will be addressed. The following chapter will outline the experimental design of the research.

### **Chapter 3: Design of Study**

In this chapter, I will open with a general description of the research investigation and continue with an overview of the methodology including information about the complete written diagnostic paragraph designed for this study dealing with: the oral-audio screening of the volunteers' readings and recordings, the creation of the linguistically diagnostic paragraph to be read, the process of the recording the voices, and the analysis and selection of recorded voices. The 130 total subjects of both the pilot and primary research and recording design will also be highlighted during this discussion.

#### **General Description of Investigation**

This investigative methodology was divided into four parts. A brief overview will be given as an introduction to the investigation, but a thorough insight and description will be further explained in the methodology portion of this chapter.

1. Initially, the design for the configuration of the paragraph with the specific linguistic features had to be chosen for the analysis, based on the projected objectives. These steps included the comparative analysis of the English and Spanish pronunciation and syntax system for writing the paragraph with as many linguistic features as possible for the data analysis and final results. The sentences of the paragraph had to be expressed in as natural sounding speech possible, without sounding forced, to produce more accurate results. This would avoid any doubts, questioning, or analysis of the topic being investigated by the subjects being tested. After creating the written portion of the phonetic analysis, the logistics for the preparation of the actual recording had to be established in a non-threatening, professional environment to ensure the highest possible quality



of audio and acoustics. UPRA'S Communication Department's Recording Studio Laboratory was an excellent choice for this recording endeavor. The enclosed cabin ensured professional recordings with no interruptions and high quality recording results using the Audacity 2.3 Program on the laptop, which is a more professional and complex recording system and a portable Panasonic recorder as well. Much more investigative exploration of the recordings can be accomplished for further research indicating other linguistic features such as rate, length, and audio position of any specific pronunciation, indicating sound, word, pitch, or intonation of the recorded voices.

2. The second step, after analyzing the linguistic written instrument configured in paragraph form and its recording location, was the preparation and administration of the subjects' authorizations and questionnaires. A complete series of official documentation had to be written, approved, and administered to validate the investigation. All the documentation including permission authorization, personal questionnaire, and research investigative questions/questionnaire were all written in both languages, English and Spanish, for the benefit of the subjects' preference of language, and to ensure complete comprehension for maximum analytical results and data.
3. The third step was the audio and written administration of the subjects' survey. After scrutinizing and evaluating the 10 recordings of the voices, six of these voices were chosen for the audio portion specifically based on similarities in pronunciation of language variation markers which were analyzed individually and identified or categorized within three different levels. This process will be

further discussed in this chapter in the section entitled: Analysis of Recorded Voices. The final step of this process included the scheduling or logistics of dates, hours, students, and selection of sections which had to be programmed in advance with authorization for administering the recordings.

4. The last step of this research investigation was the ultimate tabulation of the findings, the complete analysis of the entire data questionnaires, and the final conclusion of the subjects' survey data referring to the confirmation of the principle hypothesis stated.

All preparation and analysis consisted of gathering information specifically associated with Puerto Rican identity associated with attitudes of language markers, accents, identity groups, and in this case specifically English, particularly spoken with an accent. This project focuses on the point of view of Puerto Ricans living on the island and the effect of "interference" associated with English and identity. Will the native Puerto Rican community respond positively or negatively as second language learners of English to linguistic Spanish markers incorporated into the English spoken on the Island?

The fundamental interest of this investigation consists of evidencing how the language markers (accents) affect the attitude of other Puerto Ricans and how the accent reflects identity. The research project incorporated investigative questions referring to two specific topics of interest referring to attitudes and language accents, paraphrased as: what are the consequences or effects of having a distinct language pronunciation and are the people accepted or rejected because of the particular way they speak a language?

## **Overview of Objectives and Methodology**

### **Objectives: language attitudes.**

To test the hypothesis of verifying how influential the attitudes of native Puerto Ricans to other Puerto Ricans who speak English with a North American accent are, I analyzed the native Puerto Rican Spanish markers in speaking English and associated them with the aspects of identity and acceptance. The research questions explored are:

1. Is the fact that an islander, born and raised in Puerto Rico, speaks English with a near native North American English accent regarded positively or negatively?
2. How do native Puerto Ricans react when listening to other Puerto Ricans speak English with near native accents in English?
3. What could the consequences of having this specific North American accent?
4. Would Puerto Ricans be motivated or not motivated to sound like a native English speaker to maintain their identity?
5. Do Puerto Ricans speaking English as a second language want to sound like North American speakers when speaking English?

## **Summary of Methodology**

The gathering of data to prove the hypothesis on identity, attitudes, and the effects of speaking English on the island with an English accent includes the following methodology:

1. Developing a paragraph with specific phonetic features to be read aloud and recorded for oral evaluation and analysis.
2. Establishing an evaluation form for the final score of the orally read paragraph.

3. Analyzing and selecting different levels of recorded subjects' voices to include an equal number of male and female ratios with different levels of accents classified in three categories of accent ranges: high, middle, or low.
4. Preparing the questionnaires to be answered.
5. Surveying the results of the questionnaires.
6. Presenting the final results and conclusions.

### **Subjects**

One crucial factor acknowledged at the very beginning of the investigation, even before administrating the pilot study was trying to assure an equal number of gender participants in both phases: the recording and administrating. It was important to avoid from the start any type of discrimination which would render false or bias answers and lead to incorrect conclusions. To avoid this situation, the recorded voices were matched according to the final linguistic scoring and paired by gender and category, explained further on below.

The participants were chosen based on the necessary criteria to obtain a sample representative of the Puerto Rican inhabitants. Every student demonstrated his/her willingness to participate by signing a consent form of authorization. The hypothesis of the investigation, to verify the attitudes among native Puerto Ricans speaking English towards other Puerto Ricans with different levels of spoken accents, was never written, told, or insinuated to any of the subjects.

The 140 students chosen consisted of students from the University of Puerto Rico in Arecibo (UPRA). An important qualification was that the selected students' had to be native Puerto Ricans who have lived on the island all their lives. The chosen students

also reflected the older more mature population, approximately between the ages of 18-24. To verify this information (without directly telling the subjects the topic, to avoid preconceived answers, analysis, or judgments) a personal questionnaire was given with these specific characteristics in mind and administered to all students at the beginning of the investigation along with other significant background information referring to their linguistic upbringing. The original questionnaire written in English was translated to Spanish for the subjects to choose the language of their preference to use, read, and answer in. Even at the very beginning of the research investigation, in their selection of questionnaire, they chose their language of preference.

This study did not involve high risks for the participants in their function of listening and giving their answers and opinions on the questionnaires. The identities of the participants are confidential because the questionnaire never included their names, only personal information and answers, adding to their anonymity and confidentiality. The anticipated benefits for the participants are maintaining English as a second language with the incorporation of improving teaching and learning strategies in the near future.

### **Research Recording Design**

Having the authorization of the chancellor of the institution, University of Puerto Rico in Arecibo (UPRA), facilitated the use of the university's facilities, employees' collaboration, faculty's alliance, and students' cooperation. (See Appendix A: UPRA Authorization.) The participants were identified and recruited by the primary investigator which consisted of choosing 170 students in total registered in both Conversational English (Ingl 3093) and Conversational English for Professionals (Ingl 3094). As the primary investigator, I went from room to room explaining the protocol of the

investigation to all the students enrolled in the conversational classes. After the oral explanation, all the volunteer subjects were given written consent forms to read, question, accept or reject, and sign indicating their direct collaboration. The consent form was written in two languages, English and Spanish, in order for the students to select their language of preference and also of vital importance for the subjects to fully understand the instructions. (See Appendices B & C: English and Spanish Consent Forms.) Before the initial investigation, all subjects filled out a questionnaire with general information to screen the students based on specific criteria such as age, language, and background information about primary language usage, and parents' primary languages spoken in the household. The methods or techniques to obtain the information and data were in the form of written questionnaires which were administered to university students inside an educational facility, specifically the University of Puerto Rico in Arecibo, utilizing the classrooms, the English Department, and the recording studio. (See Appendices D & E: English and Spanish Questionnaires.) The second stage of the investigation involved preparing the instrument used for evaluating the different levels of oral accented speech: the written diagnostic paragraph.

### **Written Diagnostic Paragraph Design**

Scholarly works by Schnitzer, M. (1997), Nash (1973), Belava (1982), Nilsen & Nilsen (1973), and Dale & Poms (1985), in their research on contrastive analysis with published topics such as, *Readings in Spanish-English Contrastive Linguistics*, *Pronunciation Contrasts in English*, and *English Pronunciation for Spanish Speakers*, were the main source of the inspiration for the preparation of the diagnostic paragraph to be written, evaluated, recorded, prepared, and administered. The original paragraph

(Prator and Robinette 1985) designed to be read orally was adapted to contain the specific language markers identified as the sources of variation in oral communication, as seen below.

### **Original Diagnostic Passage**

(1) When a student from another country comes to study in the United States, he has to find out for himself the answers to many questions, and he has many problems to think about. (2) Where should he live? (3) Would it be better if he looked for a private room off campus or if he stayed in a dormitory? (4) Should he spend all of his time just studying? (5) Shouldn't he try to take advantage of the many social and cultural activities which are offered? (6) At first it is not easy for him to be casual in dress, informal in manner, and confident in speech. (7) Little by little he learns what kind of clothing is usually worn here to be casually dressed for classes. (8) He also learns to choose the language and customs that are appropriate for informal situations. (9) Finally he begins to feel sure of himself. (10) But let me tell you, my friend, this long-awaited feeling doesn't develop suddenly, does it. (11) All of this takes will power.

Specific vowels and consonants were selected for oral/audio pronunciation such as: front vowels [æ]/[ɛ]/[i], back vowels [u]/[ə], central or lax vowels [ʌ]/[a]/[ɔ], diphthongs [aɪ]/[aʊ]/[ɔɪ], consonants such as nasals [ŋ], fricatives [θ]/[v]/[ʃ]/[ʒ], affricates [dʒ], and consonant clusters [l]/[r] because they do not occur in Spanish. Other aspects such as word suffixes/endings, (-ed and -s), and their various pronunciations were also selected. In addition to pronunciation, other phonological aspects were also considered such as stress, rhythm, and intonation. (See below.)

### **Adapted Diagnostic Passage**

When a person tries to learn a second language it can be very beneficial, but there are many questions to answer and problems to think about. First of all, what language should be considered? Some common second languages are Spanish, English, Chinese, and French. Why choose that specific language? Many different reasons include popularity, population, business, communication, and convenience. Another situation or circumstance to consider is based on oral language. Is the pronunciation of sounds similar or different than the first language? The voice or tone can also make a difference in stress, rhythm, and intonation. Simple words such as boss, pat, school, upon, cook, small, pin, think, stand, calm, shoe, car, or measure can be considered problematic when saying them. Which vowels or consonants can cause pronunciation problems in the mouth, tongue, jaw, lip, or teeth area? Can the difference be heard in words like: kick, met, cup, away, house, put, kite, toy, caught, or jump? The final question has to do with literacy. Should the person also learn to read and write the language effectively? Is it really necessary to correctly spell words such as chair, coat, know, teacher, write, nation, or wish? In conclusion, the important issue is to get the message across and make sure it's understood.

The paragraph to be read consisted of 16 sentences, including information questions, and yes/no questions to evaluate differences in the three phonological aspects previously mentioned. 10 volunteer students from an advanced English class (Conversational English for Professionals, Ingl 3094) were chosen as subjects, because of the research specifications based on their personal backgrounds as all native Puerto Ricans who have not lived in the United States and have studied English as a Second language. The subjects read the paragraph only once; no other opportunity was given for



changes or corrections. The subjects were recorded individually and were not told what was being specifically investigated to ensure a “normal” typical voice that was not practiced or rehearsed. The main objective was for the student to speak in a steady relaxed voice without trying to change their regular pronunciation. The complete recording process is fully discussed below.

### **Subjects: Oral, Audio, and Recording Screening**

In addition to the 130 university survey student volunteers, 10 additional volunteer students were chosen for the oral-audio portion of the linguistic analytical voice recordings. The subjects were recorded individually in an appropriate acoustic setting laboratory to ensure high quality recordings. A Panasonic recorder and voice analyzing program Audacity was utilized for all 10 recordings. The 10 volunteers individually read the English paragraph diagnostic passage out loud. The paragraph was composed of as many specific language markers as possible to help indicate the level of *accent* spoken and heard, while being recorded.

The subjects individually read the diagnostic paragraph once, while being recorded, and the recordings were later analyzed and divided into three distinct categories of language markers. The final scores of the individual voices were based on the total amount of language markers that were said or present in the reading of the paragraph. These scores varied from high, medium, and low, discussed further in details below. Of the 10 volunteers, only six were selected after their voice recordings were analyzed and matched specifically on pronunciation variations or accents, based on similar characteristics adapted and stipulated in the Accent Inventory of Prator and Robinette,

(1985). (See Appendices F & G: Diagnostic Passage & Accent Inventory Original and Revised.)

### **Check List of Problems**

#### **I. STRESS AND RHYTHM**

#### **II. INTONATION**

#### **III. VOWELS**

#### **IV. CONSONANTS**

#### **V. VOWELS AND CONSONANTS**

#### **VI. GENERAL COMMENTS**

The six students were selected and matched based on the closest similar final scores or totals. The recordings were paired and divided equally into gender categories to avoid discriminatory inclinations or bias predispositions. The final gender selection of voices were three of each, male and female voices, as suggested. Each voice was identified with a number, from one through six, to maintain anonymity and was played in random order, not based on the final linguistic analysis scorings, to the other 130 volunteer students.

#### **Selection Process of Subjects.**

The six chosen voices were selected based on the final total points added up for each linguistic category such as: stress, rhythm, intonation, vowels, and consonants. All of these categories had their own checklist or sub-category, that totaled 92 specific linguistic problems documented. An example is illustrated below:

**VOWELS**

\_\_\_ Failure to obscure unstressed vowels in words of more than one syllable.

\_\_\_ Failure to obscure the vowels of unstressed words.

\_\_\_ Failure to lengthen stressed vowels before final voiced consonants.

X Substitution of an improper vowel sound.

- |                       |                      |                   |                        |
|-----------------------|----------------------|-------------------|------------------------|
| 1. ___ for /iy/.      | 5. <u>X</u> for /æ/. | 9. ___ for /U/.   | 13. ___ for /ay/.      |
| 2. ___ for /I/.       | 6. ___ for /a/.      | 10. ___ for /u/.  | 14. <u>X</u> for /aw/. |
| 3. <u>X</u> for /ey/. | 7. ___ for /ɔ/.      | 11. ___ for /ə/.  | 15. ___ for /ɔ/.       |
| 4. ___ for /ε/.       | 8. ___ for /ow/.     | 12. ___ for /ər/. | 16. ___ for /yuw/.     |

Other sub-categories included more divisions such as: misplaced stress, unnatural intonation, substitutions, failures, omissions, additions, and confusion, to name a few. (See: Accent Inventory.) Out of 30 specific linguistic features included in the checklist, the tabulation also included the amounts of repetition of all the different words with the same pronunciation of that special feature. The number of repetitions in the same category was identified and noted. For example:

**STRESS AND RHYTHM**

\_\_\_ Stress on wrong syllable of words of more than one syllable.

\_\_\_ Misplaced stress on nominal compounds.

\_\_\_ Misplaced stress on two-word verbs.

\_\_\_ Other improper sentence stress.

\_\_\_ Improper division of sentences into thought groups.

\_\_\_ Failure to blend well, to make smooth transitions between words or syllables.

These six voices were then divided into three distinct categories based on the total number of language variations scored, ranging from high (11+), middle (6-10), and low (1-5), which reflected the final scorings of the total amount of Spanish language markers or accents analyzed in the oral readings and recordings of the diagnostic paragraph.

#### **Analysis of recorded voices.**

As stated above, in order to prevent the listeners' bias or discriminatory answers, it was established that there would be recordings of both genders, male and female voices. Of the six voices, three males and three females were paired with similar numeric scorings in each of the three categories. These scores were tabulated individually by giving each participant a number indicating his/her pronunciation score based on the final amount of linguistic variations or accent perceived in the English paragraph read and recorded. The final paired counterparts had equal scores of 1/11, 9/12, and 16/50; the first number representing the categorized linguistic feature (which was 30 in total) and the second number indicating the repetition of this item in different words heard throughout the entire paragraph in the different 92 sub-categories. The scores were categorized in three divisions (high, medium, low) indicating the amount of verbal Spanish markers, or accent, spoken.

**Evaluation of Spanish Markers for Pairs of Voices.**

<b>HIGH</b>	<b>MEDIUM</b>	<b>LOW</b>
11+	6-10	1-5
Voices 4 & 6	Voices 1 & 3	Voices 2 & 5
16 Linguistic Features	9 Linguistic Features	1 Linguistic Category
50/54 Categories & Repetitions	12/13 Categories & Repetitions	11 Repetitions

The recordings were presented to each group of subjects in random order. The chosen order of the recorded voices were: 1 male/med., 2 female/low, 3, female/med., 4 male/high, 5 male/low, 6 female/high. Not only was the selection of scores varied, but also the gender of the voices heard.

No students, recorded (active) or non-recorded (passive), were personally identified throughout the entirety of the investigation. The only student identifications used in the investigation, for statistical purposes only, were written numbers from 1-6 for the recorded voices, 1-30 for the pilot study, and 1-100 for the final investigation volunteers.

Before any of the investigation began, the approval of participation was confirmed by the participants' signature on the authorization form. The signed documentation orientated the volunteers on the complete process of the investigation and their participation.

### **Questionnaires.**

In order to administer the surveys, a strict process of ethical procedures had to be accepted and approved by an institutional evaluation committee for the practice of human research called Comité Institucional para la Protección de los Seres Humanos en la Investigación (CIPSHI). The approval of this protocol took approximately a complete semester to accomplish. For this investigation, two questionnaires were researched, designed, distributed, and tabulated in order to ensure a complete and better understanding of the linguistic and personal background of the volunteer subjects.

#### **Personal questionnaire.**

The first questionnaire administered to all the subjects consisted of thirty-three inquiries divided into six explicit areas of interest: demographic information, education, residence, language skills, language variation, and personal language perception.

#### **Demographic information.**

The information necessary for the focus of this investigation in part one included vital background information such as place of birth and first language spoken, for both the subjects and their parents. In order to ensure a balanced outcome on gender percentages, the subjects were selected 50 males and 50 females in order for the final results to be equal. In addition to the general information required for statistical data such as age and gender, the second part of the questionnaire focused on the educational background.

#### **Personal information.**

Gender: M \_\_\_\_\_ F \_\_\_\_\_ Age: \_\_\_\_\_

Birth place: P.R. \_\_\_\_\_ U.S.A. \_\_\_\_\_ Other: \_\_\_\_\_

First language: Spanish \_\_\_\_\_ English \_\_\_\_\_ Other \_\_\_\_\_

Mother's birth place: P.R. \_\_\_\_\_ U.S.A. \_\_\_\_\_ Other: \_\_\_\_\_

Mother's first language: Spanish \_\_\_\_\_ English \_\_\_\_\_ Other \_\_\_\_\_

Father's birth place: P.R. \_\_\_\_\_ U.S.A. \_\_\_\_\_ Other: \_\_\_\_\_

Father's first language: Spanish \_\_\_\_\_ English \_\_\_\_\_ Other \_\_\_\_\_

### **Education.**

A basic area of inquiry for the students included year, concentration, and university degree solicited for graduation. The last item dealt with past background information directly related to high school. The students were asked to specify the type of high school attended, whether public or private in order to perceive if this variable had any noticeable differences in the outcome of the data.

Education:

Year of Study: \_\_\_\_ 1<sup>st</sup> \_\_\_\_ 2<sup>nd</sup> \_\_\_\_ 3<sup>rd</sup> \_\_\_\_ 4<sup>th</sup> \_\_\_\_ 5<sup>th</sup> \_\_\_\_ 6<sup>th</sup>

Concentration: \_\_\_\_ Humanities \_\_\_\_ Nursing \_\_\_\_ Marketing  
 \_\_\_\_ Psychology \_\_\_\_ Education \_\_\_\_ Sociology  
 \_\_\_\_ Communication \_\_\_\_ Microbiology \_\_\_\_ Chemistry

Degree: \_\_\_\_ Associate \_\_\_\_ Bachelors \_\_\_\_ Masters

High School: \_\_\_\_ Public \_\_\_\_ Private

### **Residence influences.**

The third part of the questionnaire included five questions referring to language and environmental upbringing. Information on where the subject lived and visited, and the duration of the time spent there was important to fulfill the requirement of the subjects' origin (native Puerto Ricans) and primary spoken language (Spanish). The

subjects chosen had only visited the U.S. for vacation purposes and had answered “Yes” to the question asking whether they had always lived in Puerto Rico.

Residence:

Have you always lived in Puerto Rico?  Yes  No

Have you ever lived/visited in the U.S.A.?  Yes  No

How long did you live/visit there?  months  1 year  2-3 years  
 4-7 years  8-10years  more

How old were you during this time?  1-5  6-10  10-15  older

Did you speak English during this time?  Yes  No

### **Language abilities.**

In the following section, four, categorized as language evaluation, the questionnaire surveyed the subjects’ attitudes to English and Spanish accents by asking specific questions and self-evaluation about their own particular linguistic abilities in speaking English and their own pronunciation. The subjects’ essential basic skills of speaking, listening, writing, and reading were evaluated on a scale ranging from excellent to deficient. The subjects were asked to self-evaluate their level of the two languages, English and Spanish, in each of the four skills as excellent, good, regular, deficient, or nothing.

Language Abilities:

Evaluate your language skills in the following areas:

<b>Spanish</b>	Excellent	Good	Regular	Deficient	Nothing
Speaking	_____	_____	_____	_____	_____
Listening	_____	_____	_____	_____	_____



Writing	_____	_____	_____	_____	_____
Reading	_____	_____	_____	_____	_____
<b>English</b>	Excellent	Good	Regular	Deficient	Nothing
Speaking	_____	_____	_____	_____	_____
Listening	_____	_____	_____	_____	_____
Writing	_____	_____	_____	_____	_____
Reading	_____	_____	_____	_____	_____

### **Language variation.**

In the next section (five) of the questionnaire, information about confidence, friends, and family were formulated as fill in the blank sentences. The subjects were to select and only mark one answer among two alternative language selections, referring to English or Spanish, to complete the sentence. The last of these fill in the blank sentences referred to the topic of interest: the accent. It was brought to the subjects' attention and self-awareness to evaluate their own oral speech and comment on their accent, if indeed they identified themselves as having or not having a spoken accent, and in which language.

#### Language Preference and Evaluation:

Choose one language for the following statements:	<b>Spanish</b>	<b>English</b>
I have more confidence speaking...	_____ Spanish	_____ English
In my house I usually speak ...	_____ Spanish	_____ English
With my friends I usually speak ...	_____ Spanish	_____ English
I have an accent when I speak...	_____ Spanish	_____ English

### **Final questions.**

The last part of the personal questionnaire dealt with personal attitude, of the utmost importance to this study, to discover any correlation that exists in relation to language and acceptance. The first yes/no question asked if they considered themselves bilingual while the second question asked about their English pronunciation being the same or different from standard American English. They were given the opportunity to further explain their answer with the follow up question: Why? Finally, the last question on the personal questionnaire was an information question to determine if a correlation exists in reference to the later questions dealing with attitudes about acceptance and oral language, referring specifically to Puerto Ricans speaking English with near native English accents.

Questions:

Do you consider yourself bilingual?      \_\_\_\_\_ Yes      \_\_\_\_\_ No

Is the English you speak different from standard American English?    \_\_\_ Yes    \_\_\_ No

Why?

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What happens when you hear Puerto Ricans speaking English with a native English accent?

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### **Research questionnaire.**

#### ***Evaluations 1-20: The individual speakers' reflected perception.***

The investigative research focuses on the attitudes or judgments of

native Puerto Ricans listening to others speaking English. The task included selecting descriptive adjectives that consisted of both negative and positive aspects. A total of 10 of each aspects were chosen to ensure a balance of both negative and positive aspects. It was clearly specified to the 130 volunteers that their purpose was to listen closely to the six individual voices recorded and circle from 1-5 their impression of the individual heard. Upon hearing the audio, the main focus of the subjects was on listening to how the voices were speaking, not based on what they were saying. In other words, the focus was on the speaker. The scoring design was limited from 1-5, consisting of the categories of: 1 *not at all* through 5 *very* for the benefit of the students and calculation of the statistical data. Both negative and positive adjectives were placed in strategic order eliminating the possibility of an established pattern. During the listening of the audio, the volunteers were given time to complete answering the questionnaire before continuing to the next recorded voice. This step was done during the complete process of the questionnaire, listening to the six voices, in order to ensure an adequate time for all to answer and not to feel rushed or pressured into answering.

Speaker Number \_\_\_\_gave the impression of being:

	<b>Not at All</b>				<b>Very</b>
1. Hardworking	1	2	3	4	5
2. Ambitious	1	2	3	4	5
3. Unreliable	1	2	3	4	5
4. Humorous	1	2	3	4	5
5. Authoritative	1	2	3	4	5
6. Irresponsible	1	2	3	4	5

7. Sad	1	2	3	4	5
8. Dominant	1	2	3	4	5
9. Unfriendly	1	2	3	4	5
10. Intelligent	1	2	3	4	5
11. Timid	1	2	3	4	5
12. Controlling	1	2	3	4	5
13. Cold	1	2	3	4	5
14. Humble	1	2	3	4	5
15. Proud	1	2	3	4	5
16. Egotistic	1	2	3	4	5
17. Affectionate	1	2	3	4	5
18. Generous	1	2	3	4	5
19. Charismatic	1	2	3	4	5
20. Envious	1	2	3	4	5

***Evaluations 21-30.***

The second part of the questionnaire had the same instructions and format, but the focus was placed on the voice heard, not the individual or person speaking. While listening to the same six recorded voices for a second time, the 130 volunteer students were to now focus on the voice. 10 other new adjectives, without repetition from the previous section, were again placed in random order (indicating negative and positive aspects), the listening volunteers had to decide and mark the alternative that best described the voice.

<b>The person's voice was:</b>	<b>Not at All</b>					<b>Very</b>
21. Unpleasant	1	2	3	4	5	
22. Attractive	1	2	3	4	5	
23. Powerful	1	2	3	4	5	
24. Weak	1	2	3	4	5	
25. Educated	1	2	3	4	5	
26. Firm	1	2	3	4	5	
27. Refined	1	2	3	4	5	
28. Monotone	1	2	3	4	5	
29. Ordinary	1	2	3	4	5	
30. Aggressive	1	2	3	4	5	

### **Questions.**

The final portion of the research questionnaire were the four most important yes/no questions asked to confirm the objectives of this investigation. The 130 volunteers were to choose their answers and then a follow up question was to be filled out: Why? The personal opinion of each volunteer was noted, analyzed, and categorized. The implications of these expressed views will be discussed in the following chapter.

### **Yes/No and follow up questions**

Do you consider this person's speech to be an American native speaker? \_\_\_ Yes \_\_\_ No  
Why?

---

Do you consider this speaker to be Puerto Rican? \_\_\_\_\_ Yes \_\_\_\_\_ No  
Why?

---

Is this voice similar to **your** English? \_\_\_\_\_ Yes \_\_\_\_\_ No

Why?

---

Would you **like** to speak English like this person? \_\_\_\_\_ Yes \_\_\_\_\_ No

Why?

---

An additional portion entitled Additional Comments was added to the questionnaire at the bottom of the page for any further comments or suggestions by the volunteers. All the 130 volunteers were at liberty to add any thoughts, insights, and/or ideas after the complete process of answering the questionnaire was finished and filled out completely.

### **Pilot Study**

#### **Procedures in which the participants were submitted.**

The pilot study consisted of 30 volunteer students from the University of Puerto Rico in Arecibo (UPRA), registered in advanced Conversational English classes, specifically (Ingl 3094 – Conversational English for Professionals). The students registered for this class are typically third or fourth year university students on the verge of graduation and must have had approved the pre-requisites before registering. The group selected was given and read the protocol explaining their participation in the investigation. All the volunteers were also administered the consent form which was also read, accepted, and signed. It was the students' prerogative to choose the preference of the language in which the forms were written: English and Spanish. As explained above, after the approval of the pilot study, the general investigation was carried out with 100

more participants of the same institution. (See Appendices H & I: English & Spanish Socialized Perception Survey.)

**Overall general view.**

In the initial procedure, a personal questionnaire was handed out to all volunteers and the participants filled out general information about personal history, residency, education, and specific linguistic background referring to the English and Spanish languages. (See Questionnaire: English and Spanish.) Next, the 30 volunteer students in the pilot study were told to listen to six voices/recordings, all of whom read the same paragraph aloud. These other volunteer voices were chosen on the basis of linguistic criteria and were categorized by levels of high, medium, or low language markings in their recordings, mentioned previously. The recording screening was initially with 10 extra university volunteer students from another Conversational English class, but was reduced to six after calculating the scores and pairing them off on the basis of final scores and gender. (See Diagnostic Passage and Evaluation Criteria.)

The 30 students participated by answering 30 questions, based on a scale of 1-5, for each of the six recorded voices. (See Impressions: English and Spanish.) The questions had 30 specific adjectives describing the six voices and the 30 volunteers answered using their judgment on how moderate or intense they judged the persons and voices projected with respect to the descriptive adjectives, on a scale of 1-5. In addition to the 30 1-5 answers, 4 yes/no questions were also included to get a general idea of the students' personal attitude toward the people and voices heard/recorded, and also incorporated at the end of the questionnaire was an opportunity to add any additional comments. After the final approval of the pilot study, the investigation continued by

expanding the students/volunteers to 100. Even though this project consisted of one experiment, there were two parts being analyzed: the 10 participants who were recording and the other 160 other participants who were listening and answering. As stated above, the purpose was to investigate the hypothesis: the native Puerto Ricans are motivated to speak English with a Puerto Rican Spanish accent to maintain their identity.

### **The Principle Study**

The 130 university students were informed to pay particular attention to the individual voices, because all six voices would read the same paragraph. The primary questionnaire listed 30 adjectives or characteristics of the recorded voices and the volunteers were asked to select on a range of 1-5 the characteristic that most matched or came closest the voice heard. After evaluating all 30 characteristics, the students were also asked 4 yes-no questions and their reasons why for voice 1, then the volunteers would continue answering the same questions on the next page with voice 2, 3, etc. until all six voices were heard and all six pages /questionnaires answered. All results were analyzed, tabulated, and verified with the original hypothesis as confirmed, false, or inconclusive.

### **The research questionnaire**

The research questionnaire dealing with the focus of the investigation, students' attitudes on language identity, was also written in both languages and was designed for the participant to answer by the multiple choice selections that expressed their point of view. (See: Questionnaire.) All personal information that would identify the volunteers was excluded. The chosen 130 participants were selected on the basis of their answers to have a sample representative of the Puerto Rican population.



This primary questionnaire was designed to be answered individually for each recorded voice; therefore, each student volunteer received six questionnaires numbered from 1-6. Upon listening to the first recorded paragraph, named Voice 1, the students would answer the complete questionnaire then proceed to the following questionnaire as they continued listening to the second voice recorded, Voice 2, read the same sections, answer, and so forth, until all six voices were listened to. The selected six recorded voices were heard by 130 student volunteers, who answered the same questionnaire six times; for each recorded voice heard.

The questionnaire consisted of a total of 30 selected characteristics/adjectives to be evaluated by the listeners by circling the numbers on a scale of 1-5, one representing the lowest score and five the highest. After listening to each recorded voice, the students had to give their impressions about that particular voice. A total of 15 negative and 15 positive characteristics were selected, again in order to have a balanced representation. The adjectives were placed in random order, as with the recorded voices in order to have no specific pattern. The pilot study was administered first, to anticipate and correct any problems, evaluate the methodology, and improve the questionnaires' instructions or analysis before the formal research.

### **Data Collection**

The complete analysis of the data will be fully discussed in the following chapter. All important statistics will be presented and explained in detail referring to individual results and objectives reached. Charts and statistics will be presented after analyzed and calculated results are compared.

### **Problems Encountered**

At the beginning of the research investigation, the most tedious or time consuming effort was in the documentation of paperwork that had to be approved. This included all the authorizations including ethical procedures and logistics of location, subjects, recording. This involved waiting for approval, and not being authorized to continue until accepted. Once the authorization was approved, then the investigation moved forward.

There were students who did not follow the instructions and were therefore annulled in terms of tabulations. For example in the Pilot Study there were 30 students and in the principle survey there were over 100 subjects as volunteers, but some questionnaires were left in blank or not answered properly, while others just answered one same alternative throughout the questionnaire. To ensure accurate data in the results, these questionnaires were not included as part of the final process. Therefore, the actual number of the Pilot Study subjects analyzed was 24 out of 30, and the actual number of volunteers that exceeded 100 was in fact stable, rounding it off to an even 100 with the annulled papers.

## Chapter 4: Results

### Introduction

In this chapter, I will present the complete findings of both the Pilot Study and Primary Investigation. Though the organizational format is divided into these two parts, the final data results presented in this chapter will include the same order in both the Pilot and Primary research results solicited in the investigation. I began with the discussion of the Socio-demographic questionnaire data and the Survey findings and observations confirming the results with evidence from the statistical charts and graphic explanations. It will also consist of the Final Survey Questions, based on the opening stated objectives, which were instrumental to the final conclusions. Though both the Pilot and Primary research are important, the major emphasis was placed on the later.

### Pilot Study Results

The total volunteers consisted of 24 university students from UPRA. Out of these 24 students, an unproportionable amount of 16 females to 8 males was very unbalanced and noticeable on a scale of 2:1, referring to the double quantity of females (2) over the males (1). This factor was taken into account for the Primary Research by having an equal number of both genders. In all the graphs, charts, and statistics, the symbol (n= ) refers to the number of students taken into account whether the total amount of subjects or divided into specific categories such as gender; for example: *Female* (n=16) *Male* (n=8) *Total* (n=24).

### **Socio-Demographic Questionnaire**

The personal information resulted that the ages of the volunteers averaged between 20-21 years old. Though all 24 subjects were all Puerto Ricans, two were actually born in the US, but did not live there, therefore were still included in this survey. The chart also indicates the minor percentage of volunteers (2) who wrote English as their first language. It was also indicated that four volunteers choose *residence in the US*, but it was during a short lapse of time or an on off situation, that would not affect the outcome of this research. Also, the parents place of birth and language spoken were similar to the volunteers. In total, even though 4 parents were born in the US, only one father spoke English as a first language. The majority of the subjects (17) were coursing their 2 or 4<sup>th</sup> year of university, majoring in Psychology (14), but all (24) BA degrees. The profile also discovered that the majority were from public instruction (17) while 7 studied in private institutions. (See Table 1)

**Table 1. Central Tendency Measures for Sample Socio-demographic Variables for the Pilot (n=24)**

Variable	Pilot Study		
	Female (n=16)	Male (n=8)	Total (n=24)
	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>
<b>Age</b>	20.44(1.09)	21.38(2.93)	20.75(1.89)
	<i>f(%)</i>	<i>f(%)</i>	<i>f(%)</i>
<b>Birth Place</b>			
Puerto Rico	15(93.8)	8(100.0)	23(95.8)
United States	1(6.3)	-	1(4.2)
Other	-	-	-
<b>First Language</b>			
Spanish	15(93.8)	7(87.5)	22(91.7)
English	1(6.3)	1(12.5)	2(8.3)
Both			
<b>Mother's Birth Place</b>			
Puerto Rico	14(87.5)	7(87.5)	21(87.5)
United States	2(12.5)	1(12.5)	3(12.5)
Other	-	-	-
<b>Mother's First Language</b>			
Spanish	15(100.0)	8(100.0)	24(100.0)
English	-	-	-
Both	-	-	-
<b>Father's Birth Place</b>			
Puerto Rico	15(93.8)	8(100.0)	23(95.8)
United States	1(6.3)	-	1(4.2)

Variable	Pilot Study		
	Female (n=16)	Male (n=8)	Total (n=24)
Other	-	-	-
<b>Father's First Language</b>			
Spanish	15(93.8)	8(100.0)	23(95.8)
English	1(6.3)	-	1(4.2)
Both	-	-	-
<b>Years in University</b>			
1 <sup>st</sup>	-	-	-
2 <sup>nd</sup>	9(56.3)	4(50.0)	
3 <sup>rd</sup>	2(12.5)	1(12.5)	
4 <sup>th</sup>	3(18.8)	1(12.5)	
5 <sup>th</sup>	2(12.5)	1(12.5)	
6 <sup>th</sup>	-	1(12.5)	
<b>Academic Concentration</b>			
Accounting	-	-	-
Communications	-	-	-
Education	1(6.3)	-	1(4.2)
Marketing	-	-	-
Microbiology	-	-	-
Nursing	2(12.5)	-	2(8.3)
Psychology	13(81.3)	8(100.0)	21(87.5)
Sociology	-	-	-
<b>Degree Program</b>			
Associate	-	-	-
Bachelor's	16(100.0)	8(100.0)	24(100.0)
<b>Type of High School</b>			
Public	12(75.0)	5(62.5)	17(70.8)

Variable	Pilot Study		
	Female (n=16)	Male (n=8)	Total (n=24)
Private	4(25.0)	3(37.5)	7(29.2)
<b>Residence in PR</b>			
No	1(6.3)	2(25.0)	3(12.5)
Yes	15(93.8)	6(75.0)	21(87.5)
<b>Residence in USA</b>			
Yes	4(25.0)	1(12.5)	5(20.8)
No	12(75.0)	7(87.5)	19(79.2)

### Survey Findings and Observations

Out of the six voices, recorded and evaluated into negative or positive characteristics, the final results indicated that the two voices with less Spanish linguistic markers (accents) were chosen as more positive and favorable over those voices which had more of a Spanish linguistic marker. The two voices with the highest scores all-around were 2 and 5, both categorized as the two voices with the least Spanish linguistic marker. (See Table 2 for statistics.)

**Table 2. Frequencies of Voices' Low and High Scores (n=24)**

Voice	Low Scores <i>f</i> (%)	High Scores <i>f</i> (%)
Voice 1: Male	23(95.8)	1(4.2)
Voice 2: Female	22(91.7)	2(8.3)
Voice 3: Female	24(100.0)	-
Voice 4: Male	24(100.0)	-
Voice 5: Male	22(91.7)	2(8.3)
Voice 6: Female	24(100.0)	-

Note. *f* = Frequency

The questionnaire format was designed to be answered simply by choosing only one number ranging from 1-5. On this scale from 1-5, it was stipulated in the instructions that the numbers ranged from the least aspects measured (characteristic) to the most aspects measured (characteristic), i.e. number one being the least (hardworking, unfriendly, etc.) and the number five being the most (hardworking, unfriendly, etc.). To measure the answers in a more effective way we divided the voices scores from 1-5 into two categories: Low and High. To do this, we considered the numbers 1 and 2 (answers on questionnaire) to be Low Scores and scores 3, 4, and 5 were considered to be High Scores. The voices with higher scores were Voice 2: Female and Voice 5: Male. The voices with lower scores were Voice 3: Female, Voice 4: Male, and Voice 6: Female. (See Questionnaire)



## Questionnaire

### Impressions

In this study, I am interested in your impression of the following six speakers. Each speaker will say the exact same thing. Listen to each speaker and pay close attention as to how they speak, not what they are saying. Circle the number from 1 (Not at all) to 5 (Very) that is the closest to your first impression of each speaker.

Speaker Number \_\_\_\_gave the impression of being:

	Not at All Nothing	A Little Hardly	Regular Moderately	A Lot Mostly	Very Totally
1. Hardworking	1	2	3	4	5
2. Ambitious	1	2	3	4	5
3. Unreliable	1	2	3	4	5
4. Humorous	1	2	3	4	5
5. Authoritative	1	2	3	4	5
6. Irresponsible	1	2	3	4	5
7. Sad	1	2	3	4	5
8. Dominant	1	2	3	4	5
9. Unfriendly	1	2	3	4	5
10. Intelligent	1	2	3	4	5
11. Timid	1	2	3	4	5
12. Controlling	1	2	3	4	5
13. Cold	1	2	3	4	5
14. Humble	1	2	3	4	5
15. Proud	1	2	3	4	5

16. Egotistic	1	2	3	4	5
17. Affectionate	1	2	3	4	5
18. Generous	1	2	3	4	5
19. Charismatic	1	2	3	4	5
20. Envious	1	2	3	4	5

The person's voice was:	Not at All	A Little	Regular	A Lot	Very
21. Unpleasant	1	2	3	4	5
22. Attractive	1	2	3	4	5
23. Powerful	1	2	3	4	5
24. Weak	1	2	3	4	5
25. Educated	1	2	3	4	5
26. Firm	1	2	3	4	5
27. Refined	1	2	3	4	5
28. Monotone	1	2	3	4	5
29. Ordinary	1	2	3	4	5
30. Aggressive	1	2	3	4	5

The following information will demonstrate all the six voice and their individual scoring aspects in all thirty categories. To distinguish between the negative and positive aspects the negative adjectives were marked with an (R). Also the data numbers (1-2-3-4-5) had to be inverted for the statistics (5-4-3-2-1).

## Comparison of Voices Low and High Scores for All the Aspects Measured

### Comparison of the Means of Voice One: Low and High Scores.

A t-Student test was performed to compare the means between the low scores and high scores of the Voice One for all the aspects measured in the study. We found that only one person gave high scores to this voice while the other 23 students marked this voice as low. For this reason, the t-Student test cannot be interpreted because only one person composed that specific group. (See Table 3)

**Table 3. Low and High Scores of Voice One in All the Aspects Measured**

Variable	Low Scores (n=23)	High Scores (n=1)
	<i>M(SD)</i>	<i>M(SD)</i>
Hardworking	16.91(4.295)	23.00(-)
Ambitious	13.96(4.497)	20.00(-)
Unreliable (R)	11.35(3.511)	20.00(-)
Humorous	11.87(4.137)	15.00(-)
Authoritative	12.74(2.562)	15.00(-)
Irresponsible (R)	10.96(3.226)	16.00(-)
Sad (R)	9.65(2.690)	17.00(-)
Dominant (R)	14.04(2.852)	18.00(-)
Unfriendly (R)	11.74(4.673)	15.00(-)
Intelligent	18.57(3.287)	20.00(-)
Timid (R)	14.26(3.852)	12.00(-)
Controlling (R)	12.48(4.531)	13.00(-)
Cold (R)	12.57(4.419)	16.00(-)
Humble	16.91(4.089)	27.00(-)
Proud	13.71(4.228)	20.00(-)
Egoistic (R)	9.04(3.052)	12.00(-)

Variable	Low Scores (n=23)	High Scores (n=1)
	M(SD)	M(SD)
Affectionate	12.57(3.501)	18.00(-)
Generous	14.22(5.018)	19.00(-)
Charismatic	13.91(4.641)	19.00(-)
Envious (R)	8.78(3.233)	11.00(-)
Unpleasant (R)	12.65(4.238)	22.00(-)
Attractive	12.00(3.119)	16.00(-)
Powerful	13.48(3.273)	17.00(-)
Weak (R)	14.52(3.703)	19.00(-)
Educated	18.09(2.968)	21.00(-)
Firm	15.00(2.335)	16.00(-)
Refined	12.78(1.999)	15.00(-)
Monotone (R)	15.35(3.099)	22.00(-)
Ordinary (R)	14.39(4.098)	18.00(-)
Aggressive(R)	9.65(3.270)	16.00(-)

*Note.* a= no standard deviation was produced because only one person composes the group of low scores.

R= Aspects were recoded because it measured a negative aspect.

**Comparison of the Means of Voice Two: Low and High Scores.** A t-Student test was made to compare the means between the low scores and high scores of the Voice Two for all the aspects measured in the study. We found that there were statistically significant differences between the low and high scores of Voice Two for the following aspects (t-Student negative results mean that high scores presented higher means): Ambitious [ $t(22)=-2.416, p=.024$ ], Proud [ $t(22)=-2.949, p=.007$ ], Generous [ $t(22)=-2.272, p=.033$ ], Attractive [ $t(22)=-2.187, p=.040$ ], and Powerful [ $t(22)=-2.741, p=.012$ ]. Table 4 shows the means and standard deviations of Voice Two, low and high scores in all the aspects.

**Table 4. Low and High Scores of Voice Two for all the Aspects Measured**

Variable	Low Scores (n=22)	High Scores (n=2)
	<i>M(SD)</i>	<i>M(SD)</i>
Hardworking	16.82(4.239)	21.00(5.657)
Ambitious	13.59(3.960)	21.00(7.071)*
Unreliable (R)	11.68(3.847)	12.00(5.657)
Humorous	11.91(4.264)	13.00(1.414)
Authoritative	12.77(2.617)	13.50(2.121)
Irresponsible (R)	11.18(3.111)	11.00(7.071)
Sad (R)	9.77(2.689)	12.00(7.071)
Dominant (R)	14.05(2.968)	16.00(1.414)
Unfriendly (R)	11.77(4.659)	13.00(5.657)
Intelligent	18.32(2.607)	22.00(8.485)
Timid (R)	14.41(3.487)	11.50(7.778)
Controlling (R)	12.45(4.372)	13.00(7.071)
Cold (R)	12.68(4.314)	13.00(7.071)
Humble	17.05(4.467)	20.50(4.950)
Proud	12.77(3.664)	21.00(5.657)**
Egoistic (R)	8.95(2.768)	11.50(6.364)
Affectionate	12.45(3.488)	16.50(3.536)
Generous	13.77(4.587)	21.50(4.950)*
Charismatic	13.82(4.727)	17.50(2.121)
Envious (R)	8.50(2.807)	13.00(5.657)
Unpleasant (R)	12.91(4.730)	14.50(2.121)
Attractive	11.77(2.894)	16.50(3.536)*
Powerful	13.14(2.965)	19.00(.000)*
Weak (R)	14.77(3.702)	14.00(5.657)
Educated	18.14(2.949)	19.00(4.243)

Variable	Low Scores (n=22)	High Scores (n=2)
	<i>M(SD)</i>	<i>M(SD)</i>
Firm	15.05(2.380)	15.00(1.414)
Refined	12.82(1.943)	13.50(3.536)
Monotone (R)	15.55(3.460)	16.50(.707)
Ordinary (R)	14.27(4.154)	17.50(.707)
Aggressive(R)	9.73(3.326)	12.00(5.657)

*Note.* R= Aspects were recoded because it measured a negative aspect.

One asterisk means that mean differences were statically significant at alpha .05.

Two asterisks mean that mean differences were statically significant at alpha .01.

**Comparison of the Means of Voice Three: Low and High Scores.** We did not perform a *t*-Student test because the whole sample (24 participants) gave low scores to Voice Three. In Table 5 we present the means and standard deviations for the low scores for Voice Three.

**Table 5. Low and High Scores of Voice Three for all the Aspects Measured**

Variable	Low Scores (n=24)	High Scores (n=0)
	<i>M(SD)</i>	<i>M(SD)</i>
Hardworking	17.17(4.38)	-
Ambitious	14.21(4.568)	-
Unreliable (R)	11.71(3.862)	-
Humorous	12.00(4.097)	-
Authoritative	12.83(2.5480)	-
Irresponsible (R)	11.17(3.319)	-
Sad (R)	9.96(3.029)	-
Dominant (R)	14.21(2.904)	-
Unfriendly (R)	11.88(4.619)	-
Intelligent	18.63(3.228)	-

Variable	Low Scores (n=24)	High Scores (n=0)
	<i>M(SD)</i>	<i>M(SD)</i>
Timid (R)	14.17(3.795)	-
Controlling (R)	12.50(4.433)	-
Cold (R)	12.71(4.379)	-
Humble	17.33(4.498)	-
Proud	13.46(4.364)	-
Egoistic (R)	9.17(3.046)	-
Affectionate	12.79(3.599)	-
Generous	14.42(5.004)	-
Charismatic	14.13(4.656)	-
Envious (R)	8.88(3.194)	-
Unpleasant (R)	13.04(4.563)	-
Attractive	12.17(3.158)	-
Powerful	13.63(3.281)	-
Weak (R)	14.71(3.736)	-
Educated	18.21(2.963)	-
Firm	15.04(2.293)	-
Refined	12.88(2.007)	-
Monotone (R)	15.63(3.321)	-
Ordinary (R)	14.54(4.075)	-
Aggressive(R)	9.92(3.450)	-

*Note.* R= Aspects were recoded because it measured a negative aspect.

### Comparison of the Means of Voice Four: Low and High Scores.

We could not perform a *t*-Student test because the whole sample (24 participants) gave low scores to Voice Four. Table 6 shows the means and standard deviations of Voice Four, low and high scores for all the aspects.

**Table 6. Low and High Scores of Voice Four for all the Aspects Measured**

Variable	Low Scores (n=24)	High Scores (n=0)
	<i>M(SD)</i>	<i>M(SD)</i>
Hardworking	17.17(4.380)	-
Ambitious	14.21(4.568)	-
Unreliable (R)	11.71(3.862)	-
Humorous	12.00(4.097)	-
Authoritative	12.83(2.548)	-
Irresponsible (R)	11.17(3.319)	-
Sad (R)	9.96(3.029)	-
Dominant (R)	14.21(2.904)	-
Unfriendly (R)	11.88(4.619)	-
Intelligent	18.63(3.228)	-
Timid (R)	14.17(3.795)	-
Controlling (R)	12.50(4.433)	-
Cold (R)	12.71(4.379)	-
Humble	17.33(4.498)	-
Proud	13.46(4.364)	-
Egoistic (R)	9.17(3.046)	-
Affectionate	12.79(3.599)	-
Generous	14.42(5.004)	-
Charismatic	14.13(4.656)	-
Envious (R)	8.88(3.194)	-



Variable	Low Scores (n=24)	High Scores (n=0)
	<i>M(SD)</i>	<i>M(SD)</i>
Unpleasant (R)	13.04(4.563)	-
Attractive	12.17(3.158)	-
Powerful	13.63(3.281)	-
Weak (R)	14.71(3.736)	-
Educated	18.21(2.963)	-
Firm	15.04(2.293)	-
Refined	12.88(2.007)	-
Monotone (R)	15.63(3.321)	-
Ordinary (R)	14.54(4.075)	-
Aggressive(R)	9.92(3.450)	-

*Note.* R= Aspects were recoded because they measured a negative aspect.

### Comparison of the Means of Voice Five: Low and High Scores.

A t-Student test was made to compare the means between the low scores and high scores of Voice Five for all the aspects measured in the study. No statistically significant differences were found between the low and high scores of Voice Five. Table 7 shows the means and standard deviations of Voice Five, low and high scores for all the aspects.

**Table 7. Low and High Scores of Voice Five for all the Aspects Measured**

Variable	Low Scores (n=23)	High Scores (n=2)
	<i>M(SD)</i>	<i>M(SD)</i>
Hardworking	17.18(4.415)	17.00(5.657)
Ambitious	13.95(4.685)	17.00(1.414)
Unreliable (R)	11.50(3.864)	14.00(4.243)
Humorous	11.59(3.887)	16.50(4.950)
Authoritative	12.77(2.617)	13.50(2.121)

Variable	Low Scores (n=23)	High Scores (n=2)
	<i>M(SD)</i>	<i>M(SD)</i>
Irresponsible (R)	10.77(3.146)	15.50(2.121)
Sad (R)	9.95(3.154)	10.00(1.414)
Dominant (R)	14.09(3.006)	15.50(.707)
Unfriendly (R)	11.73(4.682)	13.50(4.950)
Intelligent	18.68(3.138)	18.00(5.657)
Timid (R)	13.82(3.568)	18.00(5.657)
Controlling (R)	12.23(4.535)	15.50(.707)
Cold (R)	12.45(4.469)	15.50(2.121)
Humble	17.27(4.662)	18.00(2.828)
Proud	13.32(4.540)	15.00(.000)
Egoistic (R)	8.86(2.660)	12.50(6.364)
Affectionate	12.82(3.686)	12.50(3.536)
Generous	14.45(5.087)	14.00(5.657)
Charismatic	13.86(4.411)	17.00(8.485)
Envious (R)	8.77(3.191)	10.00(4.243)
Unpleasant (R)	13.14(4.389)	12.00(8.485)
Attractive	12.09(3.054)	13.00(5.657)
Powerful	13.59(3.376)	14.00(2.828)
Weak (R)	14.82(3.737)	13.50(4.950)
Educated	17.91(2.562)	21.50(6.364)
Firm	14.95(2.380)	16.00(.000)
Refined	12.77(2.045)	14.00(1.414)
Monotone (R)	15.59(3.347)	16.00(4.243)
Ordinary (R)	14.77(4.174)	12.00(1.414)
Aggressive(R)	9.77(3.146)	11.50(7.778)

*Note.* R= Aspects were recoded because they measured a negative aspect.

### Comparison of the Means of Voice Six: Low and High Scores.

We could not perform a *t*-Student test because the whole sample (24 participants) gave low scores to Voice 6. Table 8 shows the means and standard deviations of Voice Six, low and high scores for all the aspects.

**Table 8. Low and High Scores of Voice Six for all the Aspects Measured**

Variable	Low Scores (n=24)	High Scores (n=0)
	M(SD)	M(SD)
Hardworking	17.17(4.380)	-
Ambitious	14.21(4.568)	-
Unreliable (R)	11.71(3.862)	-
Humorous	12.00(4.097)	-
Authoritative	12.83(2.548)	-
Irresponsible (R)	11.17(3.319)	-
Sad (R)	9.96(3.029)	-
Dominant (R)	14.21(2.904)	-
Unfriendly (R)	11.88(4.619)	-
Intelligent	18.63(3.228)	-
Timid (R)	14.17(3.795)	-
Controlling (R)	12.50(4.433)	-
Cold (R)	12.71(4.379)	-
Humble	17.33(4.498)	-
Proud	13.46(4.364)	-
Egoistic (R)	9.17(3.046)	-
Affectionate	12.79(3.599)	-
Generous	14.42(5.004)	-
Charismatic	14.13(4.656)	-
Envious (R)	8.88(3.194)	-

Variable	Low Scores (n=24)	High Scores (n=0)
	M(SD)	M(SD)
Unpleasant (R)	13.04(4.563)	-
Attractive	12.17(3.158)	-
Powerful	13.63(3.281)	-
Weak (R)	14.71(3.736)	-
Educated	18.21(2.963)	-
Firm	15.04(2.293)	-
Refined	12.88(2.007)	-
Monotone (R)	15.63(3.321)	-
Ordinary (R)	14.54(4.075)	-
Aggressive(R)	9.92(3.450)	-

*Note.* R= Aspects were recoded because they measured a negative aspect.

### Regression Analysis for Positive Aspects

A regression analysis with stepwise method was performed to see which voices predicted positive aspects, i.e. depicted positive aspects better. In other words, the regression analysis would measure which voices the participants indicated that had more positive aspects. The results of the regression analysis indicate that only one voice (Voice Two) predicted positive aspects. The predictor explains 16.4% of the variance and the model is statistically significant [ $R^2 = .164$ ,  $F(1,23) = 4.315$ ,  $p = .050$ ].

### Regression Analysis for Negative Aspects

A regression analysis with stepwise method was performed to see which voices predicted negative aspects, i.e. depicted negative aspects better. The results indicate that one voice (Voice One) predicted negative aspects (the participants indicated more

negative aspects). The predictor explains 19.2% of the variance ( $R^2 = .192$ ,  $F(1,23) = 5.224$ ,  $p < .01$ ).

### Mean Comparison between the Voices and Positive and Negative Aspects

Main statistically significant differences were found in the negative aspect where the high scores classification received significantly higher mean scores. This means that Voice Two depicted higher scores in positive aspects than in the negative ones. (See Table 9)

**Table 9. Mean Comparison between the Voices and Positive and Negative Aspects**

Voice	Aspect	
	Positive	Negative
Voice 1	-	-
Voice 2	$t(22) = -2.077$ , $p = .050^*$	$t(22) = -.783$ , $p = .442$
Voice 3	-	-
Voice 4	-	-
Voice 5	$t(22) = -.674$ , $p = .508$	$t(22) = -1.008$ , $p = .325$
Voice 6	-	-

*Note.* One asterisk (\*) indicates statistically significant differences at .05 alpha.

The footnote indicates that for the results that have only one asterisk (\*), this means that this result has 95% of certainty and only a 5% of possibility of error; referring to .05 alpha.

### Regression Analysis Using Voices Scores to Predict Positive Aspects Scores

A regression analysis using stepwise method was performed to predict the scores of the positive aspects of the voices scores. The results indicate that two voices explain 69.6% of the variance ( $R^2 = .696$ ,  $F(2,23) = 24.087$ ,  $p < .01$ ). It was found that Voice Five ( $\beta =$

.526,  $t= 5.693$ ,  $p< .01$ ) predicts higher scores in the positive aspects just as Voice Two ( $\beta= .401$ ,  $t= 3.463$ ,  $p= .002$ ) also do. This means high scores in positive aspects are predicted by Voice Two and Voice Five; indicating that the sample saw these voices as having more positive aspects. This does not mean that the sample indicated these voices speak the English language better.

### **Regression Analysis Using Voices Scores to Predict Negative Aspects Scores**

A regression analysis with stepwise method was performed to see which voices predicted negative aspects. The results indicate that two voices explain 59.6% of the variance ( $R^2= .569$ ,  $F(2,23)= 15.491$ ,  $p<.01$ ). It was found that Voice Three ( $\beta= .510$ ,  $t= 3.140$ ,  $p= .005$ ) predicts higher scores in the negative aspects just as voice 6 ( $\beta= .373$ ,  $t= 2.299$ ,  $p= .032$ ) also does. This could mean that the participants saw these voices as having more negative aspects and gave higher score to these voices in negative aspects. Also, this result does not mean that the sample indicated that these voices do not speak the English Language well enough.

### **Classification of the Aspects Scores by Gender for the Pilot Study**

#### **Mean scores and standard deviations of the voices by gender for the pilot study.**

Below are the mean scores and the standard deviations for the Pilot Study for each voice classified by gender. Analyses of  $t$ -Student test were performed to see if there were statistically significant differences between the males and the females for each voice. No significant differences were found.

## Frequency of Low and High Scores by Voice Classified by Gender for the Pilot Study

### Voice one.

We observed that females endorsed more low scores than males. All the females that participated (n=16), indicated low scores for Voice One (100%) in difference to the male participants (n=7), which indicated an 87.5% endorsement of low scores for Voice One. (See Table 10)

**Table 10. Distribution of Low and High Scores in the Pilot Study for Voice One Classified by Gender**

	Voice One: Male		Total
	Low Scores	High Scores	
Gender	<i>f (%)</i>	<i>f (%)</i>	<i>f (%)</i>
Female	16(100.0)	0(0.0)	16(100.0)
Male	7(87.5)	1(12.5)	8(100.0)
Total	23(95.8)	1(4.2)	24(100.0)

### Voice two.

The scores for Voice Two were mostly concentrated in the low scores present for females (93.8%= 15 participants) in comparison to the males (87.5% = 7 participants). It is important to note how the total percentages fluctuate with only two participants (8.3%), while on an individual basis the female represents a 6.2% and the male a 12.5% due to the unbalanced gender participants. This is also the main reason that Voice Two had the second highest score when combined and divided by low and high scores, in comparison to Voice Five. (See Table 11)

**Table 11. Distribution of Low and High Scores in the Pilot Study for Voice Two Classified by Gender**

	Voice Two: Female		Total
	Low Scores	High Scores	
Gender	<i>f (%)</i>	<i>f (%)</i>	<i>f (%)</i>
Female	15(93.8)	1(6.2)	16(100.0)
Male	7(87.5)	1(12.5)	8(100.0)
Total	22(91.7)	2(8.3)	24(100.0)

**Voice three.**

For Voice Three, results and scores were equally distributed for females and males. All the participants endorsed scores for this voice that place her in low scores. No high score was reported. (See Table 12)

**Table 12. Distribution of Low and High Scores in the Pilot Study for Voice Three Classified by Gender**

	Voice Three: Female		Total
	Low Scores	High Scores	
Gender	<i>f (%)</i>	<i>f (%)</i>	<i>f (%)</i>
Female	16(100.0)	-	16(100.0)
Male	8(100.0)	-	8(100.0)
Total	24(100.0)	-	24(100.0)



### Voice four.

For Voice Four, the results indicated that all the participants placed this voice among the lower scores also, similar to the results of the female Voice Three. No high scores were indicated by any participant. (See Table 13)

**Table 13. Distribution of Low and High Scores in the Pilot Study for Voice Four Classified by Gender**

Gender	Voice Four: Male		Total
	Low Scores	High Scores	
	<i>f</i> (%)	<i>f</i> (%)	
Female	16(100.0)	-	16(100.0)
Male	8(100.0)	-	8(100.0)
Total	24(100.0)	-	24(100.0)

### Voice five.

Contrary to the score distribution for the other voices, Voice Five presented high scores with 8.3% (2 participants). This voice represented the highest scores given among the subjects, in comparison to all of the other voices. (See Table 14)

**Table 14. Distribution of Low and High Scores in the Pilot Study for Voice Five Classified by Gender**

Gender	Voice 5: Male		Total
	Low Scores	High Scores	
	Female	14(87.5)	
Male	8(100.0)	0(0.0)	8(100.0)
Total	22(91.7)	2(8.3)	24(100.0)

### **Voice six.**

For Voice Six, the results again also indicated that the majority of the participants specified low scores all-around. Just as the other voices with low scores, no participant indicated any high scores. (See Table 15)

**Table 15. Distribution of Low and High Scores in the Pilot Study for Voice Six Classified by Gender**

<b>Gender</b>	<b>Voice Six: Female</b>		<b>Total</b>
	<b>Low Scores</b>	<b>High Scores</b>	
	<b>f (%)</b>	<b>f (%)</b>	
Female	16(100.0)	-	16(100.0)
Male	8(100.0)	-	8(100.0)
Total	24(100.0)	-	24(100.0)

### **Statistical Analysis of Socio-Demographic Variables and Aspects: Mean Scores and Voices Scores**

#### **Means, means differences, and socio-demographic characteristics.**

We analyzed the means for each negative and positive characteristic aspects that was studied and we compared the mean differences between the socio-demographic characteristics such as gender, age, etc. of the participants. Below are the results and explanation.

#### **Means and standard deviations by gender for the aspects studied.**

The comparison of the scores for each aspect was performed to see if they differ depending on the gender of the participant. When analyzing the mean differences for each aspect we found that there were statistically significant differences between males

and females with respect to the aspects of Sad [ $t(22) = -3.308, p = .003$ ], Dominant [ $t(22) = -2.335, p = .029$ ], and Powerful [ $t(22) = -2.483, p = .021$ ]. (See Table 16)

**Table 16. Means and Standard Deviations for Aspects Studied in the Pilot Study (n = 30)**

Variable	Female	Male	Total
	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>
Hardworking	16.63(4.03)	18.25(5.12)	17.17(4.380)
Ambitious	13.25(4.71)	16.13(3.83)	14.21(4.568)
Unreliable	11.25(3.34)	12.63(4.87)	11.71(3.862)
Humorous	11.69(4.27)	12.63(3.93)	12.00(4.097)
Authoritative	12.69(2.68)	13.13(2.42)	12.83(2.548)
Irresponsible	10.44(3.27)	12.63(3.11)	11.17(3.319)
Sad	8.75(1.88)	12.38(3.54)**	9.96(3.029)
Dominant	13.31(2.70)	16.00(2.56)*	14.21(2.904)
Unfriendly	12.38(5.03)	10.88(3.76)	11.87(4.619)
Intelligent	19.19(3.43)	17.50(2.62)	18.63(3.228)
Timid	14.00(3.90)	14.50(3.82)	14.17(3.795)
Controlling	12.31(4.63)	12.88(4.29)	12.50(4.433)
Cold	12.94(4.75)	12.25(3.77)	12.71(4.379)
Humble	17.00(4.23)	18.00(5.24)	17.33(4.498)
Proud	12.88(4.03)	14.63(5.04)	13.46(4.364)
Egoistic	8.56(3.14)	10.38(2.62)	9.17(3.046)
Affectionate	12.38(3.83)	13.63(3.16)	12.79(3.599)
Generous	14.44(5.54)	14.38(4.07)	14.42(5.004)
Charismatic	13.94(5.22)	14.50(3.55)	14.13(4.656)
Envious	8.75(3.13)	9.13(3.52)	8.88(3.194)
Unpleasant	12.38(4.79)	14.38(4.03)	13.04(4.563)

<b>Variable</b>	<b>Female</b>	<b>Male</b>	<b>Total</b>
	<b>M(SD)</b>	<b>M(SD)</b>	<b>M(SD)</b>
Attractive	11.69(3.22)	13.13(2.99)	12.17(3.158)
Powerful	12.56(2.85)	15.75(3.20)*	13.63(3.281)
Weak	14.31(3.61)	15.50(4.11)	14.71(3.736)
Educated	18.25(3.02)	18.13(3.04)	18.21(2.963)
Firm	14.88(1.86)	15.38(3.11)	19.36(4.162)
Refined	12.94(2.02)	12.75(2.12)	21.16(4.453)
Monotone	15.38(3.10)	16.13(3.91)	26.70(3.277)
Ordinary	14.44(4.35)	14.75(3.73)	13.46(3.362)
Aggressive	9.25(3.04)	11.25(4.03)	25.11(3.351)

*Note.* *M*= Mean (average) of the Aspect evaluated. *SD*= Standard Deviation of the Aspect evaluated.  
 One\*=Statistically significant correlations found at .05 alpha level ( $p<.05$ ).  
 Two\*\*= Statistically significant correlations found at .01 alpha level ( $p<.01$ ).

The footnote means that: For the results that have only one asterisk (\*) .05 alpha, this means that this result has 95% of certainty and only a 5% possibility of error. For the results with two asterisks (\*\*) .01 alpha, this means that the possibility of error is only 1%, when correlations or statistical results have an alpha equal or lower than .01 it means that the certainty of the results is 99%.

### Comparison of Positive and Negative Aspects Scores between Participants' Gender in the Pilot Study

When analyzing the results of the mean comparison of the aspects between the genders of the participants in the Pilot Study, we observed that, as in the Final Study, the male participants presented higher scores in the positive aspects and negative aspects when compared to the females. To analyze if those score differences were significant for the positive and negative aspects considered, we performed a *t*-Student test. No statistically significant differences were found between the females and males for the positive aspects; not for the negative aspects. For more information refer to Table 17.

**Table 17. Comparison between Positive and Negative Aspects and the Gender of the Participants in the Pilot Study**

Aspect	Female (n= 16) M(SD)	Male (n=8) M(SD)	Total (n=24) M(SD)
<b>Positive:</b> Hardworking, Ambitious, Humorous, Authoritative, Intelligent, Humble, Proud, Affectionate, Generous, Charismatic, Attractive, Powerful, Educated, Firm, and Refined	214.38(40.07)	227.88(38.56)	218.88(39.27)
<b>Negative:</b> Unreliable, Timid, Irresponsible, Sad, Dominant, Unfriendly, Aggressive, Controlling, Cold, Egoistic, Envious, Unpleasant, Weak, Monotone and Ordinary	178.44(27.79)	195.63(34.45)	184.17(30.55)

### Classification of the Aspects Scores by Gender for the Pilot Study

#### Mean scores and standard deviations of the voices by gender for the final research study.

Below are the mean scores and the standard deviations for the Pilot Study for each voice classified by gender. Analyses of *t*-Student test were performed to see if there were statistically significant differences between the males and the females for each voice. No significant differences were found. (See Table 18)

**Table 18. Mean Scores and Standard Deviations for the Final Study of the Voices Classified by Gender of the Sample**

<b>Variable</b>	<b>Female <i>M(SD)</i></b>	<b>Male <i>M(SD)</i></b>	<b>Total <i>M(SD)</i></b>
Voice 1	62.69(10.78)	70.87(15.44)	65.42(12.80)
Voice 2	74.00(11.36)	76.88(10.54)	74.96(10.95)
Voice 3	58.38(10.03)	67.00(12.07)	61.25(11.28)
Voice 4	56.69(8.16)	64.87(11.91)	59.42(10.11)
Voice 5	74.31(11.78)	73.13(9.31)	73.92(10.83)
Voice 6	61.81(11.98)	64.25(13.05)	62.63(12.12)

*Note.* No statistically significant differences were found between the genders in the sample when analyzing the mean scores of the voices.

## Bivariate Pearson Correlations

### Correlation between gender and all the aspects.

A Bivariate Correlation studies the relationship between two variables. This relationship does not mean there exists a cause and effect for both variables, but it implies that an association exists between the variables. A statistically significant correlation that is positive indicates that while one variable increases, the other variable also increases; in difference to a statistically significant correlation which is negative, in which one variable increases while the other one decreases. The results indicate that being a male (described with the value 1) correlates significantly with the aspects: Sad ( $r = .576, p = .003$ ), Dominant ( $r = .446, p = .029$ ), and Powerful ( $r = .468, p = .021$ ). These relationships are considered low moderate and moderate high which implies that the results indicate that being a male has a relationship/correlation with endorsing higher scores in these three aspects. (See Table 19)

**Table 19. Correlations between Gender and Pilot Study Aspects**

Variable	1	2	3	4
Gender	-			
Sad	.576**	-		
Dominant	.446*	.456*	-	
Powerful	.468*	.392	.725**	-

*Note.* \*Statistically significant correlations found at .05 alpha level ( $p < .05$ ).

\*\* Statistically significant correlations found at .01 alpha level ( $p < .01$ ).

### Correlations Between Type of High School the Participants Attended and Aspects Studied

A correlation analysis was performed to study the possible relationship between the type of high school the participants graduated from and the aspects measured in the

Pilot Study. Statistically significant correlations were found between for one aspect and the type of high school the participant graduated from. For the aspect Unpleasant ( $r = .487$ ,  $p = .016$ ) the relationship showed higher scores for the participants that had attended a private high school, in comparison to the participants from a public school. (See Table 20)

**Table 20. Correlations between Type of High School the Participant Graduated from and Scores in the Pilot Study Aspects**

<b>Variable</b>	<b>1</b>	<b>2</b>
High School	-	
Unpleasant	.487*	-

*Note. \*Statistically significant correlations at .05 alpha level ( $p < .05$ ).*

### **Primary Research Study**

After realizing all the research data of the Pilot Study, the data research results on the Primary Study followed continuing the same line of organization as the prior study. Because of the final results of the Pilot Study, it was crucial for the Primary Research Study to have an even number of gender participants. As a major result, 100 students, 50 males and 50 females were selected as a whole complete balanced number to work with the statistical information.

#### **Socio-demographic questionnaire.**

The socio-demographic information of the primary investigation was predesigned to be equally balanced in terms of gender to analyze any similarities or differences in specific variables. Out of the over 100 students who participated in the general study, exactly 50 males and 50 females were chosen based on their specific background



information while other questionnaires were excluded due to not answering complete sections which could ultimately alter the final results. Throughout the complete statistical analysis it was first individually divided by gender (women vs. men), and then tabulated by merging both genders together, giving the sum total of the two genders combined. It is also important to note that in having a total of 100 subjects; one can have a better grasp of the final outcome not only statistically, but also graphically.

### **Demographic information.**

Vital personal information was crucial in determining the outcome of the primary investigation of this dissertation research. The first two sections entitled Personal Information and Education had valuable background information on the surrounding environment they were brought up in by referring to questions dealing with age, gender, place of birth, education with regard to both the subject and the parents, and place of residence.

### ***Students and parents.***

The majority of the 100 students participating were born in Puerto Rico (96%) with the exception of 3 born in the United States and one indicating the option of *other*. Another observation made was the fact that both parents were also born in Puerto Rico (mothers 84% and fathers 89%), indicating that 15% of mothers and 9% of fathers were born in the US, and 3% elsewhere. All but one student chose Spanish as their First Language (99%) similar to that reported for the parents' primary language at 96% and 98%. Only 5% of parents spoke English as a First Language, and only one parent, a mother, was bilingual, the subject choosing the alternative answer: both. It was clear to

see the evenly distributed data reflecting similarities between the students and their parents in areas such as place of birth and languages spoken. (See Table 21)

**Table 21. Central Tendency Measures for Sample Socio-Demographic Variables for Personal Information (n=100)**

Variable	Female (n=50)	Male (n=50)	Total (n=100)
	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>
<b>Age</b>	21.24(3.18)	21.02(1.58)	21.13(2.50)
	<i>f(%)</i>	<i>f(%)</i>	<i>f(%)</i>
<b>Students' Birth Place</b>			
Puerto Rico	47(94.0)	49(98.0)	96(96.0)
United States	2(4.0)	1(2.0)	3(3.0)
Other	1(2.0)	-	1(1.0)
<b>First Language</b>			
Spanish	49(98.0)	50(100.0)	99(99.0)
English			1(1.0)
Both	1(2.0)	-	
<b>Mother: Birth Place</b>			
Puerto Rico	41(82.0)	43(86.0)	84(84.0)
United States	8(16.0)	7(14.0)	15(15.0)
Other	1(2.0)	-	1(1.0)
<b>Mother: First Language</b>			
Spanish	47(94.0)	49(98.0)	96(96.0)
English	2(4.0)	1(2.0)	3(3.0)
Both	1(2.0)	-	1(1.0)
<b>Father: Birth Place</b>			
Puerto Rico	45(90.0)	44(88.0)	89(89.0)
United States	3(6.0)	6(12.0)	9(9.0)

<b>Variable</b>	<b>Female (n=50)</b>	<b>Male (n=50)</b>	<b>Total (n=100)</b>
	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>
<b>Age</b>	21.24(3.18)	21.02(1.58)	21.13(2.50)
	<i>f(%)</i>	<i>f(%)</i>	<i>f(%)</i>
Other	2(4.0)	-	2(2.0)
<b>Father: First Language</b>			
Spanish	50(100.0)	48(96.0)	98(98.0)
English	-	2(4.0)	2(2.0)
Both	-	-	-

### ***Education.***

Of the 100 students, there was only one freshman while the others can be divided into the following: second year students 31%, third year 17%, fourth year 20%, fifth year 22%, and sixth year 9%. The majority of the students, 98%, were in right major concentrations of the Bachelor's Degree Program: Nursing 28%, Marketing 24%, Communications 16%, Psychology 14%, Education 9%, Microbiology 5%, Sociology 2%, and Accounting 1%. Only two students, one of each gender, were enrolled in the Associate Degree Program.

It was also important to include the type of high school, whether public or private, to see if any connections or distinctions could be made with any of the data. In this sample, the majority of the students, 79%, came from public schools while the other 21% indicated private schools. The questionnaire showed that those students from the public school sector were almost equally divided between male and female (76 to 82 ratio respectively), while for the private schools it was the females who dominated with a 24 to 18 ratio. For more information, see Table 22.

**Table 22. Central Tendency Measures for Sample Socio-demographic Variables for Education (n=100)**

Variable	Female (n=50)	Male (n=50)	Total (n=100)
	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>
<b>Age</b>	21.24(3.18) <i>f(%)</i>	21.02(1.58) <i>f(%)</i>	21.13(2.50) <i>f(%)</i>
<b>Year in University</b>			
1 <sup>st</sup>	-	1(2.0)	1(1.0)
2 <sup>nd</sup>	19(38.0)	12(24.0)	31(31.0)
3 <sup>rd</sup>	6(12.0)	11(2.0)	17(17.0)
4 <sup>th</sup>	7(14.0)	13(26.0)	20(20.0)
5 <sup>th</sup>	14(28.0)	8(16.0)	22(22.0)
6 <sup>th</sup>	4(8.0)	5(10.0)	9(9.0)
<b>Concentration</b>			
Accounting	-	1(2.0)	1(1.0)
Communication	5(10.0)	11(22.0)	16(16.0)
Education	4(8.0)	5(10.0)	9(9.0)
Marketing	12(24.0)	12(24.0)	24(24.0)
Microbiology	3(6.0)	2(4.0)	5(5.0)
Nursing	19(38.0)	9(18.0)	28(28.0)
Psychology	6(12.0)	8(16.0)	14(14.0)
Sociology	-	2(4.0)	2(2.0)
<b>Degree</b>			
Associate	1(2.0)	1(2.0)	2(2.0)
Bachelor's	49(98.0)	49(98.0)	98(98.0)
<b>Type of High School</b>			
Public	38(76.0)	41(82.0)	79(79.0)
Private	12(24.0)	9(18.0)	21(21.0)

***Residential influences.***

Since the major focus of this investigation was to research identity and second language pronunciation of Spanish-Speaking learners of English in Puerto Rico, the major criterion was that the subjects had to be of Puerto Rican decent, whose primary spoken language was Spanish, who had had limited visits to the US for recreational or family purposes, and had always lived in Puerto Rico. The questionnaire data indicated that 87% of the total population resided in Puerto Rico, with 13% indicating non-residence because of the constant back and forth migration of the family. Again, this was stipulated in the following question of residing in the United States. 75% of the subjects stated that they have never resided in the US while a 25% stated the contrary. These students who did select residence in the US had only done so for a short period of time, the majority indicating a year or less, while the minority (13%) indicated from 1-10 years of residence. For more information, see Table 23, 24 and 25.

**Table 23. Central Tendency Measures for Sample Socio-Demographic Variables for Residency (n=100) Participants' Responses to Residency in Puerto Rico and Visits to the USA**

<b>Residence in PR</b>	<b>Females</b>	<b>Males</b>	<b>Total</b>
No	6(12.0)	7(14.0)	13(13.0)
Yes	44(88.0)	43(86.0)	87(87.0)
<b>Have visited the USA</b>	<b>Females</b>	<b>Males</b>	<b>Total</b>
No	12(24.0)	13(26.0)	25(25.0)
Yes	38(76.0)	37(74.0)	75(75.0)

**Table 24. Participants' Response to Residency in Puerto Rico and Visits to the USA according to Gender**

Gender	Residence in Puerto Rico		Have visited the USA	
	Yes	No	Yes	No
	f(%)	f(%)	f(%)	f(%)
Female	44(88.0)	6(12.0)	38(76.0)	12(24.0)
Male	43(86.0)	7(14.0)	37(74.0)	13(26.0)
Total	87(87.0)	13(13.0)*	75(75.0)	25(25.0)

*Note.* \*It is important to notice that one of the criteria to participate in the study was that the person had to have lived in Puerto Rico and not in the USA. If they went to the USA it was only on vacation or short annual stays, or to visit family members.

**Table 25. Participants' Response to Duration of Time Spent in the USA**

Residence in PR	Residence in USA/ Have visited USA	How much time did you visited/stay in the USA
No	Yes	10 years
No	Yes	1 year
No	Yes	8 to 10 years
No	Yes	1 year
No	Yes	4 years
No	No	
No	Yes	1-3 years
No	Yes	4 to 7 years
No	Yes	4 and 7 years
No	No	
No	Yes	1 year
No	Yes	Weeks
No	Yes	1 year
Yes	Yes	Weeks
Yes	No	
Yes	Yes	Weeks
Yes	Yes	Weeks
Yes	Yes	Weeks
Yes	No	
Yes	No	
Yes	Yes	Months
Yes	Yes	Weeks
Yes	Yes	Weeks
Yes	Yes	Weeks

<b>Residence in PR</b>	<b>Residence in USA/ Have visited USA</b>	<b>How much time did you visited/stay in the USA</b>
Yes	Yes	Weeks
Yes	Yes	Weeks
Yes	Yes	Weeks
Yes	Yes	Months
Yes	Yes	Months
Yes	Yes	Weeks
Yes	Yes	1 month
Yes	Yes	Weeks
Yes	Yes	Weeks
Yes	Yes	3 weeks
Yes	Yes	3 weeks
Yes	Yes	Weeks
Yes	Yes	Weeks
Yes	Yes	Months
Yes	No	
Yes	Yes	Months
Yes	No	
Yes	Yes	Weeks
Yes	No	4 weeks
Yes	No	
Yes	Yes	Weeks
Yes	No	
Yes	Yes	Months
Yes	Yes	Weeks
Yes	Yes	Weeks
Yes	No	
Yes	No	
Yes	Yes	Weeks
Yes	Yes	Weeks
Yes	Yes	Weeks
Yes	Yes	Weeks
Yes	Yes	Weeks
Yes	No	
Yes	Yes	Week
Yes	Yes	1 month
Yes	Yes	Weeks
Yes	Yes	Weeks
Yes	No	
Yes	Yes	Weeks

<b>Residence in PR</b>	<b>Residence in USA/ Have visited USA</b>	<b>How much time did you visited/stay in the USA</b>
Yes	Yes	Weeks
Yes	Yes	Months
Yes	No	
Yes	Yes	Months
Yes	Yes	3 weeks
Yes	Yes	3 weeks
Yes	No	
Yes	Yes	Weeks
Yes	Yes	Weeks
Yes	No	
Yes	Yes	Months
Yes	Yes	2 to 3 years
Yes	Yes	Months
Yes	Yes	Months
Yes	No	
Yes	No	
Yes	No	
Yes	Yes	Weeks
Yes	No	
Yes	Yes	2 to 3 years
Yes	Yes	Weeks
Yes	Yes	1 month
Yes	Yes	Weeks
Yes	No	
Yes	No	
Yes	Yes	Weeks
Yes	Yes	Weeks
Yes	Yes	Weeks
Yes	Yes	Weeks
Yes	No	
Yes	Yes	Weeks
Yes	Yes	Weeks
Yes	Yes	Months
Yes	Yes	1 month
Yes	Yes	2 months
Yes	Yes	Months
Yes	No	



*Language abilities.*

The attention given to the residential influences above (Part III) was to explore any noticeable differences or correlation affecting language abilities. Five questions dealt with living in PR and the US, duration of residence in and out of Puerto Rico, speaking English in the US, and the specific age during the stay or visit. The other half of the questionnaire tried to gather as much information as possible about the subjects' personal attitude toward themselves. The self-esteem personal evaluation dealt with the subjects' own language perception and attitudes. Part IV, V, and VI assessed their language abilities, language preference, and final questions.

This was the highlight of the investigation focusing on bilingualism, Standard American English, Native Puerto Ricans, spoken abilities in and out of the household, and the subjects' attitudes regarding their own basic skills of speaking, listening, reading, and writing, in both languages: English and Spanish. (See Figures 1 through 7)

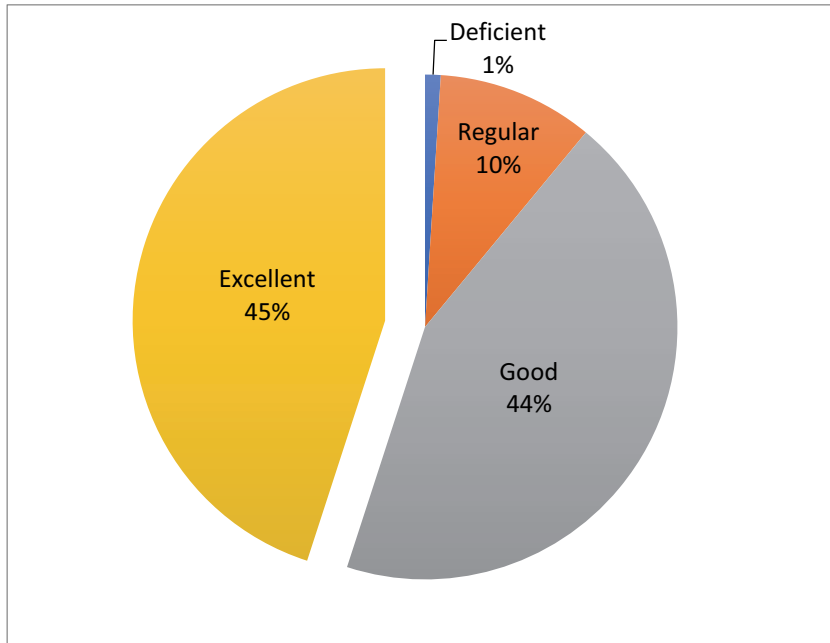


Figure 1. Self-criticism of total research participants regarding the ability to write in Spanish

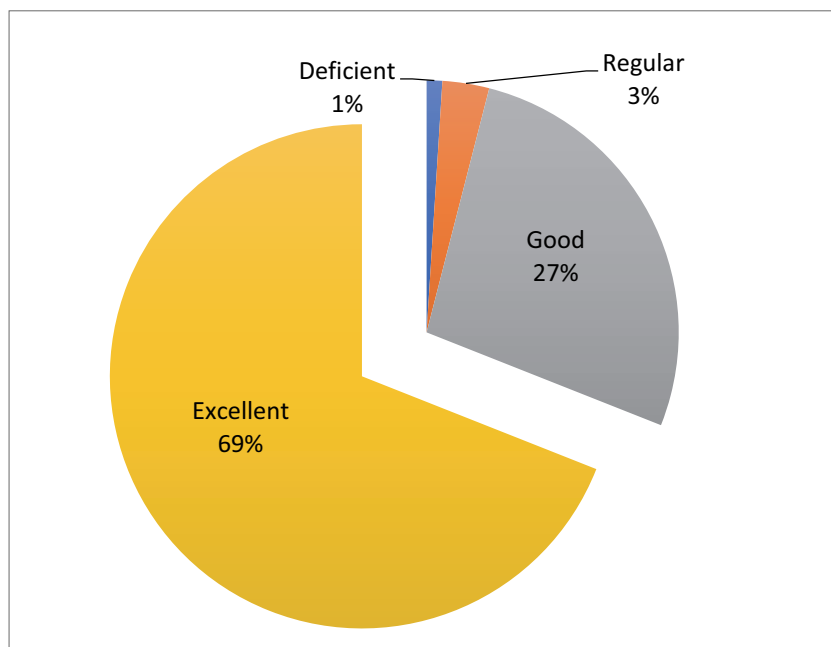


Figure 2. Self-criticism of total research participants regarding the ability to speak in Spanish

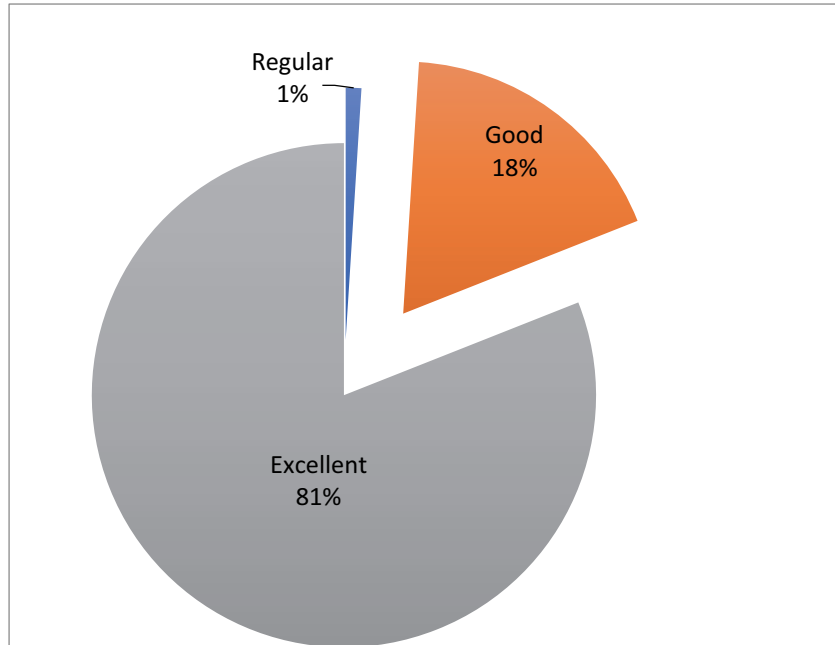


Figure 3. Self-criticism of total research participants regarding the ability to listen in Spanish

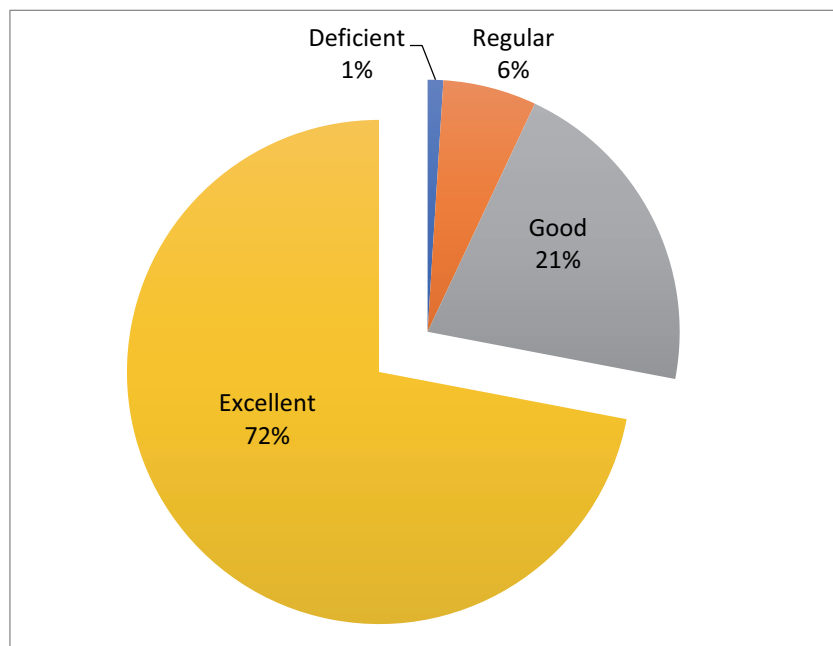


Figure 4. Self-criticism of total research participants regarding the ability to read in Spanish

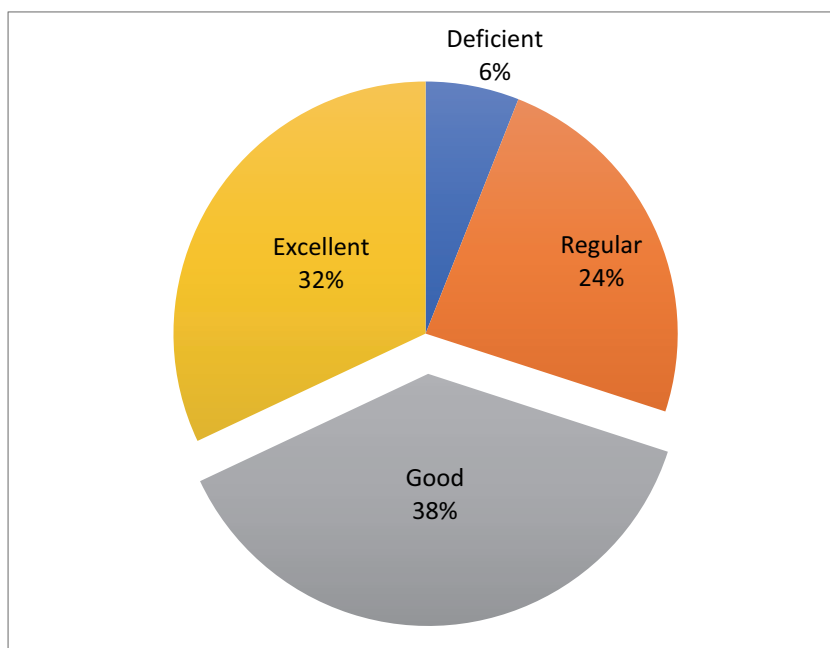


Figure 5. Self-criticism of total research participants regarding the ability to listen in English

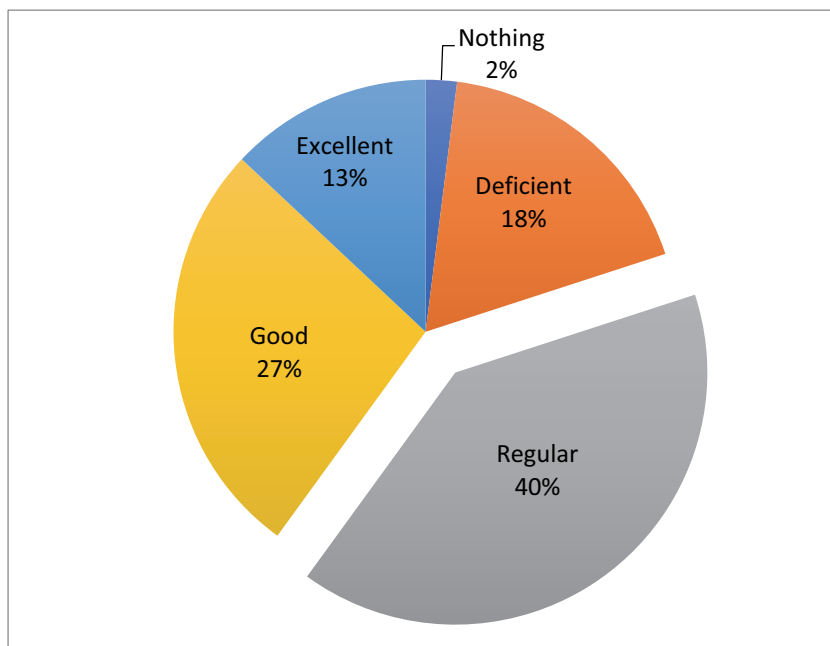


Figure 6. Self-criticism of total research participants regarding the ability to speak in English

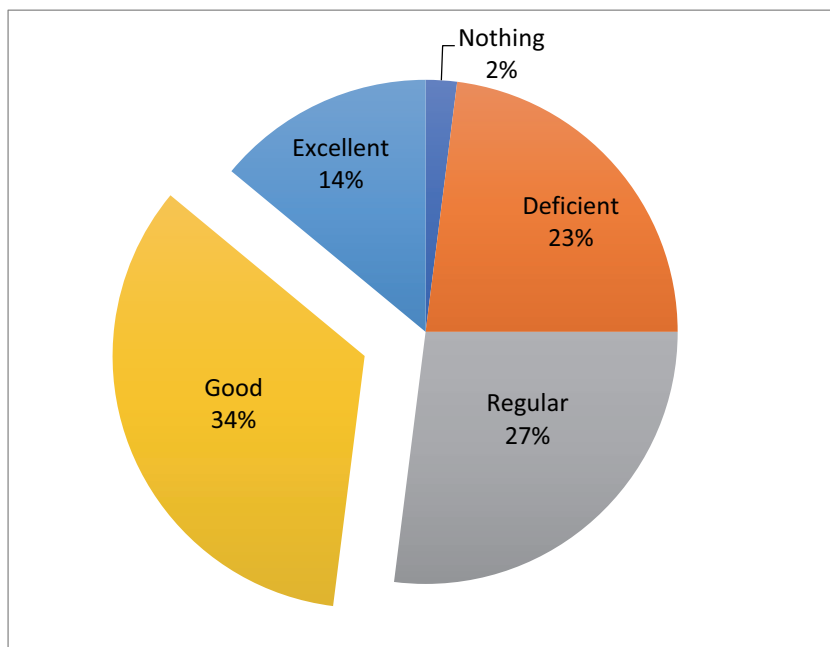


Figure 7. Self-criticism of total research participants regarding the ability to write in English

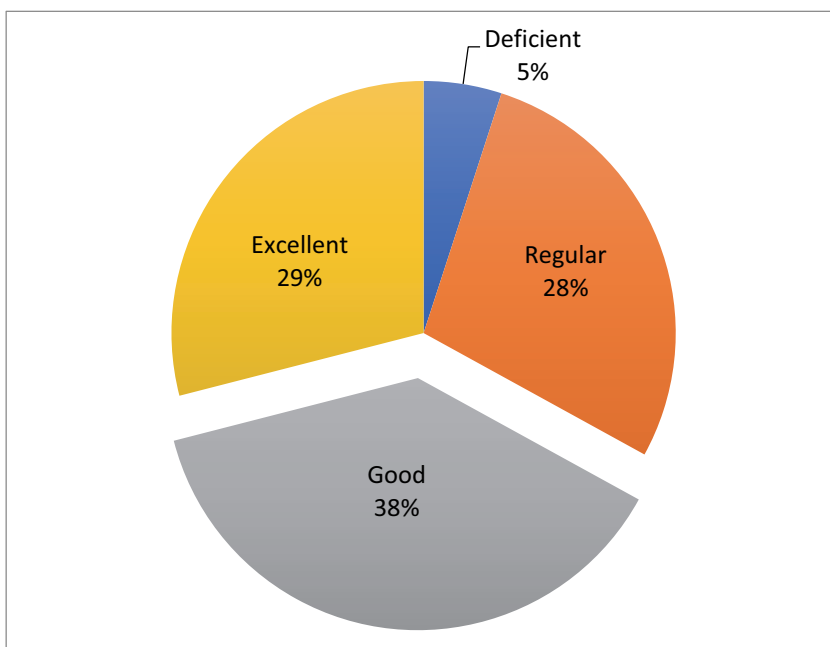


Figure 8. Self-criticism of total research participants regarding the ability to read in English

**Differences between gender of the participants and their self-criticism regarding their ability speaking, listening, reading, and writing the Spanish and English languages.**

We analyzed if there were statistically significant differences between the gender of the participants in regards to their self-criticism to their ability speaking, listening, reading, and writing Spanish and English. According to the results, there was statistically no difference between the genders in the way the subjects self-criticize the way they speak, write, read, and listen to Spanish. Nonetheless, when analyzing the ability auto-reported by the participants of speaking English, we found statistically significant differences between the genders [ $t(98) = -2.621, p = .010$ ]. These results indicate that the males see themselves as speaking English better when compared to the females.

When analyzing the ability auto-reported by the participants regarding listening to the English language, we found statistically significant differences between the genders [ $t(98) = -2.515, p = .014$ ]. These results indicate that the males see themselves listening to English better, when compared to the females.

When analyzing the ability auto-reported by the participants to write in English, we found statistically significant differences between the genders [ $t(98) = -2.035, p = .045$ ]. These results indicate that the males see themselves speaking English better, when compared to the females. (See Figures 9 through 16)

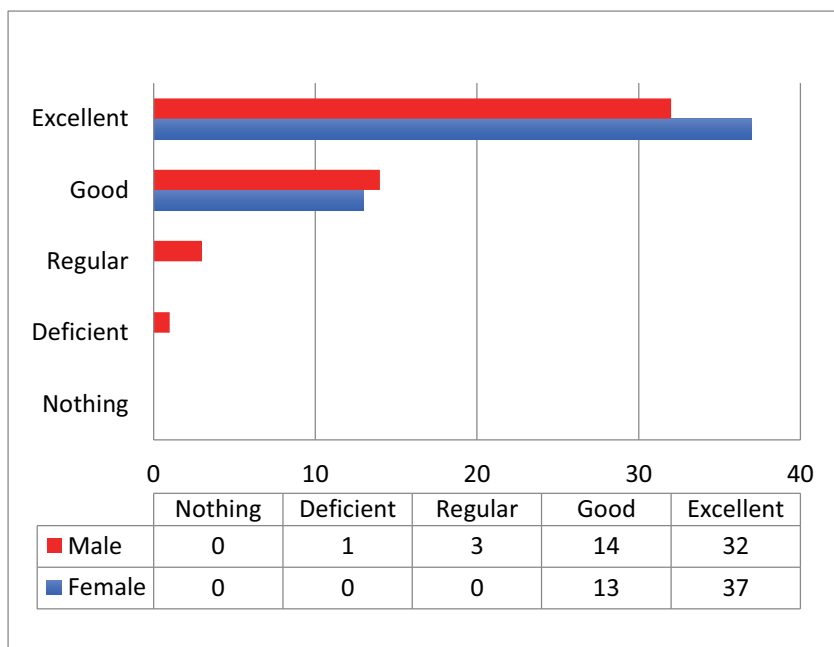


Figure 9. Comparison concerning differences between gender of self-criticism of total research participants regarding the ability to speak the Spanish language.

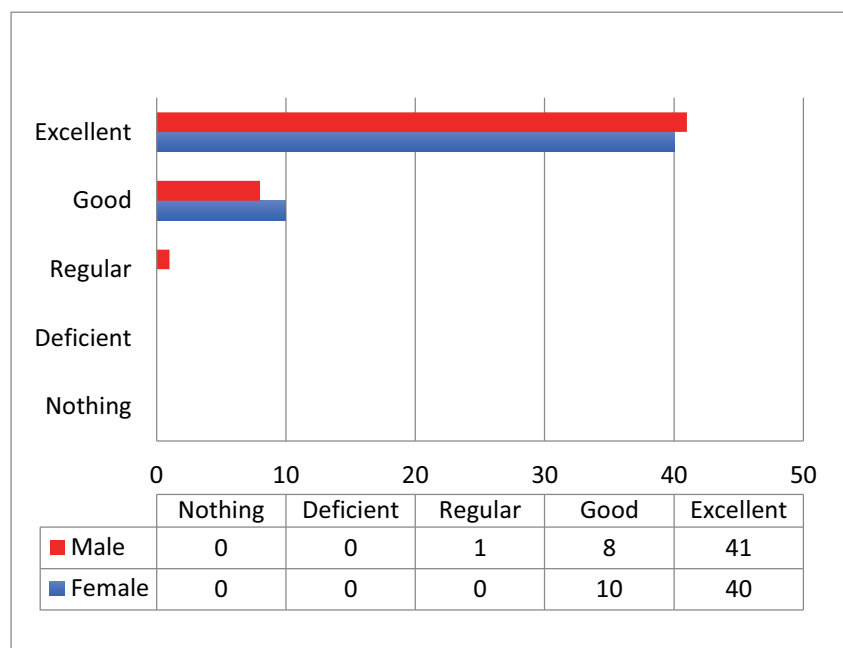


Figure 10. Comparison concerning differences between gender of self-criticism of total research participants regarding the ability to listen the Spanish language.

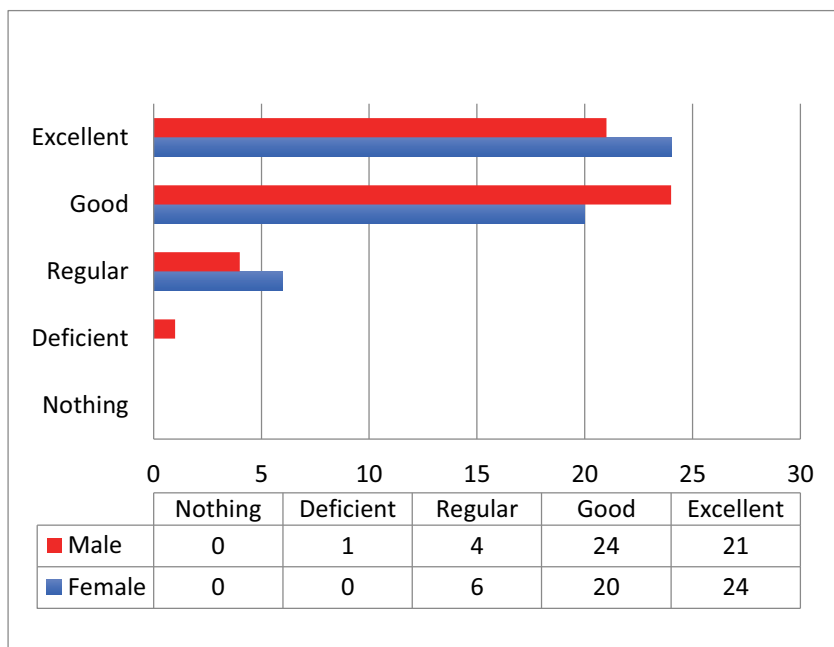


Figure 11. Comparison concerning differences between gender of self-criticism of total research participants regarding the ability to write the Spanish language.

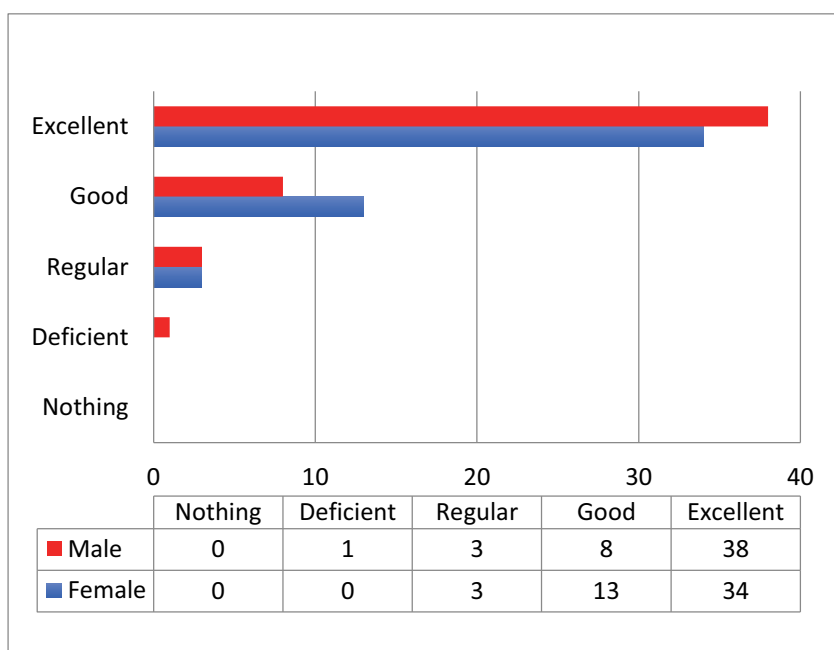


Figure 12. Comparison concerning differences between gender of self-criticism of total research participants regarding the ability to read the Spanish language.



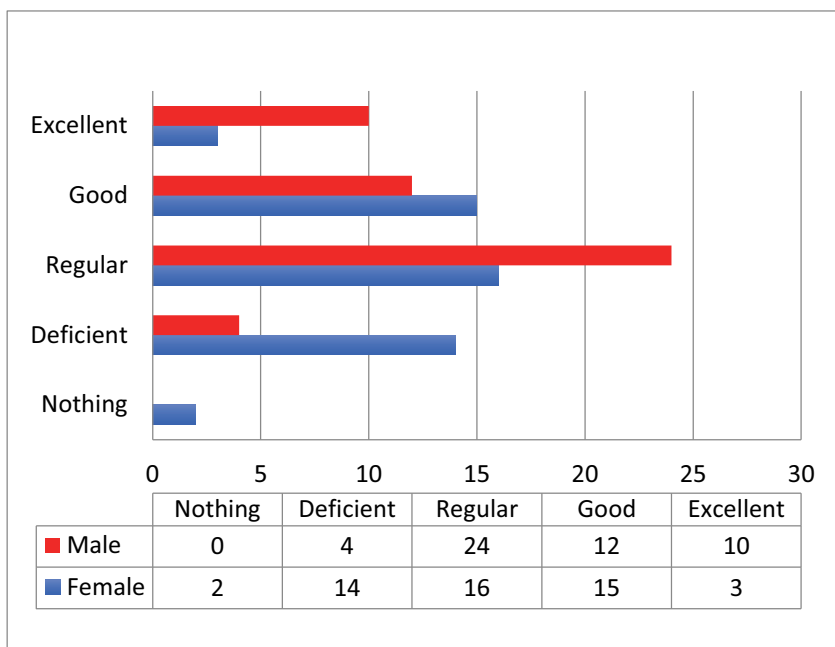


Figure 13. Comparison concerning differences between gender of self-criticism of total research participants regarding the ability to speak the English language.

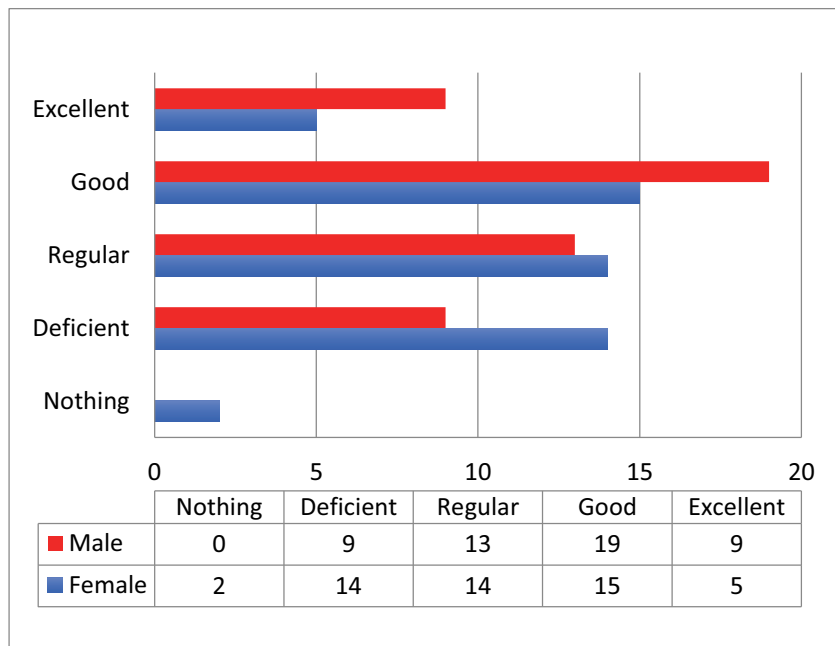


Figure 14. Comparison concerning differences between gender of self-criticism of total research participants regarding the ability to write the English language.

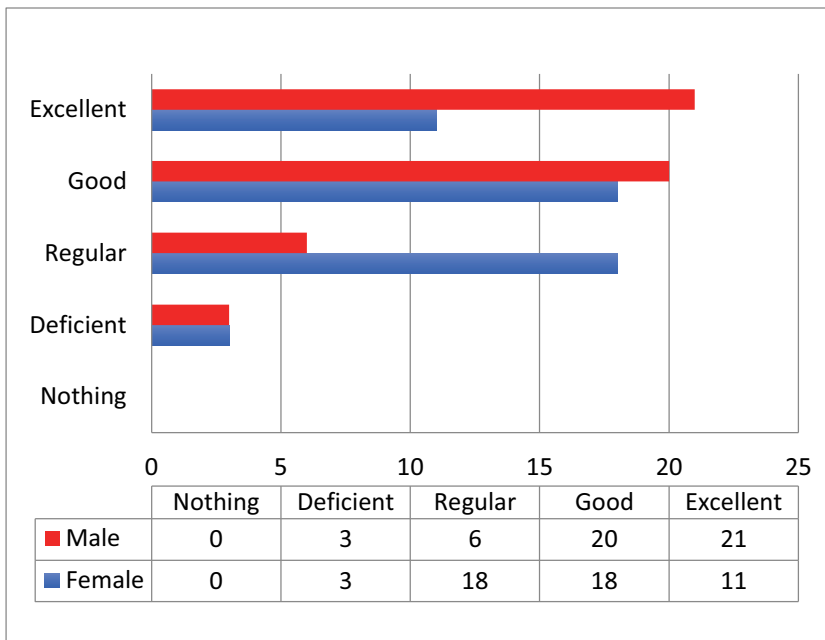


Figure 15. Comparison concerning differences between gender of self-criticism of total research participants regarding the ability to listen the English language.

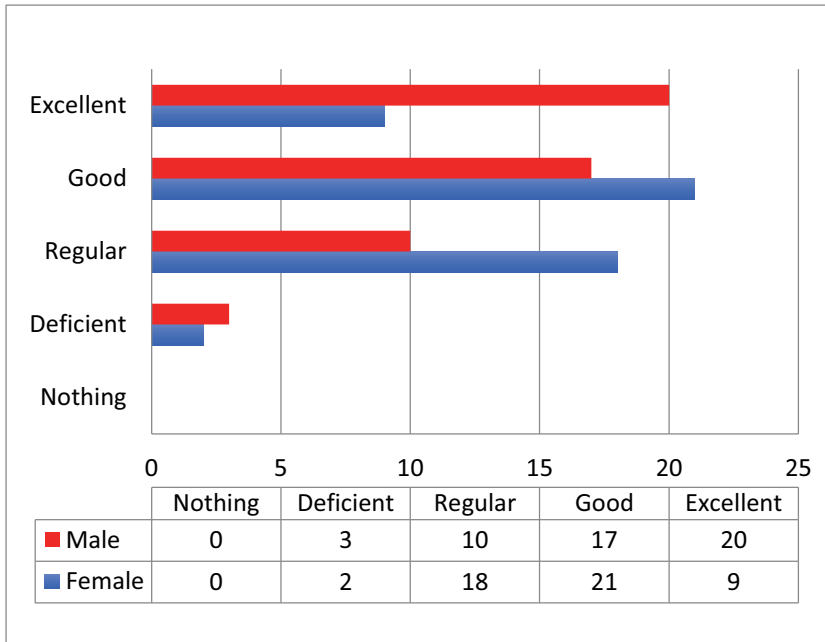


Figure 16. Comparison concerning differences between gender of self-criticism of total research participants regarding the ability to read the English language.

### Differences between Type of High Schools the Participants Graduated from and Their Self-Criticism Regarding Their Ability of Speaking, Listening, Reading, and Writing the Spanish and English Languages

When analyzing the ability auto-reported by the participants of speaking English, we found statistically significant differences between the type of high school the participants graduated from [ $t(98) = -2.987, p = .004$ ]. These results indicate that the males expressed a self-criticism whereas they see themselves as speaking English better when compared to the females. (See Figures 17 through 24)

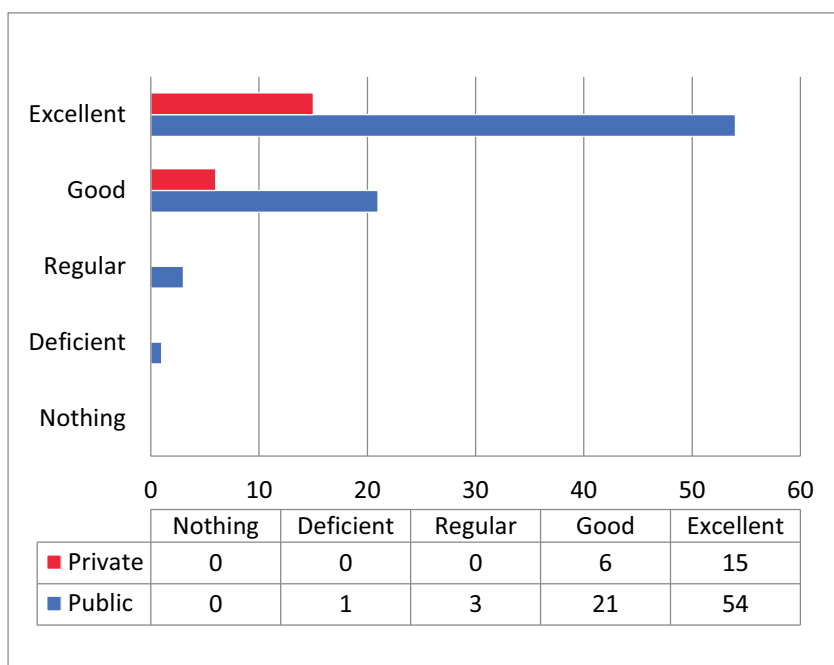


Figure 17. Comparison concerning differences between the type of high schools the participants graduated from and their self-criticism regarding their ability to speak the Spanish language.

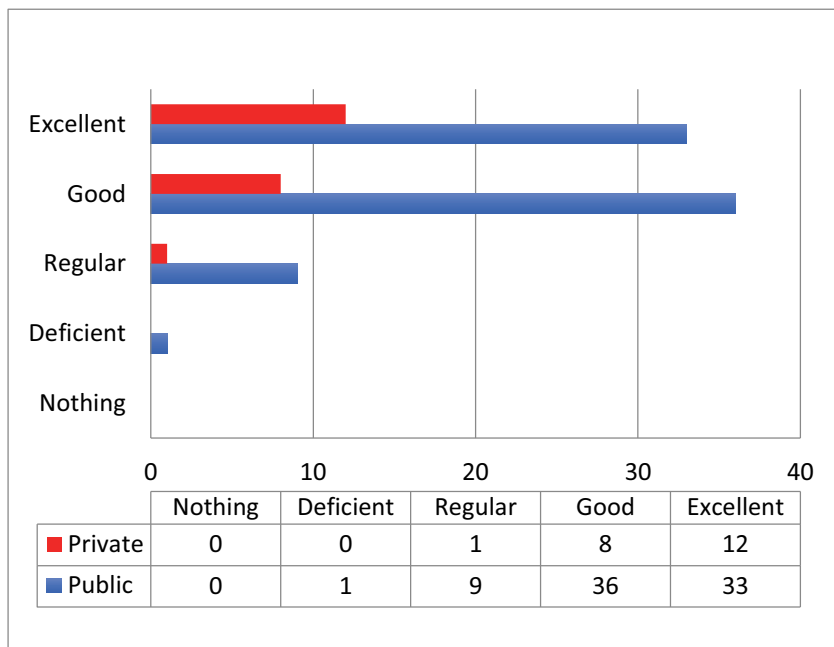


Figure 18. Comparison concerning differences between the type of high schools the participants graduated from and their self-criticism regarding their ability to write the Spanish language.

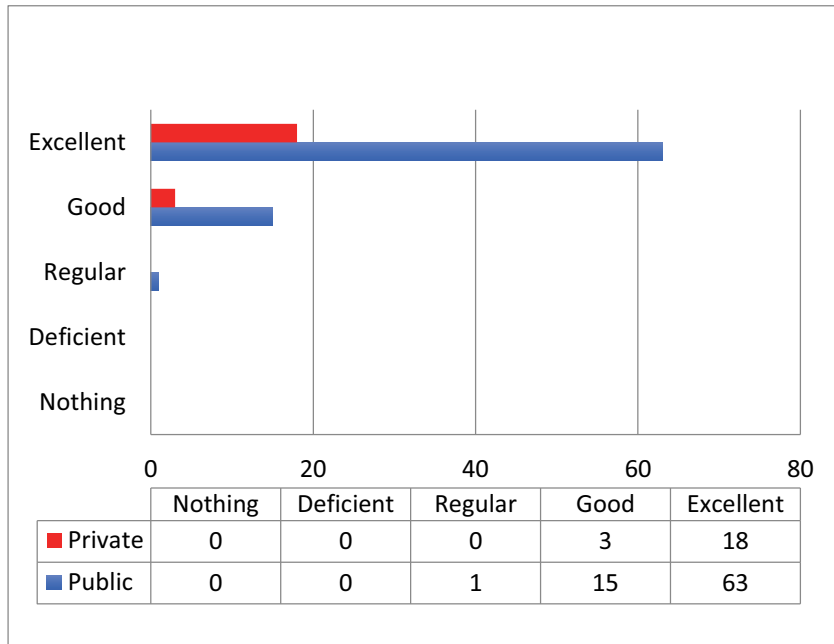


Figure 19. Comparison concerning differences between the type of high schools the participants graduated from and their self-criticism regarding their ability to listen the Spanish language.

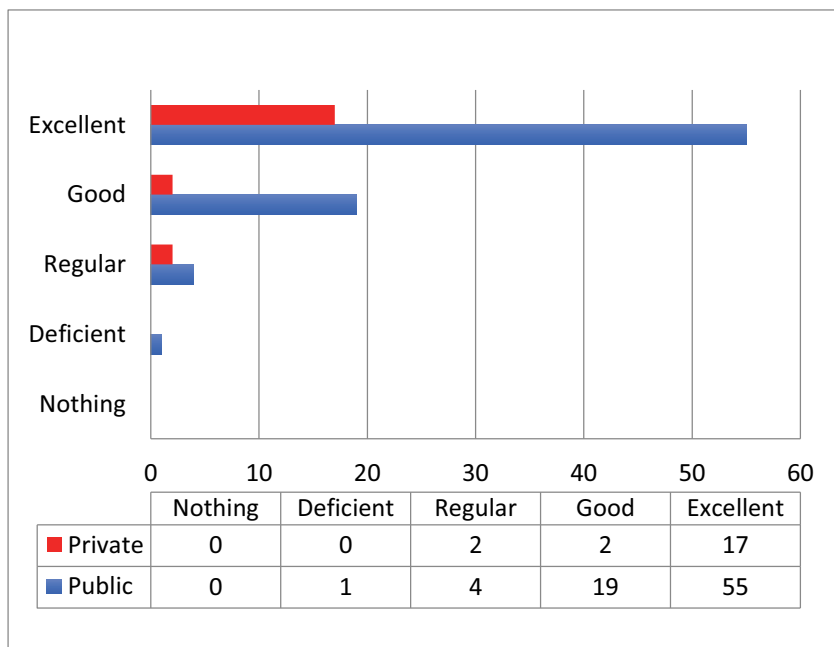


Figure 20. Comparison concerning differences between the type of high schools the participants graduated from and their self-criticism regarding their ability to read the Spanish language.

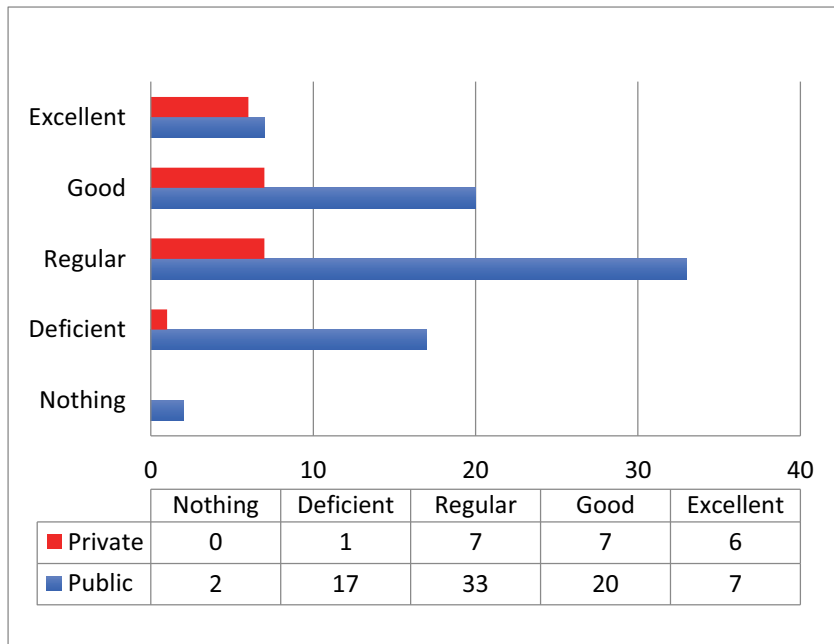


Figure 21. Comparison concerning differences between the type of high schools the participants graduated from and their self-criticism regarding their ability to speak the English language.

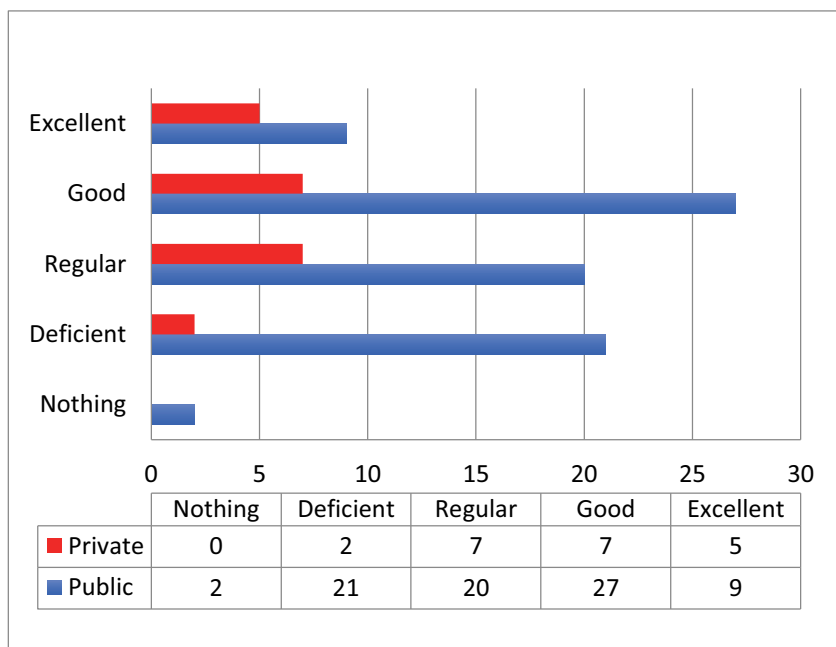


Figure 22. Comparison concerning differences between the type of high schools the participants graduated from and their self-criticism regarding their ability to write the English language.

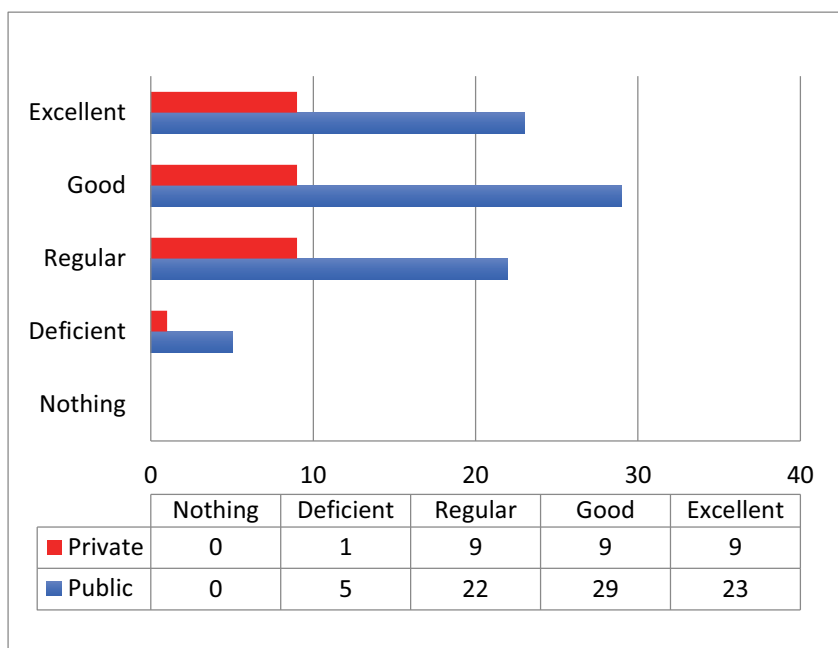


Figure 23. Comparison concerning differences between the type of high schools the participants graduated from and their self-criticism regarding their ability to listen the English language.

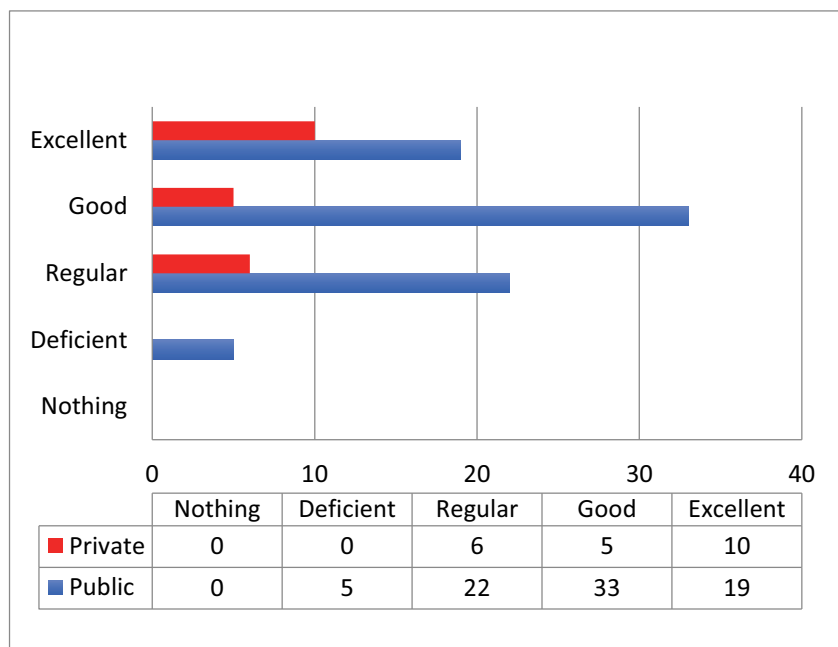


Figure 24. Comparison concerning differences between the type of high schools the participants graduated from and their self-criticism regarding their ability to read the English language.

### Gender and Consideration as Bilingual

When analyzing to what extent the participants considered themselves to be bilinguals, gender was a significant factor. We found that 23 (46%) of the female participants thought of themselves as bilinguals, while 33 (66%) of the males considered themselves as bilinguals. (See Figure 25) The results show that a greater percentage of men considered themselves bilingual, in proportion, to women [ $t(97.748) = -2.036, p = .044$ ].

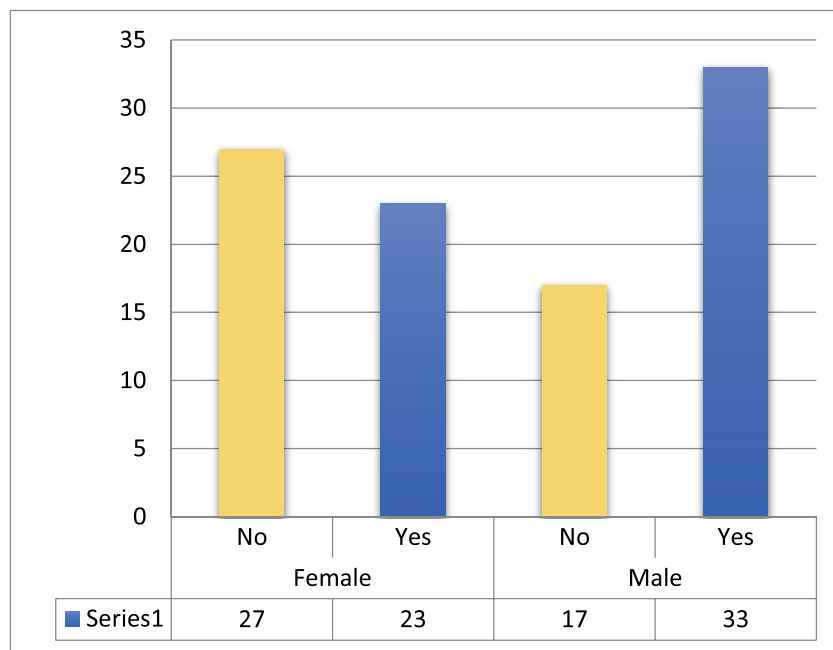


Figure 25. Frequency by gender regarding the question: Do you consider yourself bilingual?



### Relationship between Type of High School and Self-Perception of English Language

When addressing the type of high school the participants graduated from, we found that 21% of the participants graduated from a private school and 79% graduated from a public school. (See Figure 26)

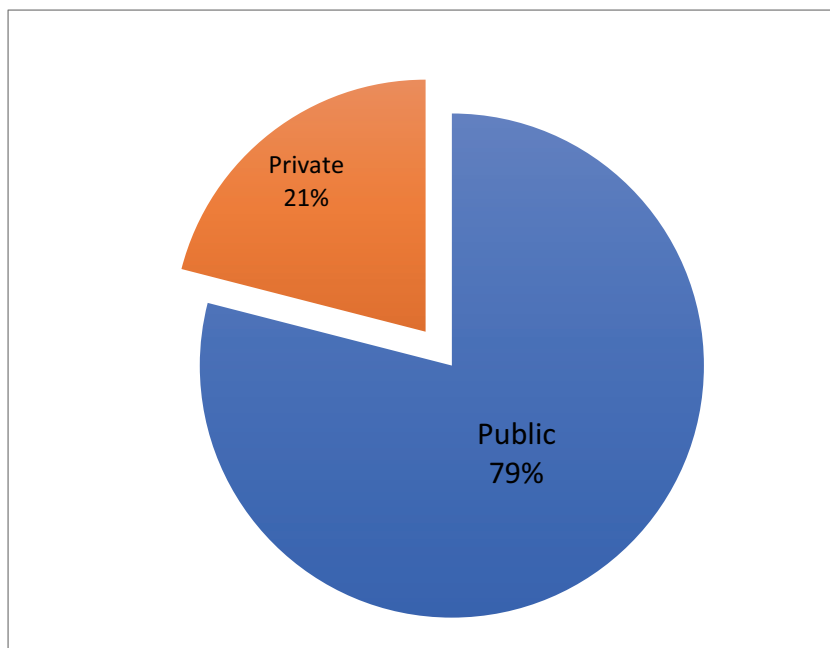


Figure 26. Type of high school participants graduated from.

When asked if they consider themselves as bilingual, we found that the majority of the sample considered themselves as bilingual (56%). (See Table 26)

**Table 26. Frequency and Percent of the Sample that Consider Themselves as Bilingual (n=100)**

Type of High School	Do you consider yourself as bilingual?	
	Yes n (%)	No n (%)
Public	38 (48)	41 (51.9)
Private	18 (85.7)	3 (14.3)
Total	56 (56)**	44 (44)

*Note.* \*\* Statistically significant differences between the two groups were found when performing a t-Student Test.

A t-Student Test was performed to analyze if the perception of being bilingual was statistically significant between the participants that graduated from a public high school and those that graduated from a private high school. Results showed that there were statistically significant differences between the groups [  $t(43.339) = -3.895, p < .001$ ]. The results indicate that the participants that graduated from a private high school consider themselves more bilingual, in proportion, to those who graduated from a public school. (See Figure 27)

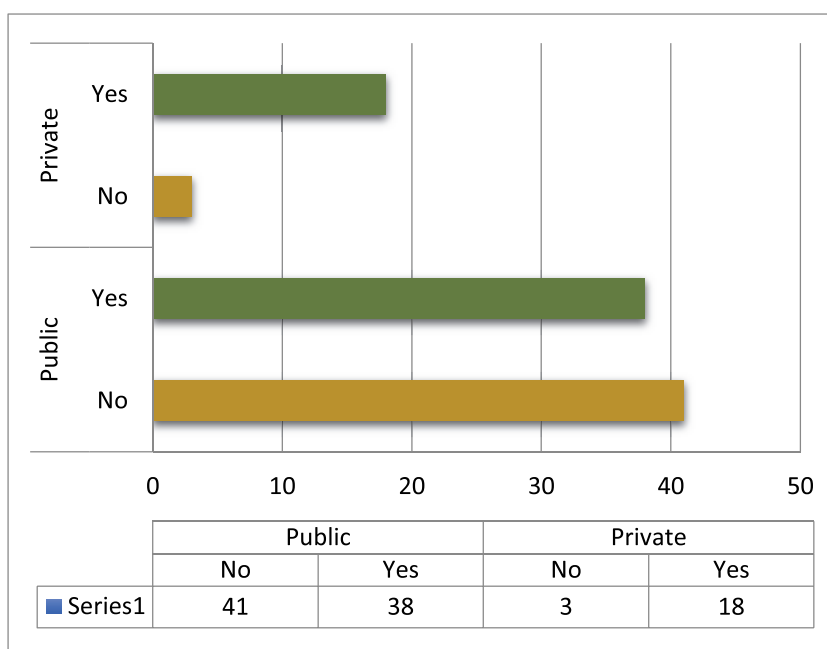


Figure 27. Frequency of participants that consider themselves bilingual and the high school they graduated from.

### **Differences in the Ability and Confidence in Spanish and English Languages between Participants from Public and Private High Schools**

A t-Student Test was performed to analyze if there were statistically significant differences between the self-concept of ability with the Spanish and English languages between the participants that graduated from public and private schools. The results showed that there were statistically significant differences between the participants when analyzing the ability to speak English [ $t(98) = -2.987, p = .004$ ]. These results indicate that participants that reported having graduated from a private school showed a self-concept of having more ability to speak English. Also, the results showed that participants that graduated from a private school tended to talk more in the English language with their friends: [ $t(22.034) = -2.288, p = .032$ ]. (See Tables 27 and 28)

**Table 27. Abilities and Confidence with Spanish and English Languages Depending of Type of High School**

Ability	High School									
	Public School					Private School				
	Nothing f(%)	Deficient f(%)	Regular f(%)	Good f(%)	Excellent f(%)	Nothing f(%)	Deficient f(%)	Regular f(%)	Good f(%)	Excellent f(%)
Speaking Spanish	-	1(1.3)	3(3.8)	21(26.6)	54(68.4)	-	-	-	6(28.6)	15(71.4)
Listening Spanish	-	-	1(1.3)	15(19.0)	63(79.7)	-	-	-	3(14.3)	18(85.7)
Writing Spanish	-	1(1.3)	9(11.4)	36(45.6)	33(41.8)	-	-	1(4.8)	8(38.1)	12(57.1)
Reading Spanish	-	1(1.3)	4(5.1)	19(24.1)	55(69.6)	-	-	2(9.5)	2(9.5)	17(81.0)
Speaking English	2(2.5)	17(21.5)	33(41.8)	20(25.3)	7(8.9)	-	1(4.8)	7(33.3)	7(33.3)	6(28.6)
Listening English	-	5(6.3)	22(27.8)	29(36.7)	23(29.1)	-	1(4.8)	2(9.5)	9(42.9)	9(42.9)
Writing English	2(21.5)	21(26.6)	20(25.3)	27(34.2)	9(11.4)	-	2(9.5)	7(33.3)	7(33.3)	5(23.8)
Reading English	-	5(6.3)	22(27.8)	33(41.8)	19(24.1)	-	-	6(28.6)	5(23.8)	10(47.6)
		English f(%)		Spanish f(%)			English f(%)		Spanish f(%)	
Confidence Speaking		6(7.6)		73(92.4)			3(14.3)		17(81.0)	
Language spoke in house		3(3.8)		75(94.9)			2(9.5)		19(90.5)	
Language spoke with friends		1(1.3)		77(97.5)			5(23.8)		15(71.4)	
Accent when speaking		29(36.7)		47(59.5)			12(57.1)		8(38.1)	
		Yes		No			Yes		No	
Is the English you speak different?		55(69.6)		22(27.8)			10(47.6)		11(52.4)	

**Table 28. Abilities and Confidence with the English Language Depending on Where the Participant was Born**

Ability	Where the participant was born									
	Puerto Rico					USA				
	Nothing <i>n</i> (%)	Deficient <i>n</i> (%)	Regular <i>n</i> (%)	Good <i>n</i> (%)	Excellent <i>n</i> (%)	Nothing <i>n</i> (%)	Deficient <i>n</i> (%)	Regular <i>n</i> (%)	Good <i>n</i> (%)	Excellent <i>n</i> (%)
Speaking English	2(2.1)	16(16.7)	39(40.6)	26(27.1)	13(13.5)	-	1(33.3)	1(33.3)	1(33.3)	-
Listening English	-	6(6.3)	22(22.9)	37(38.5)	31(32.3)	-	-	3(33.3)	3(33.3)	3(33.3)
Writing English	2(2.1)	21(26.6)	20(25.3)	27(34.2)	9(11.4)	-	1(33.3)	1(33.3)	1(33.3)	-
Reading English	-	5(6.3)	22(27.8)	33(41.8)	19(24.1)	-	-	-	2(66.7)	1(33.3)
	English					Spanish				
	<i>n</i> (%)					<i>n</i> (%)				
Confidence Speaking	9(9.4)					86(89.6)				
In my house I usually speak	3(3.1)					90(93.1)				
With my friends I usually speak	6(6.3)					88(91.7)				
I have an accent when I speak	40(41.7)					53(55.2)				
	Yes					No				
	<i>n</i> (%)					<i>n</i> (%)				
Is the English you speak different from the standard American English?	62(64.6)					33(34.4)				
	Yes					No				
	<i>n</i> (%)					<i>n</i> (%)				
	62(64.6)					33(34.4)				
	3(100)					-				

### **The Concept of Being “Boricua” and the Ability to Speak English**

When asked where each participant was born, 96% indicated “in Puerto Rico”. Out of those ninety-six (96) participants, 39 indicated having from a “good” to an “excellent” ability in speaking English, but when asked if the English they speak is different from Standard American English, 62 participants indicated affirmative. We explored through a t-Student Test if there were any differences between the participants that reported having been born in Puerto Rico and those that reported having been born in the United States. The results showed that there are statistically significant differences [ $t(95.000) = -7.054$ ,  $p < .001$ ] that indicate that the participants that reported having been born in the US consider that the English they speak is different from Standard American English. When we analyzed how participants who reported being born in the US consider their ability to speak English, it was found that these indicated from deficient to good. This, in contrast with the participants that reported having been born in Puerto Rico who considered their ability to speak English mainly from regular to good. Even 13.5% (13 participants) indicated that their ability to speak English was Excellent. It’s even more interesting that from those 13 participants 53.8% (7 participants) come from a public high school, leaving a 46.2% (6 participants) that graduated from a private high school. (See Tables 29 and 30)

**Table 29. Frequency and Percent With Regard to Ability to Speak English Distributed by Birth Place of Participant**

Birth Place	Ability Speaking English					Total
	Nothing	Deficient	Regular	Good	Excellent	
Puerto Rico	2 (100)	16(94.1)	39(97.5)	26(96.3)	13(100)	96(97.0)
USA	0(0.0)	1(5.9)	1(2.5)	1(3.7)	0(0.0)	3(3.0)

*Note.* Thirty-nine participants who informed having been born in Puerto Rico consider their ability of speaking English from good to excellent.

**Table 30. Birth Place of the Participants: Is the English You Speak Different from Standard American English?**

Birth Place	Yes	No
	f(%)	f(%)
Puerto Rico	62(64.6)	33(34.4)
USA**	3(100.0)	0(0.0)

*Note.* Statistically significant differences were found between the groups. Participants that reported having been born in the United States indicated the English they speak is different from the standard American English. Only three students were born in US; very few percentage for us to say.

When analyzing the reasons that the participants gave for why they consider the English they speak is different from Standard American English, the majority (37.5%) of the participants who indicated their having been born in Puerto Rico, consider that the reason that they speak English differently from Standard American English is their accent. (See Figures 28 and 29)

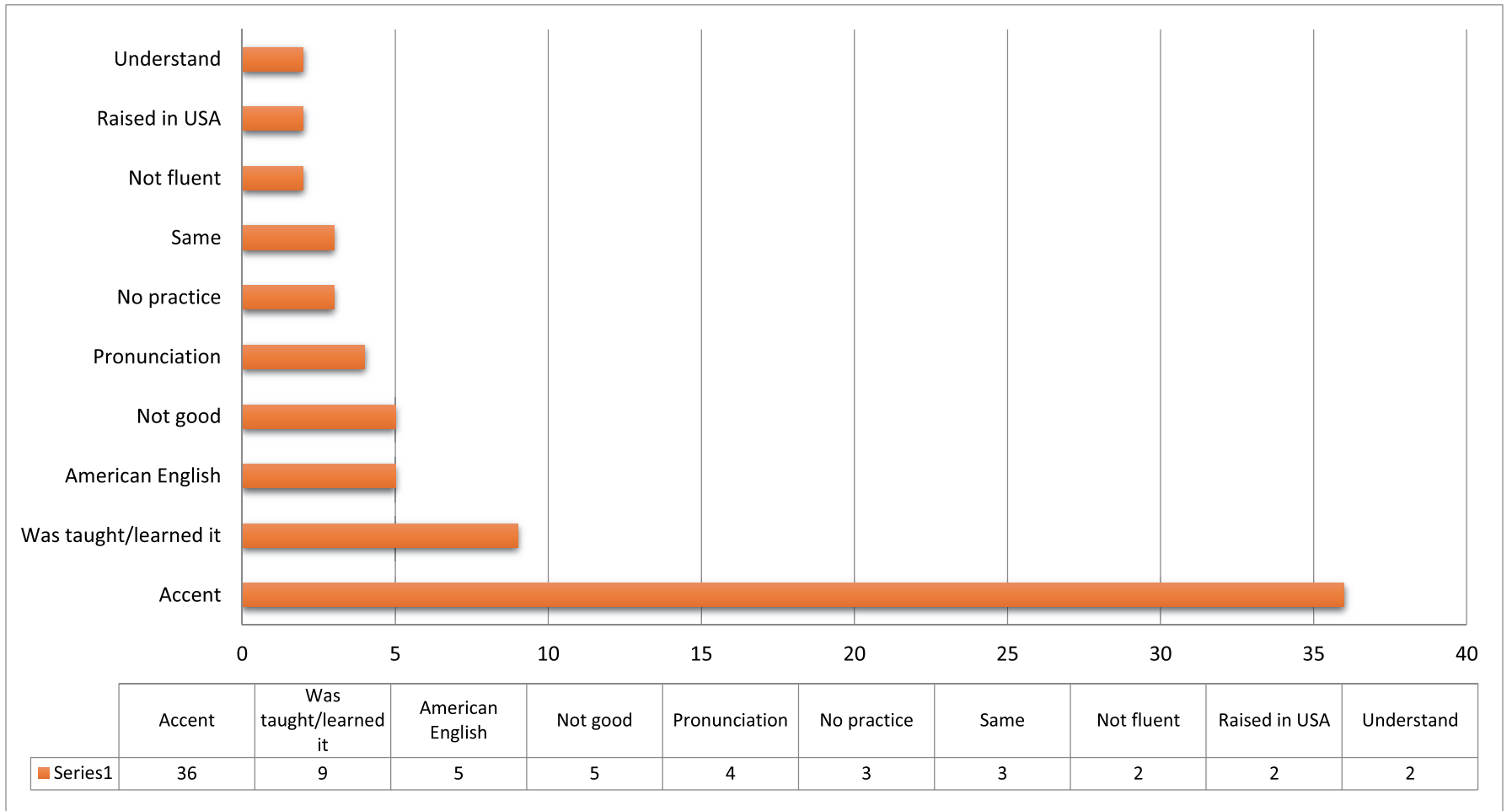


Figure 28. Reasons reported by participants born in Puerto Rico for considering their spoken English different from standard American English



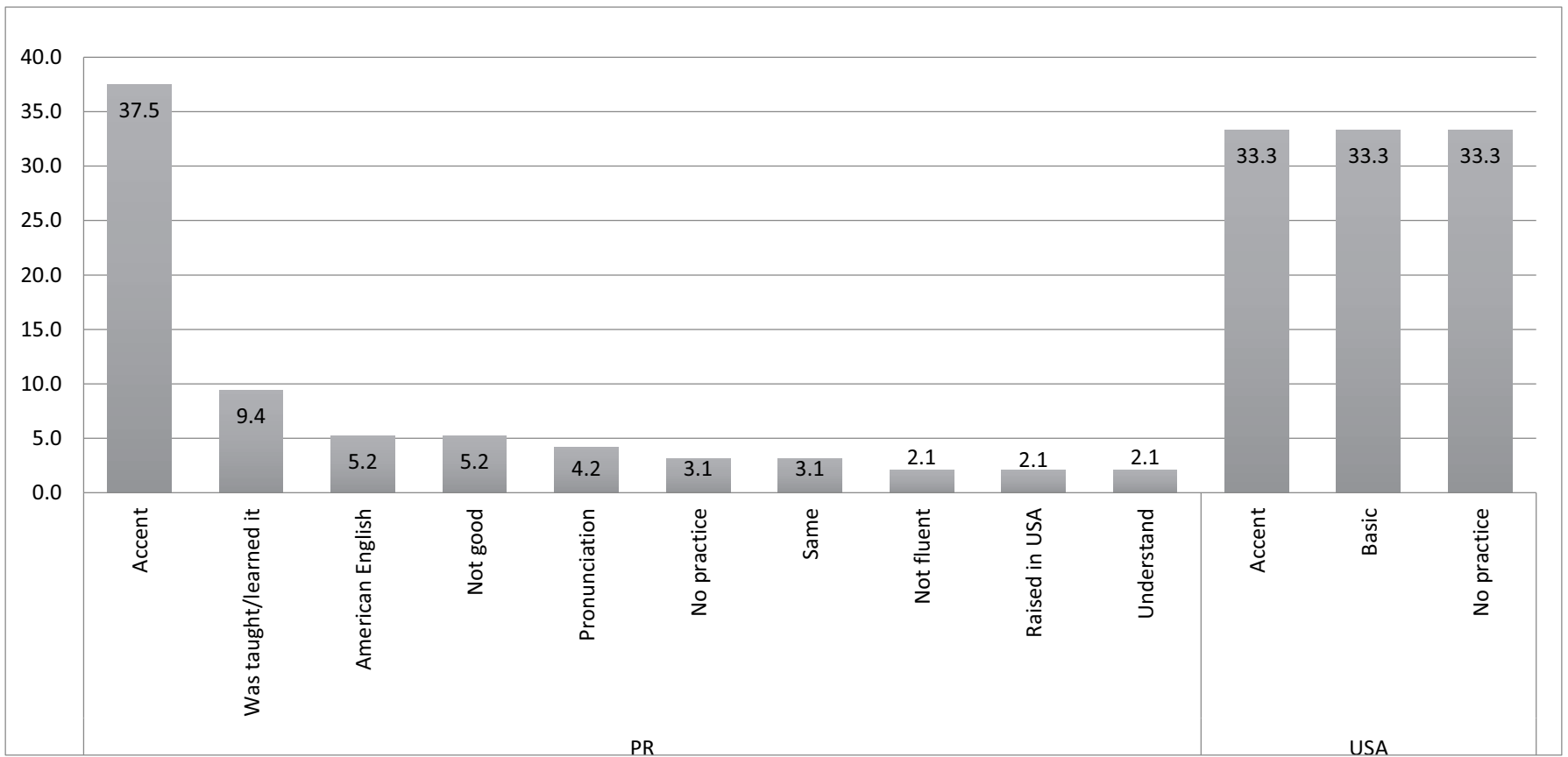


Figure 29. Comparison of reasons reported by participants born in puerto rican and the us for considering their spoken English different from standard American English

### Prediction of Consideration as Bilingual

We performed a multiple linear regression analysis to evaluate if any of the characteristics of the sample predicted which participants would consider themselves bilingual. We found that the ability to write English, the ability to comprehend spoken English, and the type of high school the participant graduated from predicted whether the participants would consider themselves bilingual. These results indicate that if the participant has more abilities in writing and listening (understanding) spoken English and studied in a private high school, they are more likely to consider themselves as bilingual. The results from the regression indicate that having the ability to write in English, listen to the English language, and having studied in a private high school explain 51% of the variance ( $R^2 = .514$ ,  $F(3,96) = 33.815$ ,  $p < .001$ ). (See Tables 31 and 32)

**Table 31. Do You Consider Yourself a Bilingual?: Frequency and Percent Considering the Predictors of Type of High School, Ability Writing English, and Ability Comprehending Spoken English**

Type of High School	Ability Writing English	Ability Listening to English	Do you consider yourself as bilingual?	f (%)
Public	Nothing	Regular	No	2(100)
		Deficient	No	5(100)
		Regular	No	13(100)
	Deficient	Good	No	2(66.7)
			Yes	1(13.3)
		Regular	No	5(100)
	Regular	Good	No	6(50)
			Yes	6(50)
		Excellent	No	1(33.3)

Type of High School	Ability Writing English	Ability Listening to English	Do you consider yourself as bilingual?	f (%)
			Yes	2(66.7)
		Regular	No	2(100)
		Good	No	3(23.1)
	Good	Good	Yes	10(76.9)
		Excellent	No	1(8.3)
			Yes	11(91.7)
		Good	Yes	1(100)
	Excellent		No	1(12.5)
		Excellent	Yes	7(87.5)
Private		Regular	No	1(100)
	Deficient	Good	No	1(100)
		Regular	Yes	1(100)
			No	1(20)
	Regular	Good	Yes	4(80)
		Excellent	Yes	1(100)
		Deficient	Yes	1(100)
	Good	Good	Yes	3(100)
		Excellent	Yes	3(100)
	Excellent	Excellent	Yes	5(100)

**Table 32. Frequency of Participants that Consider Themselves as Bilingual Considering Type of High School and Ability to Write and Listen to English (n=56)**

High School	Ability Writing English	Ability Listening to English	Frequency	
Public	Deficient	Good	1	
		Good	6	
	Regular	Excellent	2	
		Good	10	
	Good	Excellent	11	
		Good	1	
	Excellent	Excellent	7	
		Total	38	
	Private	Regular	Regular	1
			Good	4
Good		Excellent	1	
		Deficient	1	
Excellent		Good	3	
		Excellent	3	
Excellent		Excellent	5	
		Total	18	
Total of participants that consider themselves as bilingual			56	

*Note.* The total number of participants from public high school was 79 and from private high school was 21. This means that 86% of the participants that graduated from a private high school consider themselves as bilingual.

## Survey Findings and Analysis Regarding Research Investigation

### The survey

30 adjectives, 15 positive and 15 negative aspects, were considered in as many forms possible for analysis. The following information gives complete statistics on: total scores, individual scores, negative aspects, positive aspects, high and low scores, male and female scores, and comparisons between other interesting results or information, such as gender analysis. The results were tabulated and analyzed keeping in mind the objectives to be met and answered in this investigation. (See Table 33)

**Table 33. Means and Standard Deviations for Aspects Studied (n = 30)**

<b>Variable</b>	<b><i>M(SD)</i></b>
Hardworking	17.91(3.960)
Ambitious	12.40(4.288)
Unreliable	13.46(3.362)
Humorous	25.11(3.351)
Authoritative	25.41(3.646)
Irresponsible	22.43(3.343)
Sad	24.22(3.659)
Dominant	18.79(3.204)
Unfriendly	20.89(3.432)
Intelligent	23.21(3.906)
Timid	22.43(4.110)
Controlling	16.72(4.342)
Cold	13.59(3.701)
Humble	26.24(3.370)
Proud	12.61(3.662)

<b>Variable</b>	<b><i>M(SD)</i></b>
Egoistic	14.80(4.100)
Affectionate	14.15(4.111)
Generous	27.12(3.557)
Charismatic	23.63(4.172)
Envious	12.99(3.945)
Unpleasant	14.61(3.525)
Attractive	21.64(3.746)
Powerful	18.41(2.899)
Weak	16.08(2.703)
Educated	13.60(3.149)
Firm	19.36(4.162)
Refined	21.16(4.453)
Monotone	26.70(3.277)
Ordinary	13.46(3.362)
Aggressive	25.11(3.351)

*Note.* *M*= Mean (average) of the Aspect evaluated. *SD*= Standard Deviation of the Aspect evaluated.

### **Voices Low and High Scores**

To measure the mean scores in a more effective way we divided the voices scores in Low and High. To do this we considered scores equal or lower than 2 to be Low Scores and scores equal and higher than 3 to be High Scores. The voices with higher scores were Voice Two: Female and Voice Five: Male. The voices with lower scores were Voice Four: Male and Voice Six: Female. (See Table 34)

**Table 34. Frequencies of Voices' Low and High Scores (n=100)**

Voice	Low Scores	High Scores
	f (%)	f (%)
Voice 1: Male	55(55)	45(45)
Voice 2: Female	5(5)	95(95)
Voice 3: Female	50(50)	50(50)
Voice 4: Male	61(61)	39(39)
Voice 5: Male	1(1)	99(99)
Voice 6: Female	59(59)	41(41)

Note. f = Frequency

### Comparison of Voices Low and High Scores in All the Aspects Measured

#### Comparison of the means of voice one: low and high scores.

A t-Student test was made to compare the means between the Low Scores and High Scores of the Voice 1 in all the Aspects Measured in the study. We found that there were statistically significant differences between the Low and High Scores of Voice 1 in the following Aspects (t-Student negative results mean that High Scores presented higher means): Hardworking [ $t(98) = -2.013, p = .047$ ], Ambitious [ $t(98) = 2.098, p = .038$ ], Unreliable [ $t(98) = -2.275, p = .025$ ], Irresponsible [ $t(98) = -2.140, p = .035$ ], Sad [ $t(98) = -2.888, p = .005$ ], Unfriendly [ $t(98) = -3.289, p = .001$ ], Intelligent [ $t(76.532) = -2.861, p = .005$ ], Cold [ $t(98) = -2.332, p = .022$ ], Egoistic [ $t(97.255) = -3.005, p = .003$ ], Envious [ $t(98) = -1.984, p = .050$ ], Unpleasant [ $t(98) = -2.089, p = .039$ ], Weak [ $t(98) = -2.844, p = .005$ ], Educated [ $t(98) = -2.684, p = .009$ ], and Firm [ $t(98) = -2.799, p = .006$ ].

Table 35 shows the means and standard deviations of the Voice One: Low and High Scores in all the Aspects.

**Table 35. Low and High of Voice One in All the Aspects Measured**

Variable	Low Scores (n=55)	High Scores (n=45)
	<i>M(SD)</i>	<i>M(SD)</i>
Hardworking	17.20(3.709)	18.78(4.122)*
Ambitious	13.20(4.17)*	11.42(4.272)
Unreliable (R)	22.76(3.967)	24.56(3.859)*
Humorous	11.56(3.790)	11.09(3.554)
Authoritative	13.40(3.004)	13.53(3.788)
Irresponsible (R)	24.47(3.102)	25.89(3.511)*
Sad (R)	24.49(3.736)	26.53(3.231)**
Dominant (R)	22.45(2.873)	22.40(3.875)
Unfriendly (R)	23.18(3.317)	25.49(3.690)**
Intelligent	17.96(2.553)	19.80(3.634)**
Timid (R)	20.78(3.414)	21.02(3.487)
Controlling (R)	23.40(3.467)	22.98(4.413)
Cold (R)	21.58(3.985)	23.47(4.065)*
Humble	16.29(4.211)	17.24(4.488)
Proud	13.75(3.417)	13.40(4.053)
Egoistic (R)	25.38(3.629)	27.29(2.710)**
Affectionate	12.47(3.548)	12.78(3.831)
Generous	14.51(3.925)	15.16(4.322)
Charismatic	13.71(3.715)	14.69(4.532)
Envious (R)	26.49(3.641)	27.89(3.332)*
Unpleasant (R)	22.85(4.201)	24.58(3.980)*
Attractive	12.31(3.090)	13.82(4.692)
Powerful	14.20(3.246)	15.11(3.815)
Weak (R)	20.71(3.452)	22.78(3.813)**
Educated	17.73(2.7590)	19.24(2.877)**



Variable	Low Scores (n=55)	High Scores (n=45)
	M(SD)	M(SD)
Firm	15.42(2.394)	16.89(2.862)**
Refined	13.36(2.837)	13.89(3.505)
Monotone (R)	18.65(3.743)	20.22(4.517)
Ordinary (R)	20.56(4.488)	21.89(4.350)
Aggressive(R)	27.02(3.058)	26.31(3.522)

*Note.* R= Aspects were recoded because it measured a negative aspect.

One asterisk means that mean differences were statically significant at alpha .05.

Two asterisks mean that mean differences were statically significant at alpha .01.

### **Comparison of the means of voice two: low and high scores.**

A t-Student test was made to compare the means between the Low Scores and High Scores of the Voice Two in all the Aspects Measured in the study. We found that there were statistically significant differences between the Low and High Scores of Voice Two in the following Aspects (t-Student negative results mean that High Scores presented higher means): Unfriendly [ $t(98) = -2.052, p = .043$ ], Cold [ $t(98) = -2.418, p = .017$ ], Egoistic [ $t(98) = -2.251, p = .027$ ]. Table 36 shows the means and standard deviations of the Voice Two: Low and High Scores in all the Aspects.

**Table 36. Low and High of Voice Two in All the Aspects Measured**

<b>Variable</b>	<b>Low Scores (n=5)</b>	<b>High Scores (n=95)</b>
	<i>M(SD)</i>	<i>M(SD)</i>
Hardworking	16.40(3.286)	17.99(3.991)
Ambitious	10.40(2.966)	12.51(4.332)
Unreliable (R)	22.60(3.912)	23.62(4.019)
Humorous	11.20(3.194)	11.36(3.713)
Authoritative	10.80(2.280)	13.60(3.359)
Irresponsible (R)	23.30(3.899)	25.21(3.313)
Sad (R)	22.60(4.775)	25.56(3.548)
Dominant (R)	20.80(1.643)	22.52(3.3920)
Unfriendly (R)	21.00(4.472)	24.39(3.559)*
Intelligent	18.40(3.435)	18,81(3.210)
Timid (R)	19.80(3.421)	20.95(3.441)
Controlling (R)	21.40(3.286)	23.31(3.928)
Cold (R)	18.20(2.775)	22.65(4.057)*
Humble	13.60(5.595)	16.88(4.240)
Proud	13.40(2.510)	16.88(4.240)
Egoistic (R)	23.00(2.345)	26.41(3.337)*
Affectionate	13.60(3.578)	12.56(3.678)
Generous	15.00(4.359)	14.70(4.110)
Charismatic	12.80(2.280)	14.22(4.180)
Envious (R)	25.60(2.510)	27.20(3.596)
Unpleasant (R)	24.00(3.937)	23.61(4.203)
Attractive	10.80(3.633)	13.11(3.945)
Powerful	14.40(.894)	14.62(3.612)
Weak (R)	20.00(4.062)	21.73(3.732)
Educated	17.80(5.215)	18.44(2.770)

Variable	Low Scores (n=5)	High Scores (n=95)
	M(SD)	M(SD)
Firm	14.40(1.517)	16.17(2.728)
Refined	12.60(2.510)	13.65(3.182)
Monotone (R)	19.40(2.966)	19.36(4.227)
Ordinary (R)	20.20(3.347)	21.21(4.512)
Aggressive(R)	25.20(1.789)	26.78(3.324)

Note. R= Aspects were recoded because it measured a negative aspect.

One asterisk means that mean differences were statically significant at alpha .05.

Two asterisks mean that mean differences were statically significant at alpha .01.

### Comparison of the means of voice three: low and high sores.

A t-Student test was made to compare the means between the Low Scores and High Scores of the Voice Three in all the Aspects Measured in the study. We found that there were statistically significant differences between the Low and High Scores of Voice Three in the following Aspects (t-Student negative results mean that High Scores presented higher means): Irresponsible [ $t(92.697) = -3.354, p = .001$ ], Sad [ $t(98) = -2.327, p = .022$ ], Unfriendly [ $t(98) = -2.113, p = .037$ ], Intelligent [ $t(98) = -2.464, p = .015$ ], Cold [ $t(98) = -3.291, p = .001$ ], Humble [ $t(98) = -2.256, p = .026$ ], Egoistic [ $t(98) = -2.627, p = .010$ ], Affectionate [ $t(98) = -2.082, p = .040$ ], Generous [ $t(98) = -2.772, p = .007$ ], Charismatic [ $t(98) = -2.737, p = .007$ ], Envious [ $t(98) = -2.117, p = .037$ ], Unpleasant [ $t(98) = -4.412, p < .01$ ], Weak [ $t(98) = -4.283, p < .01$ ], Monotone [ $t(98) = -2.051, p = .043$ ], Ordinary [ $t(98) = -2.197, p = .030$ ], and Aggressive [ $t(92.041) = -2.176, p = .032$ ].

Table 37 shows the means and standard deviations of the Voice Three Low and High Scores in all the Aspects.

**Table 37. Low and High of Voice Three in All the Aspects Measured**

Variable	Low Scores (n=50)	High Scores (n=50)
	<i>M(SD)</i>	<i>M(SD)</i>
Hardworking	17.58(3.48)	18.24 (4.40)
Ambitious	12.98(4.06)	11.82(4.47)
Unreliable (R)	23.02(3.93)	24.12(4.04)
Humorous	10.86(3.80)	11.84(3.52)
Authoritative	13.78(3.23)	13.14(3.49)
Irresponsible (R)	24.04(3.55)	26.18(2.78)**
Sad (R)	24.58(3.78)	26.24(3.35)*
Dominant (R)	22.34(3.22)	22.52(3.49)
Unfriendly (R)	23.46(3.84)	24.98(3.34)*
Intelligent	18.02(2.96)	19.56(3.28)*
Timid (R)	20.28(3.17)	21.50(3.60)
Controlling (R)	22.96(3.23)	23.46(4.50)
Cold (R)	21.14(3.67)	23.72(4.16)**
Humble	15.76(4.04)	17.68(4.46)*
Proud	14.10(3.37)	13.36(3.52)
Egoistic (R)	25.38(3.42)	27.10(3.11)*
Affectionate	11.86(3.68)	13.36(3.52)*
Generous	13.70(3.72)	15.90(4.20)**
Charismatic	13.06(3.85)	15.24(4.11)**
Envious (R)	26.38(3.69)	27.86(3.29)*
Unpleasant (R)	21.94(4.17)	25.32(3.46)**
Attractive	12.60(3.46)	25.32(3.46)
Powerful	14.34(3.41)	14.88(3.65)
Weak (R)	20.16(3.37)	23.12(3.54)**
Educated	17.90(2.50)	18.92(3.19)

Variable	Low Scores (n=50)	High Scores (n=50)
	M(SD)	M(SD)
Firm	15.62(2.19)	16.54(3.09)
Refined	13.78(2.85)	13.42(3.45)
Monotone (R)	18.52(4.14)	20.20(4.06)*
Ordinary (R)	20.20(3.91)	22.12(4.78)*
Aggressive(R)	26.00(3.60)	27.40(2.78)*

*Note.* R= Aspects were recoded because it measured a negative aspect.

One asterisk means that mean differences were statically significant at alpha .05.

Two asterisks mean that mean differences were statically significant at alpha .01.

### Comparison of the means of voice four: low and high scores.

A t-Student test was made to compare the means between the Low Scores and High Scores of the Voice Four in all the Aspects Measured in the study. We found that there were statistically significant differences between the Low and High Scores of Voice Four in the following Aspects (t-Student negative results mean that High Scores presented higher means): Unreliable [ $t(98) = -2.346, p = .021$ ], Irresponsible [ $t(98) = -3.108, p = .002$ ], Sad [ $t(98) = -2.177, p = .032$ ], Intelligent [ $t(98) = -2.934, p = .004$ ], Cold [ $t(98) = -3.193, p = .002$ ], Unpleasant [ $t(98) = -4.673, p < .01$ ], Weak [ $t(98) = -2.860, p < .01$ ], Monotone [ $t(62.191) = -2.497, p = .015$ ]. Table 38 shows the means and standard deviations of the Voice Four Low and High Scores in all the Aspects.

**Table 38. Low and High of Voice Four in All the Aspects Measured**

Variable	Low Scores (n=61)	High Scores (n=39)
	<i>M(SD)</i>	<i>M(SD)</i>
Hardworking	17.62(3.35)	18.36(4.78)
Ambitious	12.57(3.95)	12.13(4.81)
Unreliable (R)	22.84(3.91)	24.72 (3.91)*
Humorous	11.08(3.60)	11.77(3.80)**
Authoritative	13.49(3.08)	13.41(3.81)
Irresponsible (R)	24.31(3.27)	26.36(3.11)
Sad (R)	24.79(3.52)	26.38(3.67)*
Dominant (R)	22.62(3.15)	22.13(3.64)
Unfriendly (R)	23.70(3.71)	25.03(3.47)
Intelligent	18.07(2.95)	19.92(3.30)**
Timid (R)	20.36(3.32)	21.72(3.49)
Controlling (R)	23.18(3.70)	23.26(4.27)
Cold (R)	21.43(3.78)	24.00(4.16)**
Humble	16.16(4.00)	17.59(4.75)
Proud	13.79(3.42)	13.28(4.13)
Egoistic (R)	25.97(3.59)	26.67(2.99)
Affectionate	12.20(3.55)	14.25(3.90)
Generous	14.25(3.90)	15.67(4.300)
Charismatic	13.56(3.74)	15.08(4.52)
Envious (R)	26.98(3.62)	27.33(3.50)
Unpleasant (R)	22.21(4.04)	25.85(3.370)**
Attractive	12.39(3.25)	13.92(4.73)
Powerful	14.11(3.36)	15.38(6.68)
Weak (R)	20.51(3.42)	23.38(3.60)**
Educated	17.74(2.68)	19.46(2.95)**

Variable	Low Scores (n=61)	High Scores (n=39)
	<i>M(SD)</i>	<i>M(SD)</i>
Firm	15.62(2.42)	16.79(2.98)*
Refined	13.70(2.89)	13.44(3.55)
Monotone (R)	18.49(3.42)	20.72(4.85)*
Ordinary (R)	20.66(4.05)	21.95(4.98)
Aggressive(R)	26.43(3.55)	27.13(2.79)

*Note.* R= Aspects were recoded because it measured a negative aspect.

One asterisk means that mean differences were statically significant at alpha .05.

Two asterisks mean that mean differences were statically significant at alpha .01.

### Comparison of the means of voice five: low and high scores.

Because only one person composes the low scores of Voice Five, a comparison between the means couldn't be performed adequately. Even so, Table 39 shows the means for the Low Scores and the means and standard deviations of the High Scores of Voice Five in all the Aspects.

**Table 39. Low and High of Voice Five in All the Aspects Measured**

Variable	Low Scores (n=1)	High Scores (n=99)
	<i>M<sup>a</sup></i>	<i>M(SD)</i>
Hardworking	15.00	17.94(3.97)
Ambitious	16.00	12.36(4.29)
Unreliable (R)	21.00	23.60(4.01)
Humorous	16.00	11.30(3.66)
Authoritative	17.00	13.42(3.36)
Irresponsible (R)	20.00	25.16(3.33)
Sad (R)	23.00	25.43(3.66)
Dominant (R)	19.00	22.46(3.34)
Unfriendly (R)	22.00	24.24(3.67)

Variable	Low Scores (n=1)	High Scores (n=99)
	<i>M<sup>a</sup></i>	<i>M(SD)</i>
Intelligent	16.00	18.82(3.21)
Timid (R)	24.00	20.86(3.44)
Controlling (R)	18.00	23.26(3.89)
Cold (R)	18.00	22.47(4.11)
Humble	15.00	16.74(4.36)
Proud	19.00	13.54(3.68)
Egoistic (R)	18.00	26.32(3.28)
Affectionate	15.00	12.59(3.67)
Generous	17.00	14.78(4.12)
Charismatic	14.00	14.15(4.13)
Envious (R)	17.00	27.22(3.42)
Unpleasant (R)	20.00	23.67(4.18)
Attractive	7.00	13.05(3.92)
Powerful	18.00	14.58(3.53)
Weak (R)	22.00	21.64(3.77)
Educated	14.00	18.45(2.88)
Firm	21.00	16.03(2.67)
Refined	8.00	13.66(3.11)
Monotone (R)	16.00	19.39(4.17)
Ordinary (R)	20.00	21.17(4.48)
Aggressive(R)	21.00	26.76(3.24)

*Note.* a= no standard deviation was produced because only one person composes the group of low scores.

R= Aspects were recoded because it measured a negative aspect.

One asterisk means that mean differences were statically significant at alpha .05.

Two asterisks mean that mean differences were statically significant at alpha .01.



### Comparison of the means of voice six: low and high scores.

A t-Student test was made to compare the means between the Low Scores and High Scores of the Voice Six in all the Aspects Measured in the study. We found that there were statistically significant differences between the Low and High Scores of Voice Six in the following Aspects (t-Student negative results mean that High Scores presented higher means): Hardworking [ $t(98) = -2.346, p = .021$ ], Unreliable [ $t(98) = -2.877, p = .005$ ], Sad [ $t(98) = -2.349, p = .021$ ], Intelligent [ $t(98) = -2.308, p = .023$ ], Cold [ $t(98) = -2.890, p = .005$ ], Humble [ $t(98) = -3.153, p = .002$ ], Affectionate [ $t(98) = -2.326, p = .022$ ], Generous [ $t(98) = -2.025, p = .046$ ], Weak [ $t(98) = -2.792, p = .006$ ], Monotone [ $t(98) = -2.899, p = .005$ ], and Ordinary [ $t(98) = -2.504, p = .014$ ]. Table 40 shows the means and standard deviations of the Voice Six: Low and High Scores in all the Aspects.

**Table 40. Low and High of Voice Six in All the Aspects Measured**

Variable	Low Scores (n=59)	High Scores (n=31)
	<i>M(SD)</i>	<i>M(SD)</i>
Hardworking	17.15(4.09)	19.00(3.53)*
Ambitious	12.17(4.07)	12.73(4.16)
Unreliable (R)	22.64(4.17)	24.90(3.37)**
Humorous	10.83(3.50)	12.10(3.84)
Authoritative	13.37(3.30)	13.59(3.49)
Irresponsible (R)	23.78(3.20)	25.59(3.54)
Sad (R)	24.71(3.57)	26.41(3.56)*
Dominant (R)	22.68(3.25)	22.07(3.48)
Unfriendly (R)	23.66(3.84)	25.02(3.25)
Intelligent	18.19(3.13)	19.66(3.14)*
Timid (R)	20.64(3.65)	21.24(3.11)

Variable	Low Scores (n=59)	High Scores (n=31)
	<i>M(SD)</i>	<i>M(SD)</i>
Controlling (R)	23.14(3.600)	23.32(4.36)
Cold (R)	21.47(4.24)	23.32(4.36)**
Humble	15.63(3.61)	18.29(4.85)
Proud	13.64(3.43)	13.51(4.10)
Egoistic (R)	26.07(3.45)	26.49(3.27)
Affectionate	11.92(3.65)	13.61(3.49)*
Generous	14.12(3.77)	15.78(4.40)*
Charismatic	13.71(3.72)	14.78(4.59)
Envious (R)	26.80(3.47)	27.59(3.67)
Unpleasant (R)	23.08(4.24)	24.41(4.00)
Attractive	12.51(3.88)	13.68(3.98)
Powerful	14.14(3.50)	15.29(3.50)
Weak (R)	20.80(3.82)	22.85(3.31)**
Educated	18.05(2.69)	18.93(3.14)
Firm	15.71(2.26)	16.61(3.19)
Refined	13.75(2.70)	13.39(3.73)
Monotone (R)	18.39(3.83)	20.76(4.27)**
Ordinary (R)	20.25(4.18)	22.46(4.56)*
Aggressive(R)	26.46(3.51)	27.05(2.92)

*Note.* R= Aspects were recoded because it measured a negative aspect.

One asterisk means that mean differences were statically significant at alpha .05.

Two asterisks mean that mean differences were statically significant at alpha .01.

### **Regression Analysis for Positive Aspects**

A regression analysis with stepwise method was performed to see which voices predicted positive aspects (depicted positive aspects better). The results of the regression indicate that only one voice (Voice Six) predicted positive aspects. The predictor explains 6% of the variance and the model is statistically significant [ $R^2 = .058$ ,  $F(1, 98) = 5.985$ ,  $p = .016$ ].

### **Regression Analysis for Negative Aspects**

A regression analysis with stepwise method was performed to see which voices predicted negative aspects (depicted negative aspects better). The results indicate that three voices explain 24% of the variance ( $R^2 = .238$ ,  $F(3, 96) = 9.992$ ,  $p < .01$ ). It was found that Voice Three ( $\beta = 25.699$ ,  $t = 4.260$ ,  $p < .01$ ) predicts higher scores in the negative aspects just as Voice One ( $\beta = 15.832$ ,  $t = 2.614$ ,  $p = .010$ ), and Voice Five ( $\beta = 60.449$ ,  $t = 1.990$ ,  $p = .049$ ) also do.

### **Mean Comparison between the Voices and Positive and Negative Aspects**

Main statistically significant differences were found in the Negative Aspect where the High Scores classification received significantly higher Mean scores. These results indicate that Voice One, Three, Four, and Six depicted higher scores in negative aspects than in the positive ones. Except Voice Six, who depicted significantly higher on both aspects. (See Table 41)

**Table 41. Mean Comparison Between The Voices and Positive and Negative Aspects**

Voice	Aspect	
	Positive	Negative
Voice 1	$t(98) = -1.477, p = .143$	$t(98) = -2.818, p = .006^{**}$
Voice 2	$t(98) = -1.101, p = .274$	$t(98) = -1.794, p = .076$
Voice 3	$t(98) = -1.686, p = .095$	$t(98) = -4.049, p < .01^{**}$
Voice 4	$t(98) = -1.957, p = .053$	$t(98) = -3.357, p = .001^{**}$
Voice 5	-	-
Voice 6	$t(98) = -2.446, p = .016^*$	$t(98) = -2.769, p = .007^{**}$

*Note.* One asterisk (\*) indicates statistically significant differences at .05 alpha.

Two asterisks (\*\*) indicate statistically significant differences at .01 alpha.

### **Correlations between Spanish Accent Level and Questions About Ethnicity Regarding Each Voice**

A correlation analysis was performed to analyze the possible relationship between the Spanish accent that the voices had and the questions about the ethnicity of each voice; US American Speaker or Puerto Rican Speaker. For Voice One, there is a relationship between being considered Puerto Rican and having a weaker Spanish Accent ( $r = .212, p = .034$ ). These results mean that although the participants considered Voice One Puerto Rican, they also considered Voice One as having a weaker Spanish Accent.

When "weaker Spanish accent" is considered, it refers to how the participants judged the voices' accents as having a more pronounced Spanish accent or less pronounced Spanish accent when they spoke. The participants were asked if the voice had a Spanish accent when they spoke and if that Spanish accent was less pronounced, more pronounced, or they considered it as "medium pronounced". There was no statistically significant relationship in regards to Voices Three, Five, and Six. These voices did not having a significant correlation to having a strong, medium, or weak

Spanish accent.

On the other hand, Voice Two's results indicated that there is an association between having a stronger Spanish accent and being considered an American Speaker (from the US), specifically for Voice Two ( $r = -.206, p = .040$ ). This relationship is positive, low, and statistically significant; meaning that Voice Two does not have a Spanish accent for the participants that completed the questionnaire. Also, these results indicate that regarding Voice Two there is an interdependence between being considered an American Speaker and not having a Spanish accent ( $r = .245, p = .014$ ).

The complete opposite is true for Voice Four regarding these correlations. Regarding Voice Four, there is a statistically significant association between having more of a Spanish accent and not being an American Speaker. This correlation is negative and low, meaning that the participants consider that Voice Four does have a Spanish accent and should not be considered American. (See Tables 42 and 43)

As for Voice Five, his scores were extremely high that the participants never even considered Voice Five as having a strong Spanish accent. Most of the participants considered Voice Five as American (91%) because of the low/weak absence of the spoken Spanish accent detected, or actually not detected.

**Table 42. Correlations Between Spanish Accent Level and Questions Regarding Ethnicity for Each Voice**

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Less Spanish Accent	-													
More Spanish Accent	-.108	-												
Medium Spanish Accent	.106	.486**	-											
American Speaker? V1	-.087	.014	-.004	-										
Puerto Rican Speaker?V1	.212*	-.091	-.065	-.260**	-									
American Speaker? V2	.245*	-.206*	-.041	.082	-.073	-								
Puerto Rican Speaker?V2	-.175	.145	.040	.101	.089	-.694**	-							
American Speaker?V3	-.141	.039	-.036	-.010	.039	.082	.101	-						
Puerto Rican Speaker?V3	.011	-.064	.066	.021	.073	-.167	.102	-.492**	-					
American Speaker?V4	.127	-.214*	-.042	-.010	.039	.082	-.101	-.010	.021	-				
Puerto Rican Speaker?V4	-.021	.038	.033	.023	.048	-.094	.046	.023	.187	.023	-			
American Speaker?V5	.134	.017	.055	.032	-.018	.171	-.175	-.320**	.114	.032	.088	-		
Puerto Rican Speaker?V5	-.003	-.027	-.121	-.044	.088	-.033	.218*	.230*	-.050	.230*	-.150	-.625**	-	
Puerto Rican Speaker?V6	.082	-.100	-.014	-.272**	.132	-.050	.000	.037	.082	.037	.198*	.099	-.091	-

*Note.* One asterisk means relationships were statically significant at alpha .05.  
Two asterisks mean relationships were statically significant at alpha .01.

Clarification of Table 42: The table is not incomplete. There is no correlation for Voice Six as an American speaker. It was not possible to preform because all the participants (100%) considered Voice Six to be completely Puerto Rican because of the strong/high spoken Spanish accent detected.

**Table 43. Frequencies Regarding Voices Considered American Speakers or Puerto Rican Speakers**

Variable	American Speaker		Puerto Rican Speaker	
	No	Yes	No	Yes
	<i>F</i>	<i>f</i>	<i>f</i>	<i>f</i>
Voice 1	99	1	13	87
Voice 2	40	60	50	50
Voice 3	99	1	4	96
Voice 4	99	1	5	95
Voice 5	9	91	84	16
Voice 6	100	0	12	88

### Final Analysis of Yes-No Questions of Primary Study

After realizing all the statistical information above, referring to the positive and/or negative aspects of the voices, the final four questions were also tabulated in response to the listeners' inference about the six individual voices and their personal attitudes about themselves. These four yes/no questions were based on the comprehension component of the investigation referring to analyzing if the six different voices were: American or Puerto Rican speakers, similar to their voice, and in reference to their personal aspect on wanting to sound like this person.

The follow up question, *Why?*, was also asked for the subjects to fully continue explaining their answers regarding the four yes/no questions. The following charts are the results and tabulations. (See Figures 30 through 53)

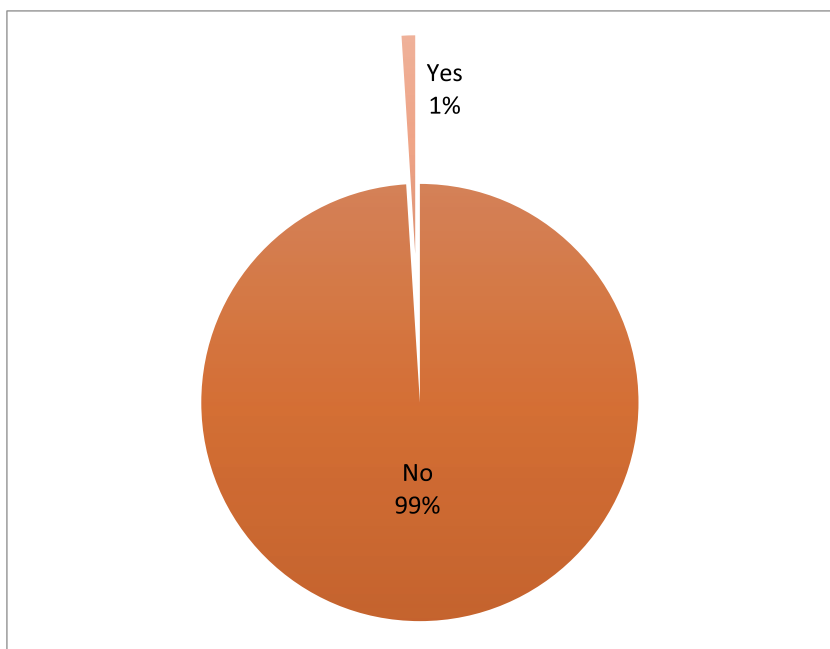


Figure 30. Analysis of yes-no questions of primary study- Voice one: American speaker?

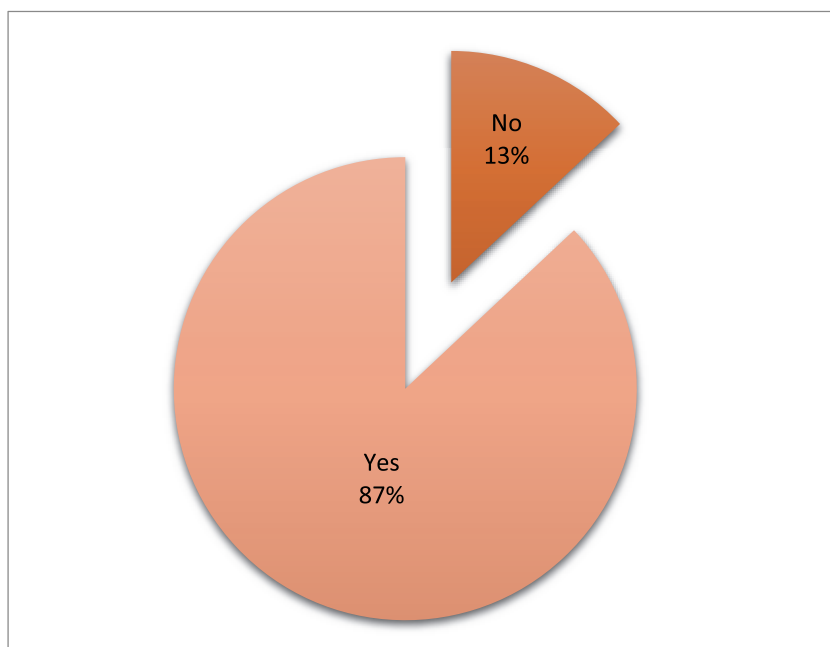


Figure 31. Analysis of yes-no questions of primary study- Voice one: Puerto Rican speaker?



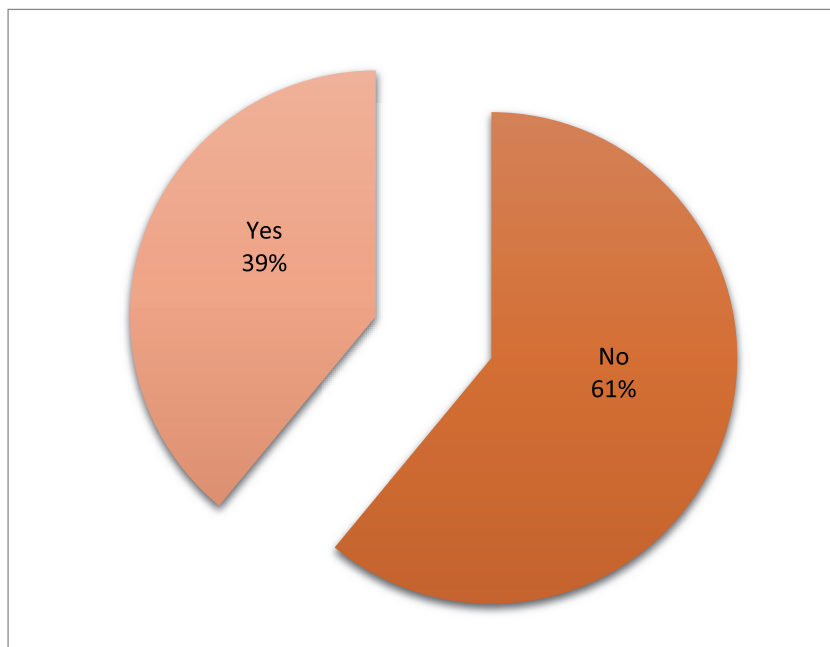


Figure 32. Analysis of yes-no questions of primary study- Voice one: Is this voice similar to yours?

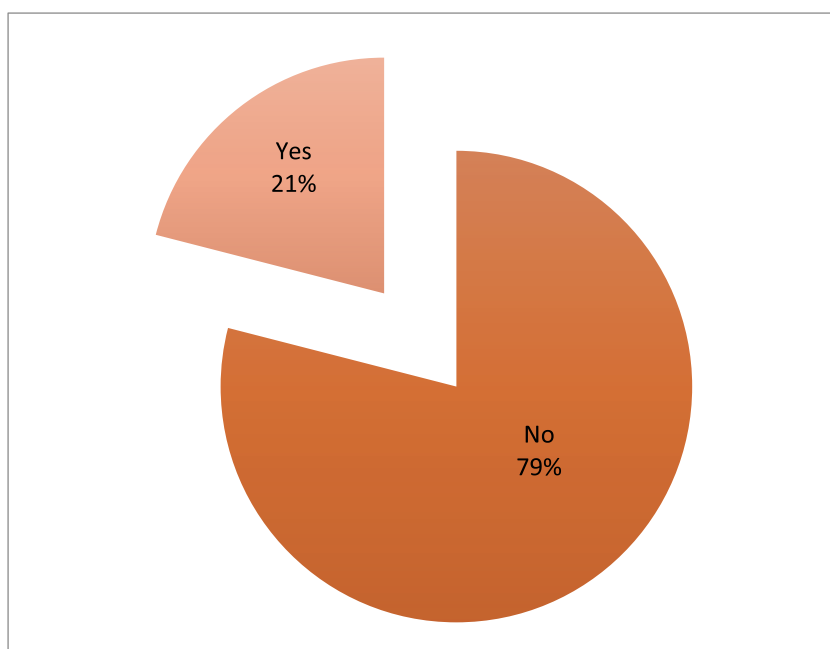


Figure 33. Analysis of yes-no questions of primary study- Voice one: Would you like to speak like this person?

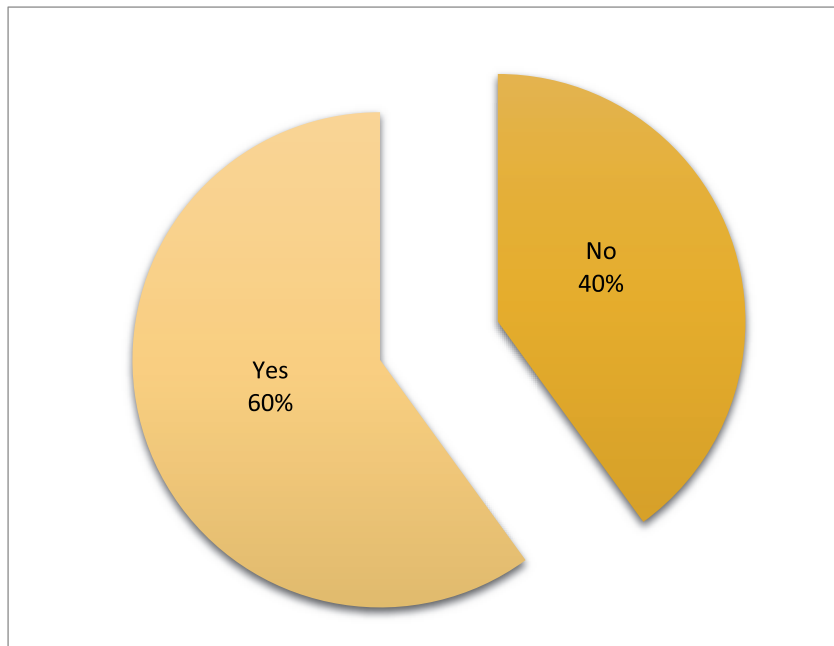


Figure 34. Analysis of yes-no questions of primary study- Voice two: American speaker?

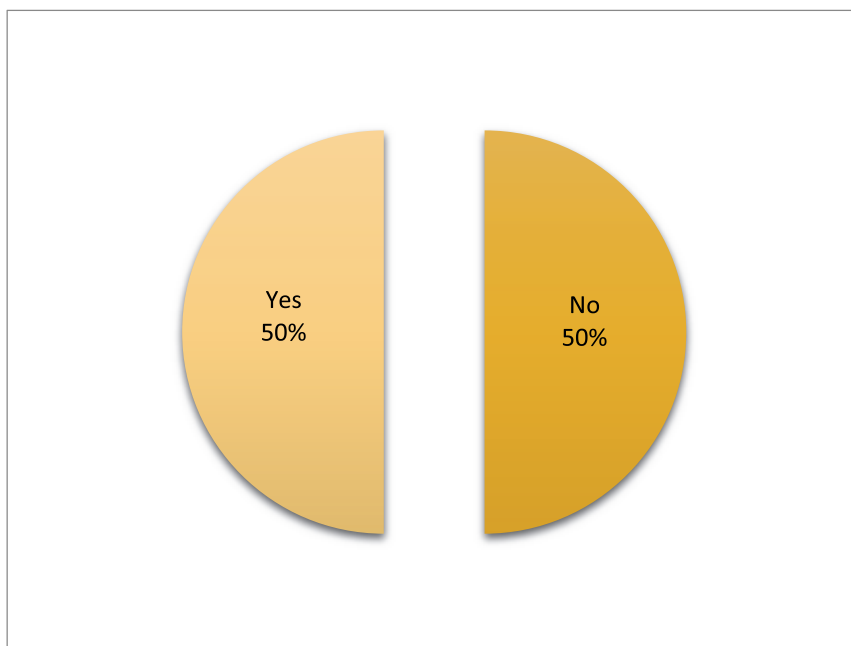


Figure 35. Analysis of yes-no questions of primary study- Voice two: Puerto Rican speaker?

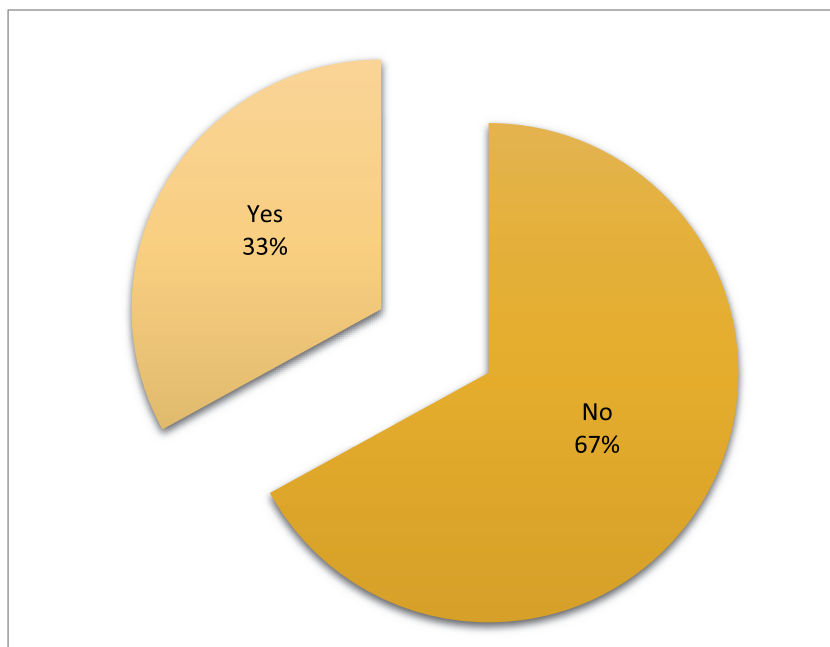


Figure 36. Analysis of yes-no questions of primary study- Voice two: Is this voice similar to yours?

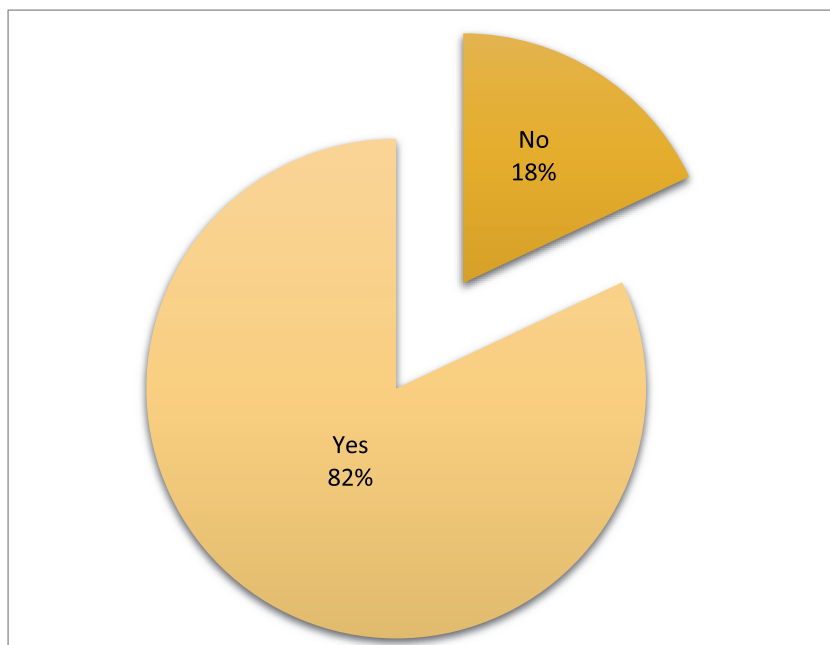


Figure 37. Analysis of yes-no questions of primary study- Voice two: Would you like to speak like this person?

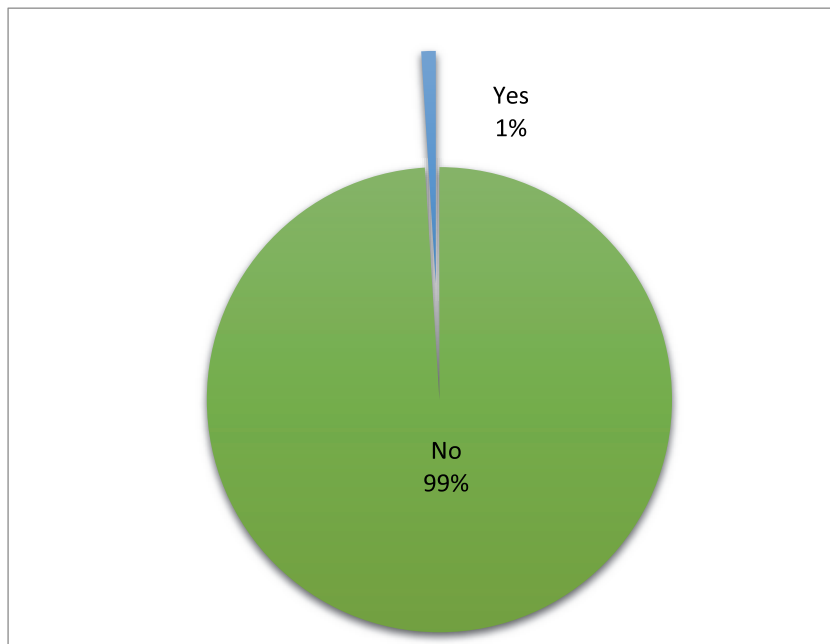


Figure 38. Analysis of yes-no questions of primary study- Voice three: American speaker?

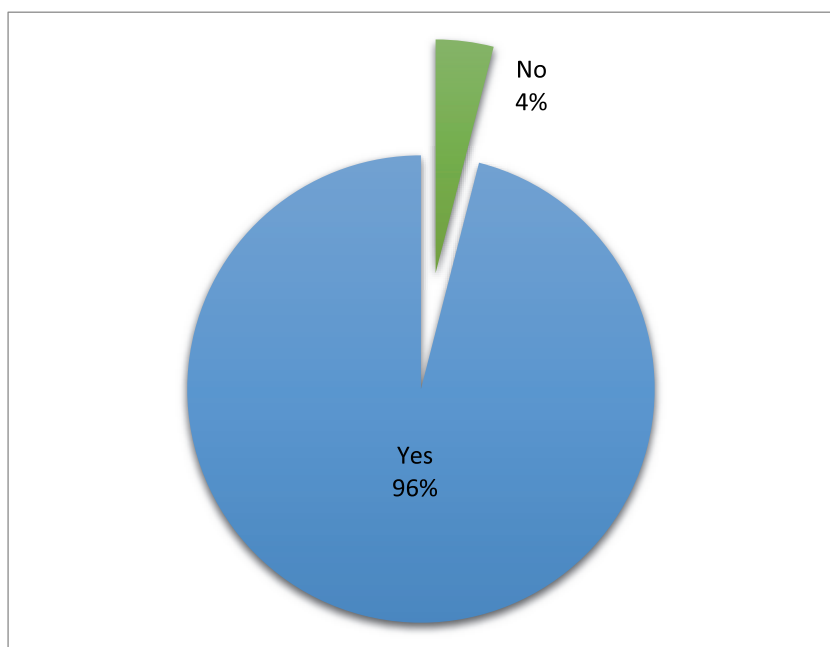


Figure 39. Analysis of yes-no questions of primary study- Voice three: Puerto Rican speaker?

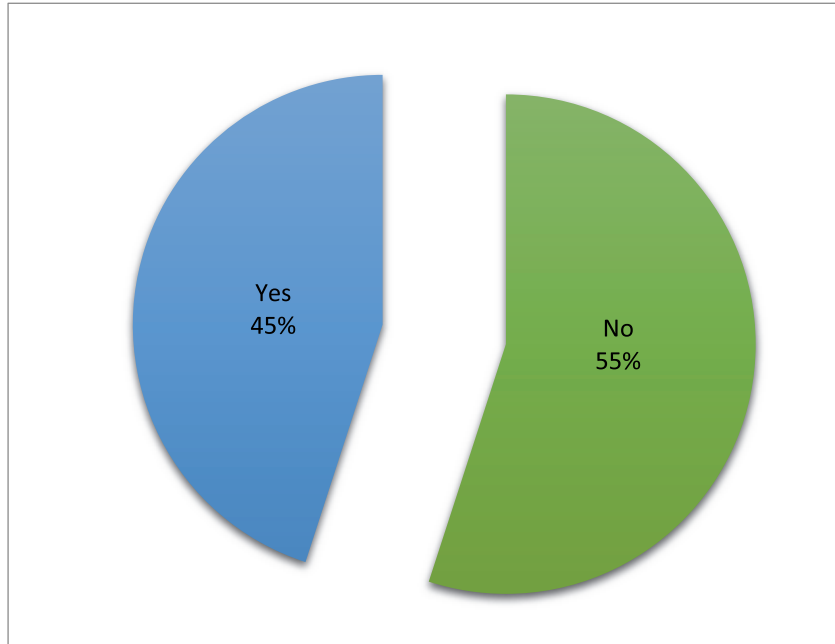


Figure 40. Analysis of yes-no questions of primary study- Voice three: Is this voice similar to yours?

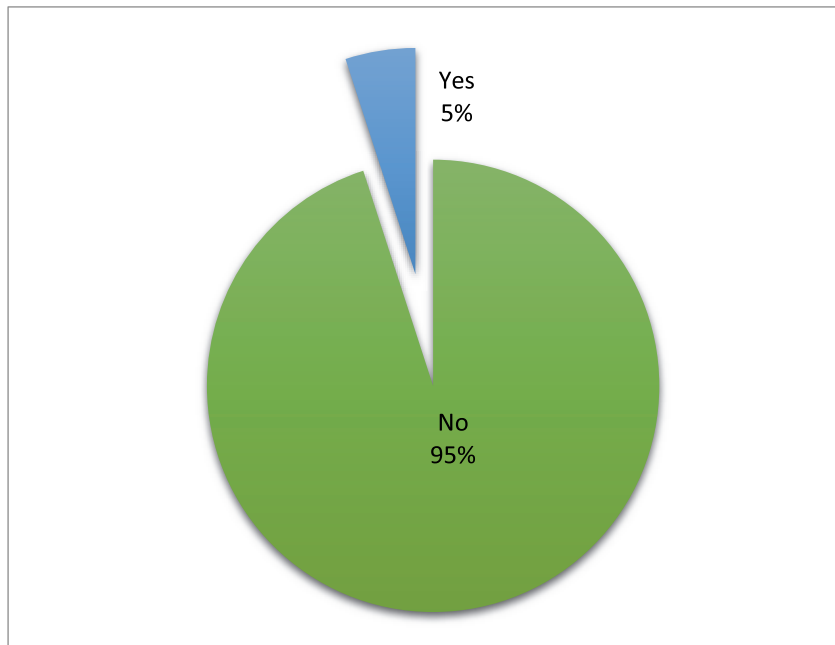


Figure 41. Analysis of yes-no questions of primary study- Voice three: Would you like to speak like this person?

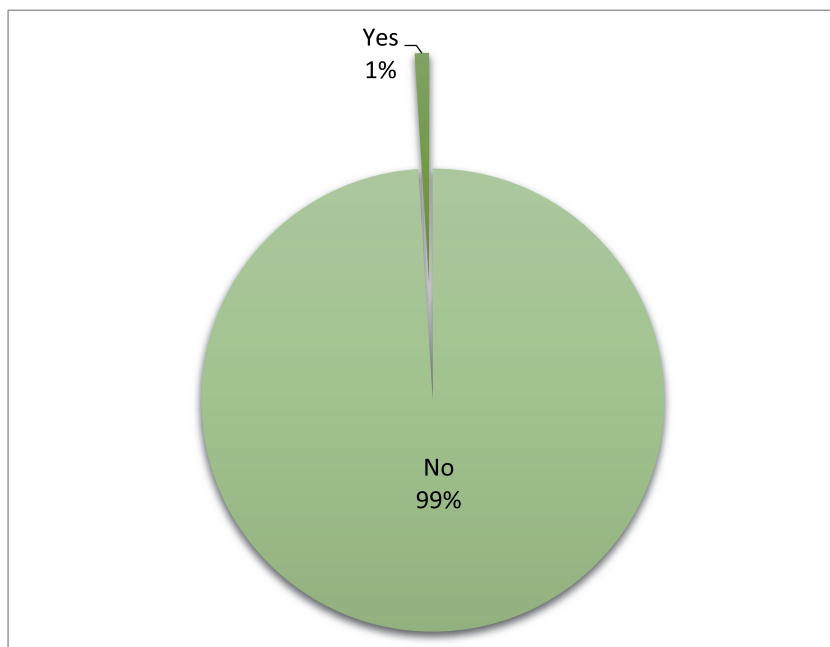


Figure 42. Analysis of yes-no questions of primary study- Voice four: American Speaker?

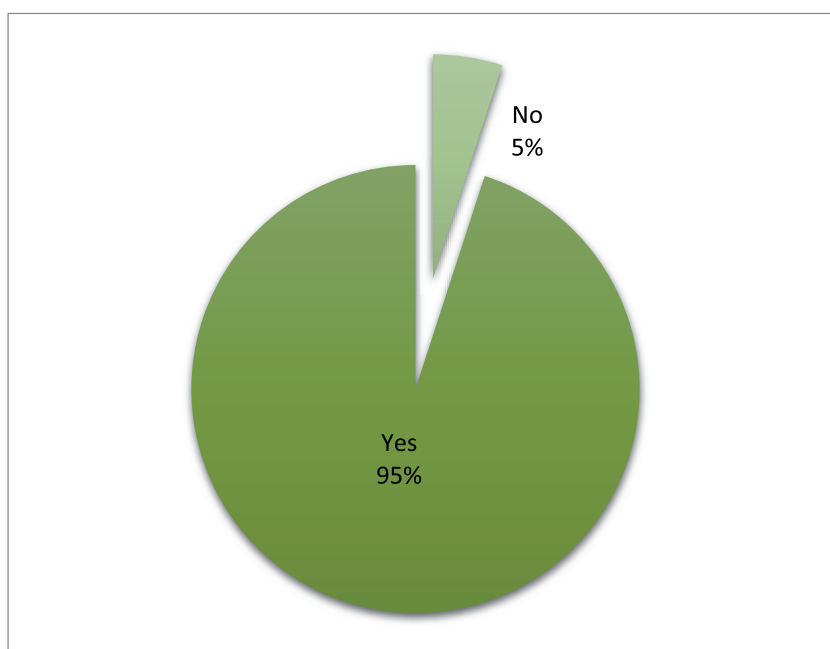


Figure 43, Analysis of yes-no questions of primary study- Voice four: Puerto Rican Speaker?

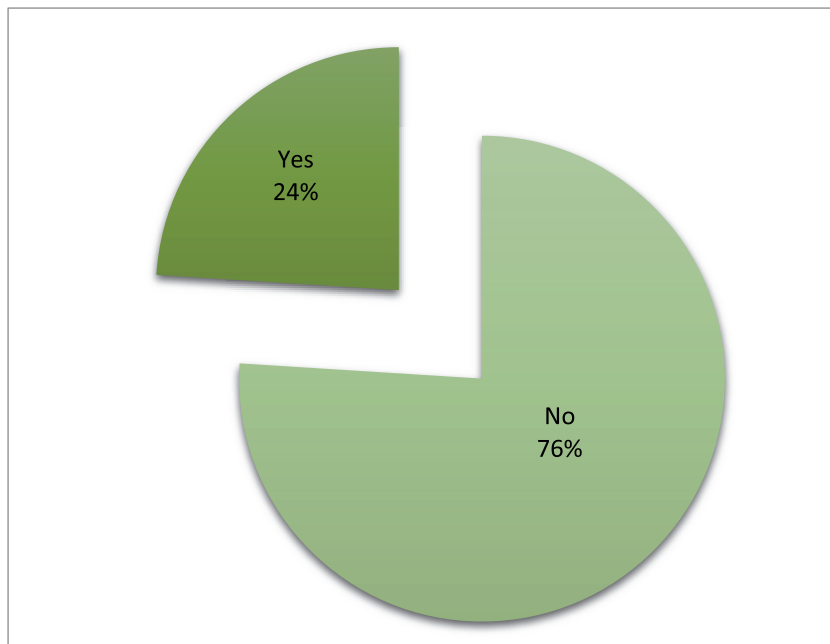


Figure 44. Analysis of yes-no questions of primary study- Voice four: Is this voice similar to yours?

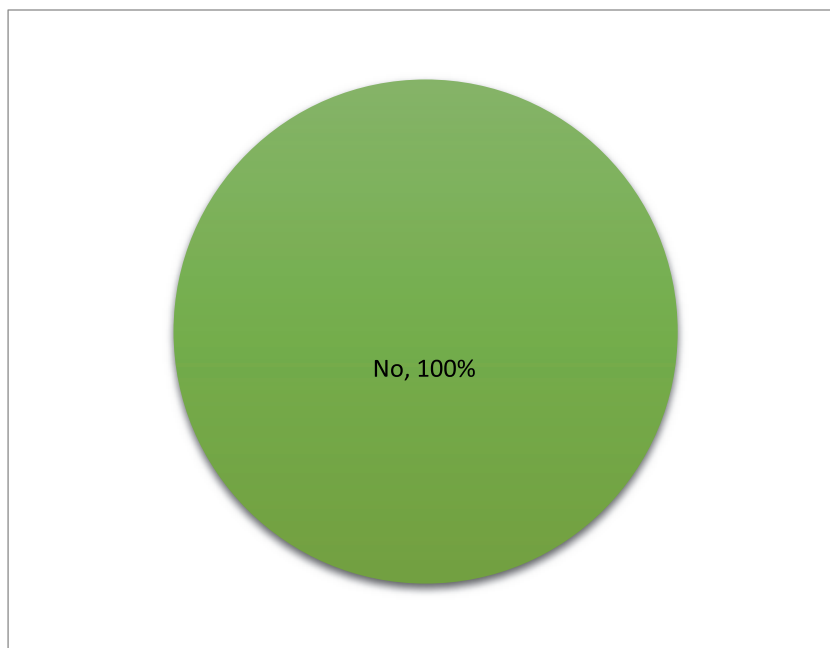


Figure 45. Analysis of yes-no questions of primary study- Voice four: Would you like to speak like this voice?

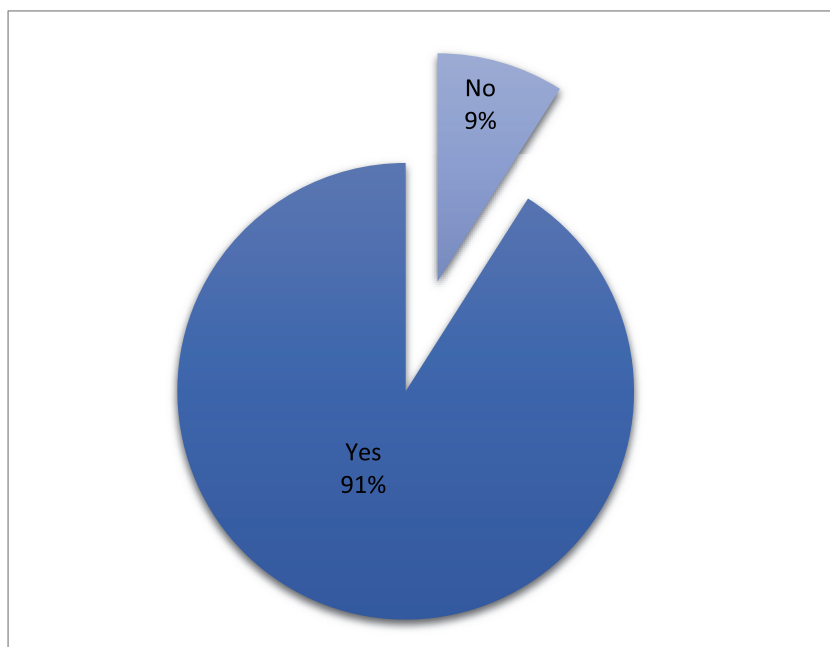


Figure 46. Analysis of yes-no questions of primary study- Voice five: American Speaker?

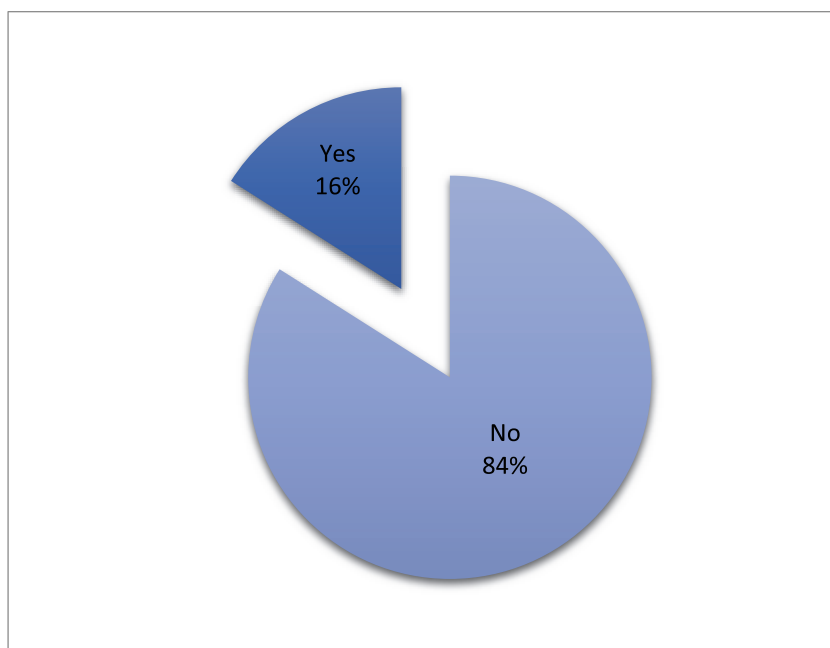


Figure 47. Analysis of yes-no questions of primary study- Voice five: Puerto Rican Speaker?



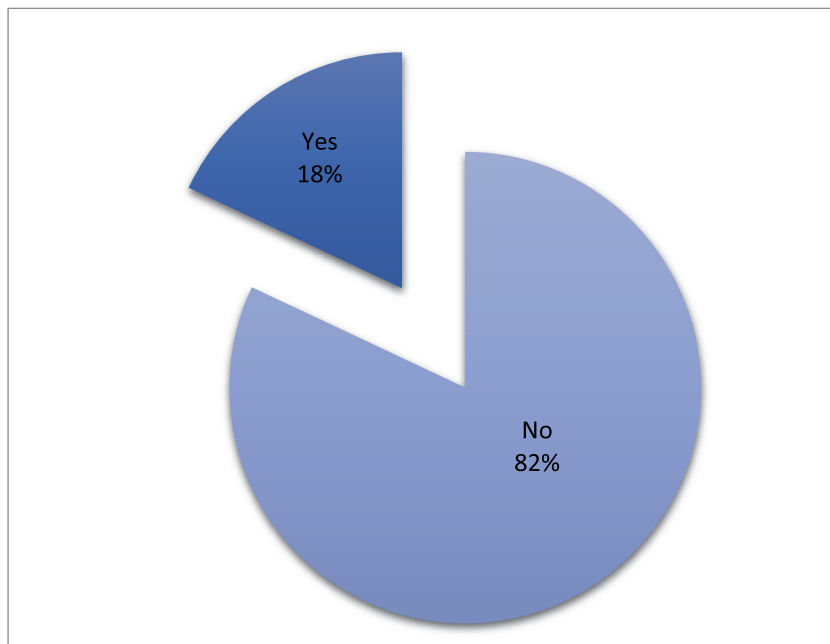


Figure 48. Analysis of yes-no questions of primary study- Voice five: Is this voice similar to yours?

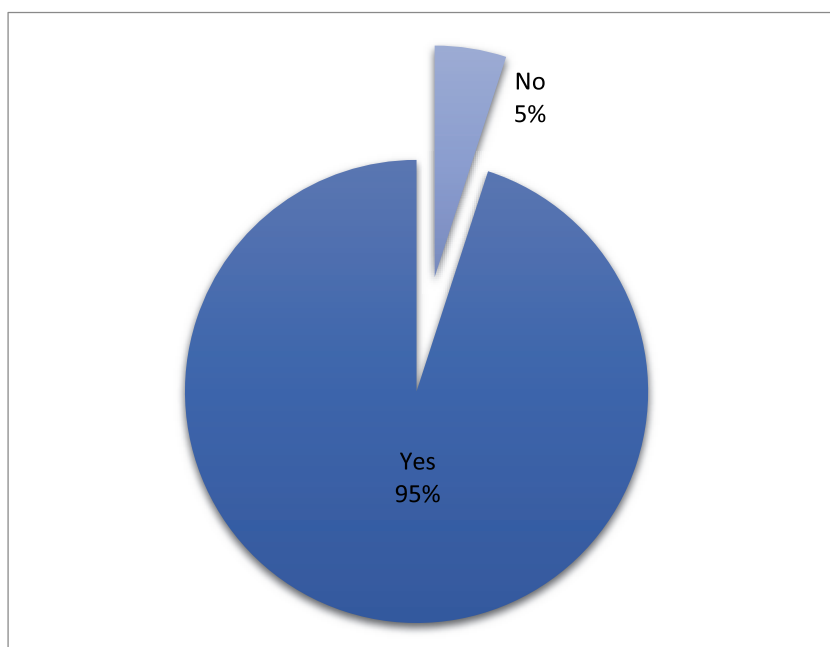


Figure 49. Analysis of yes-no questions of primary study- Voice five: Would you like to speak like this person?

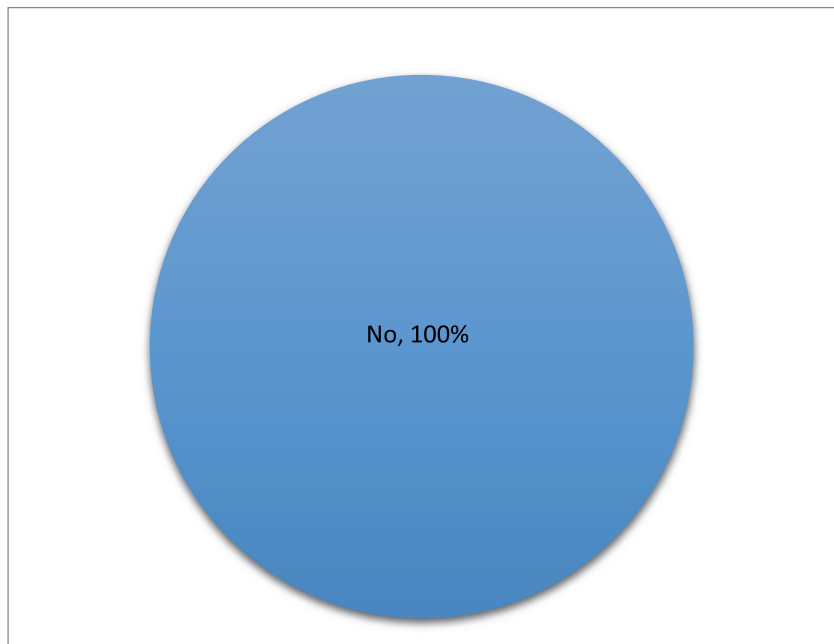


Figure 50. Analysis of yes-no questions of primary study- Voice six: American speaker?

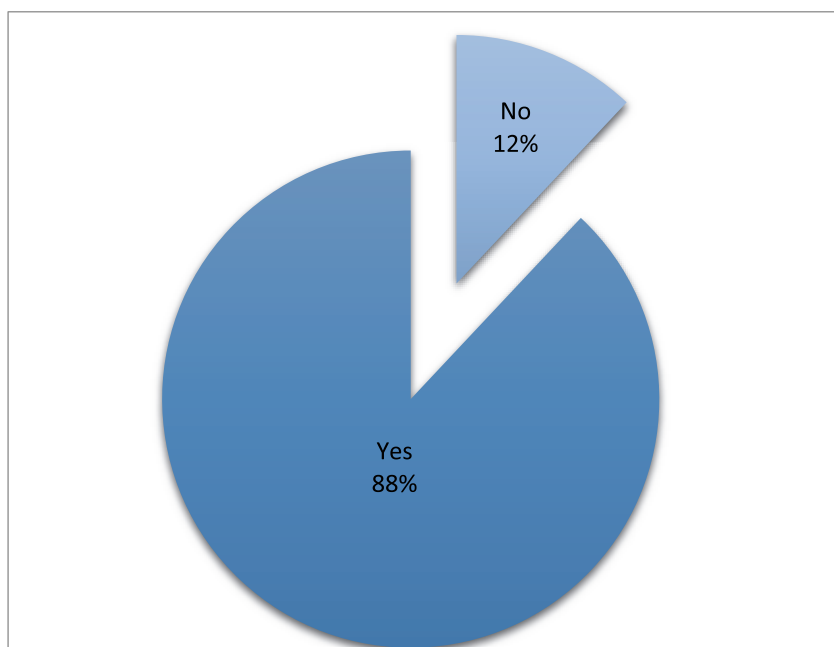


Figure 51. Analysis of yes-no questions of primary study- Voice six: Puerto Rican speaker?

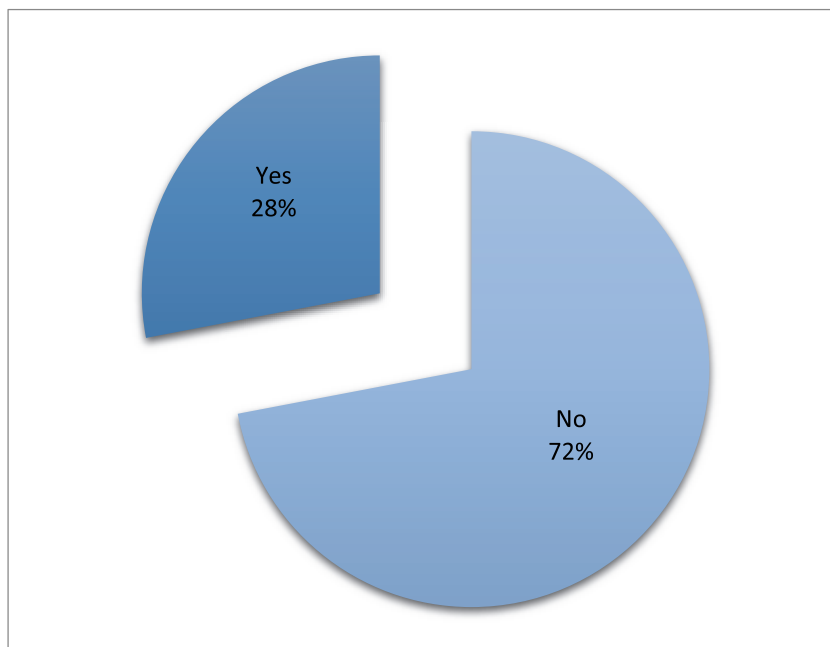


Figure 52. Analysis of yes-no questions of primary study- Voice six: Is this voice similar to yours?

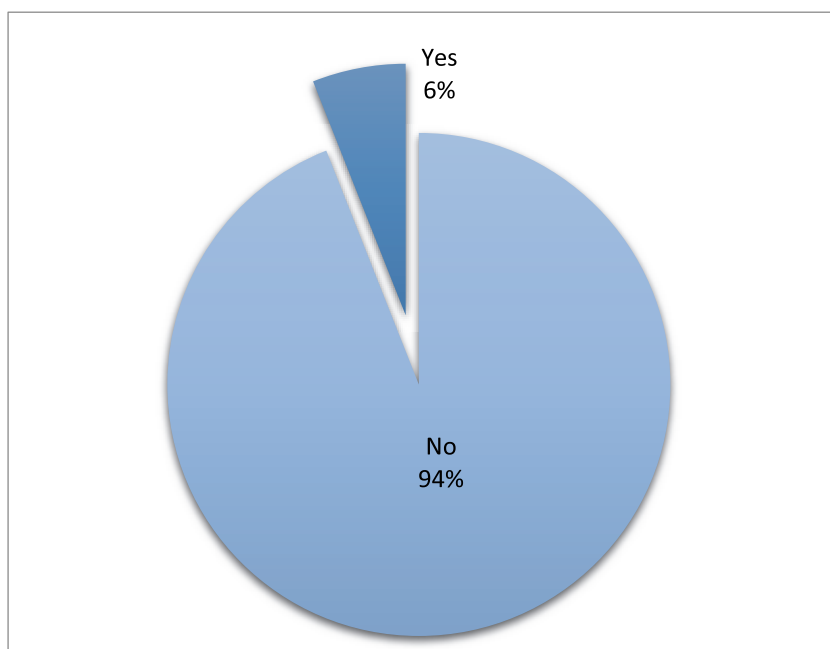


Figure 53. Analysis of yes-no questions of primary study- Voice six: Would you like to speak like this person?

### **Comparisons Between the Pilot Study and the Final Study**

With the objective of evaluating if there were any statistically significant differences between the Pilot Study and the Final Research, comparison analysis were performed.

#### **Comparison of socio-demographic variables from both studies.**

(See Table 44)

**Table 44. Comparison of Central Tendency Measures for Sample Socio-demographic Variables for the Pilot Study and the Final Study (n=124)**

Variable	Pilot Study			Final Study		
	Female (n=16)	Male (n=8)	Total (n=24)	Female (n=50)	Male (n=50)	Total (n=100)
	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>
Age	20.44(1.09)	21.38(2.93)	20.75(1.89)	21.24(3.18)	21.02(1.58)	21.13(2.50)
	<i>f(%)</i>	<i>f(%)</i>	<i>f(%)</i>	<i>f(%)</i>	<i>f(%)</i>	<i>f(%)</i>
Birth Place						
Puerto Rico	15(93.8)	8(100.0)	23(95.8)	47(94.0)	49(98.0)	96(96.0)
United States	1(6.3)	-	1(4.2)	2(4.0)	1(2.0)	3(3.0)
Other	-	-	-	1(2.0)	-	1(1.0)
First Language						
Spanish	15(93.8)	7(87.5)	22(91.7)	49(98.0)	50(100.0)	99(99.0)
English	1(6.3)	1(12.5)	2(8.3)	1(2.0)	-	1(1.0)
Both						
Mother Birth Place						
Puerto Rico	14(87.5)	7(87.5)	21(87.5)	41(82.0)	43(86.0)	84(84.0)
United States	2(12.5)	1(12.5)	3(12.5)	8(16.0)	7(14.0)	15(15.0)
Other	-	-	-	1(2.0)	-	1(1.0)
Mother First Language						
Spanish	15(100.0)	8(100.0)	24(100.0)	47(94.0)	49(98.0)	96(96.0)

Variable	Pilot Study			Final Study		
	Female (n=16)	Male (n=8)	Total (n=24)	Female (n=50)	Male (n=50)	Total (n=100)
	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>
Age	20.44(1.09)	21.38(2.93)	20.75(1.89)	21.24(3.18)	21.02(1.58)	21.13(2.50)
	<i>f</i> (%)	<i>f</i> (%)	<i>f</i> (%)	<i>f</i> (%)	<i>f</i> (%)	<i>f</i> (%)
English	-	-	-	2(4.0)	1(2.0)	3(3.0)
Both	-	-	-	1(2.0)	-	1(1.0)
Father Birth Place						
Puerto Rico	15(93.8)	8(100.0)	23(95.8)	45(90.0)	44(88.0)	89(89.0)
United States	1(6.3)	-	1(4.2)	3(6.0)	6(12.0)	9(9.0)
Other	-	-	-	2(4.0)	-	2(2.0)
Father First Language						
Spanish	15(93.8)	8(100.0)	23(95.8)	50(100.0)	48(96.0)	98(98.0)
English	1(6.3)	-	1(4.2)	-	2(4.0)	2(2.0)
Both	-	-	-	-	-	-
Year in University						
1 <sup>st</sup>	-	-	-	-	1(2.0)	1(1.0)
2 <sup>nd</sup>	9(56.3)	4(50.0)		19(38.0)	12(24.0)	31(31.0)
3 <sup>rd</sup>	2(12.5)	1(12.5)		6(12.0)	11(2.0)	17(17.0)
4 <sup>th</sup>	3(18.8)	1(12.5)		7(14.0)	13(26.0)	20(20.0)

Variable	Pilot Study			Final Study		
	Female (n=16)	Male (n=8)	Total (n=24)	Female (n=50)	Male (n=50)	Total (n=100)
	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>
Age	20.44(1.09)	21.38(2.93)	20.75(1.89)	21.24(3.18)	21.02(1.58)	21.13(2.50)
	<i>f(%)</i>	<i>f(%)</i>	<i>f(%)</i>	<i>f(%)</i>	<i>f(%)</i>	<i>f(%)</i>
5 <sup>th</sup>	2(12.5)	1(12.5)		14(28.0)	8(16.0)	22(22.0)
6 <sup>th</sup>	-	1(12.5)		4(8.0)	5(10.0)	9(9.0)
Academic Concentration						
Accounting	-	-	-	-	1(2.0)	1(1.0)
Communications	-	-	-	5(10.0)	11(22.0)	16(16.0)
Education	1(6.3)	-	1(4.2)	4(8.0)	5(10.0)	9(9.0)
Marketing	-	-	-	12(24.0)	12(24.0)	24(24.0)
Microbiology	-	-	-	3(6.0)	2(4.0)	5(5.0)
Nursing	2(12.5)	-	2(8.3)	19(38.0)	9(18.0)	28(28.0)
Psychology	13(81.3)	8(100.0)	21(87.5)	6(12.0)	8(16.0)	14(14.0)
Sociology	-	-	-	-	2(4.0)	2(2.0)
Degree Program						
Associate	-	-	-	1(2.0)	1(2.0)	2(2.0)
Bachelor's	16(100.0)	8(100.0)	24(100.0)	49(98.0)	49(98.0)	98(98.0)
Type of High School						

Variable	Pilot Study			Final Study		
	Female (n=16)	Male (n=8)	Total (n=24)	Female (n=50)	Male (n=50)	Total (n=100)
	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>
Age	20.44(1.09)	21.38(2.93)	20.75(1.89)	21.24(3.18)	21.02(1.58)	21.13(2.50)
	<i>f</i> (%)	<i>f</i> (%)	<i>f</i> (%)	<i>f</i> (%)	<i>f</i> (%)	<i>f</i> (%)
Public	12(75.0)	5(62.5)	17(70.8)	38(76.0)	41(82.0)	79(79.0)
Private	4(25.0)	3(37.5)	7(29.2)	12(24.0)	9(18.0)	21(21.0)
Residence in PR						
No	1(6.3)	2(25.0)	3(12.5)	6(12.0)	7(14.0)	13(13.0)
Yes	15(93.8)	6(75.0)	21(87.5)	44(88.0)	43(86.0)	87(87.0)
Residence in USA						
No	4(25.0)	1(12.5)	5(20.8)	12(24.0)	13(26.0)	25(25.0)
Yes	12(75.0)	7(87.5)	19(79.2)	38(76.0)	37(74.0)	75(75.0)

Note. *M*= Means, *SD*= Standard Deviation, *f*= frequency, and %= percent.



### Classification of the Aspects Scores by Gender for the Pilot Study

#### Mean scores and standard deviations of the voices by gender for the Pilot Study.

Below are the mean scores and the standard deviations for the Pilot Study for each voice classified by gender. Analyses of *t*-Student test were performed to see if there were statistically significant differences between the males and the females for each voice. No significant differences were found. (See Table 45)

**Table 45. Mean Scores and Standard Deviations for the Pilot Study of the Voices Classified by Gender of the Sample**

Variable	Female <i>M(SD)</i>	Male <i>M(SD)</i>	Total <i>M(SD)</i>
Voice 1	62.69(10.78)	70.87(15.44)	65.42(12.80)
Voice 2	74.00(11.36)	76.88(10.54)	74.96(10.95)
Voice 3	58.38(10.03)	67.00(12.07)	61.25(11.28)
Voice 4	56.69(8.16)	64.87(11.91)	59.42(10.11)
Voice 5	74.31(11.78)	73.13(9.31)	73.92(10.83)
Voice 6	61.81(11.98)	64.25(13.05)	62.63(12.12)

*Note.* No statistically significant differences were found between the genders in the sample when analyzing the mean scores of the voices.

A comparison was performed between the mean scores and standard deviations by gender of the Pilot Study and the Final Study. Results showed that there were statistically significant differences between the scores for all voices by gender. For females the results were statistically significant higher for the Final Study {Voice 1 [ $t(64) = -8.171, p < .01$ ], Voice 2 [ $t(64) = -10.097, p < .01$ ], Voice 3 [ $t(64) = -11.274, p < .01$ ], Voice 4 [ $t(64) = -8.594, p < .01$ ], Voice 5 [ $t(64) = -15.306, p < .01$ ], and Voice 6

$[t(64) = -8.320, p < .01]$ }. The results for the males also showed that the scores for the Final Study were also significant higher than the scores in the Pilot Study {Voice 1  $[t(64) = -4.378, p < .01]$ , Voice 2  $[t(64) = -8.543, p < .01]$ , Voice 3  $[t(64) = -5.548, p < .01]$ , Voice 4  $[t(64) = -4.342, p < .01]$ , Voice 5  $[t(64) = -9.455, p < .01]$ , and Voice 6  $[t(64) = -6.274, p < .01]$ }. (See Table 46)

**Table 46. Comparison of Mean Scores and Standard Deviations of the Voices Classified by Gender of the Sample for the Pilot Study and the Final Study**

Variable	Pilot Study (n=24)			Final Study (n=100)		
	Female	Male	Total	Female	Male	Total
	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>
Voice 1	62.69(10.78)	70.87(15.44)	65.42(12.80)	88.28(10.94)	90.36(11.05)	89.32(10.99)
Voice 2	74.00(11.36)	76.88(10.54)	74.96(10.95)	106.60(11.20)	110.02(10.14)	108.31(10.77)
Voice 3	58.38(10.03)	67.00(12.07)	61.25(11.28)	89.82(9.61)	90.86(11.17)	90.34(10.39)
Voice 4	56.69(8.16)	64.87(11.91)	59.42(10.11)	85.54(12.57)	85.20(12.35)	85.37(12.40)
Voice 5	74.31(11.78)	73.13(9.31)	73.92(10.83)	114.18(8.06)	112.52(11.16)	113.35(9.72)
Voice 6	61.81(11.98)	64.25(13.05)	62.63(12.12)	86.34(9.68)	89.46(10.15)	87.90(9.99)

*Note.* Statistically significant differences were found by gender between the pilot study and final study when analyzing the mean scores of the voices.

### Comparison Between Positive and Negative Aspects and the Gender of the Participants in the Pilot Study and Final Study

When comparing the Positive and Negative Aspects mean scores between the Pilot Study and the Final Study we found statistically significant difference for the Negative Aspects [ $t(122) = -22.398, p < .01$ ]. These results indicate that higher scores were endorsed in the Final Study in the Negative Aspects when compared to the Pilot Study. No statistically significant differences were found when comparing the Positive Aspects. Table 47 shows the mean scores and standard deviations for the pilot study and final study for the Positive and Negative Aspects.

**Table 47. Comparison Between Positive and Negative Aspects and the Pilot Study and Final Study (n=124)**

Aspect	Pilot Study (n=24)	Final Study (n=100)	Total (n=124)
	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>
Positive: Hardworking, Ambitious, Humorous, Authoritative, Intelligent, Humble, Proud, Affectionate, Generous, Charismatic, Attractive, Powerful, Educated, Firm, and Refined	218.88(39.27)	221.47(33.11)	220.97(34.23)
Negative: Unreliable, Irresponsible, Sad, Dominant, Unfriendly, Timid, Controlling, Cold, Egoistic, Envious, Unpleasant, Weak, Monotone, Ordinary, and Aggressive	184.17(30.55)	353.12(33.77)**	320.42(74.73)

*Note.* \*\*Statistically significant differences at .01 alpha level ( $p < .01$ ).

## Chapter 5: Conclusion

One of the crucial theories related or linked to this investigative research is the Accommodation Theory, whose principle basis is in social psychological research on similarity – attraction. This theory's principle implies that individuals can have “favorable” evaluations by others because of the similarities between them, thus indicating the individual's need for acceptance on social approval. Interestingly and unexpectedly, this investigative researcher's final results differ or contradicts part of the Accommodation Theory's principle.

The results of this study imply a contradiction to the “favorable” or positive evaluations expected in the final statistical analysis. In fact, the complete opposite occurred in reference to the “favorable” evaluations, which in fact were given to those individual voices who were *not* similar to their own. Among the volunteer students, 124 to be precise, the two highest scores obtained in both the pilot and research study were Voice Two (female) and Voice Five (male) which indicated the least aspect of Spanish markers in their pronunciation and were designated as the lowest scores. This indicates that the two voices which did not have a noticeable Spanish “accent” when speaking English, were considered the most positive referring to characteristics.

The results of the Regression Analysis for positive aspects demonstrated that Voice Two had the highest scores/answers while Voice Five came in a close second. Positive adjectives such as ambitious, proud, generous, attractive, and powerful, were among the characteristics chosen for both voices. Furthermore, in reference to the negative characteristics, these same two voices were among the lowest, obviously.

To summarize, the two voices which were categorized with the lowest Spanish indicators were among the highest positive scoring.

Continuing with the aspect of high scores in other categories, but specifically dealing with the negative aspects, we have the complete opposite. The highest scores in *both* the pilot and research study in the negative aspects, were the two voices which had the highest score of Spanish indicator markers. *All* of the 24 student participants involved in the pilot study gave the lowest scores to both Voice Four and Voice Six, *both* of which had the most pronounced Spanish “accented” speech when speaking English.

Unfortunately, because of their obviously marked Spanish pronunciation, these two voices were considered the most negative.

However, as stated previously, this was only one part of the final statistical data which differed from the Accommodation Theory. In dealing with social perception, this investigative research does coincide with the premises of social acceptance. In the Accommodation Theory, the aspect of the social acceptance’s premises of not “fitting in” can be summarized by the final yes/no questions as being categorized as Puerto Ricans or Americans, and explained furthermore in detail with the tag question *why*. These were the principal objectives and reasoning behind this investigation.

The classification of the six voices as low, medium, or high degree of Spanish markers were crucial indicators for the final analysis of the socialized perspective issue. As the results indicated and presented in Table 43, the overall analysis of 100 volunteer students stated with confidence that four voices were *not* American. These four voices were categorized in the medium and high Spanish markers, as Voices One, Three, Four, and Six. These results stipulated an overwhelming 99% and 100% were *not* American

voices, while indicating the two voices in the low Spanish markers as 91% yes to Voice Five (male) while still stating yes, but questionable for Voice Two, with a 60%.

Along the same line of reasoning, the answers of socialized perspective in reference to “belonging” or being Puerto Rican was analyzed in the second question. Repetitively, the same four voices were selected as being considered Puerto Ricans, although the percentages did not reach such high figures as to be considered Americans. Among the same four voices considered medium and high Spanish markers, (One, Three, Four, and Six) the percentages ranged in the high 80’s from 87% and 88%, to the highest scores; a 95% and 96%. The two voices which had practically no audible Spanish language markers, did in fact have different outcomes.

Considering Voices Two and Five were classified with the same scores as low Spanish indicators when speaking English, there was a no table discrepancy within the final outcome. Though both these voices were considered not having any or hardly any Puerto Rican accents when speaking English, Voice Two was disputable. In comparison to Voice Five, 84% of the subjects answered *not* Puerto Rican, while an incredible 50/50 questioned the ethnicity or nationality of Voice Two as Puerto Rican. Interesting to point out, the majority of these answers came from the female gender.

The final yes/no question (Would you like to sound like this person?) asked on the questionnaire continued to inquire about social preference dealing with acceptance. The responses were in fact identical to the earlier questions. An incredible amount of negativity in answering *no* from 100%, 95%, 94%, to 79%, from the same previously four selected Voices (One, Three, Four, and Six), and additional comments stated confirmed the stipulated answer. Commentaries such as the following were stated:

“He didn’t dominate the language. No, lacks pronunciation. Poor English and not attractive. I think my English pronunciation is better. This person needs to practice more continuously. Sounds confusing and insecure. I prefer my English to hers. I would like to speak English with less accent. She sounds poorly educated. I would be embarrassed to sound like this. His pronunciation is not the best. Has a very marked Spanish accent. Sounds like he is speaking English for the first time.”

The two voices which received affirmative responses were the same voices with the highest positive scores, and the lowest Spanish markers. Voice Two and Voice Five obtained an 82% and a 95% of the subjects wanting to sound like them. The following written comments were made:

“She had proper pronunciation, had to be a North American. Shows great security, professionalism, and education. I would like to speak English like this person because I want to have more domain and a fluent English pronunciation. It looks like she talk it on a daily basis. I would love to talk that way.”

To recapitulate the answers to the research questions uncovered in this research investigation, it reveals:

1. Native Puerto Ricans react inquisitively when listening to other Puerto Ricans speak English with near native accents in English because of the questionable indication of where the person comes from. The analysis of nationality, whether direct or indirect, is formulated and the doubt or questioning begins, and continues.
2. The fact that an islander, born and raised in Puerto Rico, speaks English with a near native accent in English can be considered both a positive and negative



element in Puerto Rico depending on one's point of view: inclusion or exclusion. Native Puerto Ricans can consider the speaker an "outsider" because of the different accent and therefore generate a separation or division which could be considered a negative element. On the other hand, the positive element could be considered having the highest scores in the list of positive characteristics bestowed upon the speaker. Out of a total of 30 characteristics specifically selected in this research, the volunteers indicated the most positive responses to these voices which had the lowest Spanish marked indicators.

3. The major consequence of having a North American accent in Puerto Rico can be the key element that would lead to consider that the speaker would *not* be categorized as a Puerto Rican. It is important to clarify that both voices which were considered Americans were in fact 100% Puerto Ricans. Voice Two and Voice Five are both Puerto Ricans, born and raised in Arecibo, and who have not lived in the US nor left the island for the purpose of education. Because of the noticeable difference in accent, another consequence in addition to the exclusion factor, could also be, imagining a different educational background. This could lead the listener to believe a biased reasoning, upon thinking that this person has had a higher level of schooling, or education. Other consequences of having this specific American accent can lead to other predisposed analytical factors such as thinking the person has traveled or lived in the U.S., or has family and/or friends that speak English, indicating more time practicing the language, a phenomenon which native Puerto Ricans

would *not* think possible in Puerto Rico, according to the outcome of this research.

4. Interestingly enough, the Puerto Ricans involved in this study claimed they would be motivated to speak similarly to Voice Two and Voice Five, both of which they mistakenly deduced to be native English speaker. As for the concept of identity, this study concludes that Spanish-speaking listeners are a key element in the judgement of the speakers “identity”. Socialized perception is based on the listeners’ observation or awareness of the speakers’ pronunciation.
5. The final yes/no question of the survey directly asking the native Puerto Ricans about their personal choice of voices heard speaking English as a second language, was answered favorably even though the great majority thought the two voices with the lowest Spanish markers to be North American speakers. The other four voices, all of which were considered Puerto Ricans, were not chosen as people they want to sound like. In fact, the final evidence in this investigative research points out from the data that “similar” voices were referred to as “negative” in the listeners’ perspective, response, and attitude.

My findings surprisingly revealed that my hypothesis was accurate in some aspects but opened the door to the realization that much more could have been discovered. I intend to continue this line of investigation by:

1. creating a more complete array of questions asked in the questionnaire
2. collecting specific profiles and data on subjects

3. acquiring more students to participate in the questionnaire
4. balancing the numbers of native Spanish and English speakers
5. listing more expectations before the actual investigation
6. researching other studies and investigations
7. analyzing the answers both quantitatively and qualitatively
8. interpreting results visually with graphs, charts, maps, etc.
9. validating the final hypothesis
10. demonstrating that more linguistic studies are needed in this area

To conclude, this investigative research demonstrates a spoken accent is a crucial factor involved within social perception. We are the individuals who choose to include or exclude others, but also are included in these “observations.” Everyone who speaks has an accent, everyone. This implies that *we* also are being observed, by others. Instead of instigating negativity, we should be more open to others’ accents or unique pronunciations, especially within our own community.

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