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An acoustic and perceptual analysis of vowels preceding final /-s/ deletion in the speech of Granada, Spain and Cartagena, Colombia

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AN ACOUSTIC AND PERCEPTUAL ANALYSIS OF VOWELS PRECEDING FINAL /-S/
DELETION IN THE SPEECH OF GRANADA, SPAIN AND CARTAGENA, COLOMBIA

For the degree of Doctor of Philosophy

Is approved by the final examining committee:

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Elena Benedicto

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AN ACOUSTIC AND PERCEPTUAL ANALYSIS OF VOWELS PRECEDING FINAL /-S/
DELETION IN THE SPEECH OF GRANADA, SPAIN AND CARTAGENA, COLOMBIA

A Dissertation

Submitted to the Faculty

of

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Miguel Ángel Rincón Pérez

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Requirements for the Degree

of

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West Lafayette, Indiana

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ABSTRACT

Rincón Pérez, Miguel Ángel. Ph.D., Purdue University, May 2015. An Acoustic and Perceptual Analysis of Vowels Preceding Final /-s/ Deletion in the Speech of Granada, Spain and Cartagena, Colombia. Major Professor: Robert M. Hammond.

The objective of this dissertation is to explore the phenomenon of *desdoblamiento vocalico* or tense-lax vowel alternation in eastern Andalusian Spanish, particularly, in Granada Spanish and in the Spanish of Cartagena, Colombia. In previous studies of Eastern Andalusian Spanish (Navarro Tomás, 1939; Alonso et al., 1950; Mondéjar, 1970; Salvador, 1964, 1977) it has been claimed that in this variety of Spanish, vowels preceding deletion of post-nuclear /s/ undergo an open-closed vowel alternation. As a result, this vocalic alternation may serve as a functional marker distinguishing singular from plural in nouns and person-number in certain verbal forms rendered homophonous by the deletion of final /-s/.

Following the methodologies of Hammond (1978), Figueroa (2000), and Carlson (2006), speech samples were elicited from ten native speakers of Granada Spanish and acoustically analyzed with Praat. In addition, a perception test was arranged with these speech samples and administered to twenty speakers of Granada Spanish. For the purpose of making a cross-dialect comparison, the experiment above was replicated with native speakers of Cartagena Spanish, another dialect well-known for its high rate of final /-s/ deletion (Becerra, 1985).

This study found a significant tense-lax alternation for the non-high vowels preceding deleted final /-s/. The degree of alternation is the greatest for the vowel /e/. These findings concur with those of Llisterri and Poch (1987), Martínez Melgar (1994), and Sanders (1994). Regarding the perception portion of this study, results reveal that the rate of correct responses for items without a following /s/ is significantly higher than that of items with deleted final /-s/ in both dialects. These results indicate that, despite de tense-lax vowel alternation, participants failed to accurately identify items with deleted final /-s/. This degree of vowel alternation does not provide Granada Spanish speakers nor Cartagena Spanish speakers with sufficient acoustic cues for distinguishing between a vowel before deleted /s/ and a vowel without a following /s/. The results in this study do not support the claim that *desdoblamiento vocálico* or vowel alternation fulfills a phonemic function in eastern Andalusian Spanish. The same holds true for vowel restructuring in Cartagena Spanish.

CHAPTER 1. INTRODUCTION

Linguistic change is an intrinsic characteristic of human languages. Whether induced by internal or external factors, all human languages change over time. Outside the realm of linguistics, linguistic change is often seen as corruption, decay, degeneration, deterioration, as due to laziness or slovenliness, or as a threat to education (Campbell, 2004). For instance, Quirk (2006) points out that the *Appendix Probi* is a compilation of 227 items in which Valerius Probus, the alleged author, attempts to “hold the line” against general linguistic deterioration and carelessness. Despite this negative attitude toward language change, such change cannot be prevented or avoided. The condemned forms in the *Appendix Probi* also serve the purpose of illustrating some of the phonological and spelling changes that were taking place or had already taken place in spoken Latin at the sixth century. Some of these forms are part of modern Spanish speech, e.g. TABULA > tabla ‘board,’ MENSA > mesa ‘Table.’

Language change is particularly noticeable in the phonology of any language and several common types of sound change can be distinguished. A particular example of sound change involves the structure of vowels. The early Latin vocalic system consisted of ten phonemes; consequently, it evolved into a seven-vowel phonemic system in Popular Latin, and ultimately, yielded the five-vowel phonemic

system in Spanish (Penny, 2002). It is precisely vowel change that is the topic that provides the grounds for discussion in this study as illustrated in next section.

1.1. Aspects of the present study

This study is motivated on the grounds that final /-s/ deletion, a purported characteristic feature of Andalusian Spanish, has induced vowel restructuring. Navarro Tomás (1939) claimed that in the Andalusian variety of Spanish the vowels adjacent to a deleted /s/ assume a more open articulation and also appear to be lengthened. This vocalic feature has led some linguists to propose a vocalic system comprised of ten or eight vowels (Alvar 1955, Alarcos Llorach, 1958). Consequently, a publication in the *Atlas Lingüístico y Etnográfico de Andalucía* (ALEA) allowed the circumscription of the phenomenon of vocalic laxing or opening in the eastern Andalusia region (Mondéjar, 1970).

In Standard Spanish final /s/ often fulfills two grammatical functions; it marks the second singular person *ves* 'you see' versus third person singular *ve* 'he/she sees' in most verbal paradigms and it indicates the plural form of nouns and adjectives (*casa* 'house' versus *casas* 'houses' and *alto* 'high' (singular) versus *altos* 'high' (plural)). This purported vowel alternation is said to have a semantic value in Andalusian Spanish in which speakers can distinguish, apart from context, when a final /s/ has been deleted. In other words, speakers of eastern Andalusian would thus be able to differentiate between second and third person verb forms in most paradigms as well as to distinguish singular from plural forms in nouns and

adjectives based on the quality of the vowel. This purported differentiation between second and third person verb forms appears to be limited to situations in which final /-s/ is the only indicator of the grammatical person within a sentence. Any other contextual marker appearing within a sentence would yield vocalic opening redundant.

The first studies carried out on Andalusian vowel restructuring were of an impressionistic nature and lacked experimental verification (Alarcos Llorach, 1949; Mondéjar, 1970; Salvador, 1977; López Morales, 1984). More recent studies on eastern Andalusian vowel alternation, however, show conflicting results, differing methodological choices and data-collection procedures for elicitation tasks. Martínez Melgar (1986) did not find differences in vowel quality in word-final plural forms preceding deleted /s/. However, she points out that participants in her study were from towns in western Jaén and Córdoba and this area falls within the borders of diglossia that divides eastern Andalusian from western Andalusian Spanish. In a subsequent study, Martínez Melgar (1994) included participants from the provinces of Granada, Almería as well as eastern Jaén. This time the author found a systematic opening of the mid vowels /e/ and /o/. The opening of the mid vowels found by Martínez Melgar concurs with the findings reported by Llisterri and Poch (1987) and by Sanders (1994). However, the study conducted by Sanders (1994) only employed samples from three Granada college students. None of these studies offered perceptual tests to verify the alleged distinctive value of vowel alternation in eastern Andalusia. Carlson's (2006) speech samples employed three participants

from eastern Andalusia and three from western Andalusia. Carlson's (2006) perception tests employed 25 participants of which 23 were from western Andalusia. This factor is methodologically problematic because the quality of the vowels in the eastern Andalusian dialect has been claimed to be markedly different than those in the western Andalusian dialect.

One of the objectives of the present study is to investigate whether speakers of eastern Andalusian Spanish, particularly from the dialect of Granada, are able to recognize vowels that precede deleted post-nuclear /-s/ from those that are not based on a vowel alternation. This study also aims to provide acoustic measurements of vowels preceding final /-s/ deletion from samples taken from speakers of Granada Spanish under two types of tasks, a sociolinguistic interview and an elicitation task.

With the purpose of providing cross-dialectal insight, speech samples of the Spanish spoken in Cartagena, Colombia, were also included and tested in this study. Like Granada Spanish, Cartagena Spanish is well-known for its high rate of final /-s/ elision (Becerra, 1985). The inclusion of this non-conservative Spanish dialect was motivated by a logistical decision. The researcher is from Colombia and it was much easier to collect data. Thus the comparison between Granada Spanish and Cartagena Spanish is intended to provide a more in-depth insight about the potential processes affecting the vowels that precede final /-s/ deletion. The research questions for the perception portion of this study are presented in the next section.

1.2. Perception Study Research Questions

The perception test of this study will be guided by the following research questions:

1. Are participants from both the Granada and Cartagena dialects able to determine the presence or absence at a statistically significant rate of the [Ø] allophone of deleted post-nuclear /s/ in final contexts? In other words, are the participants capable of distinguishing pairs of words such as *casa* ['ka.sa] 'house' and *casas* ['ka.saØ] 'houses' or *calle* ['ka.je] 'street' and *calles* ['ka.jeØ] 'streets'?
2. If participants possess the ability to determine the presence or absence of the [Ø] allophone of deleted post-nuclear /s/ in final contexts in pairs of words such as *casa* ['ka.sa] and *casas* ['ka.saØ], *calle* ['ka.je] 'street' and *calles* ['ka.jeØ] 'streets,' *pueblo* ['pu̯e.blo] 'town' and *pueblos* ['pu̯e.bloØ] 'towns,' is this ability determined by a particular vowel allophone?

1.3. Perception Test Methodology

In this section the methods followed to collect and analyze the data for the perception test will be presented. The participants' selection criteria and specific procedures will be discussed in detail.

1.3.1. Perception Test Participants

Twenty native speakers of the Granada Spanish dialect and twenty native speakers of the Cartagena Spanish dialect participated in the perception test. The

Granada participants are students from the University of Granada in Granada, Spain. Likewise, the Cartagena participants are students from the Universidad de Cartagena in Cartagena, Colombia. Participants in both dialects are in a range of 18-25 years of age. These criteria seek to control variables such as age, social class and education level among the participants and ensure the homogeneity of the perception-test participants.

The Cartagena participants in this study are representative of the Colombian lower-middle class.¹ According to the annual administrative report issued by the University of Cartagena (Universidad de Cartagena 2013), for the 2011 academic year, 96.8% of the students registered came from *estratos* 'strata' 1, 2 and 3; whereas 3.2% came from *estratos* 4, 5, and 6. For the year 2012, 97.2% of the students came from *estratos* 1, 2, and 3 compared to 2.8% belonging to *estratos* 4, 5, and 6.² None of the participants in the perception test reported hearing problems. Table 1.1 and Table 1.2 detail information about the test perception participants from Granada and Cartagena, respectively.

Table 1.1. Breakdown of Granada Perception Test Participants.

Participant number	Age	Sex	College year
P1	21	M	3
P2	21	M	2
P3	18	M	1
P4	18	M	1
P5	20	M	1
P6	20	M	1
P7	22	M	3
P8	20	M	2
P9	21	M	2
P10	24	M	4
P11	18	F	1
P12	18	F	1
P13	24	F	4
P14	25	F	4
P15	25	F	4
P16	19	F	1
P17	18	F	1
P18	19	F	2
P19	21	F	2
P20	20	F	2

Table 1.2. Breakdown of Cartagena Perception Test Participants

Participant number	Age	Sex	College year
P21	22	M	2
P22	21	M	2
P23	20	M	1
P24	18	M	1
P25	25	M	3
P26	20	M	1
P27	22	M	3
P28	20	M	2
P29	18	M	2
P30	24	M	4
P31	18	F	1
P32	18	F	1
P33	24	F	3
P34	25	F	4
P35	25	F	4
P36	19	F	1
P37	18	F	1
P38	18	F	2
P39	21	F	2
P40	20	F	1

1.3.2. Stimuli

Following the methodology used in Carlson (2006), speech samples taken from two native speakers of Granada dialect were used to arrange a four-part perception test that ensures the occurrence of the phoneme /s/ in the three linguistic environments under analysis.³ The perception test was organized as follows.

Part I: Complete sentences with the test word in utterance-final position.

- a) Twelve contextually ambiguous sentences, each appearing twice, with /s/ → [Ø] in the final word; e.g., *Creo que la ves* [beØ] ‘I believe that you (2nd sg.) see her’.

- b) Twelve contextually ambiguous sentences, each appearing twice, identical to those in Part 1a, except that the last word of each sentence lacks the phoneme /s/ in final position; e.g., *Creo que la ve* [be] 'I believe that (s)he sees her.'
- c) Six contextually ambiguous control sentences, each appearing once, in which /s/ → [s]; e.g., *Creo que la ves* [bes] 'I believe that you (2nd sg.) see her'.

Part II: Isolated words, from within a sentence, with and without /s/ → [Ø] in syllable-final position within the word.

- a) Four minimal pairs, each appearing twice:
- a. *pecado* [pe.'ka.ðo] 'sin' (n.) and *pescado* [peØ.'ka.ðo] 'fish' (n.)
 - b. *patillas* [pa.'t̪i.jas] 'sideburns' and *pastillas* [paØ.'t̪i.jas] 'pills'
 - c. *buque* ['bu.ke] 'ship' (n.) and *busque* ['buØ.ke] 'look for'.
 - d. *mimo* ['mi.mo] 'mime' (n.) and *mismo* ['miØ.mo] 'identical to' (adj.)
- b) Four control words, each appearing once, with /s/ → [s].
- a. *pescado* [pes.'ka.ðo]
 - b. *pastillas* [pas.'t̪i.jas]
 - c. *busque* ['bus.ke]
 - d. *mismo* ['mis.mo]

Part III: Isolated words, from utterance-final position, with and without /s/ → [Ø] in word-final position.

- a) Seven words in plural form, each appearing twice, with /s/ → [Ø]; e.g., *pueblos* ['pwe.bloØ] 'towns'

- b) Seven words in singular form, each appearing twice; e.g., *pueblo* ['pwe.blo]
'town'
- c) Four control words, each appearing once, with /s/ → [s]; e.g., *pueblos* ['pwe.blos]
'towns'

Part IV: Isolated words (determiners), from within a breath group, with and without /s/ → [Ø] in syllable-final position.

- a) Six words in plural form each appearing twice, with /s/ → [Ø]; e.g., *mis* [miØ] 'my (pl).'
- b) Six words in singular form, each appearing twice; e.g., *mi* [mi] 'my (sg).'
- c) Four control words, each appearing once, with /s/ → [s]; e.g., *mis* [mis] 'my (pl).'

The same perception-test-construction procedure explained above was repeated with speech samples taken from two native speakers of Cartagena Spanish. The perception test was administered in a quiet university classroom. Once the participants were given instructions, they listened to stimuli on closed headsets. All participants completed all questions of the test without leaving any entries blank. Results from the perception test will be presented in Chapter five and the discussion of these results will follow in Chapter six.

1.4. Acoustic Analysis

The speech samples under analysis were obtained from ten subjects from Granada and ten subjects from Cartagena. Participants in the acoustic study are different from those who participated in the perception test.

1.4.1. Acoustic Analysis Research Questions

The acoustic analysis of this study will be guided by the following research questions:

1. Do vowels in both Granada and Cartagena dialects undergo significant formant restructuring when preceding deleted final /-s/?
2. Does the type of task (e.g. interview or elicitation) significantly affect the formant structure of vowels that precede deleted final /-s/ in both Cartagena and Granada dialects?

1.4.2. Methodology for the Acoustic Analysis

1.4.2.1. Participants

The speech samples analyzed in this acoustic study were taken from ten native speakers of Granada Spanish (five female and five male students) and ten native speakers of Cartagena Spanish (five female and five male students). Overall, the analysis will follow a similar methodology to that of Hammond (1978), Figueroa (2000) and Carlson (2006). However, unlike the first two studies that employed bilingual participants, only Spanish monolingual speakers participated in this analysis. I believe that the use of monolingual participants in an acoustic and perception study is essential.⁴ Ronquest (2012) argues that the vowel space in Spanish monolinguals is larger than the vowel space in bilinguals.

The Granada participants are students from the University of Granada in Granada, Spain and the Cartagena participants are students from the Universidad de

Cartagena in Cartagena, Colombia. These participants shared similar criteria as the participants in the perception study. That is, they are college students from public universities and range in age from 20-25 years. These criteria seek to control variables such as age, social class and education level among the participants and ensure the homogeneity of the linguistic sample under analysis. Table 1.3 and Table 1.4 show a detailed breakdown of the Granada and Cartagena participants' information, respectively.

Table 1.3. Breakdown of Granada Acoustic Analysis Participants.

Participant number	Age	Sex	College year
P1 (male 1)	19	M	1
P2 (male 2)	19	M	1
P3 (male 3)	19	M	1
P4 (male 4)	20	M	1
P5 (male 5)	25	M	4
P6 (female 1)	21	F	1
P7 (female 2)	19	F	1
P8 (female 3)	20	F	1
P9 (female 4)	19	F	1
P10 (female 5)	19	F	1

Table 1.4. Breakdown of Cartagena Acoustic Analysis Participants.

Participant number	Age	Sex	College year
P11 (male 1)	20	M	3
P12 (male 2)	19	M	2
P13 (male 3)	19	M	2
P14 (male 4)	20	M	3
P15 (male 5)	20	M	2
P16 (female 1)	24	F	4
P17 (female 2)	21	F	2
P18 (female 3)	22	F	4
P19 (female 4)	20	F	2
P20 (female 5)	24	F	4

1.4.2.2. Oral production tasks

The following section describes the procedure followed in this study to obtain speech samples for the acoustic analysis. With the purpose of obtaining spontaneous oral production, this study analyzes speech samples obtained in a sociolinguistic interview task. Thus, in the sociolinguistic interview task participants were prompted with free topic questions such as follows.

1. How do you like your major?
2. How could the (major) program be improved?
3. What activities do you recommend a tourist who is visiting this city?
4. How do young people spend their free time in this city?
5. What are the most popular discos in this city?

The use of this type of question is recommended since it is believed they engage speakers into storytelling mode and encourage them to produce vernacular features (Labov, 1984). Each interview lasted approximately 7 minutes.

In addition to the speech samples obtained in the sociolinguistic interview task, speech samples were also obtained via elicitation. Two sets of test sentences (Form A and Form B) were used to elicit allophonic variants of /s/ in three environments: syllable-final position within a word; word-final position within a breath-group; and utterance-final position. These two sets of sentences provide words that contrast with each other according to the presence or absence of the phoneme /s/ in the environments stated. For instance, on Form A, test sentence 5 reads: *Es cierto que lo busca* “It’s true that s/he’s looking for him,” while on Form B, test sentence 5 read: *Es cierto que lo buscas* “It’s true that you’re looking for him.” In order to ensure a natural rhythm of speech, each participant was given one card at a time and instructed to read the sentence on it and memorize it. Once the sentence was memorized, the participant said it out loud. Each participant had approximately 10 seconds to memorize the sentence before saying it. This procedure was done with a first set of sentences (Form A) and was repeated with a second set of sentences (Form B) two days later to avoid recency effects. The test sentences are included in Appendix A.

Speech samples were recorded with a Marantz PMD660 Digital Recorder in a quiet location to minimize ambient interference. Data from the acoustic analysis will be presented in Chapter five and the discussion of these results will follow in Chapter six.

1.5. Overview

This study consists of seven chapters. The first chapter introduces the purpose of this study, as well as its motivation and research questions. This chapter

also offers a description of the methodology used in the perception study and acoustic study of vowels. The criteria for selection of participants for this study, data collection procedures, e.g. sociolinguistic interview elicitation task, are explained in this chapter. This chapter concludes with an overview of all the chapters.

The second chapter surveys the literature on studies about final /-s/ weakening in Spanish. Arguably the most studied phenomenon in Hispanic linguistics, final /-s/ weakening is said to occur in Andalusia, the Canary Islands, and the Caribbean zone, including coastal Mexico, Colombia, and Panama. Final /-s/ weakening is also found in many Central American nations such as El Salvador and Nicaragua, the Pacific coast of Colombia, Ecuador and Peru, as well as in Chile, eastern Bolivia, Uruguay and most of Argentina. Final /-s/ weakening variants [h] and [Ø], along with final [s], have been analyzed in terms of word position, stress, morphological status, speech rate, preceding and following segment as well as lexical frequency and word length. From a sociolinguistic point of view, the production of the variables [h] and [Ø] has been associated with extralinguistic factors including age, gender, profession, socio-economic class, and education.

Chapter three presents a literature review on the varieties of Spanish spoken on the Iberian Peninsula, including the Andalusian variety of Spanish and particularly, the speech of Granada, capital of the province of Granada. In addition, this chapter discusses, from a diachronic perspective, social attitudes toward the Andalusian variety of Spanish. Then, this same chapter presents a literature review of the studies relevant to vowel restructuring in eastern Andalusian Spanish.

Chapter four reviews the main phonological features associated with the speech of Cartagena, Colombia. This chapter also provides information on the current status of final /-s/ in this non-conservative Spanish dialect. Furthermore, this chapter discusses the language attitudes of Cartagena Speakers toward final /-s/ weakening.

Chapter five introduces a relevant description about Spanish vowels and their acoustic properties. Vowel formant values from previous acoustic studies are presented with the purpose of establishing a comparison with the results of the present study. This chapter also presents the results of the statistical analysis of the perception test administered to both twenty speakers of Granada Spanish and 20 speakers of Cartagena Spanish. In addition, this chapter presents data from the acoustic analysis performed on the speech samples obtained via both sociolinguistic interview and elicitation task. Such speech samples were obtained from ten native speakers of Granada Spanish and ten native speakers of Cartagena Spanish.

Chapter six is dedicated to a discussion and interpretation of the results of the perception test. Furthermore, this chapter discusses the data from the acoustic analysis of the speech samples produced by ten subjects from Granada and ten subjects from Cartagena. One of the objectives of this chapter is to ascertain whether Granada and Cartagena speakers have the ability to recognize vowels preceding deleted /s/. Another objective of this chapter is to provide formant measurements of vowels preceding final /-s/ deletion in both dialects.

Chapter seven summarizes the findings of the perception test and the acoustic analysis. This chapter also presents the limitations for the methodology of this study. This chapter concludes with recommendations for future research.

Notes

1. Traditionally higher education in Colombia has been for wealthy or higher classes.

Nowadays, upper-class families prefer to send their children to study in private universities or away to larger cities where universities enjoy a higher prestige. The only three public universities in Colombia in the Caribbean region are the University of Atlántico (Universidad del Atlántico) in Barranquilla, the University of Magdalena (Universidad de Magdalena) in Santa Marta and the University of Cartagena (Universidad de Cartagena) in Cartagena. Thus, the University of Cartagena has become a frequent choice for middle class students from Cartagena and nearby areas.

2. *Estratificación socio-económica* (socio-economical stratification) is basically an instrument by which city officials determine the rates and subsidies for public utilities. Cities are divided into six *estratos* where 1 is the lowest and 6 is the highest; the higher the *estrato*, the higher the utilities rates a consumer has to pay. Thus, tuition prices in public universities are calculated based on the students' *estratos* along with their parents' annual income.

3. Speech samples from Participant 11 (male from Granada) and 18 (female from Granada) were used to construct the perception test administered to the 20 Granada perception-test participants. Likewise, speech samples taken from Participants 5 (male from Cartagena) and 7 (female from Cartagena) were used to create the perception test administered to the 20 Cartagena perception-test

participants. The author decided to use the speech samples produced by these participants because of their clarity.

4. Three of the Granada participants (P 11, 13 and 19) are first year students of the English Translation Program. However, we consider that this does not affect the criteria selection because they stated in the personal information sheet they have never lived in an English speaking country. The remaining Granada participants have not lived abroad either.

CHAPTER 2. REVIEW OF PRIOR RELEVANT RESEARCH ON THE PHONETIC VARIANTS OF /S/ IN SYLLABLE CODAS

2.1. Introduction

The purpose of this chapter is twofold. First, it aims to provide a relevant review of prior publications regarding final /-s/ weakening in Spanish and accompanying vowel compensatory mechanisms (e.g. lengthening) when final /s/ is deleted. Both of these factors are in need of further analysis. Second, it attempts to point out some of the weaknesses of those prior studies.

2.2. Final /s/ weakening in Spanish

The phoneme /s/ in final contexts such as *desde* ['des.ðe] 'since' and *dedos* ['de.ðos] 'fingers/toes' is not consistently pronounced as a sibilant across Spanish dialects. In some dialects it is realized as the sibilant [s]; in others it is realized as an aspirated glottal fricative sound [h], and in others it is deleted [Ø]. Traditionally, the phonetic symbols [s], [h] and [Ø] are used as cover symbols in Hispanic dialectology. Thus, [s] represents a multitude of voiceless coronal strident sibilants of varying degrees of phonetic strength. Likewise, the cover symbol [h] represents numerous variants of the laryngeal spirant approximant from a relatively strong glottal fricative to an almost inaudible laryngeal approximant. The symbol [Ø] represents

total deletion of the underlying segment /s/. Aspiration and deletion are found in Spanish varieties spoken in Andalusia, Spain, the Hispanic Caribbean and in numerous areas of Central and South America. The fact that many Spanish dialects display at least some level of final /s/ weakening has been traditionally used by many dialectologists to classify the different Spanish dialects. Thus, some dialectologists have classified Spanish dialects into two main groups according to the level of /s/ reduction they display: Tierras Altas 'Highlands' and Tierras Bajas 'Lowlands'.

'Tierras Altas' are those areas in which final /s/ is retained as a sibilant such as in northern and central Spain, northern and central Mexico, the mountainous regions of Central America, Colombia, Ecuador, Peru, and Bolivia, and parts of northwestern Argentina. Conversely, 'Tierras Bajas,' are those areas in which final /s/ is aspirated or deleted such as the Caribbean basin, coastal areas of Colombia, Ecuador, Peru, Chile, Argentina, and many parts of Central America. Both terms are related to the particular pattern in which settlements in the New World developed. Thus, the term 'Tierras Altas' refers to inland settlements (e.g. mountains) whereas the term 'Tierras Bajas' refers to those settlements in the coastal areas.

However, this traditional mapping of /s/ realization between 'Tierras Altas' and 'Tierras Bajas' seems to have shifted recently. Castillo (2008) points out that there is a change occurring in the Venezuelan Andes regarding the realization of /s/, specifically in the state of Táchira. Castillo (2008) reports that there has been a

steady increase in the weakening of post-nuclear /s/ in the Andean zone, a feature which was believed to occur exclusively in “Tierras Bajas” areas.

There is a vast population of Spanish speakers who live or reside in the United States after having migrated for mostly socio-political and economic reasons or who had lived long before the establishment of the U.S. in those areas (López Morales, 2009). It is worth mentioning that this U.S. population in the geographical map of Spanish dialectology due to its large number of Spanish speakers. According to the 2007 American Community Survey, Spanish, with 34.5 million speakers, was by far the most commonly spoken non-English language in the U.S.

The largest Hispanic groups established in the United States by country of origin are Mexican, Puerto Rican and Cuban (Lipski 2008). According to the US Census (U.S. Census Bureau 2010), Mexicans comprise the largest Hispanic group with a U.S. population of 31.7 million. Puerto Ricans, who comprise the second largest, represent 9.2 percent of the total Hispanic population in the U.S. with 4.6 million. The Cuban population, who comprise the smallest of the three major Hispanic groups in the U.S. and the most recent to arrive, represents 3.5 percent of the total Hispanic population with 1.7 million. Dominicans represent 2.8 percent with 1.4 million.

Although the weakening of final /s/ is wide-spread throughout the Hispanic Caribbean basin and other areas in Latin America, its intensity varies across almost all dialects. Cuban, Puerto Rican and Dominican Spanish show very high rates of final /s/ deletion and aspiration. Nicaraguan, Salvadoran, and Panamanian Spanish

dialects also show a high rate of deletion or aspiration, and have sometimes been placed along with the Caribbean dialects (Lipski 1985).

Wide-spread variation in the distribution of /s/ variables ([s][h][Ø]) confirms the elusive and changing nature of this fricative. Abundant literature has shown the uneven distribution of the different phonetic variants across dialects. For instance, in Argentina, Fontanella de Weinberg (1974) reports that the two principal variants of word-final /s/ are [s] and deletion, with [h] occurring less than 1% of the time, whereas Lipski reports that [h] is the most common variant in the Central American dialects of El Salvador and Honduras in both word-internal and word-final, pre-consonantal contexts at a rate of 80% and 69%, respectively (1985:144). Samper Padilla (1990) observes that in Las Palmas, Canary Islands, [h] is the preferred variant word-internally while in word final position speakers aspirate and delete /s/ almost equally. The same holds true for Puerto Rican and Cuban Spanish, where /s/ is realized as [h] in word internal position whereas retention and deletion are considerably higher in word-final position (Terrell 1978).

2.3. Earlier research on final /-s/ weakening

According to Lapesa, earlier attestations of final /s/ weakening can be found in documents from the sixteenth century (1985:319). It is believed that this change originated in coda position within a word and consequently spread to final-word environments (Widdison, 1995). Golden Age authors, in their attempts to depict the speech of poor black slaves, frequently eliminated word-final /s/ in their

represented lines. It is worth noting that, although, the pronunciation of final /s/ is sometimes attributed to this population, there is no evidence that indicates that black speakers of Spanish originated this change. They were most probably the recipients of a process that was becoming increasingly frequent among the lower classes of Andalusia, with whom the slaves were in constant contact (Lipski 1985: 144).

Walsh (1985) proposes that aspiration of syllable-final /s/ was the result of an extensive restructuring process that Spanish sibilants underwent as it occurred in the southern half of the Iberian Peninsula. The speech of *re pobladores*, the immigrants who repopulated Andalucía during the late fourteenth and early fifteenth centuries, might have had a rule converting syllable-final /s/ to palatal /ʃ/ (Walsh 1985:240). In Castilian areas the palatal fricative was rendered /χ/ whereas in Andalucía the palatal was converted to the glottal /h/. Walsh suggests that word-final /s/, pronounced as the palatal [ʃ], was swept up in this general change and came to be pronounced as an aspiration. Thus, the aspiration of /s/, according to Walsh, is a subcase of the glottalization of all instances of Old Spanish /ʃ/.

2.4. Prior research on linguistic factors affecting final /-s/ reduction

Abundant studies have examined the different factors that constrain final /s/ reduction in the different dialects of Andalusia and Latin American countries (Hammond 1973, 1979; Cedergren 1978, Terrell 1977, López Morales 1979, Lafford 1982, and Lipski 1985, among others). These factors include: word length,

(monosyllabic or polysyllabic words); the prosodic stress of the syllable in which final /s/ occurs (stressed or unstressed syllables); the position of final /s/ within the word (word-internal or word-final position); and the phonological segment that follows final /s/.

2.4.1. Previous research on the position of /s/ within the word

Some researchers have observed that syllable-final /s/ appears only before consonants in word-internal position, for example, *mismo* ['mis.mo] 'same,' *desde* ['des.ðe] 'since,' and *hasta* ['as.t̪a] 'until.' Some studies (Terrell 1978, 1979; Hammond , 1981) have found that in word-internal position, aspiration of /s/ is preferred, whereas deletion and retention are rather sporadic in this environment. Terrell (1978) explains that aspiration is preferred word-internally because /s/ is always followed by a consonant, a phonetic context that promotes consonant weakening. Word-final /s/, in turn, may be followed by a consonant, vowel, or pause. Terrell's findings suggest that in word-final position, speakers of both Puerto Rican and Cuban Spanish delete final /s/ frequently but favor retention.

Hammond (1980) analyzed the /s/ realizations from twenty-one speakers of Miami-Cuban Spanish in a rapid style and identified the environments in which the three allophones: [s], [h], and [Ø] occurred. He reported that deletion was most frequent in absolute-final position, occurring 74.4% of the time, aspiration occurred 21.8%, and retention occurred 3.8%. Likewise, deletion was most frequent in word-final position occurring 43.0%, aspiration occurred 43.0%, and [s] occurred 2.8%.

However, regarding syllable-final position, the aspirated variant was most frequent occurring 70.3%, deletion occurred 20.3%. Similar results hold true for Hammond (1981) who found that deletion is preferred when /s/ is in absolute-final position in Puerto Rican Jíbaro Spanish.

2.4.2. The role of stress

Some studies (Alba 1981, Poplack 1979, Terrell 1981) have examined the effects of stress on the different realizations of /s/. Poplack (1979) analyzed the stress value (i.e. tonic vs. atonic) of the syllable that follows /s/ such as in the words *cuesta* ['kwes.t̪a] 'it costs' and *costó* [kos.'t̪o] 'it cost.' Results showed that word-internal /s/ weakens more when followed by a tonic syllable than before an atonic syllable. Alba (1981) examined 380 occurrences of the plural marker /s/ in noun phrases. Results showed that deletion of /s/ occurred 31.85% before [-stress] words compared to 56.82 before [+stress] words. These results were supported in Terrell (1981). Terrell states that all of his Dominican subjects, regardless of their level of literacy, have a strong tendency to pronounce a sibilant in the syntactic position between a determiner and a following plural noun if this word begins with a tonic vowel as in the noun phrase *mis hijos* [mi.si.hos] 'my sons.'

Spanish, like other Romance Languages, shows a strong preference for an open CV syllable structure. This tendency is often accomplished in Spanish through resyllabification, the process by which a word-final consonant and a word-initial vowel in the next word are pronounced in the same syllable, as in *dos años*

[do.'sa.nos] ‘two years.’ Thus, when word-final /s/ is resyllabified into onset position, it is more likely to be maintained than syllable-final /s/.

2.4.3. Phonetic environment

Regarding phonetic environment, the following segment is considered an important factor in the reduction of final /s/ in Spanish. Particularly, consonants are considered as the most conducive segment to word-final /s/ reduction, while vowels are considered the second-most (Brown 2009:46). Brown (2009) examines /s/ lenition in four dialects, the Spanish of Cali, Colombia, Mérida, Venezuela, San Juan, Puerto Rico, and New Mexico. The author found that for the first three dialects, both word-internal and word-final final /s/ is maintained more often before a following /t/ than before other consonants, e.g. *ustedes* [us.'te.ðes] ‘you all,’ *los tenis* [los#'te.nis] ‘the tennis shoes.’ However, for New Mexican Spanish, he found that word-internal final /s/ is reduced 27% before /t/.

2.5. Prior research on extralinguistic factors in /s/ weakening

Variation in the distribution of the phonetic variants of /s/ has also been postulated in terms of sociolinguistic characteristics of the speakers, such as socioeconomic status and education level, age, gender and whether the speakers reside in an urban or rural location. In many instances, variation in the realization of /s/ is generally a marker of social stratification in many countries (Cedergren 1978; Alba 1981; Cepeda 1990; Lipski 1985; File-Muriel 2011). For example, Dominican

Spanish and Cartagena Spanish speakers in upper classes tend to retain final /s/ and speakers in lower classes tend to delete it (Terrell, 1981; Lafford, 1986). In Spain, those speech areas where /s/ is maintained as a strident sibilant are linguistically more conservative and therefore are more highly regarded sociolinguistically. In general terms, those speech areas whose pronunciation is more similar to the written language are often perceived, especially by outsiders, as more prestigious. This maintenance of final /s/ created a feeling of stigma toward dialects in which /s/ is weakened, leading some speakers to shift style or articulate the sibilant to socially accommodate or be included in a more sophisticated or prestigious social circle. For instance, educated Andalusians living in Castile make successful efforts to suppress weakening and deletion in their contact with Castilian speakers, but Castilian speakers living in Hispanic nations of the Caribbean apparently make no attempt to learn how to delete or weaken /s/ (Guitart 1978).

An opposite situation to the one illustrated above is one in which speakers choose not to shift toward the prestige form because they value the features that mark them as members of their social group (overt prestige). Such is the case of male speakers in the Dominican Republican, who practice and embrace /s/ deletion, a feature they value as part of their linguistic identity (Alba 2004). What is more, final /s/ retention by male speakers in the Dominican Republic is frowned upon and male speakers who pronounce final /s/ as a sibilant [s] are considered pedantic. Obediente (1998) reports that in these dialects with high levels of /s/ reduction,

male speakers who retain final /s/ in their speech are perceived as effeminate or even as gay.

When speakers in lower status groups try to use the prestige form [s], associated with a higher status social group in a formal situation, they have the tendency to hypercorrect. For example, the deletion of the voiced stop /d/ in Spanish past participle forms *-ado* has led to speakers awareness of this deletion and to insert an extra 'd' in a word such as *bacalao* 'codfish' rendering **bacalado* [ba ka.'l̪a ðo]. Dominican Republic speakers, in an effort to employ a more standard variety of Spanish in certain situations, use syllable- and word-final /s/ more often than they are accustomed to, often inserting it syllable codas where it does not exist in standard Spanish, such as in *fisno* instead of *fino* 'fine/refined.' This phenomenon is colloquially referred to as *hablar fisno* 'speak refined' (Terrell 1986; Alba 2004).

Regarding prior research on the effects of speaker gender on variants of /s/ in syllable codas, it has been shown that in /s/-weakening dialects, men tend to delete and aspirate /s/ more often than women. Conversely, in these dialects women tend to retain /s/ more often than men. Fontanella de Weinberg (1973) and Terrell (1981), in their studies on *Porteño* and Dominican Spanish, respectively, found that female speakers are more likely to retain /s/ in word-final position when its aspiration and/or deletion is stigmatized. There are, however, some instances in which women aspirate or delete /s/, that is, when such aspiration or deletion is not stigmatized.

The realization of /s/ also varies according to the register and speech style used by speakers. It has been demonstrated in several studies (File-Muriel 2009; Alba 2004, Lafford 1986; Lipski 1985) that the frequency of retention of /s/ is greater in formal speech styles and in reading tasks than in casual styles and registers. In his study on postvocalic /r/ use in New York City speech, Labov (1966) demonstrated that in formal situations, the prestigious variant [ɹ] was more used than the non-prestigious [Ø] when their participants were asked for a second time about the fourth floor. Lipski (1985) compares the style and speed of sports commentaries with other forms of broadcasting. Lipski claims that Cuban Spanish broadcasters aspirate and delete more because they feel these variants are accepted by the audience. Yet, an interesting observation in the realization of /s/ variants is the unique circumstances of everyday life which dictate the use of these variants within a speaker's idiolect. Thus, a speaker would utter different realizations of /s/ in final position depending on the context. When or she is at a job interview the speaker will tend to retain final /s/; however, at home with their family, the same speaker will speak in a much more informal register and would elide or aspirate /s/.

It is worth noticing the somewhat conflicting results shown in several studies regarding the extralinguistic factors and their effects on retention, aspiration, and deletion of final /s/, as it is the case in some Chilean studies. Valdivieso and Magaña (1988) found that male speakers from Concepción favor the use of [h] (56.1%) over [s] (41.2%) and [Ø] (2.6%). In another similar study, Tassara and Duque (1987) found that in women in Valparaíso favor [h] (58%) over [s] (39.8%) whereas men

prefer [h] (51.1%) over [s] (45.7%) and Ø (3.2%). Researchers explain this discrepancy between the results claiming that [s] is the prestigious variant in Concepción whereas [h] is the prestigious variant in Valparaíso. In a third study carried out in Valdivia, Cepeda (1990) did not find significant differences in the use of either variant by men or women. The prestigious variant [s] was used 51.6% by men and 50.1 % by women. Figures were not significantly different for [h] either, which was used 32.4% by men vs. 34% for women, and [Ø] was used 16% by men and 15.9 % by women.

2.6. Previous research on the Functionalist Hypothesis involving deleted /s/

Numerous studies (Poplack 1980; Hochberg 1986; Ranson 1991; Ruiz Sánchez 2005) have focused on the influence of morphemic status of word-final /s/ based on Kiparsky's Functionalist Hypothesis (1982). The main tenet of this hypothesis maintains that "there is a tendency for semantically relevant information to be retained in surface structure." Due to the high functionality of final /s/ in Spanish, such as the verbal second-third person *tiene/tienes* and plural marking *niño/niños*, these studies, grounded on the validity of the functionalist hypothesis, set out to assess the possible existing mechanisms that may compensate or correct the ambiguity produced by the lack of final /s/.

Poplack (1980) designed a plural perception test consisting of isolated noun phrases with the variants [s], [h], and [Ø] to determine if speakers perceive noun phrases with the elided variant as plural. The results showed that subjects were not

able to consistently identify the plural from the elided and non-elided variants. These results contradict the claims that vowel tensing or vowel lengthening are compensatory processes for deletion of the plural -s in Puerto Rican Spanish (Navarro Tomás 1966, Matluck 1961, Cedergren 1973). Figueroa (2000) conducted a similar study and her results support Poplack's findings that there is no vowel quality difference in the vowel preceding both deleted and retained /s/ in Puerto Rican Spanish.

Hochberg (1986) examined the speech of ten Puerto Rican women in order to examine any correlation between the use of the subject pronoun "tú" and /s/ deletion in 2nd singular person verb forms where ambiguity is rendered. Conversations were prompted by topics such as religion and marriage with the purpose of eliciting casual native speech. Results show 84% of deletion of final /s/ in second person singular verb forms and a high subject pronoun usage: of the 3,019 verbs that could have been used with a pronoun, 40% did in fact have a subject pronoun. Results also show that pronouns rendered ambiguous by /s/ deletion (*tú, Ud., él, ella*) were used more than the other pronouns. The author concludes that speakers use more pronouns to compensate for /s/ deletion. It is worth noticing that subjects used significantly more instances of *yo* 'I' and *él/ella* 'he/she' in the informal half of the interview than in the formal half (54% vs. 35% for *yo*; 60% vs. 38% for *el/ella*). The relatively high usage of *yo* might be due to the intrinsic personal nature of the interview, in which participants are asked questions about personal experiences, e.g. *¿Qué haces?* 'What do you do?' This type of question may

elicit answers in which subjects are more likely to use this subject pronoun in their sentences, e.g. *Yo trabajo en una fábrica* ‘I work at a factory.’

Hammond (1978) set out to test the claims on compensatory lengthening used in speakers of Miami-Cuban Spanish by adopting an experimental approach. Through spectrographic analysis, he examined elicitations that contrasted by the presence or non-presence of /s/ in word-internal and word final position. The author found that vowels preceding word-final deleted /s/ were not systematically lengthened. However, he did find a significant length increase in the vowels preceding /s/-deletion in word-internal position that allow speakers to differentiate between near-minimal pairs such as *pescado* [peØ.'ka.ðo] ‘fish’ and *pecado* [pe.'ka.ðo] ‘sin.’ The author also administered a perception test to 20 speakers of the same dialect. Results for the perception test show that subjects could not distinguish based on vowel quality (formant structure) but could on vowel length (vowel quantity) when /s/ was word internal.

Figueroa (2000) replicated the study by Hammond (1978), this time on Puerto Rican Spanish. She set out to test the phonetic features of the vowels preceding post-nuclear /s/, e.g. vowel opening and lengthening, on six bilingual speakers of Puerto Rican Spanish and English. Figueroa found no evidence of a phonological compensatory mechanism at work in the vowel structure occurring in word-final position after /s/ → /Ø/ in this dialect. However, Figueroa found an increase in word-internal vowel length by approximately 46.7%, which allows her participants to discriminate minimal pairs such as *pescado* ‘fish’ and *pecado* ‘sin’ with a high rate of success (93.8%). Unlike

Hammond (1978) and Figueroa (2000), the current study employs monolingual speakers of Spanish for both the acoustic analysis and the perception test.

2.6.1. Mechanisms of disambiguation

The deletion of word-final /s/ may lead some to think that the deletion of this segment would create ambiguity for speakers of dialects with a high rate of word-final /s/ deletion. However, such ambiguity indeed is not highly likely to occur since grammatical distinctions of either plural nouns or verbs in the same phrase, sentence, paragraph, etc. can be and are generally manifested through other aspects of Spanish grammar. Regarding the opposition of number in verbs, final /s/ is not the only indicator of plurality since there are morphological, syntactical, lexical, and semantical mechanisms that ensure the plural distinction (Alba 2004). In the noun phrase *las facilidades* [l'a.fa.si.li.'ða.ðeØ] ‘the advantages,’ the plural is formed by the ending /-es/. Thus, even though /s/ is deleted the final ‘e’ allows the differentiation from the singular *facilidad* [fa.si.l'i.'ðað] ‘advantage.’ In the prepositional phrase *de los padres* [de.l'oØ.'pa.ðreØ] ‘of the parents,’ the article *lo* [l'oØ] clearly distinguishes the plural *padres* ‘parents’ from the singular *padre* ‘father.’ In the sentence *esas muchachas bailan bien* ['e.saØ.mu.'tʃa.tʃaØ.'baj.l'am.bjen] ‘those girls dance well,’ the plural form of the verb *bailan* ‘dance’ demonstrates that the subject is in the plural form. In the sentence *ella trabaja lavando platos* ['e.ja.tra.'βa.ha.l'a.'βan.ðo.'pl'a.toØ] ‘she works washing dishes,’ the noun *plato* is interpreted as plural ‘dishes’ since it does not have a preceding determiner which it would be required for the singular

form. In the phrase *un par de zapatos* ‘a pair of shoes,’ the word *par* ‘pair’ indicates that *zapato* is in the plural form.

If there is no mechanism remaining for distinguishing the plural or second singular person, it might be evident that a prior linguistic context has been established between two or more speakers. This established context provides sufficient clues to the speakers that eventually will avoid any confusion. In the case all of the above fails, that is to say, if confusion does indeed take place during a conversation, speakers can always ask for clarification.

2.7. Prior studies on the effect of lexical frequency on /s/ weakening

A number of recent studies have researched the role of frequency of usage in the weakening of /s/ across several dialects (Brown, 2006, 2009; File-Muriel, 2009). These studies have demonstrated that final /s/ is reduced more often in words with a higher frequency of usage than in words with a low frequency.

Brown (2006) examines word-internal and word-final /s/ reduction in the Spanish of Cali, Colombia, Mérida, Venezuela, and San Juan, Puerto Rico. He finds that, except for Puerto Rico, token frequency influences final /s/ reduction more in word-internal position than in word-final position in the Spanish of Cali and Mérida. The author concludes that lexical frequency is the most significant factor in final /s/ reduction in dialects with lower rates of overall reduction such as Cali and Mérida. These findings are supported in File-Muriel (2009) who examines the effects of lexical frequency on final /s/ reduction in the Spanish of Barranquilla, Colombia. He

elicited the production of /s/ from 33 speakers in all phonological contexts. The author concludes that lexical frequency is the single most significant factor influencing /s/ reduction in this variety of Spanish.

2.8. Summary

This chapter aimed to provide an account of the most relevant literature regarding post-nuclear /s/ in the Spanish dialects throughout Spain and the New World. It also attempted to present different compensatory mechanisms that vowels may undergo in such environment (e.g. lengthening).

CHAPTER 3. THE GRANADA VARIETY OF SPANISH

3.1. Introduction

This chapter offers a brief description of the Spanish varieties spoken on the Iberian Peninsula: Castilian, Andalusian, and *Isleño*, or the variety of the Canary Islands. In addition, this chapter presents an account of linguistic attitudes toward Andalusian from a diachronic and synchronic point of view as well as a literature review of previous studies done on Andalusian Spanish that have been deemed relevant to the objectives of this study. This chapter also presents a section on the speech of Granada, Spain, as one of the goals of the present study is to establish a parallel between the speech of Cartagena, Colombia and that of Granada, Spain.

3.2. The Spanish Varieties of Spain

The Spanish spoken on the Iberian Peninsula is generally grouped into two main varieties or dialects: Castilian¹ and Andalusian. An array of phonological, morphological and lexical differences demonstrate an enormous contrast between these two varieties. An additional variety of Spanish is spoken on the Canary Islands, although the Spanish of the Canary Islands is often viewed as an extension of the Andalusian dialect. Figure 3.1 presents a map of the Spanish varieties spoken in Spain.

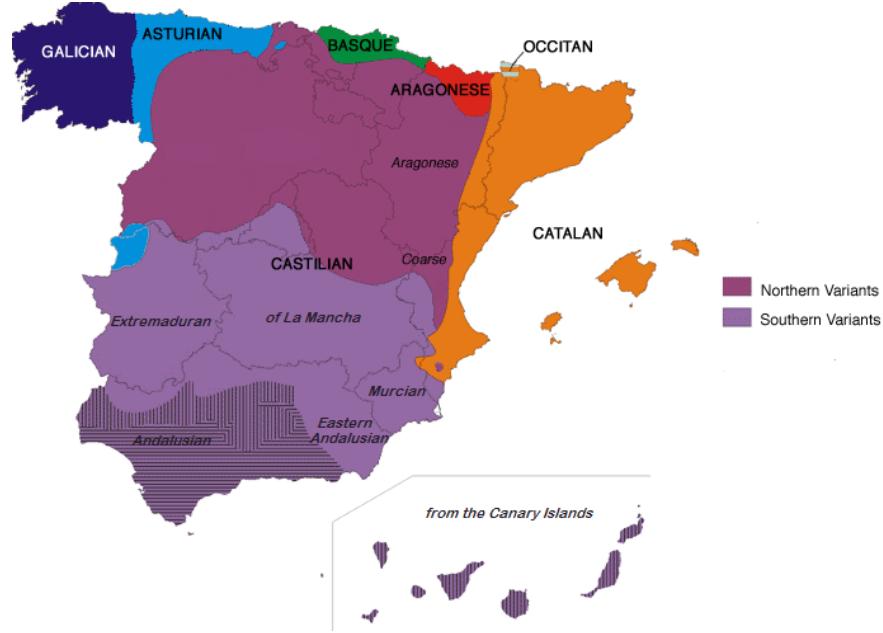


Figure 3.1. Varieties of Spanish and Other Languages

Spoken on the Iberian Peninsula

Taken from: Wikipedia

3.3. The Castilian Variety of Spanish

Castilian is the most widely-spoken variety in Spain with approximately more than 20 million speakers dispersed within the central and northern part of the country. Its origins can be traced to around the twelfth century when Latin was already regarded as a foreign language and the different Romance languages were being seen as distinct from each other (Posner, 1996). Penny (2002) describes Castilian as the result of an unbroken dialect continuum that occupies the northern third of the Peninsula. Castilian linguistic characteristics were carried south, southeast and southwest by Castilians that settled in reconquered territories and by

other settlers from surrounding areas whose speech was originally different but who ended up adopting features of Castilian (2002:18).

The status that Castilian acquired as a distinct language is attributed principally to Alfonso X the Learned, king of Castile and León, who actively promoted measures to standardize this vernacular in favor of Latin, which was already falling into disuse. The adoption of Castilian as the administrative language of Spain would ensure its prevalence as a model for all sorts of written documents and would suppress other regional languages of Spain. Narbona (2009) points out that it is the standard imposed through the vehicle of writing that defines Castilian as a language and labels the other *romances*² as dialects.

Compared with the other varieties of Romance spoken in Spain, Castilian presents a vast array of differences; these, however, do not impede easy communication with them. The main phonetic and phonemic features of Castilian will be described next.

3.3.1. The Principal Phonetic and Phonological Characteristics of Castilian

1. *Distinción* ‘distinction’ is probably the most salient feature of Castilian speech. Castilian speakers oppose the voiceless interdental fricative [θ] with the voiceless coronal fricative [s] as evidenced by minimal pairs such *caza* ['ka.θa] ‘hunt’ and *casa* ['ka.s̪a] ‘house.’
2. *Lleísmo*: the voiced palatal lateral liquid phoneme /ʎ/ with phonemic status is another characteristic sound of Castilian. *Lleísta* speakers contrast

words such as *malla* ‘mesh’ ['maʎa] and *maya* ['ma.ja] ‘Mayan.’ The use of this phoneme in Castilian has decreased considerably in favor of the palatal glide [j]. However, lleísmo is also used in several other Spanish dialects.

3. Another particular sound associated with Castilian is the voiceless post-velar fricative [χ] as found in the word *gitano* [χi.'ta.no] ‘gypsy.’ Among many speakers of Castilian Spanish all occurrences of the graphemes “j” and the letter “g” before front vowels is realized phonetically as [χ]; this same pronunciation for these same two graphemes also occurs in other Spanish dialect areas. Nowadays, however, many Castilian speakers utilize the phone [x] instead of [χ].

4. Another unique feature in Castilian, although morphological, is the presence of the personal pronoun *vosotros* ‘you all’ with its corresponding morphological endings –áis, -éis and –ís for all verbal paradigms.

3.4. The Andalusian Variety of Spanish

The Andalusian Spanish variety is spoken by a population of approximately 8,449,986 people³ in the southern part of the country. Andalusia is one of the seventeen autonomous communities of Spain and comprises an area of 33,694 square miles. This autonomous community, with Seville as its established capital, is administratively divided into eight provinces: Almería, Cádiz, Córdoba, Granada, Huelva, Jaén, Málaga and Seville. Figure 3.2 presents the eight provinces that constitute the autonomous community of Andalusia.



Figure 3.2. Andalucía and its Eight Provinces

Adapted from the Institute of Statistics and Cartography of Andalucía

The origin of the Andalusian Spanish variety has been much disputed (Zamora Vicente, 1960; Menéndez Pidal, 1964; Mondéjar, 1979). For instance, it has been argued that Andalusian does not have a direct origin in primitive Romance and the size of the Mozarabic community was not large enough to leave a significant effect on the linguistic traits of Andalusian (Mondéjar, 1979). The most widely accepted theory regarding the formation of Andalusian is that it constitutes a variety of Castilian Spanish with some linguistic influences from Mozarabic (Menéndez Pidal, 1964; Penny, 2000). Andalusian can probably best be described as the evolution of varieties of Spanish brought by colonists who gradually repopulated territories under Muslim control as they were reconquered during the 13th through 16th centuries. The main linguistic features of Andalusian will be described next.

3.4.1. Main phonetic and phonological features of Andalusian

The main phonological characteristic of the Andalusian Spanish variety is probably the lenition of final consonants. The principal phonological features of Andalusian are enumerated next. The following list is adapted from Zamora Vicente (1960) and Penny (2000).

1. The aspiration of word-initial /f/ in words of Latin origin, e.g. FUMU > ['hu.mo] 'smoke.'
2. *Seseo* is the exclusive pronunciation of /s/ in contexts where Castilian opposes /s/ and /θ/ (*distinción*). As a result, an Andalusian speaker with this feature pronounces *caza* 'hunt' as ['ka.ʂa] when a Castilian speakers expects to hear ['ka.θa] with an interdental fricative. This Andalusian innovation is believed to have originated in Seville in the wake of the Reconquest. Once it was established as an innovation, it spread out to other areas in Andalusia as well as to the New World.
3. *Ceceo* is the pronunciation of /s/ and /θ/ as [θ], a weakened voiceless interdental fricative. A ceceante speaker would pronounce the word *cesar* 'to cease' as [θe.θar]. *Ceceo*, unlike *seseo*, is a stigmatized phenomenon associated with rural populations.
4. *Yeísmo* is the neutralization of the Castilian phonemes /j/ and /ʎ/. This merger of the palatals /j/ and /ʎ/ is found in all of Andalusia except in some parts of Huelva, and rural Seville and Cádiz. This innovation is arguably the only Andalusian feature that extended into Castilian and forms part of the

phonology of the large majority of Castilian speakers in detriment to the palatal liquid /ʎ/.

5. The neutralization of /r/ and /l/ in syllable-final position. Phonological processes such as rhotacism or lambdacism occur in this environment. As a result, a word such as *alma* ['al.ma] 'soul' would be pronounced as ['ar.ma]; conversely *arma* ['ar.ma] 'gun' would be pronounced as ['al.ma].
6. The velarization of /n/ in syllable-final position, e.g. *pan* 'bread' [pan] → [paŋ].
7. The weakening or loss of /d/ in syllable-final position, e.g. *pared* 'wall' [pareð] → [pa.'re].
8. The elimination of velar consonants in consonantal groups, e.g. *examen* 'examination' [ek.'sa.men] → [e.'sa.men].
9. The weakening or loss of intervocalic consonants, e.g. *cansado* 'tired' [kan.sa.ðo] → [kan.'saw].
10. The aspiration or loss of /s/ in syllable-final position, e.g. *caspa* 'dandruff' ['kas.pa] → ['kah.pa] or ['ka.pa].

3.5. The Canary Islands Variety of Spanish

The variety of Spanish spoken in the Canary Islands, also known as *isleño*, is considered by many Hispanic dialectologists as an extension of the Andalusian variety. Settlers arriving from western Andalusia into the newly-acquired possession brought with them the linguistic features, e.g. weakening of final

consonants, which already characterized Andalusian. In addition, the fact that the islands became an obligatory route for the ships travelling to the New World may indicate that some of those individuals in hopes of traveling to the New World, may have had to wait for extended periods of time and acquired features of Andalusian speech. Figure 3.3 presents a map of the Canary Islands. Thus, among the main linguistic features found throughout the Canary Islands speech are *seseo*, weakening of syllable-final /s/, and neutralization of syllable-final /r/ and /l/.



Figure 3.3. The Canary Islands

Taken from *Instituto Geográfico Nacional*

3.6. The Andalusian Spanish Linguistic Complexity

Andalusia amassed a tremendous cultural legacy starting from the Islamic invasion of 711 and up until the fall of Arabic Granada, the last redoubt of al-Andalus, fell to the Christians in 1492. As Gill (2008) points out, the flourishing Islamic culture was manifested in the fields of arts, sciences, philosophy, economics,

agriculture, and architecture attracted intellectuals from elsewhere in Europe: "As had happened under the Roman occupation, during the tenth and eleventh centuries, most of the non-Muslim population arrived at some form of accommodation with the Muslim occupiers and coexisted based largely on a thriving economy" (Gill 2008:73).

The Islamic culture thriving in Andalusia for over seven centuries also had a tremendous impact on language. Hispanic Latin incorporated massive lexical and semantic borrowing from Arabic, the language of a culture more developed and prestigious than that of Christian Europe (Penny, 2002). Nonetheless, after the fall of Granada and the consequent expulsion of the *Moriscos*, the non-Andalusian population exerted hostile attitudes toward any vestige of Islamic culture. Social attitudes toward the Andalusian variety will be discussed in the next section.

3.6.1. The Andalusian complex

Despite the rich and abundant cultural contributions of all sorts that Andalusia inherited from the approximately eight centuries of Islamic rule, the Andalusian variety of Spanish, generally, has been regarded as a low prestige variety from a diachronic and synchronic point of view. According to Snopenko (2007), as a result of the policy of political unification and linguistic standardization the dialect and Andalusia became stigmatized. The presence of Andalusian in the speaker's consciousness was accompanied by negative evaluation and deemed 'impure'

compared to *toledano* and *madrileño*, the two prestigious varieties of Castilian (Snopenko 2007:33).

This negative evaluation has been reinforced through literature and theater since the 16th century. The features of the Andalusian speech, manifested in stereotypical comic characters represented on stage, was a source of mocking. But not only were the commoners subject to this kind of negative evaluation, intellectuals from the fifteenth century were too. Juan de Valdés, as cited by Snopenko (2007) openly criticized Antonio de Nebrija in his work *Diálogo de la lengua*. According to Snopenko (2007), Juan de Valdés attributed Nebrija's 'carelessness' and 'errors' in his *Gramática de la lengua castellana* (1492) to his Andalusian origin and Sevillian dialect.

Jaspal et al. (2013) explores the ways in which Andalusians cope with negative social representation and language stigmatization in different settings and contexts. During interviews, participants expressed awareness of the negative social representations of their dialect, often depicting the Andalusian accent as a "laughing stock" in the main institutions of Spain. In the employment sector, participants also reported that speakers of Castilian would be favored over speakers of Andalusian. Also, participants with non-Andalusian parents expressed having perceived ideological pressure to conform to the linguistic norms associated with Castilian Spanish at home and to conform to norms associated with Andalusian at school.

It is also important to point out that these social negative representations and attitudes toward a language variety have spread out onto the Andalusian

culture. The self-evaluation that many Andalusians have of their own dialect is negative. Many Andalusians consider their dialect as very poor or degenerate, identifying it with the lowest Spanish variety, indicating a high degree of linguistic inferiority (Narbona, 2009).⁴

3.6.2. The Andalusian linguistic mosaic

One of the most interesting characteristics of Andalusian Spanish is the great linguistic variety displayed across each one of its eight provinces: Almería, Cádiz, Córdoba, Granada, Huelva, Jaén, Málaga and Seville. It is probably such linguistic complexity that has led some dialectologists to use the collective term *las hablas andaluzas* ‘the speeches of Andalusia’ instead of *el habla Andaluza* ‘the speech of Andalusia,’ to highlight the difficulty in defining Andalusian as a particular variety. Sanders (1994) considers that the variations within Andalusian Spanish are sufficient to consider Andalusian more of a macrodialect than a single variety of the same language.

Andalusia is traditionally divided into two historical subregions: Upper Andalusia or Eastern Andalusia, consisting of the provinces of Almería, Granada, Jaén, and Málaga, and Lower Andalusia or Western Andalusia, consisting of the provinces of Cádiz, Córdoba, Huelva and Seville. Following this geographical divide and prompted by the purported presence or non-presence of vowel laxing or opening as a phonemic contrast, dialectologists Alvar (1955) and Mondéjar (1970) propose the following division: eastern Andalusian encompasses the provinces of

Almería, Granada, Jaén and penetrates into a good portion of eastern Málaga and Córdoba as well as a few locations in eastern Seville. In turn, western Andalusia comprises Huelva, Cádiz and the remainder of Seville, Córdoba and Málaga. Figure 3.4 presents the dialectal division of Andalusia as proposed by Alvar and Mondéjar.

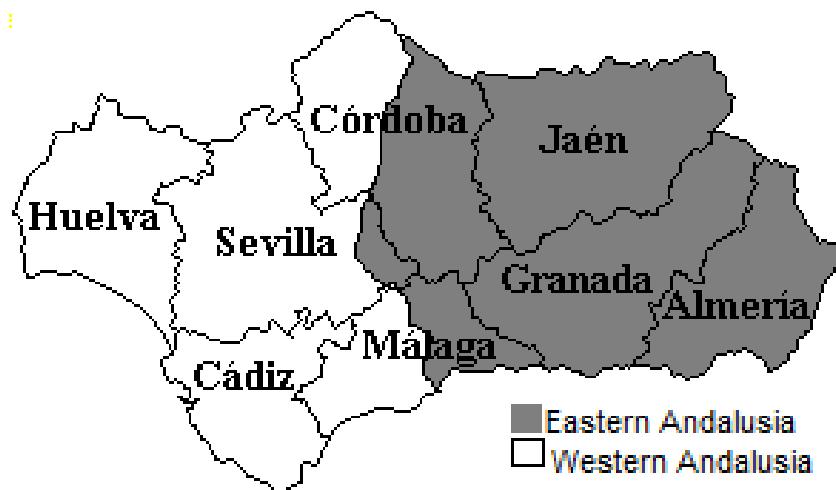


Figure 3.4. Dialectal Division of Andalusia

Adapted from the Institute of Statistics and Cartography of Andalucía

3.6.3. *Seseo*, *ceceo* and *distinción* in Andalusia

Seseo, *ceceo* and *distinción* coexist throughout the whole Andalusian region.

Seseo is found mainly in the center of Andalusia comprising two thirds of the province of Córdoba, a small portion in the northeastern part of the province of Málaga as well as a small portion in the northwestern part of the province of Granada. Interestingly enough, *seseo* is found in the capital of Seville; however, *ceceo* does predominate in the remainder of the province. *Ceceo* is also found in the

provinces of Huelva and Cádiz, in most of the province of Málaga and the western strip of the province of Granada. *Distinción* is established in the northeastern part of the Andalusian region, comprising the territory of the provinces of Jaén and Almería and the majority of Granada (Penny, 2000). Figure 3.5 illustrates the areas in which *seseo*, *ceceo* and *distinción* are spoken throughout Andalusia.



Figure 3.5. *Seseo*, *Ceceo* and *Distinción* in Andalusia.

Taken from Wikipedia

Many Andalusian *ceceante* or *seseante* speakers show variation in usage and switch to *distinción* in response to social pressure at work or in school. Moya and García (1995) report that in Granada less educated people indiscriminately use *seseo* or *ceceo* when attempting to use *distinción* (hypercorrection). Sanders (1994) also points out that in Huelva, which is generally a zone of *ceceo*, school children may read aloud in *seseo* and speak in *ceceo*.

3.6.4. Articulation of /s/ in Andalusian

Another striking feature of Andalusian dialectology is the variation in the distribution of word-initial /s/ variants in which three types of /s/ articulation co-exist within the region of Andalusia. With the caveat that all instances of Spanish /s/ are coronal, this section presents three phonetic realizations of /s/ as described in the peninsular literature: apico-alveolar [ʂ], predorsal (or dental) [ʂ] and coronal [s] (or dento-alveolar) (García Santos, 2002). The apico-alveolar [ʂ] is articulated with the tongue tip near the alveolar ridge while the body of the tongue assumes a concave shape. The predorsal [ʂ] is articulated with the tip of the tongue near the lower front teeth while the blade of the tongue assumes a slightly convex configuration (Hammond, 2001). The coronal [s] is articulated with the tip of the tongue toward the upper teeth and the alveolar ridge while the tongue position is relatively flat (Sanders, 1994).

The distribution of the different types of /s/ in the Andalusian territory is not at all homogenous, except in the provinces of Cádiz and Huelva in which the entire number of their municipalities display a predorsal articulation for word-initial [ʂ]. The other seven provinces favor either the coronal [s] or predorsal [ʂ] articulation over the apical one [ʂ] (Narbona et al., 2003). The presence of the apico-alveolar [ʂ], not surprisingly, is stronger in the northern strip of the provinces of Córdoba, Jaén and Huelva, as these areas are more proximate to the northern Castilian dialect continuum.

According to Sanders (1994) word-initial /s/ among the *seseantes* of Andalusia is most frequently a coronal [s], with the point of articulation between the upper teeth and the alveolar ridge. The coronal [s] is found in a wide band of territory stretching from eastern to western Andalucía. The predorsal /ʂ/ is found in large areas of south and central Andalusia and can be delimited by drawing a triangle between the major cities of Málaga, Cádiz and Seville (Narbona et al., 2003). Table 3.1 details the type of /s/ articulation used in the municipalities in all of the Andalusian provinces.

Table 3.1. Distribution of /s/ According to Articulation Type.

	Province	Type of /s/ articulation			Municipalities per Province
		Coronal	Predorsal	Apical	
1	Almería	81	12	9	102
2	Cádiz	0	44	0	44
3	Córdoba	45	3	27	75
4	Granada	57	103	7	167
5	Huelva	36	31	12	79
6	Jaén	69	4	23	96
7	Málaga	0	100	0	100
8	Seville	23	81	1	105
Total		311	378	79	768

Adapted from Narbona et al. (2003)

3.6.5. Vowel restructuring in eastern Andalusian

After the publication of Navarro Tomás' article on Andalusian vowel laxing (1939) and the *Atlas Lingüístico y Etnográfico de Andalucía* (ALEA),⁵ dialectologists have claimed that final /-s/ weakening has instigated a general pattern of vowel change exclusively for the Andalusian Spanish variety (Rodríguez-Castellano and

Palacio, 1948; Alonso et. al., 1950; Alvar, 1955, 1973; Salvador, 1957, 1977; Mondéjar, 1970).

Traditional accounts of this claim have supported the idea that when the segment /s/ is deleted in coda position, the preceding vowel opens or lengthens in Andalusian Spanish. This phonological phenomenon has been known as Andalusian vowel laxing or *desdoblamiento vocálico*. The main premise of these studies is that native speakers of Andalusian Spanish use this alternation in vowel quality as a compensatory mechanism to express and perceive semantic distinctions without the presence of any other indicator that supports a distinctive contrast between singular and plural of nouns and adjectives and second and third person singular verb forms in almost all verbal paradigms.

Subsequent studies concur that this process of vowel opening preceding /s/ deletion appears to be limited to certain areas of Eastern Andalusia, more specifically the provinces of Almería, Granada, Jaén and Eastern Malaga (Eddington, 2004). It has also been stated that wherever this process occurs, it seems to be most prevalent among the mid-vowels (Llisterri and Poch, 1987; Sanders 1994).

It is worth noticing that recent quantitative studies on this Andalusian phenomenon present conflicting or inconclusive results. For example, López Morales (1984) reported that the 22 Granada subjects in his study open vowels at a rate of 97%. However, his study did not present any spectrographic or perceptual test.

Martínez Melgar (1986) carried out an acoustic study on the vowels in singular and plural forms in the speech of Jaén and Córdoba. Her analysis utilized 38 subjects from 6 towns in western Jaén and 5 towns from western Córdoba. Her data show no significant differences between the singular and plural vowel formants nor consistent changes in the timbre of vowels. However, a slight compensatory lengthening of the mid-vowels in word-final plural forms with final /-s/ elision was observed.

Martínez Melgar (1994) conducted a second acoustic study. With the purpose of including a more representative sample of eastern Andalusian Spanish, she employed participants from the provinces of Granada, Almería as well as eastern Jaén. Her results show significant differences between the singular and plural vowel formants for the non-high vowels before deleted /s/. Martínez Melgar emphasizes that the opening and centralization is always greater for /e/.

Sanders (1994) examines the alternation in vowel quality between singular and plural forms in three contexts: pretonic, tonic and word-final position. His participants are three male college students from Ogijares, Dílar and Cúllar Vega, three villages near the city of Granada. He found a significant vowel alternation for /o/ and even greater for /e/ in all contexts. Regarding vowel lengthening, his results show that plural vowels are slightly shorter than their singular counterparts. Although Sanders found significant vowel alternation for the mid-vowels, his data are taken from only three participants, which do not constitute a robust sample. In addition, he collected most of his data through an elicitation task. He points out that

the tense/lax alternation does obtain in free conversation based in only four minimal pairs.

In more recent study, Carlson (2006) explores the existence of phonological compensatory mechanisms in Andalusian Spanish that may disambiguate those tokens rendered ambiguous by the deletion of final /s/. Her results showed that no compensatory mechanism takes place in word-final position. In syllable-final position within the word, however, there is vowel lengthening. Regarding vowel lengthening in word internal position, similar results were reported by Hammond (1978) and Figueroa (2000). It should be noted, however that 3 of the 6 participants in the acoustic study in Carlson (2006) are from Seville, which is located in western Andalusia and 2 participants are from the cities of Antequera and Granada in eastern Andalusia. This factor is methodologically problematic because the quality of the vowels in the eastern Andalusian dialect has been claimed to be markedly different than those in the western Andalusian dialect. In addition, among the 25 participants for the perception part of the study, only two were from eastern Andalusia. In sum, so far no study on eastern Andalusian vocalic lengthening and opening has been conclusive. An important objective of the present study is to revalidate the claims on this vocalic eastern Andalusian change. Consequently, this study has implemented linguistic samples from Granada, a city located in eastern Andalusia. The next section presents an account on the speech of Granada.

3.7. The Spanish of Granada

The province of Granada is located in the southeastern part of the autonomous community of Andalusia. According to the Instituto Nacional de Estadística y Cartografía de Andalucía, in 2011 the population of this province is estimated at 922,100 and the population of its capital, Granada, is 245,640.⁶ Figure 3.6 shows a map of the province of Granada.

The province of Granada shares the main phonological features associated with the Andalusian dialect such as aspiration or elision of syllable-final /s/, and the weakening of final consonants, among others. Another feature found in the phonology of Granada is the coexistence of *seseo*, *ceceo* and *distinción* and three different types of /s/ articulation (Narbona, 2009).

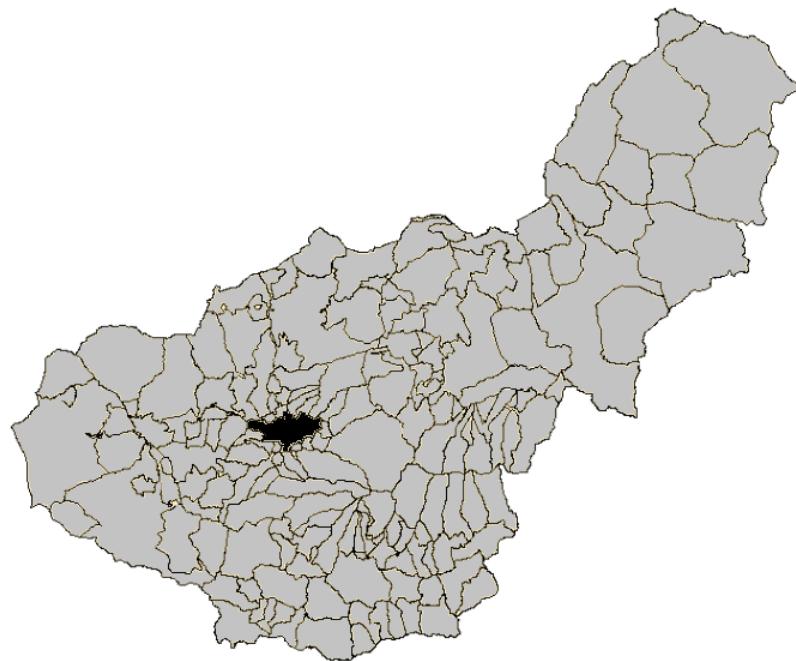


Figure 3.6. Province of Granada

Adapted from the Institute of Statistics and Cartography of Andalucía.

3.7.1. Distribution of /s/ Articulation in Granada

Three different types of /s/ articulation coexist in the province of Granada (Narbona, 2009). These types are predorsal [ʂ], apico-alveolar [ʂ] and coronal [s]. The use of predorsal [ʂ] predominates in the province of Granada. Among the 167 *municipios* that comprise the province of Granada, 103 feature a predorsal articulation of [ʂ]; 57 feature a coronal articulation of [s], including its capital city Granada, and; only 7 municipalities feature an apical articulation of [ʂ]. The seven municipalities that feature an apical articulation of [ʂ] Castilléjar, Castril, Cortes de Baza, Galera, Huéscar, Orce and Puebla de Don Fadrique, belong to the region of Huéscar. All of these seven towns are located in the northern part of the province bordering the provinces of Albacete and Murcia, traditionally assigned to the Castilian Spanish variety.

3.7.2. *Seseo*, *Ceceo* and *Distinción* in Granada

The province of Granada is predominantly *ceceante*. Out of the 167 municipalities, 103 favor *ceceo*, 56 municipalities feature *distinción* and only eight are considered *seseantes*, including the capital, Granada. Although only eight municipalities are considered *seseantes*, it is important to take into account that population-wise these towns account for approximately 31% of the total population of the province Granada, which is 922,100. The city of Granada contributes with 245,640 people itself, whereas the combined population of the other seven towns

adds up to 50,236. Table 3.2 presents the population numbers for the municipalities of Granada where *seseo* is found.

Table 3.2. Population in *Seseante* Towns in Granada

	Municipality	Population
1	Algarinejo	5,323
2	Granada	245,640
3	Maracena	14,095
4	Montefrío	7,426
5	Peligros	6,983
6	Pulianas	3,335
7	Zagra	1,187
8	Zubia (La)	11,887
	Total	295,876

Despite the delineation of a town as either *seseante* or *ceceante*, sociolinguistic variation on the usage of either feature may occur as speakers succumb to social pressure and attempt to switch to *distinción*, the more prestigious Castilian variant. Moya and García (1995) report that less educated or rural speakers in Granada indiscriminately use *seseo* or *ceceo* when attempting to use *distinción* (hypercorrection). Likewise, Sanders (1994) points out that in Granada “educated speakers may use *distinción*, especially among the educated speakers and contrast a coronal /s/ with the interdental /θ/ whereas less educated speakers and country folk may use only *ceceo* and simply not have an [s] phone in their inventory of sounds” (Sanders 2007:33).

One of the main objectives of the present study is to verify the alleged timbre change in a vowel that precedes final /s/ deletion. In order to undertake this objective, a representative linguistic sample of the city of Granada was incorporated.

The details of subjects employed on the perception test as well those employed in the acoustic study are explained in Chapter 1.

3.8. Summary

This chapter presented a brief description of the Spanish varieties spoken on the Iberian Peninsula: Castilian, Andalusian and *Isleño*. It also presents an account of linguistic attitudes toward Andalusian from a diachronic and synchronic point of view as well as a literature review of previous studies done on Andalusian Spanish relevant to this study. The last section of this chapter presented a brief account of the main phonological characteristics in the speech of Granada.

Notes

1. The term *Castilian Spanish* is used to refer to the variety of Spanish spoken in northern and central Spain. The term *castellano* (Castilian) is used in Spain to encompass all of the Spanish varieties, including the dialects of Andalucía and the varieties spoken in the New World (Penny, 2002).
2. Since the Middle Ages, the differences in the speech within the Latin descendant varieties or ‘romances’ became more noticeable, and the need to differentiate them aroused. Such differentiation is obtained by adding an adjective to the word *romance* rendering compound nouns like *romance castellano* ‘Castilian Romance,’ *romance leonés* ‘Leonese romance,’ *romance aragonés* ‘Aragonese Romance,’ etc. Consequently, the word *romance* became redundant and was dropped (Penny, 2000).
3. Figures are taken from the 2012 *padrón* ‘municipal register’ from the Junta de Gobierno de Andalucía. Each *ayuntamiento* ‘city hall’ in Spain requires its residents to update their residence information to ensure the payment of subsidies.
<http://www.juntadeandalucia.es/institutodeestadisticaycartografia/iea/consultasActividad.jsp?CodOper=104&sub=38139>
4. This is my translation of the original quote: “Bastantes andaluces consideran su manera de hablar como una especie de castellano degenerado o mal hablado, sin que falten quienes la identifican, sin más, con el español vulgar, por lo que se ha llegado a colgar a los andaluces el sambenito del complejo de inferioridad” Narbona et. al (2003:28).

5. The Linguistic and Ethnographic Atlas of Andalusia (ALEA) is a comprehensive survey of the regional varieties in Andalusian carried out from 1961 until 1973, under the direction of Manuel Alvar. It rendered six volumes with more than 1900 maps and phonetic transcriptions of hundreds of words as pronounced throughout Andalusia (Narbona, 2009).

6. Figures taken from the 2012 *padrón* ‘municipal register’ from the Junta de Gobierno de Andalucía. Each *ayuntamiento* ‘city hall’ in Spain requires its residents to update their residence information to ensure the payment of subsidies.

<http://www.juntadeandalucia.es/institutodeestadisticaycartografia/iea/consultasActividad.jsp?CodOper=104&sub=38139>

CHAPTER 4. THE CARTAGENA VARIETY OF SPANISH

4.1. Introduction

The objective of this chapter is twofold and as such it is structured in two parts. The objective of first part is to introduce a brief literature review of previous studies done on the Cartagena, Colombia dialect of Spanish. The goal of the second part is to present an updated account of the different realizations of /s/ in final contexts in the Spanish variety of Cartagena.

4.2. The Speech of Cartagena

The speech of Cartagena has been classified as a coastal variety similar to the speech spoken along the Caribbean basin (Flórez, 1964; Montes 1982; Lipski, 1994). Cartagena, with an extension of 572 square kilometers, is the fifth largest city in Colombia and is located on the northern coast of the Caribbean region. According to the 2005 Census, Cartagena has a population of 845,801. Figure 4.1 presents a map of Cartagena.

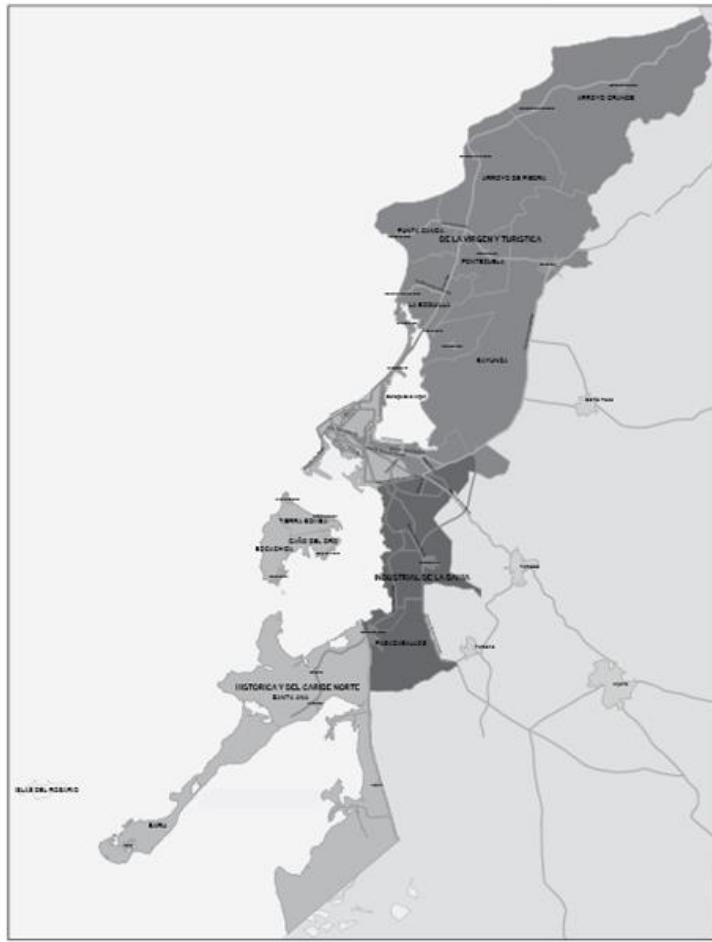


Figure 4.1. Map of the City of Cartagena

Taken from Alcaldía Mayor de Cartagena de Indias, Planeación Distrital

4.3. Previous studies on the Dialect of Cartagena

Colombian Spanish has been traditionally divided into four main regions based on phonetic features and lexical variation: Central highlands, Caribbean coast, Pacific coast, and Amazonian region (Flores, 1964; Montes, 1982, 1985; Becerra, 1985). Other researchers, however, group the Caribbean coast and the Pacific coast dialects within one single large dialect: the *superdialecto costeño* 'coastal super

dialect.' As such, the speech of Cartagena or *cartagenero* is regarded as a subdialect of this super-dialect. Thus, the main phonological features of *cartagenero* are the aspiration or elision of syllable-final and word-final /s/; assimilation of /s/ to the following consonant, eg. *pasto* 'grass' pronounced as ['pat.to] instead of ['pas.to]; neutralization of post-consonantal liquids, eg. *carne* 'meat' pronounced as ['kal.ne] instead of ['kar.ne]; velarization of final /n/ as in *pan* 'bread' pronounced [pan] instead of [pan]; and elisión of final /r/ as in *mujer* 'woman' [mu. 'he] instead of [mu. 'her] (Montes, 1982).

Lafford (1982) conducted a sociolinguistic study to analyze the use of [s], [h], and [Ø] in Cartagena Spanish. 83 participants were interviewed and categorized into three age groups: young (14-24), adult (25-49), and elderly (50 and over). Interviews comprised four styles of speech: 1) casual (spontaneous); 2) careful; 3) reading of text; and 4) reading of word lists. Lafford points out the difficulty of eliciting casual speech due to the semi-rigid nature of the interview itself. In the interview, the author tried to elicit casual speech by asking emotionally charged questions such as the 'danger of death' question. Another speech style elicited by Lafford was careful speech which is defined by Labov (1972) as the type of speech that normally occurs when the subject is answering questions which are formally recognized as part of the interview.

Lafford (1982) focused her research on five variables: (1) syllable-final position within the word as in *español* 'Spanish;' word-final and in phrase-internal position as in *los padres* 'the parents;' word-final-position before pause as in *no*

quiero más 'I don't want anymore;' word-final prevocalic position within a phrase as in *vamos a ver* 'let's see,' and word-final followed by a stressed vowel as in *las aguas* 'the waters.' Overall results showed that in spontaneous speech, participants retained [s] 20% of the time, whereas they aspirated at a rate of 35% and elided 45% of the time. In semiformal style, they retained [s] 28%, aspirated 39%, and elided 33%. In reading style, participants retained [s] 66%, aspirated 17%, and elided 16%. In word lists, participants retained [s] 87%, aspirated 5%, and elided 8%. Lafford concludes that s- aspiration appears to have a neutral diagnostic value in the spoken registers of Cartagena and is not indicative of social class. Table 4.1 and Table 4.2 present the percentages for the realizations of /s/ found by Lafford (1982) per Cartagena social classes in casual and careful speech, respectively.

Table 4.1. Percentages of /s/ Realizations in Casual Speech (Lafford, 1982)

	Variant of final /s/		
	[s]	[h]	[Ø]
Upper class	26	37	37
Upper middle class	19	38	43
Middle class	22	34	44
Lower Middle Class	16	33	51
Low class	16	36	48

Table 4.2. Percentages for /s/ Realizations in Careful Speech (Lafford, 1982)

	Variant of final /s/		
	[s]	[h]	[Ø]
Upper class	36	39	25
Upper middle class	27	41	32
Middle class	33	39	28
Lower Middle Class	21	39	38
Low class	20	36	44

4.4. Realization of Final /-s/ in the Current Speech of Cartagena

This section presents a current account of the different realizations of final /-s/ in the speech of Cartagena. The data analyzed in this section were obtained from ten native speakers of the Cartagena dialect. These data will also be employed in the acoustic analysis of vowels preceding deleted /s/ in Chapter 5. The speakers are college students from Universidad de Cartagena in Cartagena, Colombia and are in a range of 20-25 years of age.¹ Instances of final /-s/ were analyzed from the sociolinguistic interview and the elicitation task. For the elicitation task, 1,470 tokens of final /s/ were collected; from the linguistic interviews 1,026 tokens were collected for a total of 2,496 tokens. For the elicitation task participants were given two sets of fifty sentences labeled form A and form B. Each subject had 10 seconds to memorize the sentence before repeating it. The sentences utilized in the elicitation task are included in Appendix A. In the linguistic interview, participants were prompted with free topic questions such as follows.

1. How do you like your major?
2. How could the (major) program be improved?
3. What activities do you recommend a tourist who is visiting Cartagena?
4. How do young people spend their free time in Cartagena?
5. What are the most popular discos in Cartagena?

The use of this type of question is recommended since it is believed they engage speakers into storytelling mode and encourage them to produce vernacular features (Labov, 1984). The linguistic interviews were conducted prior to the elicitation task

with the purpose of putting the participants at ease. Each interview lasted approximately 7 minutes.

4.4.1. Procedure

The following section presents the procedure employed to analyze the tokens in this study. The ‘Praat’ program (Boersma and Weenink 2014) was used to segment and codify the instances in which final /-s/ occurred in linguistic contexts. Once the vowels were isolated, they were labeled with a six-character code in a one-tier script. The first character in the code indicates the type of task performed by the participant, e.g., ‘t’ = interview or ‘l’= elicitation. The second character indicates the dialect spoken by the participant, e.g., ‘c’= Cartagena or ‘g’= Granada. The differentiation between ‘Cartagena’ and ‘Granada’ was intended for the cross-dialectal acoustic study presented in Chapter 5. The third character indicates the participant’s gender, e.g., ‘h’=male or ‘m’=female. The fourth character indicates the phonetic context in which the vowel occurs, e.g., s= syllable-final, p= word-final, z=utterance-final position. The fifth character indicates the level of /s/ sibilance with which the segment /s/ is articulated. Thus, 0 indicates /s/ is deleted, 1 indicates /s/ is pronounced with a low or medium degree of sibilance whereas 2 indicates that /s/ is pronounced with a high degree of sibilance, the type of /s/ which would be pronounced in an affected speech.² The number 4 indicates /s/ is aspirated. The last character in the code indicates the vowel preceding the segment

/s/ (a = /a/, e = /e/, i = /i/, o = /o/, u = /u/). Table 4.3 details the conventions used in labeling.

Table 4.3. Labeling Conventions for Coding

Task	t = Interview; l = elicitation
Dialect	g = Granada; c = Cartagena
Gender	h = male; m = female
Vowel context	s = syllable-final; p = word-final; z = utterance-final
/s/ sibilance level	0 = deleted /s/; 1 = low-medium degree of sibilance; 2 = high degree of sibilance; 4 = aspirated /s/
Vowel	a = /a/; e = /e/; i = /i/; o = /o/; u = /u/

For illustration purposes, the labeling of the vowel /o/ in the word *tenemos* ‘we have’ is described next. The word *tenemos* was extracted from the sentence *Tenemos Comunicación para el Desarrollo* ‘We have Communication for Development’ produced by participant 10. Thus, the label *tenemos-tcmp1o* indicates that the vowel /o/ in this word was uttered by a female from Cartagena in the sociolinguistic interview. It also indicates that the /s/ following the vowel /o/ is pronounced as [s] and it occurs in word-final position. Figure 4.2 illustrates the labeling for the vowel /o/ in the word *tenemos* ‘we have.’

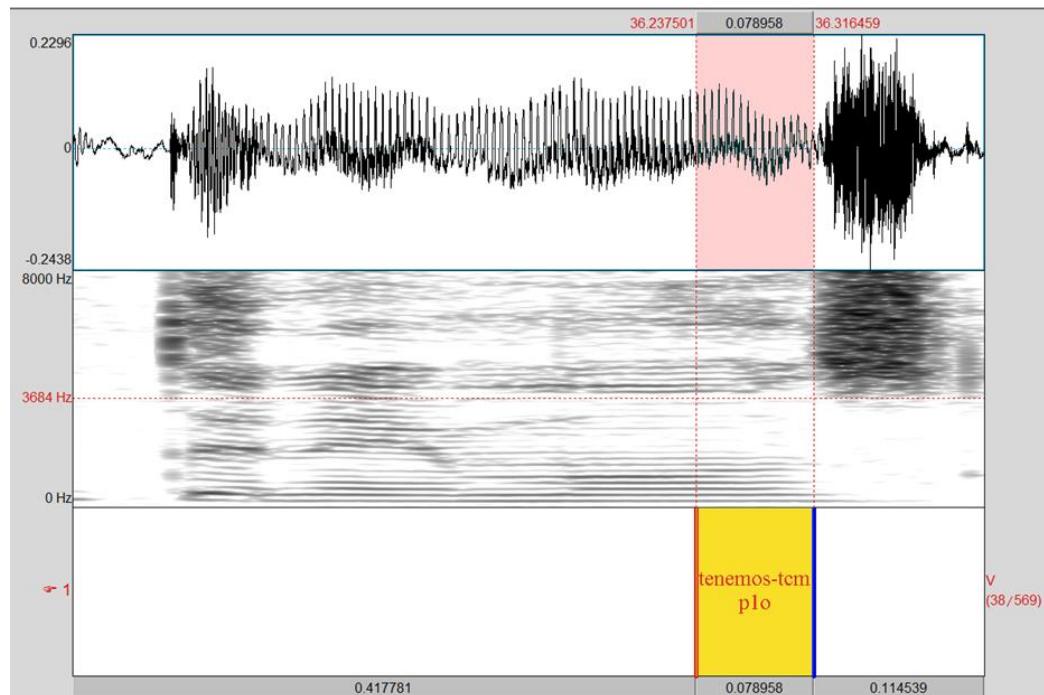


Figure 4.2. Labeling of the Word *Tenemos* 'we have'

It should be noted that instances of consecutive occurrences of /s/ such as in the sentence *Mis padres se fueron para ese pueblo* 'My parents went to that town' were excluded from the analysis due to the difficulty in determining the realization of the final /s/. Distinguishing between the word-final /s/ in the one word and the word-initial /s/ in the following word is virtually impossible in conversational speech, as the two sibilants merge into one (Tagliamonte, 2006).

4.4.2. Results

The number and percentages of the different realizations of /s/ as observed in the interview and elicitation task are presented next. In addition, the percentages of /s/ variants are calculated according to gender. Cartagena participants produced

a total of 2,496 tokens of final /s/. Of these 2,496 tokens, 1,026 were obtained in the interview and 1,470 were obtained in the elicitation task. In the interview, final /s/ was deleted 41.9% of the time, it was aspirated 28.6% and it was retained 29.4% by the Cartagena participants. Regarding gender, Cartagena males deleted /s/ 39.62% while Cartagena females did 42.98%. Males aspirated /s/ 24.9% of the time while females did 34.16. The sibilant [s] was produced 35.36% of the time by male speakers and 22.76 by female speakers. Table 4.3 details the number of tokens and percentages per allophonic variant of /s/ in the interview.

Table 4.4. Realizations of Final /s/ in the Interview Task.

Participants	Final /s/ variant					Total	
	[Ø]	%	[h]	%	[s]		
1 (male)	40	41.6	10	10.4	46	47.9	96
2 (male)	59	53.6	47	42.7	4	3.6	110
3 (male)	58	37.1	19	12.1	79	50.6	156
4 (male)	38	35.8	37	34.9	31	29.2	106
5 (male)	27	30	22	24.4	41	45.5	90
6 (female)	44	52.3	29	34.5	11	13.1	84
7 (female)	59	60.2	31	31.6	8	8.1	98
8 (female)	66	45.5	42	28.9	37	25.5	145
9 (female)	21	34.4	12	19.6	28	45.9	61
10 (female)	18	22.5	45	56.2	17	21.2	80
Total	430	41.9	294	28.6	302	29.4	1,026

In the elicitation task, Cartagena participants delete /s/ 15.1% of the time, produce the aspirated allophone [h] 13.6% of the time, and retain /s/ 71.2% of the time. Male speakers delete /s/ 15% while female speakers do 15.04. The variant [h] was produced 14.98% by men and 15% by women. /s/ is retained 69.88% by men

while women do 73.68%. Table 4.4 details the number of tokens and percentages per allophonic variant of /s/ in the elicitation task.

Table 4.5. Realizations of Final /s/ in the Elicitation Task.

Participants	Final /s/ variant					Total	
	[Ø]	%	[h]	%	[s]		
1 (male)	9	6.5	5	3.6	123	89.7	137
2 (male)	24	13.4	52	29.2	102	57.3	178
3 (male)	49	28	12	6.8	114	65.1	175
4 (male)	11	6.7	12	7.4	139	85.8	162
5 (male)	33	20.4	45	27.9	83	51.5	161
6 (female)	37	31.1	20	16.8	62	52.1	119
7 (female)	17	15.4	7	6.3	86	78.1	110
8 (female)	9	6.9	7	5.4	113	87.5	129
9 (female)	21	13.5	23	14.8	111	71.6	155
10 (female)	12	8.3	18	12.5	114	79.1	144
Total	222	15.1	201	13.6	1,047	71.2	1,470

A couple of observations regarding final /-s/ weakening in Cartagena can be made in light of the percentages presented above. As it can be seen, the rate of final /-s/ weakening in the interview task, 70.5%, combining the rates of [Ø] (41.9%) and [h] (28.6) in the interview, is higher than the rate of final /-s/ weakening in the elicitation task, 28.7%, also combining the rates of [Ø] (15.1% and [h] (13.6%) in the elicitation task. An explanation of the huge differences in these two percentages can be found in the speech style exerted in both the interview and the elicitation task. On the one hand, during the linguistic interview, a free discussion is initiated with a question in which the participant can demonstrate his/her expertise in a variety of topics. The more relaxed and confident the participant feels, the less self-conscious and guarded about his/her speech the participant will be. Thus, when a

participant is asked a question such as 'What are the most popular discos in Cartagena?' the participant's attention is drawn away from his/her own speech production yielding more instances of either [Ø] or [h]. On the other hand, during the elicitation task, the participant is presented with a card containing a target sentence and asked to memorize it and repeat it at a natural pace after ten seconds. Unlike in the interview, the participant does not have to think about answering a question, and; therefore allocates his/her full attention to utter the presented sentence in its most refined fashion. Thus, the participant is more likely to articulate [s] as a more conservative realization of /s/.

Another factor that can be taken into account is that the researcher does not speak the Cartagena dialect but *caleño*, the dialect of Cali which is more conservative than that of Cartagena. Cartagena speakers may have observed this, and in order to appear more sophisticated to the researcher, they opted to produce more instances of [s]. A parallel in this regard is drawn with the percentages of final /-s/ retention reported by Lafford (1982). Lafford (1982) reported that her participants retain final /s/ 20% in casual speech (spontaneous) and 28% in semi-formal style. Given that Lafford conducted fieldwork in Cartagena, it can be interpreted by these figures that participants tend to more frequently retain final /-s/ in the presence of the researcher and regardless of the speech style.

A second observation that can be drawn from the results shown above can be made regarding gender. In the interview process men weaken final /-s/ 64.64% while women do 77.24%. In the elicitation task men weaken final /-s/ 30.12% while

women do 26.32%. These seemingly similar percentages of final /-s/ weakening between male and female speakers suggest that there are no differences regarding gender and could be explained by the selection of the participants. Recall that all participants attend Universidad de Cartagena, a public university and it is safe to say that they share similar educational and socio-economic backgrounds.

4.5. Summary

This chapter discussed the main phonological aspects of the speech of Cartagena Spanish along with a synopsis of the studies done on this variety of Spanish. This chapter also presented an updated account of the different realizations of /s/ in a representative sample of speakers such as young adult college students belonging to lower-middle class. The data show that Cartagena speakers tend to weaken final /-s/ in the interview but retain it in the elicitation task. The percentages presented also suggest that women and men with the same social and economic background weaken final /-s/ at a similar rate.

Notes

1. Criteria for selecting participants was to control for variables such as age, education and social class. The majority of the enrolled students in Universidad de Cartagena belong to lower and middle class.
2. /s/ is classified in Hispanic linguistics literature as either non-sibilant (aspirated or deleted) or sibilant (retained). In addition, during the elicitation and interview tasks it was observed that some participants accentuated their utterance of final /s/ yielding a rather affected pronunciation. The assignment of the additional numeral 2 was intended to capture this particular instance of /s/ pronunciation.

CHAPTER 5. PERCEPTION TEST AND ACOUSTIC ANALYSIS OF VOWELS PRECEDING FINAL /-S/ DELETION

5.1. Introduction

This chapter displays the results obtained from the perceptual analysis administered to 20 speakers of Granada Spanish and 20 speakers of Cartagena Spanish, respectively. This chapter also presents the results of the acoustic analysis of the speech samples of 20 participants from the two aforementioned dialects. This chapter is structured as follows. The first part introduces a relevant description of the acoustic properties of Spanish vowels. The second part presents the results of the perception test administered to the 20 speakers of the Granada dialect and the 20 speakers of the Cartagena dialects. The third part presents the results of the acoustic measurements obtained from the speech samples collected from 10 participants of the Granada dialect and 10 participants of the Cartagena dialect.

5.2. Vowels and formants

In order to carry out an effective analysis, a relevant description of all the aspects and factors involved in the analysis of vowels is in order. Unlike consonants, vowels can be described as sounds produced without any kind of obstruction of the outgoing breath stream (Ladefoged, 2001).

Speech sounds, including vowels, principally differ in three ways: frequency

or pitch, intensity or loudness, and quality or timbre. (Ladefoged and Maddieson, 1996; Ladefoged, 2005). Quality is the factor that distinguishes one vowel from another. For instance, the word *peso* ['pe.so] 'weight' is different from the word *piso* ['pi.so] 'floor' because of the vowel quality of the first syllable. Ladefoged (2001) points out that vowels will retain their individual qualities irrespective of the pitch or loudness with which they are produced. Vowel quality usually can be articulatorily described in terms of variations in degrees of height, backness and lip rounding.

Acoustically, vowel quality can be measured in terms of formant frequencies. Formants are acoustic resonances which are the result of different configurations of the vocal tract (Ladefoged 2001). Vowels have several formants of which the first three are the most important for speech perception. The values of these formants differ from vowel to vowel; however, they constitute an objective way to measure and analyze vowels. The first formant (F1) corresponds inversely to the height dimensions of a vowel. High vowels have a low first formant (F1) and low vowels have a high F1. Similarly, the second formant (F2) is correlated with the advancement (front/back) of the tongue. Front vowels have a high F2 and back vowels have a low F2 (Johnson, 2003).

5.2.1. Spanish Vowels

The Spanish vowel system is comprised of five vowels which are transcribed with the IPA symbols [a, e, i, o, u]. Spanish, a language spoken in many countries around the world, has many dialects, but these differ mostly in the way Spanish consonants are produced, not vowels. Spanish vowels are classified from an articulatory perspective in terms of height and tongue position (Navarro Tomás, 1985). Thus, according to their height, in more traditional analyses, Spanish has two high vowels /i, u/; two mid vowels /e, o/, and one low vowel /a/. In addition, regarding the front-back position of the tongue within the vocal tract, Spanish has two front vowels /i, e/; two back vowels /o, u/ and one central vowel /a/. Table 5.1 displays the Spanish vowel phonemes.

Table 5.1. Spanish Vowel Phonemes

	Front	Central	Back
High	/i/		/u/
Mid	/e/		/o/
Low		/a/	

Adapted from Quilis (1993)

5.2.2. Acoustic Values for Vowels in Spanish

The Spanish vowel phonemes can be determined by the value of their first two formants. The values of vowel formants vary according to the context in which they occur. They are not absolute and should be taken only as a general point of reference. Martínez Celdrán (1984) points out that, from an acoustic and perceptual point of view, a vowel is not a point in a space but a domain with ample boundaries.

Martínez Celdrán (1995) measured the formants of the vowels produced by college students who were native speakers of Spanish. These numbers reflect an average of means taken at a certain point and, therefore, such values are not absolute. It is possible to find an [i] with an F1 of 240 Hz or an [a] with an F2 of 1,200 Hz. Table 5.2 shows the F1 and F2 in vowels produced by male native speakers of the Castilian dialect of Spanish as reported in Martínez Celdrán (1995).

Table 5.2. F1 and F2 Values for Spanish Vowels Produced by Males

F1 Values for Vowels Produced by Male Speakers					
Vowel	/i/	/e/	/a/	/o/	/u/
Mean	313	457	699	495	349
SD	29	40	83	56	38
Minimum	241	381	571	393	277
Maximum	414	587	1,002	656	449

F2 Values for Vowels Produced by Male Speakers					
Vowel	/i/	/e/	/a/	/o/	/u/
Mean	2,200	1,926	1,471	1,070	877
SD	153	117	84	114	128
Minimum	1,832	1,676	1,296	793	622
Maximum	2,523	2,212	1,642	1,313	1,175

Table 5.3 shows the mean values for F1 and F2 in Spanish vowels produced by female native speakers of Castilian Spanish as reported in Martínez Celdrán (1995).

Table 5.3. F1 and F2 Values for Spanish Vowels Produced by Females

F1 Values for Vowels Produced by Female Speakers					
Vowel	F1				
	/i/	/e/	/a/	/o/	/u/
Mean	369	576	886	586	390
SD	50	105	90	80	48
Minimum	276	380	640	398	293
Maximum	483	795	1,088	795	500

F2 Values for Vowels Produced by Female Speakers					
Vowel	F2				
	/i/	/e/	/a/	/o/	/u/
Mean	2,685	2,367	1,712	1,201	937
SD	85	96	92	148	158
Minimum	2,471	2,108	1,503	950	518
Maximum	2,852	2,713	1,918	1,607	1,279

It should be noted that the values reported by Martínez Celdrán more or less correspond to the vowel formant values reported by Quilis (1981). Quilis (1981) took measurements for the first formant frequency (F1) and second formant frequency (F2) in vowels produced by Castilian Spanish male speakers. Table 5.4 presents the formant values reported for Spanish vowels in Quilis (1981).

Table 5.4. Formant Values in Quilis (1981)

F2 Values for Vowels Produced by Male Speakers					
Vowel	F2				
	/i/	/e/	/a/	/o/	/u/
Mean F1	240	410	690	410	240
Mean F2	2450	2300	1400	900	635

In order to provide cross-dialectal insight, the values for formants reported in Martínez Celdrán (1995) and Quilis (1981) will be compared with the mean values for vowel formants yielded by male and female speaker groups in both Granada and Cartagena dialects in the acoustic analysis of this study. The next section presents the procedure followed for the perception test and its results.

5.3. Results for Perception Test

This section presents the results for the perception test administered to participants from the Granada and Cartagena dialect. As can be recalled from Chapter 4, twenty native speakers of the Granada Dialect and twenty native speakers of the Cartagena dialect participated in the perception test. All participants are college students and have a range of 18-25 years of age. The perception test is comprised of four sections but only the results from Part I and Part III were used in the final scoring.¹ Likewise, control items in which final /-s/ → [s] were not included in the scoring. Participants scored 100% in control items. The rates of correct responses for control items are shown in Appendix F. Part I analyzed pairs of complete sentences with and without post-nuclear /s/ in utterance-final position *Creo que la ve* [kreo#ke#la#βe] 'I think that he sees her' versus *Creo que la ves* [kreo#ke#la#βeØ] 'I think that you see her.'² In turn, Part III analyzed isolated lexical pairs with and without post-nuclear /s/ in word-final position, e.g., *calle* ['ka.je] 'street' versus *calles* ['ka.jeØ] 'streets'. All participants completed every question in the perception test, that is, in no instances were there blank entries.

5.3.1. Research Questions

Recall that the research questions for the present perception experiment are two:

1. Are participants from both the Granada and Cartagena dialects able to determine the presence or absence at a statistically significant rate of the [Ø] allophone of deleted post-nuclear /s/ in final contexts? In other words, are the participants capable of distinguishing pairs of words such as *casa* ['ka.sa] 'house' and *casas* ['ka.saØ] 'houses' or *calle* ['ka.je] 'street' and *calles* ['ka.jeØ]'streets'?
2. If participants possess the ability to determine the presence or absence of the [Ø] allophone of deleted post-nuclear /s/ in final contexts in pairs of words such as *casa* ['ka.sa] and *casas* ['ka.saØ], *calle* ['ka.je] 'street' and *calles* ['ka.jeØ]'streets,' *pueblo* ['puqe.blo] 'town' and *pueblos* ['puqe.bloØ] 'towns,' is this ability determined by a particular vowel allophone?

We hypothesize that, as a result of vowel alternation, participants from Granada will be able to readily distinguish between tokens without a following final /-s/ and tokens with deleted final /-s/. Therefore, it is expected that the rate of correct responses for tokens without a following final /-s/, e.g., *casa* ['ka.sa] 'house,' *pueblo* ['puqe.blo] 'town,' will not be significantly different from the rate of correct responses for tokens with deleted final /-s/, e.g., *casas*['ka.saØ] 'houses,' *pueblos* ['puqe.bloØ] 'towns.' In other words, if Granada participants make successful use of vowel

alternation, they will accurately identify both items without final /-s/ and items with deleted final /-s/, likely due to some sort of compensatory mechanism.

Conversely, as vowel alternation is not regarded as a feature in Cartagena Spanish, we hypothesize that Cartagena participants will not display accuracy when distinguishing between tokens without a following final /-s/ and tokens with deleted final /-s/ in the perception test. In other words, it is expected that Cartagena participants will not accurately distinguish items with deleted final /-s/ as well as items without a following final /-s/.

5.3.2. Perception Test Data Analysis and Results

The perception test data were subjected to statistical analysis. Given that two samples and their values are obtained from the same participant, that is, each participant provides two values, a value for items without /s/ and another for items with deleted final /s/, a paired-sample t-test is an appropriate test to use. A paired-sample t-test was, therefore, used to determine if the two means of the two values (rate of correct responses for tokens without a following final /-s/ and rate of correct responses for tokens with deleted final /-s/) are different.

For this statistical analysis SPSS (IBM 2012) was utilized and the following procedure was followed: the number of each participant was entered in the first column; the mean of the correct answers for items with deleted final /-s/ was entered in the second column; the mean of the correct answers for items without a following final /-s/ was entered in the third column, and the dialect of each participant (Granada or Cartagena) was entered in the fourth column.

A paired-sample t-test (Table 5.5) revealed a statistically significant difference between the mean percentage of correct answers for items without final /-s/ and the mean percentage of correct answers for items with deleted final /-s/, $t(39) = 26.492$, $p = < .0001$. These results indicate that both Granada and Cartagena participants are able to accurately identify the items without a following final /-s/ in the perception test (i.e., singular forms of nouns and adjectives and third person singular verb forms). However, participants in both dialects failed to correctly identify items with deleted final /-s/ (i.e., plural forms of nouns and adjectives and second person singular verb forms).

Table 5.5. Paired-Sample Test

	Paired Differences					<i>t</i>	<i>df</i>	Sig. (2-tailed)			
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference							
				Lower	Upper						
Pair 1 Items without /s/- items with /s/ → [Ø]	48.73400	11.63445	1.83957	45.01312	52.45488	26.492	39	.000			

As shown in Table 5.6, Granada participants identify items without a following final /-s/ (singular nouns and adjectives and third-person singular verb forms) with a rate of 82.3%. Conversely, results indicate that Granada participants are not able to accurately identify the items with deleted final /-s/. They identified items with deleted final /-s/ (plural of nouns and adjectives and second-person singular verb forms) with a rate of 38.45%. Likewise in the Cartagena dialect, participants display a high rate of correct responses when identifying the items without a following final /s/. Cartagena participants correctly identified items without a following final /-s/ with a rate of

89.2%. However, they failed to identify the items with deleted final /-s/ accurately. The percentage of correct responses for items with deleted final /-s/ was 35.57%.

Table 5.6. Average of Correct Responses

Granada Participants			Cartagena Participants		
Participant #	Items without /s/	Items in which /s/ → [Ø]	Participant #	Items without /s/	Items in which /s/ → [Ø]
1	87.5	34.61	21	92.3	34.61
2	83.3	53.84	22	92.3	34.61
3	87.5	46.15	23	96.2	30.76
4	83.3	23.07	24	88.5	42.3
5	87.5	61.53	25	92.3	42.3
6	83.3	23.07	26	96.2	30.76
7	70.8	42.3	27	92.3	34.61
8	87.5	23.07	28	80.8	26.92
9	91.7	46.15	29	84.6	42.3
10	87.5	30.76	30	73.1	38.46
11	91.7	34.61	31	92.3	26.92
12	79.2	42.3	32	92.3	46.15
13	75	38.46	33	92.3	30.76
14	66.7	34.61	34	76.9	26.92
15	79.2	42.3	35	96.2	46.15
16	87.5	26.92	36	84.5	30.76
17	79.2	34.61	37	80	34.61
18	83.3	42.3	38	96.2	46.15
19	66.7	30.76	39	88.5	26.92
20	87.5	57.69	40	96.2	38.46
Average	82.3	38.45	Average	89.2	35.57

Recall that the second research question of the perception study aimed to determine whether some type of vowel restructuring for /a, e, o/ plays a role in the accurate identification of items with deleted final /-s/in words such as *casas*['ka.saØ], *calles* ['ka.jeØ] 'street' and *pueblos* ['pu̯e.bloØ] 'towns.' In order to test the possible

effects of the vowel on the accurate identification of deleted final /-s/, an ANOVA test was conducted and the following procedure was followed: the number of each participant was entered in the first column, the mean of the correct answers for items with deleted final /-s/ was entered in the second column, the specific vowel was entered in the third column, and the dialect of each participant (Granada or Cartagena) was entered in the fourth column. Results show no main effect on the interaction between a specific vowel and the identification of deleted final /-s/. In other words, none of the non-high vowels [a, e, o] is significantly more identifiable than the others. The ANOVA for the effects of vowels can be seen in Appendix E.

This section presented the results for the perception test of this study. The overall rate of correct responses for items in which final /-s/ is deleted suggests that neither Granada nor Cartagena participants possess the ability to accurately determine whether the allophone [Ø] is present. These findings will be discussed in Chapter 6. The next section presents the results for the acoustic analysis section of this study.

5.4. Acoustic Analysis Results

Recall from Chapter 4 that speech samples were recorded from both 10 native speakers of Granada Spanish and 10 native speakers from Cartagena Spanish. Nowadays the best way to describe vowels is by conducting acoustic analyses of a group of speakers and specifying their mean formant frequencies (Ladefoged, 2005). To this end, vowel formant and vowel length measurements were taken for the vowels obtained from the samples of the sociolinguistic interview and elicitation task. These target words feature the absence or presence of syllable-final or word-

final /s/ (e.g. *foto* ‘picture’ vs *fotos* ‘pictures,’ *pecado* ‘sin’ vs *pescado* ‘fish.’ A combined total of 7,872 tokens were obtained from the sociolinguistic interview and the elicitation task.

5.4.1. Research Questions

The research questions for the acoustic analysis are:

1. Do vowels in both Granada and Cartagena dialects undergo significant formant restructuring when preceding deleted final /-s/?
2. Does the type of task (e.g. interview or elicitation) significantly affect the formant structure of vowel that precede deleted final /-s/ in both Cartagena and Granada dialects?

5.4.2. Procedure

The ‘Praat’ program (Boersma and Weenink, 2014) was utilized for the acoustic analysis. Once the vowels were isolated, they were labeled with a six-character code in a one-tier script. The first character in the code indicates the type of task performed by the participant (t = interview or l = elicitation); the second character indicates the dialect spoken by the participant (g = Granada, c = Cartagena); the third character indicates the participant’s gender (h = male, m = female) and the fourth character indicates the phonetic context in which the vowel occurs (s= syllable-final, p= word-final, z=utterance-final position). The fifth character indicates the level of /s/ sibilance with which the segment /s/ is articulated. Thus, 0 indicates /s/ is deleted, 1 indicates /s/ is pronounced with a low or medium degree of sibilance, whereas 2 indicates that /s/ is pronounced with a

high degree of sibilance, the type of /s/ which would be pronounced in affected speech.³ The number 3 indicates that the marked vowel is not preceded by /s/, such as the /u/ in *buque* ‘ship’ or the /a/ in *prima* ‘cousin.’ The number 4 indicates /s/ is aspirated. The last character in the code indicates the vowel for which measurements are being taken (a = /a/, e = /e/, i = /i/, o = /o/, u = /u/). Table 5.7 details the conventions used in labeling.

Table 5.7. Conventions for Labels in ‘Praat.’

Task	t = Interview; l = elicitation
Dialect	g = Granada; c = Cartagena
Gender	h = male; m = female
Vowel context	s = syllable-final; p = word-final; z = utterance-final
/s/ sibilance level	0 = deleted /s/; 1 = low-medium degree of sibilance; 2 = high degree of sibilance; 3 = /s/ does not follow the vowel; 4 = aspirated /s/
Vowel	a = /a/; e = /e/; i = /i/; o = /o/; u = /u/

In order to illustrate the labeling, let us look at the label for the word *busca* ‘he/she looks for’ extracted from the target sentence *Tengo el libro que busca* ‘I have the book he/she looks for.’ The label *busca-lghz3a* indicates that the vowel /a/ in the word *busca* was uttered by a male from Granada in the elicitation task. It also indicates that this vowel occurs in utterance-final position and is not preceded by /s/. Figure 5.1 illustrates the labeling for the vowel /a/ in the word *busca*.

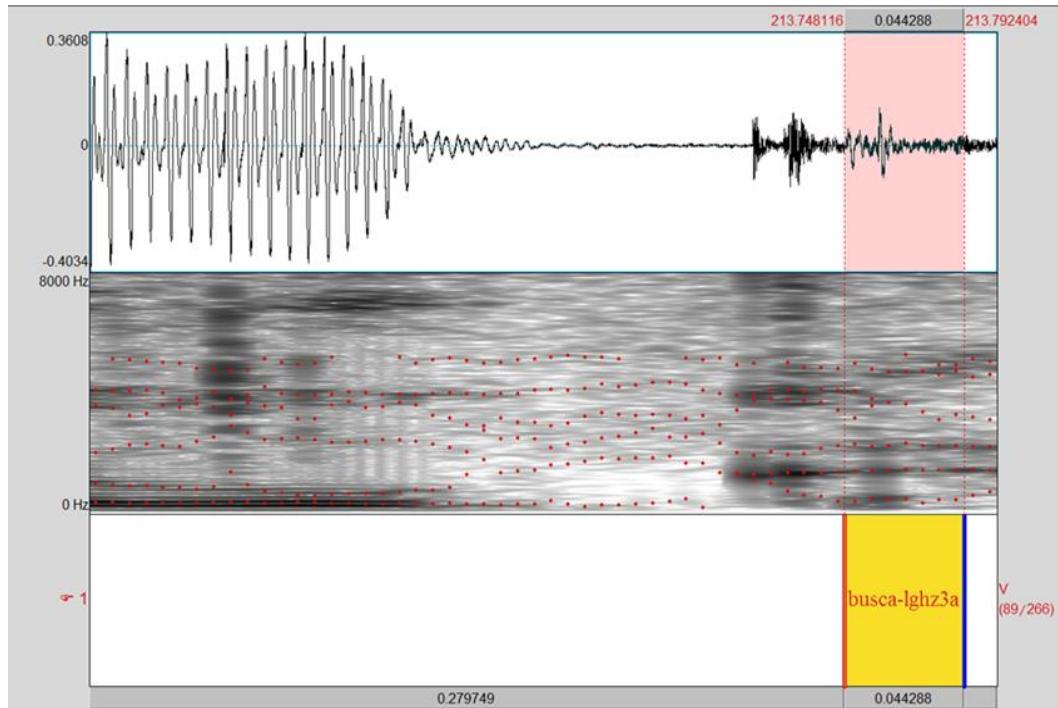


Figure 5.1. Labeling of /a/ in the Word *Busca* 'she looks for'

In order to mark the contrast with its near-minimal counterpart, the labeling of the word *buscas* 'you (2nd sg.) look for' and extracted from the target sentence *Tengo el libro que buscas* 'I have the book you look for' is illustrated next. The label *buscas-lghz0a* indicates that the vowel /a/ in the word *buscas* was uttered by a male from Granada in the elicitation task. It also indicates that this vowel occurs in utterance-final position and the /s/ that follows it is deleted. Figure 5.2 illustrates the labeling for the vowel /a/ as occurring in the first syllable in the word *buscas*.

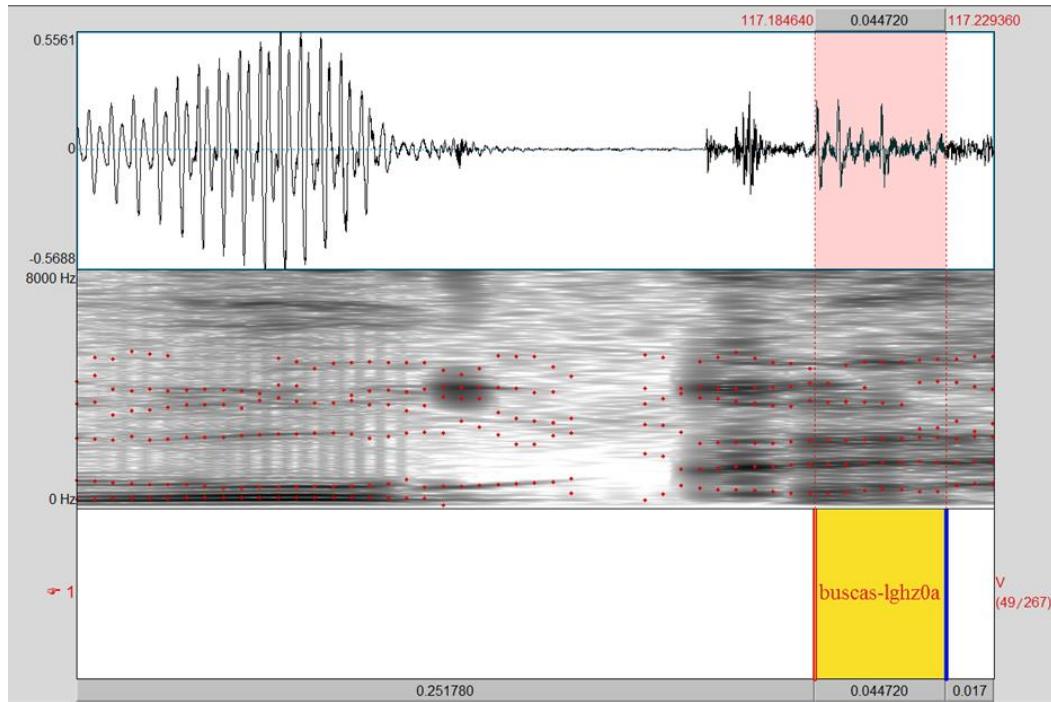


Figure 5.2. Labeling of Syllable-final /a/ in the Word *Buscas* 'you look for'

It is worth noting that this way of labeling vowels is particularly useful because it allows one to label more than one vowel within the same word as is the case in the word *pastillas* 'pills' extracted from the target sentence *Tengo que tomar las mismas pastillas* 'I have to take the same pills.' In this word, the vowel /a/ in the first syllable and the vowel /a/ in the last syllable can be labeled as 's' (syllable-final) and 'z' (utterance-final position), respectively. Likewise, the vowel /i/ in the second syllable has been labeled as 's' (syllable-final), as well. Figure 5.3 illustrates the labeling of multiple vowels as occurring in the word *pastillas* 'pills.'

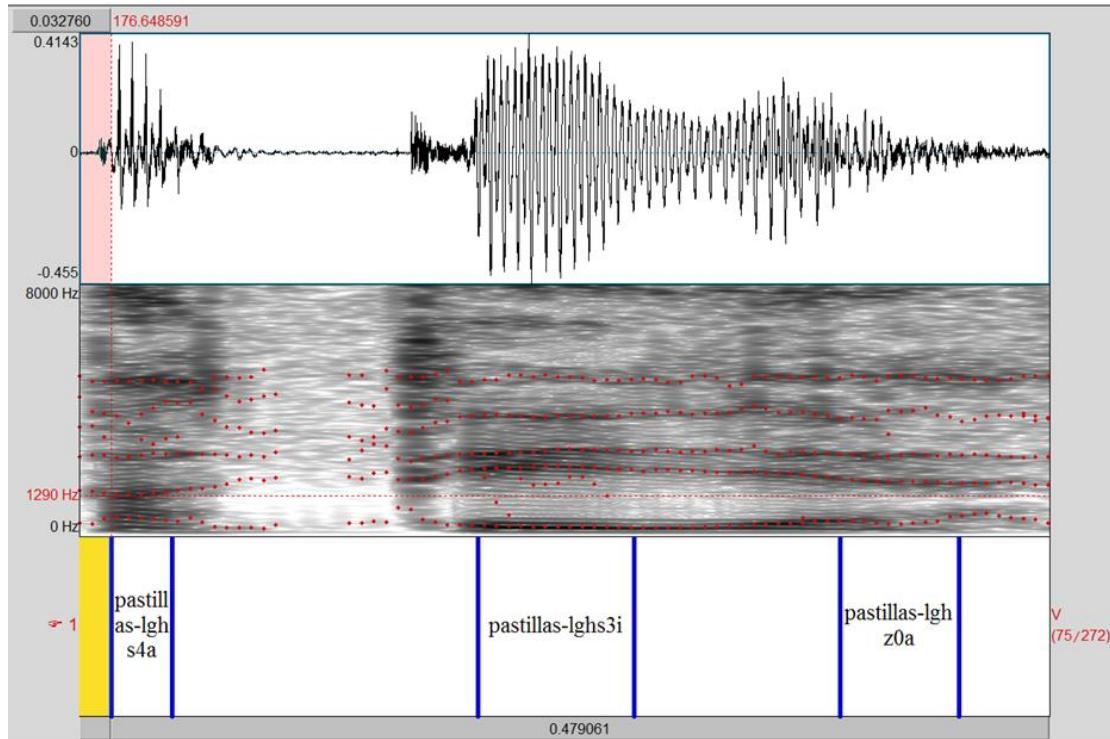


Figure 5.3. Labeling of Multiple Vowels in the Word *Pastillas* ‘pills.’

5.4.3. Exclusion of Tokens

To ensure consistency during the data analysis, tokens deemed problematic were excluded. The exclusion of tokens obtained during the elicitation task or interview was due to several reasons. For instance, in target sentence #43 from the elicitation task, *los señores viven en esta casa bonita* ‘the men live in this pretty house,’ the word *los* was excluded because final /s/ in the determiner merges with the initial /s/ in the following noun. Thus, tokens of this type were excluded because, otherwise, it would have been very problematic to determine the degree of final /-s/ sibilance.

The data obtained from the interview task presents more scenarios that obscure the analysis of tokens and, consequently, sometimes prompted their exclusion from the analysis. The relatively rapid rate of unaffected speech shown in this type of register yields more linguistic variation that affects the pronunciation of words such as syllable reduction, intervocalic /d/ deletion, *sineresis* and *sinalefa*. In the sentence *El Albaicín es el más bonito de todos* ‘The Albaicín is the prettiest of all,’ uttered by participant 13, the intervocalic /d/ in *todos* is deleted yielding an instance of *sineresis*. The term *sineresis* in traditional Spanish phonetics refers to the phonetic joining of two vowels within a word that results in the overall loss of one syllable (Hammond 2001). As a result, the word *todos*, most often pronounced as [‘to.ðos] in formal speech, is pronounced as [to:] in casual speech. Thus, this item was excluded from the analysis because of the complexity of the phonological process involved in its articulation and subsequent analysis. Instances of *sinalefa* also prompted exclusion of tokens. The term *sinalefa* in traditional Spanish phonetics refers to the phonetic joining of two vowels across word boundaries that results in the overall loss of one syllable. For instance, in the noun phrase *muchas asignaturas* [mu.tfa.sa.sig.na.‘tu.ras] ‘many courses,’ pronounced by the participant 13 during the interview task, the final /s/ in the quantifier *muchas* is deleted yielding two adjacent identical vowels across word boundaries. As a result, one syllable is lost as illustrated in [mu.tfa.sig.na.‘tu.raØ].

Another particular instance of *sinalefa* is the occurrence of a non-high vowel followed by an unstressed high vowel. In a vowel combination such as this, the first

vowel may be deleted as in the noun phrase *Centro Histórico* ‘Historical Center’ pronounced as [sen̩.tris.ˈto.ri.ko] by participant 3 in casual speech.

In addition, words with diphthongs such as *pues* ‘so’ have also been excluded from the acoustic analysis. Semivowels function as the beginning or end of a syllable and determining their onset or offset can be problematic. Lastly, occasionally speakers’ pronunciation of some words was not clear enough or inevitable background noise made identification of some vowels very difficult.

5.4.4. Vowel Formant Averages in Granada and Cartagena

The formant values shown below correspond to the vowels extracted from both the native speakers of Granada and Cartagena Spanish. Such values represent the average for the first formant frequency, F1, and second formant frequency, F2. These values were calculated for vowels alone; that is to say, those vowels which do not precede any allophone of /s/ in the three contexts taken into account for this study: syllable-final, word-final, and utterance-final position. For instance, the formant values for /e/ were calculated from the all of the occurrences of /e/ in words such as *pecado* ‘sin’ (syllable-final position), *este* ‘this’ (word-final position), and *calle* ‘street’ when occurred at the end of a sentence (utterance-final position).

It should be noted that these values correspond more or less to the vowel formant measurements reported by Martínez Celadrán (1995) and Quilis (1981) and will constitute the baseline for comparison with the vowel formant of vowels preceding a deleted /s/ in Granada and Cartagena Spanish. Table 5.8 displays the vowel formant

values for both male and female Granada speakers. In turn, Table 5.9 displays the vowel formant values for both male and female Cartagena speakers.

Table 5.8. F1 and F2 Values for Vowel Formants in Granada Spanish

Male		F1				
Vowel		/i/	/e/	/a/	/o/	/u/
Mean F1		281	397	560	375	322
Mean F2		2266	1897	1385	1227	1069
Female		F1				
Vowel		/i/	/e/	/a/	/o/	/u/
Mean F1		344	425	625	394	387
Mean F2		2295	2152	1627	1297	1156

Table 5.9. F1 and F2 Values for Vowel Formants in Cartagena Spanish

Male		F1				
Vowel		/i/	/e/	/a/	/o/	/u/
Mean F1		322	405	616	440	351
Mean F2		2083	1768	1656	1209	1045
Female		F1				
Vowel		/i/	/e/	/a/	/o/	/u/
Mean F1		367	494	658	460	393
Mean F2		2254	2111	1738	1269	1290

5.4.5. Statistical Analysis

The data obtained from the Granada and Cartagena participants were subjected to statistical analysis. A t-test was selected in order to test the statistical significance of a possible vocalic alternation or formant opening or lengthening of vowels preceding /s/ deletion. The t-test compares the means between two groups: vowels followed by

the deleted post-nuclear /s/ and vowels without a following final /-s/. Recall that for this study vowels were segmented and labeled with a six-character code, where '0' refers to vowels that precede deleted /s/ e.g., *ves* [beØ] 'you (sg) see' whereas '3' refers to vowels without final /-s/, e.g., *ve* [be] 'he/she sees.' For the ease of explanation, henceforth '0' refers to a vowel preceding deleted final /-s/ and '3' refers to a vowel without a following final /-s/.

Consequently, in order to test whether vowels are significantly more open when preceding a deleted /s/, the t-test will compare F1 normalized values for vowels in '0' versus vowels in '3'. Thus, the independent variable is 'group 0 and 3' and the dependent variable is normalized F1 (henceforth |F1|).

Moreover, in order to compare whether vowels are significantly more fronted, less fronted or centralized when preceding deleted /s/, the t-test will compare F2 normalized for vowels in '0' and vowels in '3'. The independent variable is 'group 0 and 3' and the dependent variable is normalized F2 (henceforth |F2|).

In the same vein, in order to compare whether vowels lengthen significantly when preceding deleted /s/, the t-test will compare normalized vowel length in '0' and in '3.' The independent variable is 'group 0 and 3' and the dependent variable is normalized duration (henceforth |DUR|). Statistical analyses were performed via MATLAB (2011). Thus, independent t-tests were conducted on each vowel to test vowel alternation and vowel lengthening according to dialect (Granada/Cartagena), type of task (elicitation/interview), and linguistic context (syllable-final/word-

final/utterance-final). In order to cancel out the acoustic variance provided by non-target dimensions, formant values were normalized according to the following criteria:

- For dialect analyses, vowels were normalized for subject, task, and linguistic context.
- For task analyses, vowels were normalized for subject, dialect and linguistic context.
- For linguistic context analyses, vowels were normalized for subject, dialect, and task.

5.4.6. Results for Effect of Dialect on Vowel Alternation

5.4.6.1. Granada Dialect

T-test results for vowels in Granada reveal that for:

- Vowel /a/: |F1| in '0' (mean = 567 Hz) is significantly lower than |F1| in '3' (mean = 584 Hz) ($t_{1154}=-3.93$, $p<0.001$). This indicates that the vowel /a/ is less open when preceding deleted /s/. No significant results for |F2| in '0' were found.
- Vowel /e/: |F1| in '0' (mean = 407 Hz) is significantly higher than |F1| in '3' (mean = 388 Hz) ($t_{815}=2.18$, $p=0.002$). This indicates that the vowel /e/ is more open when preceding deleted /s/. |F2| in '0' (mean = 1922 Hz) is significantly lower than |F2| in '3' (mean = 2128 Hz) ($t_{815}=-7.88$, $p<0.001$). This indicates that vowel /e/ is less fronted or centralized when preceding deleted /s/.

- Vowel /i/: No significant results for |F1| were found. |F2| in '0' (mean = 2161 Hz) is significantly lower than |F2| in '3' (mean = 2274 Hz) ($t_{273}=-3.06$), $p=0.002$. This indicates that /i/ is less fronted or centralized when preceding deleted /s/.
- Vowel /o/: No significant results were found for either |F1| or |F2| when /o/ precedes deleted /s/.
- Vowel /u/: As in the case of /o/, no significant results were found for the vowel /u/ regarding formant alternation in |F1| nor |F2| when the post-nuclear /s/ is deleted.

In summary, in Granada Spanish the vowel /e/ becomes more open and centralized when the following /s/ is deleted. It should be noted that the results regarding the F1 and F2 alternation for vowel /e/ in Granada concur with the results reported in Llisterri and Poch (1987), Sanders (1994), and Martínez Melgar (1994). The vowel /i/ is less fronted when preceding deleted /s/. These results for F2 also concur with those reported by Sanders (1994) and Martínez Melgar (1994). Table 5.10 displays the statistics for vowel alternation in Granada Spanish.

Table 5.10. Statistics for Vowel Alternation in Granada

	Vowel	t	df	p	Mean in '0'	Mean in '3'
F1	/a/	-3.9328797	1154	8.89E-05	567.805559	484.628643
	/e/	2.18094206	815	0.02947293	407.625165	388.08615
	/i/	1.61852693	273	0.10670378	324.694967	313.297208
	/o/	0.16031498	656	0.87268231	392.947313	385.442692
	/u/	1.18153386	286	0.23837223	342.606943	320.904053
F2	/a/	-0.34110491	1154	0.7330867	1567.91115	1541.30368
	/e/	-7.88447586	815	1.01E-14	1922.17423	2128.9448
	/i/	-3.06908564	273	0.00236328	2161.67656	2274.1293
	/o/	-0.66481941	656	0.50639964	1221.44632	1224.47056
	/u/	-1.29486276	286	0.19641193	1192.74918	1324.10404

5.4.6.2. Cartagena Dialect

T-test results for vowels in Cartagena reveal that for:

- Vowel /a/: |F1| in '0' (mean = 541 Hz) is significantly lower than |F1| in '3' (mean = 590 Hz) ($t_{665}=-3.60$, $p<0.005$). This indicates that the vowel /a/ is less open when preceding deleted /s/. No significant results were found regarding a possible alternation of |F2| for /a/ when preceding deleted /s/.
- Vowel /e/: No significant results were found for |F1| in '0.' However, |F2| in '0' (mean = 1898 Hz) is significantly lower than |F2| in '3' (mean = 2001 Hz) ($t_{548}=-2.003$, $p<0.005$). This indicates that the vowel /e/ is less fronted or centralized when following deleted /s/.
- Vowel /i/: No significant results were found for |F1| nor |F2| when /i/ precedes deleted /s/.

- Vowel /o/: No significant alternation for |F1| in '0' was found. |F2| in '0' (mean = 1256 Hz) is significantly higher than |F2| in '3' (mean = 1228 Hz) ($t_{550}=2.49$, $p<0.005$). This indicates that the vowel /o/ is more fronted or centralized when preceding deleted /s/.
- Vowel /u/: As in the case of /i/, no significant results were found for |F1| nor |F2| when /u/ precedes deleted /s/.

In summary, in Cartagena vowel /a/ is significantly less open when the following /s/ is deleted. In addition, the mid-vowels /e, o/ centralize when precede deleted /s/. Table 5.11 displays the statistics and means for F1 and F2 in Cartagena.

Table 5.11. Statistics for Vowel Alternation in Cartagena

	Vowel	t	df	p	Mean in '0'	Mean in '3'
F1	/a/	-3.60475296	665	0.00033581	541.012697	590.053187
	/e/	-1.48637495	548	0.13775506	424.244356	456.452966
	/i/	-0.28918303	232	0.77269957	344.460293	348.070061
	/o/	0.87226378	550	0.38344511	460.361309	445.195007
	/u/	-0.36074415	129	0.71888077	347.300466	371.050355
F2	/a/	0.43612292	665	0.66288909	1669.15849	1674.33116
	/e/	-2.00395816	548	0.04556622	1898.4194	2001.47921
	/i/	-0.59606289	232	0.55171431	2018.88469	2048.24637
	/o/	2.4961539	550	0.01284647	1256.63429	1228.83659
	/u/	1.21066031	129	0.22823909	1214.6849	1224.70911

5.4.7. Results for the Effect of Dialect on Vowel Lengthening

5.4.7.1. Granada Dialect

T-test results for vowel length in Granada Spanish reveal that for:

- Vowel /a/: |DUR| in '0' (mean = 63 ms) is significantly longer than |DUR| in '3' (mean = 57ms) ($t_{1154}=3.16$, $p<0.05$). This indicates that /a/ is longer when preceding deleted /s/.
- Vowel /e/: |DUR| in '0' (mean = 68 ms) is significantly longer than |DUR| in '3' (mean = 55) ($t_{815}=8.44$, $p<0.01$). This indicates that /e/ is significantly longer when the following /s/ is deleted.
- Vowel /i/: No significant difference in length was found for the vowel /i/ before deleted /s/.
- Vowel /o/: |DUR| in '0' (mean = 62 ms) is significantly longer than |DUR| in '3' (mean = 50 ms) ($t_{656}=5.41$, $p<0.01$). This indicates that /o/ undergoes significant lengthening when the following /s/ is deleted.
- Vowel /u/: |DUR| in '0' (mean = 66 ms) is significantly longer than |DUR| in '3' ($t_{286}=4.02$, $p<0.01$). This indicates that /u/ is significantly longer when preceding deleted /s/.

In summary, Granada Spanish participants significantly lengthen /a, e, o, u/ when preceding deleted /s/. Vowel /i/ does not present a significant change in vowel length.

Table 5.12 displays the statistics for vowel length in Granada.

Table 5.12. Statistics for Vowel Length in Granada

Vowel	t	df	p	Mean in '0'	Mean in '3'
/a/	3.16723908	1154	0.00157929	0.0638609	0.05731778
/e/	8.44809272	815	1.35E-16	0.06806681	0.05548395
/i/	1.017388	273	0.30986967	0.05905819	0.05425827
/o/	5.41755485	656	8.49E-08	0.06273346	0.05035166
/u/	4.02715207	286	7.24E-05	0.0669752	0.05262537

5.4.7.2. Cartagena Dialect

T-test results for vowel length in Cartagena reveal that for:

- Vowel /a/: No significant change in length was found for /a/ when the following /s/ is deleted.
- Vowel /e/: |DUR| in '0' (mean = 63 ms) is marginally shorter than |DUR| in '3' (mean = 66 ms) ($t_{548}=-1.93$, $p=0.05$). This indicates that /e/ is slightly shorter when preceding deleted /s/.
- Vowel /i/: |DUR| in '0' (mean = 75 ms) is significantly longer than |DUR| in '3' (mean = 65 m) ($t_{232}=3.48$, $p<0.01$). This indicates that /i/ is significantly longer when the following /s/ is deleted.
- Vowel /o/: This vowel does not lengthen significantly when the following /s/ is deleted.
- Vowel /u/: |DUR| in '0' (mean = 79 ms) is significantly longer than |DUR| in '3' (mean = 63 ms) ($t_{129}=3.28$, $p<0.05$). This indicates that /u/ is significantly longer when preceding deleted /s/.

In summary, the vowel /e/ in Cartagena shortens slightly when post nuclear /s/ is deleted. The high vowels /i, u/ lengthen significantly when the segment /s/ is elided.

Table 5.13 displays the statistics for vowel length in Cartagena.

Table 5.13. Statistics for Vowel Length in Cartagena

Vowel	t	df	p	Mean in '0'	Mean in '3'
/a/	0.9799309	665	0.32747659	0.0685064	0.06606402
/e/	-1.93090724	548	0.05401001	0.06326115	0.06657891
/i/	3.48874578	232	0.00058053	0.07565814	0.06578258
/o/	0.74930348	550	0.45399466	0.0659478	0.06333435
/u/	3.28470919	129	0.00131455	0.07996874	0.0632489

5.4.7.3. Cross-dialectal Vowel Comparison

In light of the results shown above for Granada and Cartagena, a comparison between the vowel formant alternation and vowel lengthening displayed in these two dialects is in order. The similarities regarding vowel alternation will be listed first and the contrasts will be indicated next. In both the Granada and Cartagena dialects the vowel /a/ is significantly less open when preceding deleted /s/. Likewise, the vowel /e/ in both dialects becomes less fronted or more centralized when the following /s/ is deleted. The third similarity concerns the vowel /u/, which in the dialects shows no significant alternation when preceding deleted /s/. It should be noted in Spanish nouns and adjectives rarely end in a high vowel. For this study, tokens of /u/ occur often in syllable-final position in high-frequently used words like *gustar* and *buscar*, and it also occurs in word-final position in determiners like *tus* 'your (pl.)' and *sus* 'his/hers (pl.)'. In turn, tokens ending with

the vowel /i/ occur in the nouns *tenis* ‘tennis’ and *taxis* ‘taxis’ and in the determiner *mis* ‘my (pl.).’

Regarding vowel length, the only similarity between the Granada and Cartagena dialects is concerned with the length of /u/. In both dialects vowel /u/ is significantly longer when the following /s/ is deleted. On the other hand, there are a few contrasts that should be noted. The vowels /a, o/ are significantly longer in Granada Spanish when preceding deleted /s/, whereas in Cartagena Spanish they do not differ significantly in length. The vowel /i/ presents another difference in this vowel length comparison; in Granada Spanish, /i/ does not significantly lengthen while it does in Cartagena Spanish. The last contrast is concerned with /e/, which is significantly longer in Granada Spanish but slightly shorter in Cartagena Spanish before deleted /s/.

5.4.8. Results for Effect of Task on Vowel Quality

5.4.8.1. Results for Elicitation Task on Vowel Quality

T-test results for vowels in the elicitation task reveal that for:

- Vowel /a/: |F1| in ‘0’ (mean = 476 Hz) is significantly lower than |F1| in ‘3’ (mean = 526 Hz) ($t_{1342}=-3.92$, $p<0.001$). This indicates that /a/ is less open when the following /s/ is deleted. Regarding |F2|, no significant results were found.
- Vowel /e/: No significant alternation was found for this vowel in |F1|. But |F2| in ‘0’ (mean = 1916 Hz) is significantly lower than |F2| in ‘3’ (mean =

2083 Hz) ($t_{827}=-6.11$, $p<0.01$). This indicates that /e/ is significantly less fronted or more centralized when the following /s/ is deleted.

- Vowel /i/: No significant alternation was found for |F1| nor |F2| when /i/ precedes deleted /s/ in the elicitation task.
- Vowel /o/: No significant alternation was found for |F1| nor |F2| when the following /s/ is deleted.
- Vowel /u/: No significant alternation was found for |F1| or |F2| when the following /s/ is deleted.

In summary, a significant change in vowel quality in the elicitation task was found for vowels /a/ and /e/. The vowel /a/ is significantly less open while vowel /e/ is less fronted or more centralized when preceding deleted /s/. Table 5.14 displays the statistics for the effects of elicitation task on vowel quality.

Table 5.14. Statistics for Vowel Alternation in Elicitation Task

	Vowel	t	df	p	Mean in '0'	Mean in '3'
F1	/a/	-3.92506394	1342	9.11E-05	476.058819	526.196742
	/e/	1.42481512	827	0.15458791	405.835795	417.175624
	/i/	1.61347573	367	0.10750066	340.967346	328.122669
	/o/	-1.12134052	797	0.26248068	389.682846	415.388972
	/u/	0.98896465	348	0.32336755	343.666813	344.745017
<hr/>						
F2	/a/	1.42712076	1342	0.15377771	1644.24403	1604.06057
	/e/	-6.11974488	827	1.45E-09	1916.93039	2083.72731
	/i/	-1.67338046	367	0.0951045	2073.43514	2118.6863
	/o/	0.20610705	797	0.83675993	1246.34043	1255.43948
	/u/	-0.06827646	348	0.94560477	1208.00225	1282.17848

5.4.8.2. Results for Effects of Interview on Vowel Quality

T-test results for vowels in the interview reveal that for:

- Vowel /a/: |F1| in '0' (mean = 498 Hz) is significantly lower than |F1| in '3' (mean = 590 Hz) ($t_{477}=-6.74$, $p<0.001$). This indicates that /a/ is less open when the following /s/ is deleted. Regarding |F2|, no significant results were found.
- Vowel /e/: No significant alternation was found for |F1|. |F2| in '0' (mean = 1913 Hz) is significantly lower than |F2| in '3' (mean = 2021 Hz) ($t_{536}=-3.93$, $p<0.01$). This indicates that /e/ is less fronted or more centralized when preceding deleted /s/ in the interview task.
- Vowel /i/: No significant alternation was found for |F1|. |F2| in '0' (mean = 2168 Hz) is significantly lower than |F2| in '3' (mean = 2303 Hz) ($t_{138}=-2.37$, $p=0.01$). This indicates that /i/ is significantly less fronted or more centralized when preceding deleted /s/.
- Vowel /o/: |F1| in '0' (mean = 440 Hz) is significantly higher than |F1| in '3' (mean = 419 Hz) ($t_{409}=1.96$, $p=0.04$). This indicates that /o/ is more open when preceding deleted /s/. |F2| in '0' (mean = 1222 Hz) is significantly higher than |F2| in '3' (mean = 1133 Hz) ($t_{409}=2.61$, $p=0.009$). This indicates that vowel /o/ is more fronted or more centralized when the following /s/ is deleted.
- Vowel /u/: No significant alternation was found for |F1| or |F2|.

In summary, vowels in the interview task (except /u/) feature some form of alternation when /s/ is deleted: /a/ is less open; the front vowels /e/ and /i/ are less fronted or more centralized; and /o/ is more open and more centralized. Table 5.15 displays the statistics for the effects of the interview task on vowel formants.

Table 5.15. Statistics for Vowel Alternation in Interview

	Vowel	t	df	p	Mean in '0'	Mean in '3'
F1	/a/	-6.7462381	477	4.41E-11	498.288601	590.128254
	/e/	-1.12154074	536	0.26255995	418.864174	434.417471
	/i/	-0.37268276	138	0.70995634	317.678509	344.292918
	/o/	1.96823492	409	0.04971604	440.558094	419.499963
	/u/	0.09119729	67	0.92760794	342.264619	355.682393
F2	/a/	-1.73434629	477	0.08350269	1529.76218	1592.53663
	/e/	-3.93721989	536	9.33E-05	1913.83706	2021.60228
	/i/	-2.37359682	138	0.01899376	2168.99418	2303.15383
	/o/	2.61666575	409	0.00920829	1222.1494	1133.85404
	/u/	0.08461149	67	0.93282258	1154.07058	1207.48412

5.4.8.3. Results for Effect of Elicitation Task on Vowel Length

T-test results that measure the effect of the elicitation task on vowel length reveal that for:

- Vowel /a/: No significant change in length was found for /a/ when the following /s/ is deleted.
- Vowel /e/: |DUR| in '0' (mean = 62 ms) is significantly longer than |DUR| in '3' (mean = 60 ms) ($t_{827}=3.34$, $p=0.0008$). This indicates that /e/ is significantly longer when preceding deleted /s/.

- Vowel /i/: No significant change in length was found for /i/ when the following /s/ is deleted.
- Vowel /o/: |DUR| in '0' (mean = 54 ms) is significantly shorter than |DUR| in '3' (mean = 55 ms) ($t_{797}=2.45$, $p=0.01$). This indicates that /o/ is shorter when preceding deleted /s/.
- Vowel /u/: |DUR| in '0' (mean = 66 ms) is significantly higher than |DUR| in '3' (mean = 57 ms) ($t_{348}=4.09$, $p<0.001$). This indicates that /u/ is significantly longer when preceding deleted /s/.

In summary, in the elicitation task the vowels /e/ and /u/ are significantly longer when the following /s/ is deleted. In contrast, the vowel /o/ is significantly shorter in the same condition. Table 5.16 displays the statistics for the effects of elicitation task on vowel length.

Table 5.16. Statistics for Vowel Length in Elicitation

Vowel	t	df	p	Mean in '0'	Mean in '3'
/a/	1.01528368	1342	0.31015363	0.05943141	0.06076983
/e/	3.34013085	827	0.0008749	0.06207668	0.06035121
/i/	1.04702405	367	0.29577756	0.05971844	0.05807786
/o/	2.45029723	797	0.01448783	0.05480956	0.05552254
/u/	4.09122216	348	5.34E-05	0.06686961	0.05783767

5.4.8.4. Results for the Effect of Interview Task on Vowel Length

T-test results effects of interview task on vowel length reveal that for:

- Vowel /a/: |DUR| in '0' (mean = 71 ms) is significantly longer than |DUR| in '3' (mean = 66 ms) ($t_{477}=3.34$, $p=0.0008$). This indicates that /a/ is significantly longer when preceding deleted /s/.
- Vowel /e/: |DUR| in '0' (mean = 71 ms) is significantly longer than |DUR| in '3' (mean = 62 ms) ($t_{536}=4.06$, $p<0.01$). This indicates that /e/ is significantly longer when preceding deleted /s/.
- Vowel /i/: No significant difference in length was found.
- Vowel /o/: |DUR| in '0' (mean = 72 ms) is significantly longer than |DUR| in '3' (mean = 62 ms) ($t_{409}=2.65$, $p=0.008$). This indicates that /o/ is significantly longer when the following /s/ is deleted.
- Vowel /u/: |DUR| in '0' (mean = 76 ms) is significantly longer than |DUR| in '3' (mean = 58 ms) ($t_{67}=2.46$, $p=0.01$). This indicates that /u/ is significantly longer when preceding deleted /s/.

In sum, in the linguistic interview task, the vowels (except /i/) are significantly longer when the following /s/ is deleted. Table 5.17 displays the statistics for the effect of the interview format on vowel lengthening.

Table 5.17. Statistics for Vowel Length in Interview

Vowel	t	df	p	Mean 0	Mean 3
/a/	3.34848372	477	0.00087688	0.07192268	0.06604268
/e/	4.06197697	536	5.59E-05	0.07126267	0.06266246
/i/	1.28394681	138	0.20131209	0.07240736	0.06879176
/o/	2.65428927	409	0.0082576	0.07205633	0.06207241
/u/	2.46105855	67	0.01643526	0.07697052	0.05854756

5.4.8.5. Comparison Between Task Effects

A comparison between vowels preceding deleted /s/ in the interview task and vowels preceding deleted /s/ in the elicitation task shows that /a/ is significantly less open in both tasks. Likewise, /e/ is significantly less fronted or more centralized in both tasks. The vowel /i/ shows no significant difference in either task.

On the other hand, it can be observed that the formant frequencies of /i/ do not vary significantly in the elicitation task. In contrast, /i/ is significantly less fronted or centralized when preceding deleted /s/ in the interview. Likewise, the formant frequencies for /o/ do not vary significantly in the elicitation task, however; /o/ is significantly more open and more centralized in the interview task.

Regarding vowel lengthening, findings show that vowels /e/ and /u/ are significantly longer before deleted /s/ in both types of tasks. Likewise, /i/ does not present a significant lengthening change. In contrast, /a/ is significantly longer in the elicitation task while it does not lengthen in interview task.

5.4.9. Results for the Effects of Linguistic Context

5.4.9.1. Results for the Effects of Syllable-final Position on Vowel Quality

T-test results to measure the effect of the syllable-final position on vowel alternation reveal that for:

- Vowel /a/: |F1| in '0' (mean = 455 Hz) is significantly lower than |F1| in '3' (mean = 574 Hz) ($t_{280}=-4.52$, $p<0.001$). This indicates that /a/ is less open when the following /s/ is deleted. Regarding |F2|, no significant results were found.
- Vowel /e/: |F1| in '0' (mean = 391 Hz) is significantly lower than |F1| in '3' (mean = 435 Hz) ($t_{230}=-2.75$, $p<0.006$). This indicates that /e/ is less open when the following /s/ is deleted. Regarding |F2|, no significant results were found.
- Vowel /i/: No significant results were found for /i/ regarding vowel alternation.
- Vowel /o/: like the vowel /i/, the vowel /o/ does not differ significantly when preceding deleted /s/.
- Vowel /u/: Formant frequencies for /u/ do not vary significantly when the following /s/ is deleted. |F2| in '0' (mean = 1120 Hz) is marginally higher than |F2| in '3' (mean = 1044 Hz) ($t_{195}=1.92$, $p=0.05$). This indicates that /u/ is slightly more fronted when preceding deleted /s/.

In sum, the vowel /a/ is less open in syllable-final position when the following /s/ is deleted. Likewise, the vowel /e/ is less open in the same context.

Finally, the vowel /u/ is slightly more fronted when preceding deleted /s/. Table 5.18 displays the statistics for the effects of syllable-final position on vowel formant.

Table 5.18. Statistics for Vowel Alternation in Syllable-final Position

	Vowel	t	df	p	Mean in '0'	Mean in '3'
F1	/a/	-4.52185859	280	9.06E-06	455.942383	574.912132
	/e/	-2.75532472	230	0.00633296	391.887331	435.257243
	/i/	0.34600249	237	0.7296478	310.020151	317.722587
	/o/	0.61382715	165	0.5401749	502.435315	450.655337
	/u/	1.3320722	195	0.18439122	349.213821	339.859232
F2	/a/	0.11860638	280	0.90567226	1514.4612	1516.85571
	/e/	-0.13526049	230	0.89252422	1936.58868	1962.95956
	/i/	-0.91781704	237	0.35964773	2089.14144	2159.04048
	/o/	-0.82845919	165	0.40860725	1014.20414	1147.2028
	/u/	1.92153219	195	0.05612268	1120.36775	1044.96861

5.4.9.2. Results for the Effects of Word-final Position within a Breath-group on Vowel Quality

T-test results to measure the effect of the word-final position on vowel alternation reveal that for:

- Vowel /a/: |F1| in '0' (mean = 486 Hz) is significantly lower than |F1| in '3' (mean = 530 Hz) ($t_{1286}=-3.33$, $p=0.0008$). This indicates that /a/ is less open when the following /s/ is deleted. |F2| in '0' (mean = 1586 Hz) is significantly lower than |F2| in '3' (mean = 1629 Hz) ($t_{1286}=-2.01$, $p=0.04$). This indicates that vowel /a/ is significantly more velarized when preceding deleted /s/.
- Vowel /e/: |F1| does not differ significantly. |F2| in '0' (mean = 1911 Hz) is significantly lower than |F2| in '3' (mean = 2054 Hz) ($t_{881}=-5.61$, $p<0.001$).

This indicates that /e/ is significantly less fronted or more centralized when preceding deleted /s/.

- Vowel /i/: |F1| in '0' (mean = 433 Hz) is significantly higher than |F1| in '3' (mean = 340 Hz) ($t_{236}=2.54$, $p=0.01$). This indicates that /i/ is significantly more open when preceding deleted /s/. No significant results were found for |F2|.
- Vowel /o/: |F1| in '0' is (mean = 426 Hz) is significantly higher than |F1| in '3' (mean = 417 Hz) ($t_{857}=2.18$, $p=0.02$). This indicates that /o/ is significantly more open when the following /s/ is deleted. No significant results were found for |F2|.
- Vowel /u/: No significant results were found for |F1| or |F2|.

In sum, in word-final position within a breath-group /a/ is less open and more velarized when preceding deleted /s/. In the same linguistic context the vowel /e/ is more centralized while the vowels /i/ and /o/ are more open. Table 5.19 displays the statistics for the effects of word-final position on vowel alternation.

Table 5.19. Statistics for Vowel Alternation in Word-final Position

	Vowel	t	df	p	Mean in '0'	Mean in '3'
F1	/a/	-3.33492794	1286	0.00087753	486.5808	530.09383
	/e/	1.25185553	881	0.21095477	423.673735	427.779012
	/i/	2.54124006	236	0.01168749	433.470285	340.869675
	/o/	2.18796084	857	0.02894186	426.782949	417.52243
	/u/	-0.18768912	220	0.85129335	333.56357	348.177052
F2	/a/	-2.01003275	1286	0.04463624	1586.29533	1629.20783
	/e/	-5.61052278	881	2.70E-08	1911.86568	2054.10039
	/i/	-0.02852528	236	0.97726731	2164.77889	2148.49582
	/o/	1.36425982	857	0.17284395	1237.58427	1227.12353
	/u/	0.11345609	220	0.90977244	1323.38346	1364.18532

5.4.9.3. Results for Effects of Utterance-final Position on Vowel Quality Before

Deleted /s/

T-tests results for the effect of utterance-final position on vowel alternation

show that for:

- Vowel /a/: No significant results we found for |F1| or for |F2|.
- Vowel /e/: No significant results were found for |F1|. |F2| in '0' (mean = 1904 Hz) is significantly lower than |F2| in '3' (mean = 2171 Hz) ($t_{250}=-5.59$, $p<0.001$). This indicates that /e/ is less fronted or more centralized when the following /s/ is deleted.
- Vowel /i/: No significant results were found for |F1| or for |F2|.
- Vowel /o/: No significant results were found for |F1| or for |F2|.

In sum, in light of the results obtained above vowels preceding deleted /s/ do not show alternation in their formant frequencies in utterance-final position. The

only vowel to display alternation is /e/, which is significantly less fronted or more centralized when the following /s/ is deleted. It should be noted that /u/ was not included in the analysis because of the lack of /u/ tokens in utterance-final position. For this study, tokens of /u/ occur often in syllable-final position in high-frequently words like *gustar* and *buscar*, and it also occurs in word-final position in determiners like *tus* 'your (pl.)' and *sus* 'his/hers (pl.)'. Table 5.20 displays the statistics for the effects of utterance-final position on vowel formants.

Table 5.20. Statistics for Vowel Alternation in Utterance-final Position

	Vowel	t	df	p	Mean in '0'	Mean in '3'
F1	/a/	1.0844842	251	0.27919073	502.961601	489.453776
	/e/	1.03059172	250	0.30372832	386.199171	397.325491
	/i/	-0.62378072	30	0.53748616	274.89715	299.116462
	/o/	0.29964111	182	0.76479285	345.032064	366.683216
	/u/	NaN	-2	NaN	NaN	NaN
F2	/a/	1.26334799	251	0.20763635	1694.35711	1614.35096
	/e/	-5.59982848	250	5.64E-08	1904.96422	2171.20281
	/i/	-0.59471571	30	0.55649282	2134.64563	2362.6306
	/o/	-0.53531173	182	0.5930878	1235.27842	1329.43536
	/u/	NaN	-2	NaN	NaN	NaN

5.4.10. Results for the Effects of Syllable-final Position within a Word on Vowel

Lengthening

T-test results for the effects of syllable-final position within a word on vowel length reveal that for:

- Vowel /a/: No significant difference in vowel length was found.

- Vowel /e/: |DUR| in '0' (mean = 70 ms) is significantly longer than |DUR| in '3' (mean = 59 ms) ($t_{230}=3.10$, $p=0.02$). This indicates that /e/ is significantly longer when preceding deleted /s/ within a word.
- Vowel /i/: No significant difference in vowel length was found.
- Vowel /o/: No significant difference in vowel length was found.
- Vowel /u/: No significant difference in vowel length was found.

In sum, the vowel /e/ is significantly longer when preceding deleted /s/ in syllable-final position within a word. The vowels /a, i, o, u/ do not display a significant difference in length. Table 5.21 displays the statistics for the effects of syllable-final position on vowel length.

Table 5.21. Statistics for Vowel Length in Syllable-final Position

Vowel	t	df	p	Mean in '0'	Mean in '3'
/a/	-0.69599471	280	0.48700944	0.06984432	0.07125339
/e/	3.10752139	230	0.00212419	0.07013231	0.05973816
/i/	-1.18783603	237	0.23608706	0.06655681	0.06835813
/o/	-0.20833426	165	0.83522493	0.05813087	0.06011253
/u/	0.9472394	195	0.34468916	0.07497622	0.07366149

5.4.11. Results for the Effect of Word-final Position within a Breath-group on Vowel Lengthening

T-test results for the effects of word-final position within a breath group on vowel length reveal that:

- Vowel /a/: |DUR| in '0' (mean = 65 ms) is significantly longer than |DUR| in '3' (mean = 58 ms) ($t_{1286}=5.39$, $p<0.01$). This indicates that /a/ is significantly longer when preceding deleted /s/.
- Vowel /e/: |DUR| in '0' (mean = 66 ms) is significantly longer than |DUR| in '3' (mean = 61 ms) ($t_{881}=3.85$, $p=0.00001$). This indicates that /e/ is significantly longer when preceding deleted /s/.
- Vowel /i/: |DUR| in '0' (mean = 65 ms) is significantly longer than |DUR| in '3' (mean = 55 ms) ($t_{236}=2.95$, $p=0.003$). This indicates that /i/ is significantly longer when preceding deleted /s/.
- Vowel /o/: |DUR| in '0' (mean = 65 ms) is significantly longer than |DUR| in '3' (mean = 56 ms) ($t_{881}=3.85$, $p=0.00001$). This indicates that /o/ is significantly longer when preceding deleted /s/.
- Vowel /u/: |DUR| in '0' (mean = 59 ms) is significantly longer than |DUR| in '3' (mean = 51 ms) ($t_{220}=4.94$, $p<0.01$). This indicates that /u/ is significantly longer when preceding deleted /s/.

In sum, results show that vowels are consistently lengthened in word-final position within a breath-group when preceding deleted /s/. Table 5.22 displays the statistics for the effects of word-final position on vowel length.

Table 5.22. Statistics for Vowel Length in Word-final Position

Vowel	t	df	p	Mean in '0'	Mean in '3'
/a/	5.39288709	1286	8.24E-08	0.06562338	0.05801343
/e/	3.85490686	881	0.00012419	0.06679617	0.06129527
/i/	2.95489963	236	0.00344443	0.0650689	0.05568876
/o/	4.15263607	857	3.62E-05	0.06557321	0.05613855
/u/	4.94708766	220	1.50E-06	0.05916838	0.05177021

5.4.12. Results for the Effects of Utterance-final Position on Vowel Lengthening

T-test results for the effect of utterance-final position on vowel lengthening

reveal that:

- Vowel /a/ No significant difference in vowel length was found.
- Vowel /e/: No significant difference in vowel length was found.
- Vowel /i/: No significant difference in vowel length was found.
- Vowel /o/: No significant difference in vowel length was found.

In sum, vowels /a, i, o/ in utterance-final position do not display a significant difference in vowel length. It should be noted that no tokens of /u/ were available in this analysis. Table 5.23 displays the statistics for the effects of utterance-final position on vowel length.

Table 5.23. Statistics for Vowel Length in Utterance-final Position

Vowel	t	df	p	Mean in '0'	Mean in '3'
/a/	-0.19525051	251	0.8453548	0.05747638	0.06123561
/e/	2.44453935	250	0.01519518	0.06191092	0.06128628
/i/	1.84733329	30	0.07458224	0.0568097	0.04620937
/o/	1.35904159	182	0.17581514	0.0543179	0.05683841
/u/	NaN	-2	NaN	NaN	NaN

5.4.13. Comparison Between the Effects of Linguistic Context

A general review of vowels preceding deleted /s/ in the three linguistic contexts under study show that vowel /a/ is significantly less open in syllable-final position and in word-final position, while in utterance-final position does not present significant differences. Regarding length, /a/ is longer in word-final position but shows no significant changes in either syllable-final position or utterance-final position.

The vowel /e/ presents the most differences when preceding deleted /s/. The vowel /e/ is significantly less open in syllable-final position and centralizes in both word-final and utterance-final positions. Regarding length, /e/ is significantly longer in both syllable-final and word-final positions, although it does not lengthen significantly in utterance-final position.

Results show that the acoustic nature of /i/ remains rather stable when preceding deleted /s/. The vowel /i/ is more open and longer in word-final position. However, /i/ does not display a significant vowel alternation in syllable-final position or in utterance-final position. In addition, /i/ does not present a significant difference in length in syllable-final position or in utterance-final position.

Like the vowel /i/, /o/ does not present numerous differences in its behavior when preceding deleted /s/. The vowel /o/ is significantly more open and longer in word-final position. However, in syllable-final and utterance-final positions /o/ does not present significant differences in either quality or length.

Finally, the vowel /u/ is slightly fronted in syllable-final position but it does not present a significant quality difference in word-final position. Regarding length, /u/ is significantly longer in word-final position but it does not lengthen in syllable-final position. As was mentioned before, there were very few instances of /u/ in utterance-final position to be included in this analysis.

5.5. Summary

This chapter presented the results for the perception test and the acoustic analysis of this study. The objective of the perception test was to determine whether participants from either Granada or Cartagena had the ability to determine the presence of deleted final /-s/. The perception test features items without final /-s/ and with deleted final /-s/ and was administered to 20 Granada participants and 20 Cartagena participants, respectively. The overall rate of correct responses for items in which final /-s/ is deleted suggests that neither Granada nor Cartagena participants possess the ability to determine whether the allophone [Ø] is present in the target words.

This chapter also presented the results for the acoustic analysis of speech samples obtained from 10 speakers of Granada Spanish and 10 speakers of Cartagena Spanish. With the purpose of investigating whether the vowel quality in vowels preceding deleted /s/ display significant differences, a combined total of 7,872 tokens were analyzed under different dialect, task and linguistic context. Statistical analyses reveal a tense-lax vowel alternation in Granada and Cartagena Spanish for the non-high vowels that precede deleted final /-s/. In particular, in

Granada Spanish the vowel /e/ is significantly more open and more centralized whereas vowel /a/ is significantly less open and somewhat more fronted. In Cartagena Spanish the vowel /a/ is significantly less open and the mid vowels /e/ and /o/ are significantly more centralized. The results of both the perception test and acoustic analysis sections will be discussed in Chapter 6.

Notes

1. Recall that in Part II the stimuli feature the allophone [Ø] in syllable-final position within a word, e.g. *pescado* [peØ.'kaðo] 'fish,' whereas in Part IV the stimuli feature [Ø] in word-final position within a sentence, e.g. *tus* [tuØ] 'yours.' After reanalyzing the samples used as stimuli in the perception test, the researcher noticed that items 9 and 13 in Part II and items 7 and 21 in Part IV contain minimum traces of aspiration. Given that this aspiration in the stimuli could have influenced the participants' decision, the best option was to leave Parts II and Part IV out of the final scoring.
2. Answers in Part I which feature complete sentences with noun phrases at the end, such as in test sentence # 20 *En este barrio buscábamos las casas* 'In this neighborhood we were looking for the houses,' were also excluded from the general scoring. The author considers that the quality of the vowel in the determiner *las* [laØ] could provide extra acoustic clues to participants when trying to decide whether the noun in question is *casa* ['ka.sa] or *casas* ['ka.saØ].
3. The author recognizes that /s/ is classified in the Hispanic linguistics literature as either non-sibilant (aspirated or deleted) or sibilant (retained). However, during the data-collection process some participants, especially from Cartagena, on many occasions accentuated the pronunciation of final /s/, yielding a rather affected pronunciation. The assignment of the additional numeral '2' was intended to capture the affected pronunciation of /s/ in such instances. It is worth pointing out that most Granada participants did not attempt to retain final /-s/. Participant 15 (male) and participant 17 (female) (both from Granada) retained final /-s/ in several instances.

CHAPTER 6. DISCUSSION

6.1. Introduction

The objective of this chapter is to discuss the results of the perception test and the findings in the acoustic analysis of this study. Thus, this chapter consists of two sections: the first section discusses the results of the perception test and the second section discusses the results of the acoustic analysis.

6.2. Discussion of the Perception Test Results

As may be recalled from Chapter 3, it has been claimed that in the eastern Andalusian Spanish dialect, the quality of the vowels preceding deleted final /-s/ are affected by a compensatory process or vocalic alternation, whereby vowels assume a more open quality and/or lengthen. This vocalic alternation is known as *desdoblamiento vocálico* ‘vocalic doubling’. As a result of this vocalic alternation in the quality of vowels, it is has been claimed that speakers of eastern Andalusian are able to make semantic distinctions between the singular and plural forms of nouns and adjectives, e.g. *casa* ['ka.sa] ‘house’ versus *casas* ['ka.saØ] ‘houses;’ as well as distinguish between the second and third-person singular form of verbs, e.g. *tiene* ['tje.ne] ‘he/she has’ versus *tienes* ['tje.neØ] ‘you (informal) have.’ In other words, this vowel alternation, which is also regarded as tense-lax alternation, is believed to fulfill a compensatory function in eastern Andalusian Spanish. However, these

claims were based on impressionistic observations (Rodríguez-Castellano and Palacio, 1948; Alvar, 1955; Salvador, 1957, 1977; Mondéjar, 1970) and were not experimentally tested. Recent acoustic studies on this Andalusian phenomenon (Martínez Melgar, 1986, 1994; Llisterri and Poch, 1987; Sanders, 1994; and Carlson, 2006) present inconclusive or conflicting results. Martínez Melgar (1986) found no significant differences between the singular and plural vowel formants in the speech of Jaén. In contrast, Llisterri and Poch (1987) and Martínez Melgar (1994) found a systematic opening of the mid-vowels /e, o/. Sanders (1994) analyzed the speech of three male subjects from the Granada area and found a greater opening of the non-high vowels /a, e, o/. It is worth noting that none of these studies follow through with a perception test to verify the validity of this vowel alternation. Carlson (2006) found no vocalic compensatory mechanism in word-final position in her study in Andalusian Spanish. In syllable-final position within the word, however, she did find vowel lengthening. Regarding vowel lengthening in word internal position, similar results were reported by Hammond (1978) and Figueroa (2000) in their studies of Cuban and Puerto Rican Spanish, respectively. Participants for the elicitation part of Carlson's study, however, were bilingual speakers of Spanish and English which may constitute a methodological limitation. Also, among the 25 participants for the perception part of the study, only two were from eastern Andalusia. This factor is methodologically problematic because the quality of the vowels in the eastern Andalusian dialect has been claimed to be markedly different from those in the

western Andalusian dialect. In sum, to date no study on the Andalusian vocalic lengthening and opening has been conclusive.

To test this claim of Andalusian vocalic opening and lengthening, the present study replicated the methodology from previous studies (Hammond, 1978; Figueroa, 2000; and Carlson, 2006) so as to provide points of comparison and implemented a perception test in which participants had to determine if the stimuli they hear contain deleted final /-s/. 20 college students, all natives of Granada, participated in the perception test. In addition, with the purpose of providing cross-dialectal insight, a similar perception test was administered to 20 speakers of Cartagena Spanish.

It was expected that Granada participants would be able to identify items preceding deleted post-nuclear /s/ with a high rate of accuracy. That is, if the hypothesis of 'vocalic doubling' holds, Granada participants would be able to determine at a statistically significant rate whether the items in question contain deleted /s/. Contradictory results would indicate that the vocalic alternation in eastern Andalusian Spanish does not have a phonemic function or contrastive distinction. Conversely, it was expected that Cartagena participants would not be able to identify items with deleted final /-s/ with the same accuracy as they would identify items without a following final /-s/. The perception test was guided by the following questions:

1. Are participants from both the Granada and Cartagena dialects able to determine the presence or absence at a statistically significant rate of the [Ø] allophone of

deleted post-nuclear /s/ in final contexts? In other words, are the participants capable of distinguishing between pairs of words such as *casa* ['ka.sa] 'house' and *casas* ['ka.saØ] 'houses' or *calle* ['ka.je] 'street' and *calles* ['ka.jeØ] 'streets'?

2. If participants possess the ability to determine the presence or absence of the [Ø] allophone of deleted post-nuclear /s/ in final contexts in pairs of words such as *casa* ['ka.sa] and *casas* ['ka.saØ], *calle* ['ka.je] 'street' and *calles* ['ka.jeØ] 'streets,' *pueblo* ['puqe.blo] 'town' and *pueblos* ['puqe.bloØ] 'towns,' is this ability determined by a particular vowel allophone?

Results show a significant difference between the correct identification rate of items without a following final /-s/ and that of items with deleted final /-s/. Participants in both the Granada and Cartagena dialects demonstrated a high rate of accuracy when distinguishing items without a following final /-s/. The percentage of correct answers of items without a following final /-s/ is 82.3% and 89.2% for Granada and Cartagena participants, respectively. Given that these rates are not near a perfect score, it is possible that participants tended to listen specifically for /s/ as a sibilant; when they did not hear a sibilant, they opted to choose the singular or third-person. Recall that in control items /s/ was articulated as [s] and participants got a perfect score.

Contrary to the rate of responses for items without a following final /-s/, participants in neither dialect could accurately identify the items in which the deleted allophone [Ø] was present. Granada participants correctly identified items with deleted final /-s/ 38.45% of the time, whereas Cartagena participants

identified items with deleted final /-s/ 35.57%. Thus, regarding research question 1, results indicate that participants in both the Granada and Cartagena dialects are unable to determine the presence or absence of the [Ø] allophone of deleted post-nuclear /s/ in final contexts. Perception test results in this study, therefore, do not support the claim that Granada speakers are able to readily determine when final /-s/ is deleted. The results of this study with regard to the percentage of correct responses of items with deleted final /-s/ are consistent with the findings in Hammond (1978), Figueroa (2000), and Carlson (2006).

In order to account for the results of the perception test, the following explanation is offered. The principle of sufficient perceptual separation holds that listeners are able to distinguish sounds from others because they are acoustically distinct (Ladefoged, 2006). In the same vein as this notion of perceptual separation, perceptual similarity provides a plausible explanation to results in Granada and Cartagena groups. Iverson and Kuhl (1995) relate linguistic experience to speech perception. Participants heard a prototype vowel (the best instance of either /e/ or /i/) and compared it to modified sounds or variants that surround it in an acoustic space. Participants were able to correctly identify the variants which were closer to its prototype in the vowel space. These findings may explain why participants of Granada and Cartagena do not discern between the difference of tokens with deleted final /-s/ and those without a following final /-s/. From the participants' perceptual point of view, the quality of the vowel in the tokens they hear belong to one single category because there is not a sufficient distance within the vowel space

and, consequently, they cannot determine the presence of the deleted /s/ or discern the differences between V and V + [Ø].

6.3. Discussion of the Acoustic Analysis Results

This section discusses the results of the acoustic portion of this study. As can be recalled from Chapter 1, speech samples from ten speakers of Granada Spanish and ten speakers of Cartagena Spanish were acoustically analyzed. Speakers of Granada Spanish are all natives of Granada, a city confined within the geographical area in which vocalic doubling or alternation has been claimed to occur. In addition, speech samples from ten speakers of Cartagena Spanish were also analyzed. Cartagena Spanish is a non-conservative dialect of Spanish well-known for its high rate of final /-s/ deletion. Participants from both dialects are college students with ages ranging from 18-25. The speech samples were taken from sociolinguistic interviews and elicitation tasks. The sociolinguistic interview was implemented with the purpose of obtaining representative speech samples and to mitigate the effects of the 'Observer's Paradox' (Tagliamonte, 2006). The acoustic analysis was guided by the following research questions.

1. Do vowels in both Granada and Cartagena undergo significant formant restructuring when preceding deleted final /-s/?
2. Does the type of task (e.g. interview or elicitation) significantly affect the formant structure of vowel that precede deleted final /-s/ in both Cartagena and Granada dialects?

Regarding question number 1, a t-test was used to compare the formant value means between vowels preceding deleted final /-s/ and vowels without a following /s/. Results reveal a myriad of significant vowel formant restructuring, particularly for non-high vowels when preceding deleted final /-s/. In Granada Spanish, the vowel [a] is significantly less open when preceding deleted final /-s/. The vowel [e] is significantly more open and more centralized in Granada Spanish. The vowel [i] is significantly more centralized in Granada Spanish. It should be noted that the high vowels /i/ and /u/ preceding deleted word-final /-s/ appear throughout our data, for the most part, in the determiners *mis* 'my,' *tus* 'your,' and *sus* 'his/her.' The vowel /i/ preceding deleted final /-s/ occurs in utterance-final position in only two nouns *taxis* 'taxis' and *tenis* 'tennis.' These words appear at the end of sentence # 3 *¿No te gusta jugar al tenis?* 'Don't you like to play tennis?' and target sentence # 37 *Esos hombres se fueron en taxis* 'Those men left in taxis.'

The mean values for the formant frequencies of vowels in Granada Spanish have been plotted in Figure 6.1 below to better illustrate the change in vowel quality for vowels preceding deleted final /-s/. Figure 6.1 clearly shows the decrease of aperture for /a/ and the centralization of /e/ when preceding deleted /s/ in Granada Spanish. For ease of presentation, '0' in the Figure refers to the vowels that precede deleted final /-s/, whereas '3' refers to vowels without a following /s/.

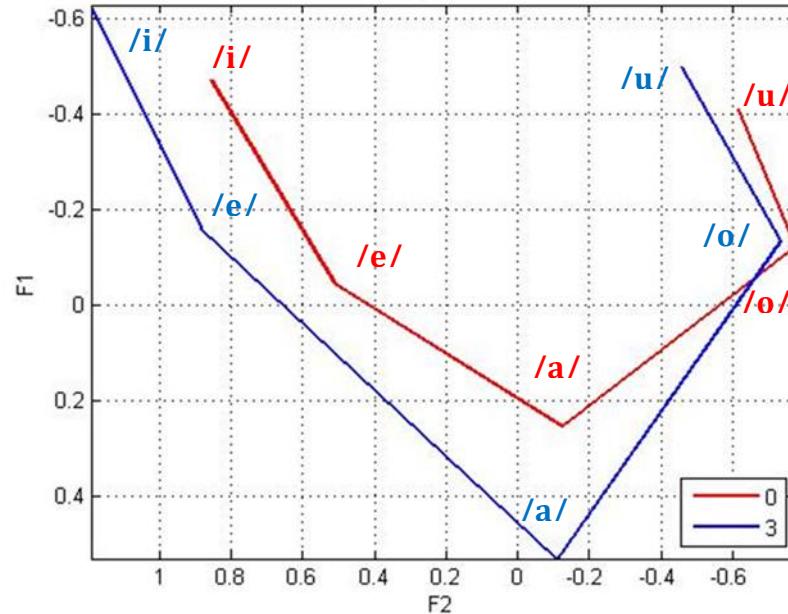


Figure 6.1. Vowel Alternation in Granada

Regarding Cartagena Spanish, the vowel /a/ is significantly less open when preceding deleted final /-s/, whereas the vowels /e/ and /o/ are significantly more centralized. The formant frequencies for vowels in Cartagena are plotted in Figure 6.2 below to illustrate the quality change of vowels that precede deleted final /-s/. Figure 6.2 shows a lesser aperture for /a/, as well as the centralization of /e/ and /o/ when preceding deleted final /-s/.

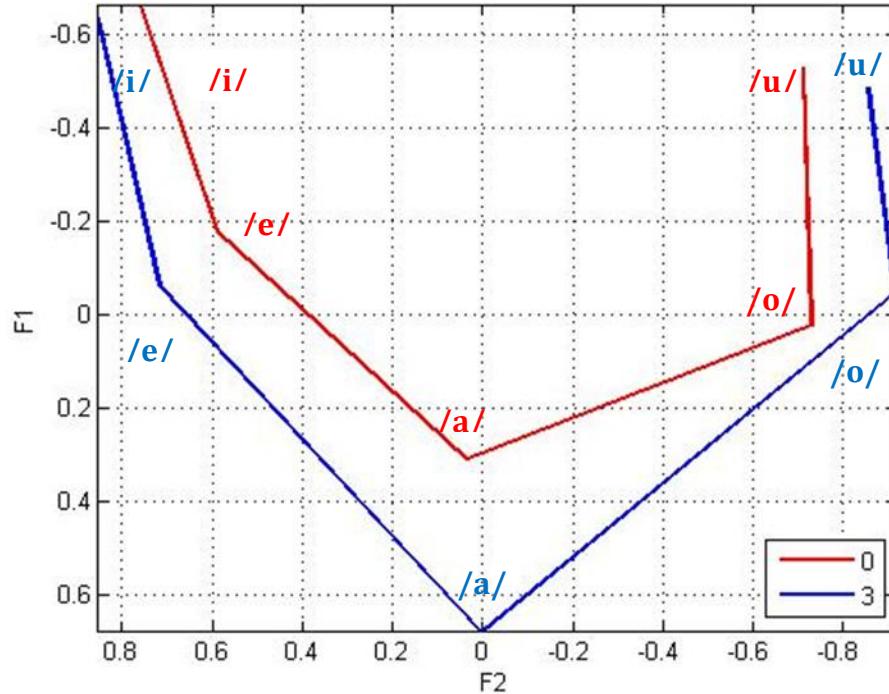


Figure 6.2. Vowel Alternation in Cartagena

In order to enhance our analysis, we will discuss vowel alternation for /e/ first, vowel alternation for /o/ second and vowel alternation for /a/ third. Of particular interest to this discussion is the tense-lax alternation that the vowel /e/ displays. Previous studies (Sanders and Poch, 1986; Martinez Melgar, 1994; and Sanders, 1994) reported alternation for /e/ preceding deleted final /-s/ in eastern Andalusian Spanish. For the purpose of assessing the quality alternation of /e/ in Granada Spanish, the spectrograms of the words *ve* 'he/she sees' (Figure 6.3) and *ves* 'you see' (Figure 6.4) are analyzed next. These two words were elicited through the target sentences *Creo que la ve* 'I think she sees it' and *Creo que la ves* 'I think you see it.' It should also be mentioned that these particular tokens were produced by Granada participant 11 and were included in the perception test. Horizontal

striations have been added to the spectrograms every 500 Hz to better illustrate the formant frequency differences occurring in the minimal pair *ve* [be] and *ves* [beØ].

Figure 6.3 shows that the F1 in the word *ve*, the first dark band showing at the bottom of the Figure, has a frequency of 496 Hz. In turn, Figure 6.4 shows that the F1 in the word *ves* has a frequency of 652 Hz. This difference clearly shows that vowel /e/ is more open when preceding deleted final /-s/. Regarding alternation in the second formant frequency, the F2 in the word *ve* has a frequency of 1,941 Hz, whereas the F2 in the word *ves* has a frequency of 1,671 Hz. This difference indicates that vowel /e/ is less fronted or more centralized when preceding deleted final /-s/. Thus, the differences between the F1 and F2 values for *ve* and *ves* confirm that vowel /e/ when preceding deleted /s/ is pronounced with a more lax vowel configuration.

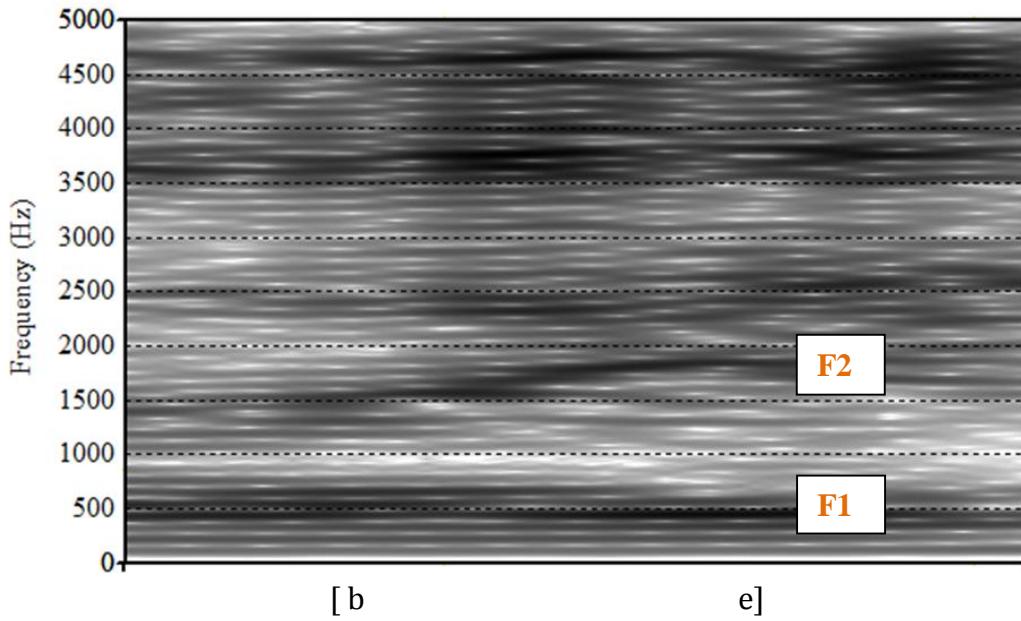


Figure 6.3. Spectrogram of the Word *Ve*

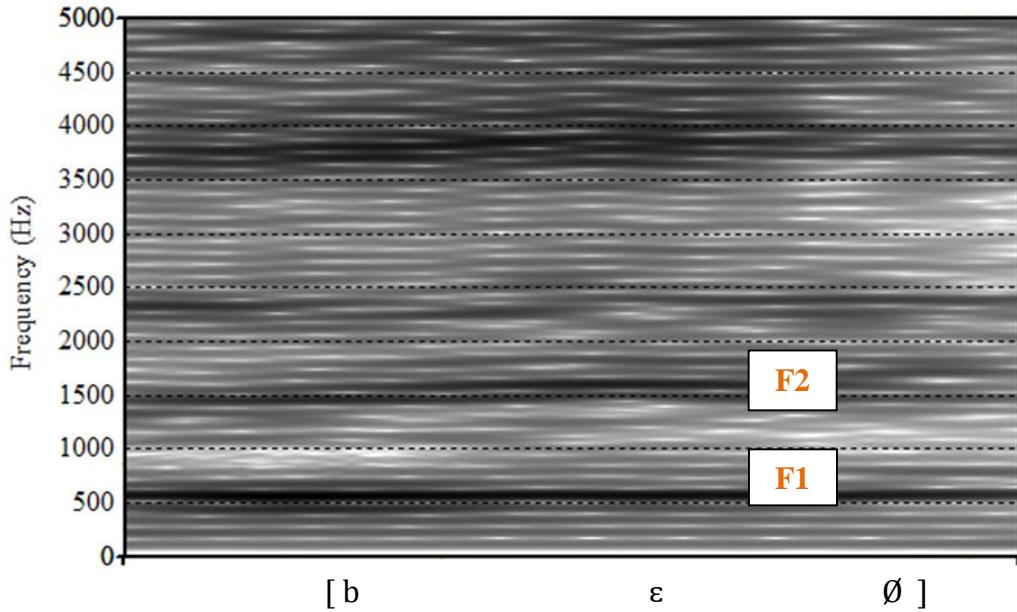
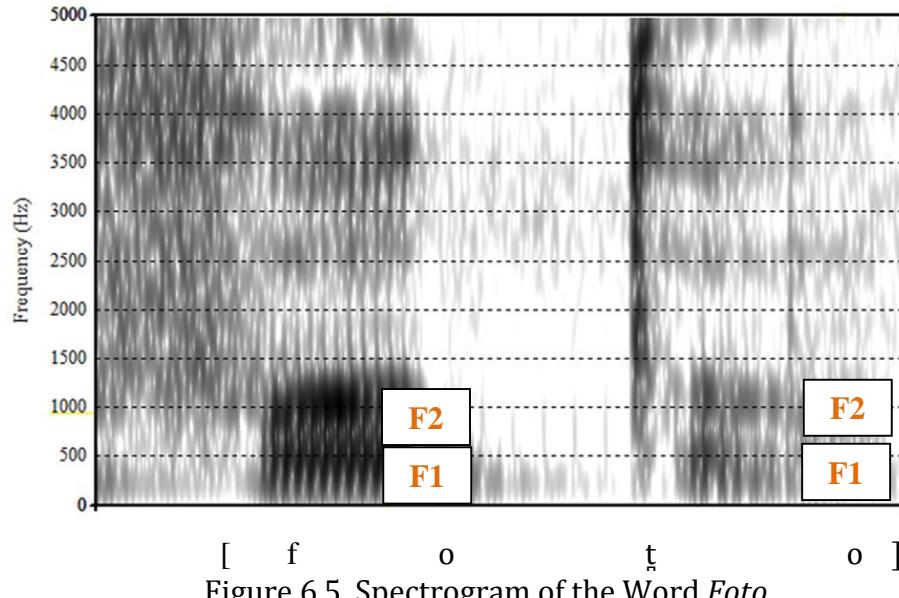
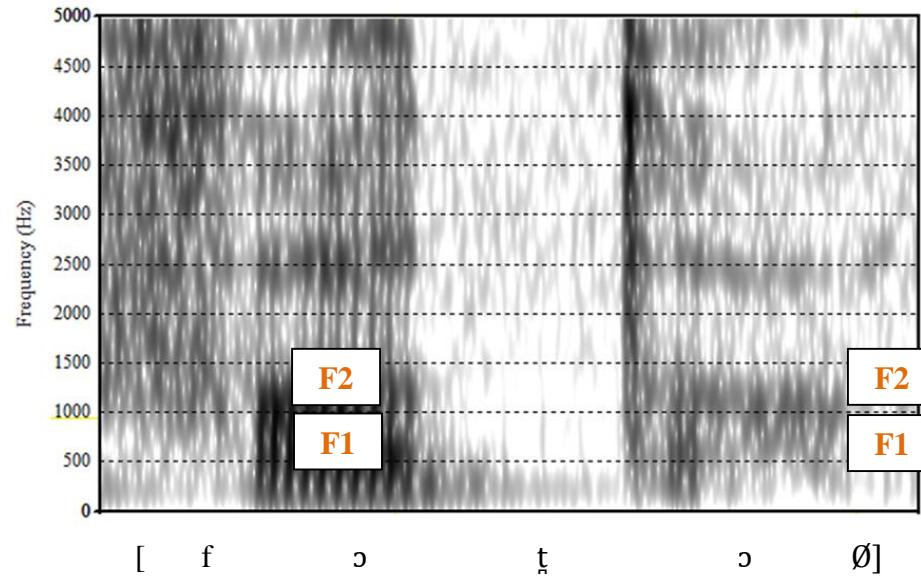


Figure 6.4. Spectrogram of the Word *Ves*

The data presented in this study corroborate the tense/lax alternation of vowel /e/ in Granada Spanish. Vowel /e/ is articulated with a more lax vowel configuration when preceding deleted final /-s/. These findings concur with those reported by Llisterri and Poch (1987), Martínez Melgar (1994), and Sanders (1994).

The alternation of the vowel /o/ is addressed next in our discussion. Results in this study reveal a significant centralization for the vowel /o/ in Cartagena Spanish. The F2 for /o/ preceding deleted final /-s/ is significantly higher than the F2 for /o/ without final /s/ ($t_{550}=2.49$, $p<0.005$). The increase in the F2 indicates that the vowel /o/ is more fronted or more centralized when preceding deleted final /-s/ in Cartagena Spanish. Results in this study, however do not reveal a significant tense-lax alternation for the vowel /o/ in Granada Spanish. Previous studies (Llisterri and Poch, 1987; Martínez Melgar 1994; and Sanders, 1994) reported a

significant tense-lax alternation for /o/ in eastern Andalusian Spanish, although to a much lesser degree than for the vowel /e/. According to these studies, the stressed word-final /o/ is more open when preceding deleted final /-s/. Perhaps, this reason for the inconsistency between those studies' results and our results is due to the stress difference in the tokens of our study. All of the tokens of word-final /o/ in the corpus of this study are post-tonic. Nonetheless, despite not being significant, the vowel /o/ still shows signs of undergoing a tense-lax alternation in Granada Spanish. In order to show this alternation, the spectrograms of the minimal pair *foto* 'picture' ~ *fotos* 'pictures' are displayed in Figure 6.6 and Figure 6.7 below. These words were produced by participant 11 in the elicitation task and were included in the perception test. Spectrographic analyses reveal that F1 and F2 in the word-final /o/ in *foto* ['fo.t̪o] are of 432 Hz and 926 Hz, respectively; whereas, F1 and F2 in the word-final /o/ in *fotos* ['fo.t̪oØ] measure 584 Hz and 1,176 Hz, respectively. The differences between the formant frequencies of the final /o/ in *foto* and *fotos* indicate that the vowel /o/ is more open and more centralized when preceding deleted final /-s/.

Figure 6.5. Spectrogram of the Word *Foto*Figure 6.6. Spectrogram of the Word *Fotos*

On another note, it is worth noticing the behavior of the formant frequencies for tonic /o/ in these two words. The tonic /o/ in *foto* ['fo.t̪o] has an F1 of 447 Hz and an F2 of 932 Hz, respectively; whereas, the tonic /o/ in *fotos* ['fɔ.t̪ɔ∅] has an F1

of 569 Hz and an F2 of 1152 Hz. This indicates that the tonic /o/ in the word *fotos* ['fɔ.tɔØ] is as open and centralized as the word-final /o/ in the same word. In the same vein, the tonic /o/ in *foto* ['fɔ.tɔ] is as tense as the word-final /o/ in the same word. Although this is just one single token, it seems to be an instance of vowel harmony in eastern Andalusian Spanish, in which the laxing of the vowel /o/ preceding deleted final /-s/ has been spread to the previous vowel (Zubizarreta, 1979).

An isolated but more compelling example of the alternation of /o/ allophones in Granada Spanish can be seen in the word *arroz* [a.'rɔØ] 'rice.' Although the final segment of the word *arroz* does not fulfill any morphological function, the vowel preceding this deleted segment undergoes tense-lax alternation as shown below. This word was produced by participant 11 as [a.'rɔØ] and was extracted from the sentence *No me gusta el arroz* 'I don't like rice.' The F1 and F2 for the vowel /o/, which is tonic in this word, have frequencies of 681 Hz and 1,267 Hz, respectively. These values are relevant in order to make a comparison with the formant frequencies for the tonic /o/ in the word *foto* ['fɔ.tɔ]. The formant frequencies for /o/ in the word *arroz* are much higher than those for the tonic /o/ in *foto*. The F1 and the F2 for the tonic /o/ in *foto* have frequencies of 447Hz and 932 Hz, respectively. In other words, the F1 for the vowel /o/ in the word *arroz* is 234 Hz higher than the tonic /o/ in the word *foto*. Likewise, the F2 for the vowel /o/ in *arroz* is 335 Hz higher than the F2 for the tonic /o/ in *foto*. Thus, based on this isolated token, it seems that the laxing for the vowel /o/ is the greatest when

stressed in utterance-final position. Figure 6.8 illustrates the spectrogram of the word *arroz*.

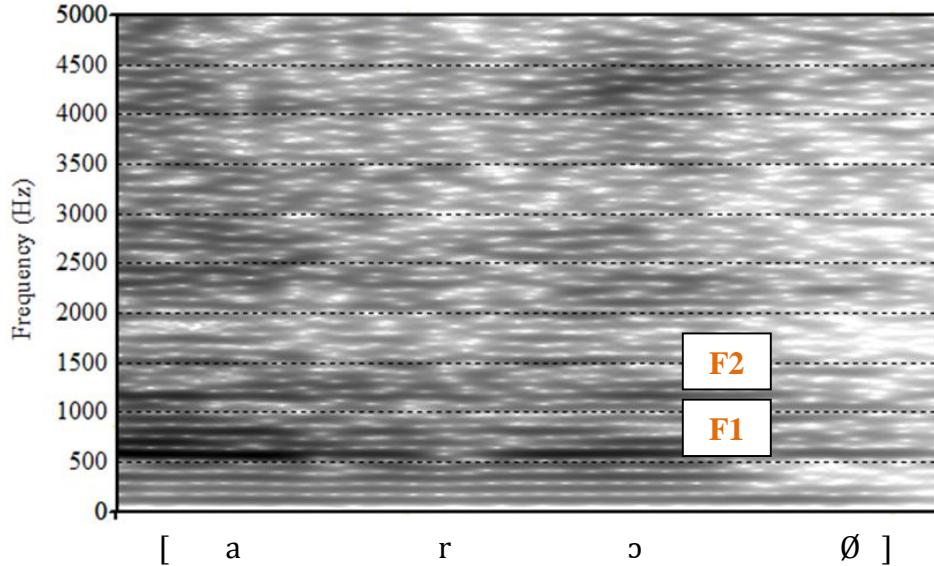


Figure 6.7. Spectrogram of the Word *Arroz*

The alternation for the vowel /a/ is addressed next in our discussion. Results reveal that the vowel /a/ undergoes significant tense-lax alternation when preceding deleted final /-s/ in both Cartagena and Granada Spanish. In Cartagena Spanish the vowel /a/ has a significantly lower F1 ($t_{665}=-3.60$, $p<0.005$) when preceding deleted final /-s/ compared to the F1 for /a/ without a following /s/. Likewise, in Granada Spanish the vowel /a/ has a significantly lower F1 ($t_{1154}=-3.93$, $p<0.001$) when preceding deleted final /-s/ compared to that of /a/ without a following /s/. This substantially lower F1 indicates that the vowel/a/ is articulated with a lesser degree of aperture. In regards to the frequency of the second formant, F2, for /a/ preceding deleted final /-s/ is somewhat higher in Granada Spanish.

However, this difference is not statistically significant. In Cartagena Spanish there is no difference between the F2 for /a/ before deleted /s/ and /a/ without a following /s/.

In order to illustrate these differences for /a/, the frequencies of the first two formants for minimal pairs contrasting the presence and absence of deleted final /-s/ in word-final position are displayed in Table 6.1. The values for these frequencies displayed below correspond to the average of the tokens produced in the elicitation task by all ten of the Granada subjects who participated in the acoustic study. The F2 mean values for /a/ preceding deleted final /s/ are always somewhat higher than the F2 means for /a/ without a following /s/. The frequencies of the first two formants for minimal pairs are also plotted in Figure 6.8. This Figure shows that the tokens with deleted final /s/ (in red) are situated to the left of the tokens without a following /s/ (in blue). This indicates that the vowel /a/ before deleted /s/ is produced with a more lax configuration compared to that of the vowel /a/ without a following /s/. Spectrograms of minimal pairs produced by participant 11 are included in Appendix H.

Table 6.1. Comparison of F1 and F2 Values for Minimal Pairs in Granada Spanish

Word without /s/	F1	F2	Words with /s/ → [Ø]	F1	F2
haga	697	1,563	hagas	612	1,675
busca	649	1,460	buscas	616	1,630
bonita	626	1,653	bonitas	607	1,756
roca	772	1,709	rocas	626	1,703
salga	690	1,473	salgas	613	1,563
casa	644	1,592	casas	625	1,565
Average	679	1,575	Average	616	1,648

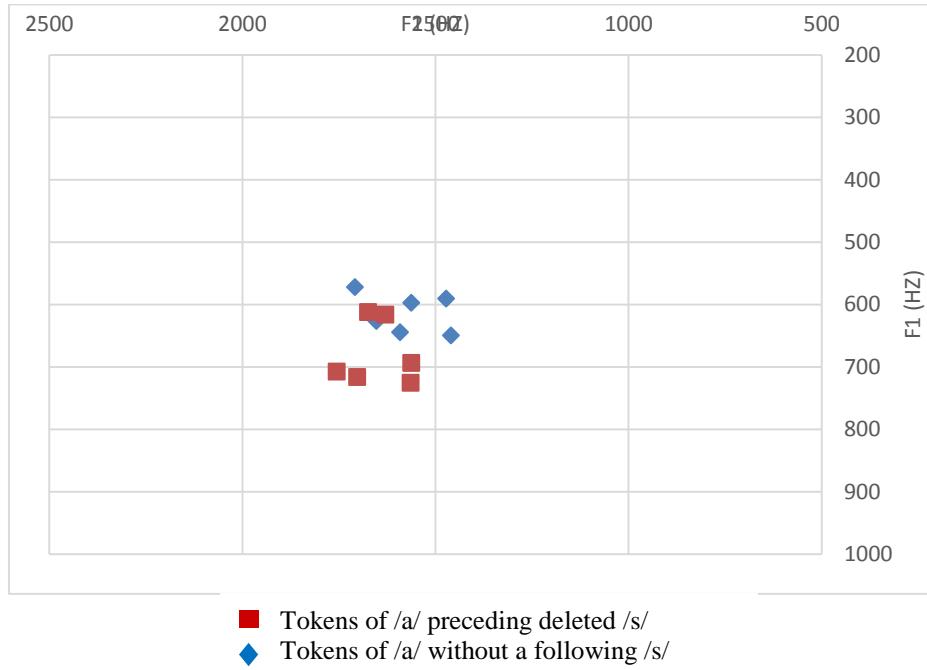


Figure 6.8. Comparison of F1 and F2 Values for Minimal Pairs in Granada Spanish

The data from Table 6.1 and Figure 6.8 above show that F2 for /a/ when preceding deleted /s/ is slightly higher than that for /a/ without a following /s/ in Granada Spanish. Although minimal, this shift in the position suggests a relaxed articulation for /a/. Considering that tense /a/ is produced with the tongue relatively far away from the hard palate with an accompanying lowering of the mandible (Hammond, 2001); an advancing of the tongue body, as suggested by the slight increase in F2, combined with a significantly lower F1 yields a more lax vowel configuration for /a/.

The data presented above answer research question 1 for this acoustic study. Vowels in both Granada and Cartagena dialects undergo formant restructuring or alternation when preceding deleted final /-s/. This alternation varies from vowel to

vowel; certain vowels show more variability in the front-back dimension (F2) whereas others vary primarily in height (F1).

It is precisely the disparity in the tense-lax alternation which prompts the next section in our discussion. The vowel /e/ displays the greatest degree of tense-lax alternation compared to those of other vowels. The vowel /e/ shows significant formant alternation in both its front-back and height dimensions. A possible explanation for this difference can be found in the location occupied by /e/ within the vowel space. The vowel /e/ is a mid-front vowel and, unlike other vowels, it has the potential of moving around its vowel space more freely. Furthermore, in many Spanish dialects /ɛ/ is an allophonic variant that differs from [e] in that it is more open and less tense (Hammond, 2001). In contrast, the high vowels together with /a/ are categorized as ‘point’ vowels because of their particular acoustic stability (Stevens, 1999). High vowels occupy a relatively more confined vowel space; /i/ is articulated near the hard palate and in the anterior region of the vocal tract, whereas /u/ is produced closer to the soft palate and the posterior region of the vocal tract.

Additional remarks regarding the relatively wide range of the acoustic space for the vowel /e/ can be made on the grounds of other types of evidence such as that of studies with bilingual speakers and individual differences, to mention a couple. In the case of heritage speakers, interference has been shown in their linguistic system. Ronquest (2012) argues that the heritage speakers’ vowel system

is not identical to that of a monolingual. Particularly, Ronquest reports that her participants produced vowel /e/ further back in the acoustic space.

Moreover, it should be mentioned that the variability of the vowel space is influenced by individual differences in vocal tract size across speakers and language varieties (Byrd and Mintz, 2010). For instance, let us take into account the vowel values reported by Celdrán (1995). According to Celdrán (1995), the F1 mean for the vowel /e/ is 457 Hz but the minimum and maximum values reported are 381 Hz and 587Hz, respectively. Likewise, the F2 mean for the vowel /e/ is 1,926 but the minimum and maximum values obtained are 1,676 Hz and 2,212 Hz, respectively. Thus, overall, these data show that the acoustic space for vowel /e/ is very dynamic.

The next section discusses the second research question of this acoustic study. Recall that the second research question concerns whether the type of task (e.g. interview or elicitation) affects vowel restructuring preceding deleted final /-s/ in either Granada or Cartagena dialects.

The quality of the vowels produced in the elicitation task by Granada and Cartagena participants is not remarkably different with respect to the quality of those vowels produced in the elicitation task. Results show that the vowel /e/ is significantly more open and more centralized in both the sociolinguistic interview and the elicitation task. To demonstrate this, the F1 and F2 values for 25 tokens of /e/ produced by Participant 11 in the sociolinguistic interview were extracted and are displayed in Table 6.2 below. In 7 of the 25 tokens, vowel /e/ precedes deleted /s/ and the other 18 tokens vowel /e/occurs in words without a following /s/. The

number in parentheses indicates that a particular word was produced more than once.

Table 6.2. F1 and F2 Values for Vowel /e/ in the Interview Task

Word in which /e/ precedes deleted /s/	F1	F2	Word containing /e/	F1	F2
interés (s → Ø)	709	1,761	Sacromonte <u>e</u>	442	2,075
diferentes (s → Ø)	626	2,068	decanté <u>e</u>	427	1,919
especial (s→Ø)	680	1,689	arte <u>e</u> (1)	422	2,195
es (1) (s→Ø)	663	1,725	tiene <u>e</u>	450	2,298
es (2) (s → Ø)	626	1,851	arte <u>e</u> (2)	403	2,141
es (3) (s → Ø)	644	1,887	hombre <u>e</u>	471	2,189
gesta (s → Ø)	608	1,996	normalmente <u>e</u>	484	2,320
			totalmente <u>e</u>	464	1,866
			simplemente <u>e</u>	417	2,065
			solamente <u>e</u>	482	1,883
			gente <u>e</u>	462	1,929
			diecinueve <u>e</u>	473	1,986
			deficiente <u>e</u>	504	2,176
			pero (1) <u>e</u>	431	1,653
			pero (2) <u>e</u>	550	1,760
			primero <u>e</u>	505	1,965
			manera <u>e</u>	559	1,879
			sistema <u>e</u>	470	1,826
Average	650	1,853		463	2,004

As can be observed in Table 6.2, the average F1 for tokens of /e/ preceding deleted final /-s/ in the sociolinguistic interview is 650 Hz whereas the average F1 of tokens for /e/ that do not precede final /-s/ is 463 Hz. This indicates the greater aperture of vowel /e/ when preceding deleted /s/. In addition, it can also be seen that the average of F2 for tokens of /e/ preceding deleted /s/ is 1,853 whereas the average of F2 for tokens of /e/ that do not precede /s/ is 2,004 Hz. This indicates that vowel /e/ is more centralized when preceding deleted final /-s/. In addition to

the F1 and F2 values of tokens of /e/ in the interview, the values of F1 and F2 for 17 tokens of the vowel /e/ produced by participant 11 in the elicitation task were extracted. In 9 of the 17 tokens, the vowel /e/ precedes deleted /s/ and in the other 8 tokens the vowel /e/ occurs in words without a following /s/. Table 6.3 displays F1 and F2 values for the vowel /e/ in the elicitation task. Note that the word *vez* ‘time’ is different from *ves* ‘you see.’ Nonetheless, it was included because the final segment /s/ is also deleted as in the word *ves* [beØ]. The number in parentheses indicates that a particular word was produced more than once.

Table 6.3. F1 and F2 Values for Vowel /e/ in the Elicitation Task

Word in which /e/_[Ø]#	F1	F2	Word in which /e/_#	F1	F2
sastres	680	1,779	sastre	482	1,905
entiendes	590	1,869	entiende	491	2,032
calles	662	1,842	calle	446	1,996
padres	626	1,707	padre	457	1,913
ves (1)	654	1,705	ve (1)	489	1,917
ves (2)	662	1,635	ve (2)	452	1,923
vez (1)	644	1,689	buque	410	2,086
vez (2)	608	1,671	entiende (2)	536	1,923
vez (3)	644	1,635			
Mean	641	1,725		470	1,961

The data in Table 6.2 show that the average of the F1 and F2 values for tokens of /e/ produced in the interview task are somewhat similar to the average of the F1 and F2 values of the tokens of /e/ produced in the elicitation task. The F1 values for tokens of /e/ preceding deleted final /-s/ are always higher than the F1 values for the tokens of /e/ without /s/. This indicates that the vowel /e/ is more

open when preceding deleted final /-s/. Likewise, the F2 values for tokens of /e/ preceding deleted final /-s/ are always lower than the F2 values for the tokens of /e/ without /s/. This indicates that the vowel /e/ is more centralized when preceding deleted final /-s/. Since the formant values for /e/ calculated and graphed above are from a single participant, the F1 and F2 mean values for participants 16, 17, 18, 19 and 20, the female participants from Granada, were calculated as well. The F1 and F2 values for /e/ shown in Table 6.4 are extracted from the minimal pair *ve* [be] ~ *ves* [beØ].

Table 6.4. F1 and F2 Values for /e/ in the Words *Ve* and *Ves*

# Participant	<i>ve</i> [be]		<i>ves</i> [beØ]	
	F1	F2	F1	F2
16 (Female 1)	530	2,079	673	2,076
17 (Female 2)	571	2,191	654	1,993
18 (Female 3)	551	2,240	612	1,911
19 (Female 4)	619	2,195	880	1,931
20 (Female 5)	558	2,180	757	2,117
Average	565	2,177	715	2,005

The tendency observed for the tokens of /e/ produced by Participant 11 is also observed for the tokens of /e/ produced by the Granada female participants. The F1 of the vowel /e/ in the word *ves* [beØ] is on average 150 Hz. higher than its counterpart in *ve* [be]. Likewise, the F2 of vowel /e/ in the word *ves* [beØ] is on average 172 Hz. lower than the F2 of its counterpart in *ve* [be]. This indicates that the vowel/e/ in [beØ] occupies a position downward (lower) and to the right (more centralized) in the vowel space in relation to the vowel /e/ in *ve* [be]. The F1 and F2

mean values for *ve* [be] and *ves* [beØ] from the Granada female group are plotted in Figure 6.9.

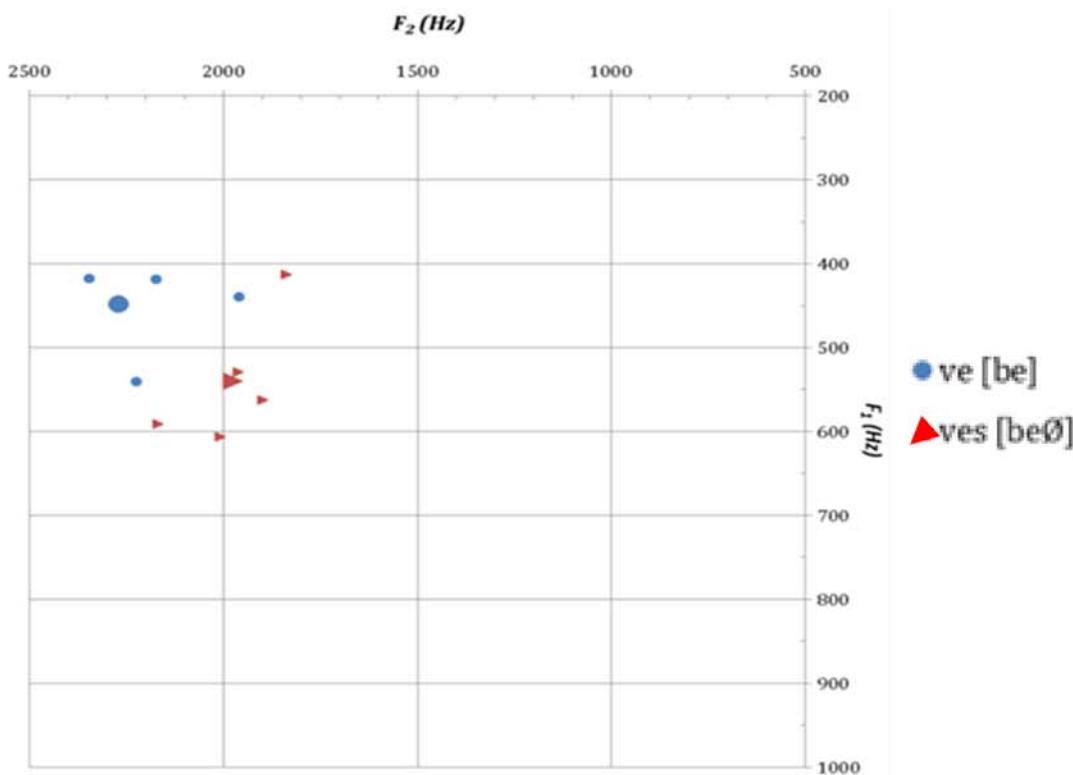


Figure 6.9. Plot of /e/ in *Ve* [be] and *Ves* [beØ]

6.4. Summary

This chapter discussed the results of the perception test and acoustic analysis of the data presented in the present study. The findings corroborate the existence of a tense-lax alternation for the non-high vowels /e, a/ in eastern Andalusian Spanish when preceding deleted final /-s/. The vowel /e/ shows significant alternation for both its height (F1) and front-back (F2) dimensions. Thus,

the vowel /e/ is more open and more centralized; whereas, the vowel /a/ is less open.

Regarding Cartagena Spanish, significant alternation was also found for non-high vowels when preceding deleted /s/. The mid-vowels /e/ and /o/ are more centralized; whereas, the low vowel /a/ is less open.

The most important finding of this study, however, is not the occurrence of the tense-lax alternation in vowels that precede deleted final /-s/. What is of greater interest is the veracity of the claimed distinctive function often attributed to the vocalic alternation in eastern Andalusian Spanish. The claim that the tense-lax vowel alternation in eastern Andalusian Spanish allows speakers to distinguish between vowels with deleted /s/ and vowels without final /s/ was tested. The perception test results show that the identification of vowels preceding deleted /s/ as a noun or adjective plural or a second person singular verb marker is very difficult for the Granada participants, as well as for the Cartagena participants. Despite the high alternation for /e/, participants identified items with /e/ before final /-s/ at a rate of only 38.45%, whereas, Cartagena participants identified items with /e/ before deleted final /-s/ at a rate of 35.57%. The phonetic variation of the allophone [ɛ] before deleted post-nuclear /s/ does not necessarily make its identification easier. Thus, this observed degree of alternation is not sufficient to constitute a conclusive phonemic distinction. Granada Spanish speakers do not receive sufficient acoustic cues within this alternation to qualitatively distinguish between a vowel preceding deleted /s/ and a vowel without a following /s/. In

accordance with the notions of Kuhl and Iverson (1995), the Spanish open allophone [ɛ] of the phoneme /e/ is very close to the closed allophone [e], which is the phonetic prototype within the listener's perceptual space, and therefore, is considered as another instance of the vowel /e/. For instance, the word *peso* 'weight' whether pronounced with an open /e/ as in ['pe.so] or a closed /e/ as in ['pe.so] would still be understood as *peso*. Results in this study, therefore, do not support Salvador's (1977) observation that in certain limited contexts native speakers use alternations in vowel quality to make semantic or morphological distinctions.

CHAPTER 7. CONCLUSION

7.1. Introduction

This chapter presents a summary of the objectives and findings of the present study. It also outlines the limitations encountered in this study. This chapter also presents the contributions of this study to the analysis and discussion of *desdoblamiento vocálico* or vowel laxing. Last, this chapter offers some recommendations for future research.

7.2. Summary of this Study's Objectives and Findings

The first objective of this study was to validate the open-closed vowel alternation that vowels in eastern Andalusian Spanish are purported to undergo when preceding a deleted post-nuclear /s/ (Navarro Tomás, 1939; Alonso et. al, 1950; Salvador (1957, 1977; Mondéjar, 1970). The second objective was to test the claim that this open-closed vowel alternation has a phonemic function in eastern Andalusian Spanish. Allegedly, this open-closed vowel alternation allows speakers of this Spanish variety to disambiguate words rendered ambiguous by post-nuclear /s/ deletion. Following the methodology of Hammond (1978), Figueroa (2000), and Carlson (2006) speech samples were obtained from ten speakers of Granada Spanish for acoustic analysis. Consequently, these speech samples were organized

into a perception test. The perception test features words contrasting the presence or absence of deleted post-nuclear /-s/, e.g., *casa* ['ka.sa] 'house' and *casas* ['ka.saØ] 'houses.' In addition, with the purpose of making a cross-dialect comparison, the experiment above was replicated with native speakers of Cartagena Spanish, another dialect well-known for its high rate of final /-s/ deletion (Becerra, 1985).

Acoustic and spectrographic analyses reveal a myriad of tense-lax vowel alternation for vowels preceding deleted final /-s/ for both dialects, particularly for non-high vowels. This alternation is significant for vowel /e/ in both Granada and Cartagena Spanish. The F1 and F2 are significantly higher in Granada Spanish which indicates that the vowel /e/ is more open and more centralized. F2 for /e/ is significantly higher in Cartagena Spanish in which the vowel /e/ is also more centralized. The F1 for the vowel /a/ is significantly lower in both Granada and Cartagena Spanish, which indicates a less open /a/. F2 for the vowel /o/ is significantly higher in Cartagena Spanish, which indicates a more centralized /o/. Although not significant, the F1 and F2 for /o/ are slightly higher which indicates a weak tense-lax alternation.

The perception test results reveal that the rate of correct responses for items with deleted final /-s/ is significantly lower than that for items without a following /s/. These findings are interesting considering the tense-lax alternation vowels previously discovered before deleted following /s/. In spite of the great degree of laxing for /e/, the rate of correct responses for items with /e/ before deleted /s/ is as low as those of the items with /a/ and /o/. These results suggest that neither

Granada Spanish participants nor Cartagena Spanish participants are able to identify items with final /-s/ deleted at a statistically significant rate. The lax quality of vowels before deleted /s/ is not sufficiently distinct from that of tense vowels for listeners to perceive a tangible acoustic difference. Consequently, listeners cannot determine the presence of the deleted /s/ or discern the differences between V and V + [Ø]. In light of the perception test results, we conclude that the tense-lax vowel alternation in vowels before deleted /s/ does not have a distinctive value in Granada Spanish and/or Cartagena Spanish.

7.3 . Limitations of the present study

This section lists some of the limitations encountered during the present study. Concerning the procedure utilized in this study, i.e., the sociolinguistic interview and the elicitation task, one shortcoming to be kept in mind is the presence of the researcher, who is from Cali, Colombia. This could have influenced the way in which participants from Granada, Spain and Cartagena, Colombia spoke when their speech samples were recorded.

The data collected from the acoustic analysis in this study come from a representative social group, young middle-class college students, and therefore, constitute a representative linguistic sample. However, the inclusion of one or more groups from other socioeconomic classes may have added additional insight.

Another limitation in this study is the outcome of the sociolinguistic interview. Although the sociolinguistic interview task aimed at gathering spontaneous and more natural speech, the production of vowels via this method was limited. Some

participants responded to some of the questions in a much more extensive manner, whereas others gave rather succinct answers. As a result, the number of vowels before a deleted /s/ and without a following /s/ produced in the sociolinguistic interview task was very low compared to the number of vowels produced in the elicitation task. In addition, another difficulty posed by the sociolinguistic interview is the imbalance in the occurrence of vowels preceding deleted /s/ and vowels without a following /s/. In other words, it is impossible to obtain a similar number of tokens for each vowel as was obtained in the elicitation task. Moreover, most of the vowels obtained in the sociolinguistic interview tended to occur in syllable-final and word-final positions. There were very few instances in which vowels occurred in utterance-final position. Thus, the number of tokens obtained in the sociolinguistic interview was limited compared to that of the elicitation task.

Concerning the perception test employed in this study, the test featured a limited number of tokens. In order to provide a more robust dataset, it would be ideal to extend the number of tokens and include minimal pairs with other vowels. Other instances of minimal pairs could be *pata* 'leg' and *pasta* 'pasta' for /a/; *reto* 'challenge' and *resto* 'remainder' for /e/; *pita* 'pita bread' and *pista* 'clue,' *diputado* 'representative' and *disputado* 'disputed' for /i/; *toco* 'I touch' and *tosco* 'rough', and *jugo* 'juice' and *juzgo* 'I judge' for /u/.

7.4. Contributions

The present research study makes several important contributions to the field of Hispanic dialectology and Hispanic linguistics. First, this dissertation

contributes to the general body of literature pertaining to final /s/ lenition and analysis of tense-lax vowel alternation. Experimental studies (Llisterri and Poch 1987; Martínez Melgar 1994; Sanders 1994) found a significant formant restructuring for vowels preceding deleted final /-s/, whereas other studies (Hammond 1978; Figueroa 2000; Carlson 2006) have found that there is a systematic lengthening of word-internal vowels before deleted /s/.

Secondly, this study corroborates the tense-lax vowel alternation for non-high vowels in eastern Andalusian Spanish found in previous studies (Llisterri and Poch 1987; Martínez Melgar 1994; Sanders 1994). The present study found that the vowel /e/ undergoes significant opening and centralization when preceding deleted final /s/. The vowel /a/ is also produced with a significant lax vowel configuration when preceding deleted final /s/.

Thirdly, the present study implemented a sociolinguistic interview task with the purpose of obtaining more spontaneous and natural speech samples. According to Ronquest (2012), vowels that are produced in controlled tasks are shown to occupy a more peripheral location in the vowel space compared to those vowels produced in spontaneous speech tasks which tend to be more centralized. Like in the elicitation task, data from the sociolinguistic interview task show that the vowels preceding deleted final /s/ undergo tense-lax alternation in both Granada and Cartagena Spanish.

In addition, from a cross-dialectal point of view this study provides insight about the linguistic attitudes of the speakers of both Cartagena Spanish and Granada

Spanish. Particularly, this study found that the speakers of Cartagena Spanish tended to retain final /s/ whereas the speakers of Granada Spanish consistently weaken final /s/ in both the sociolinguistic interview and the elicitation tasks. This attitude suggests that the Cartagena Spanish speakers, aware of the linguistic value of final /s/, converge to the conservative mainstream dialect. Conversely, despite the social stigma that final /s/ weakening bears, Granada Spanish speakers do not attempt to retain or produce final /s/. It is possible that the relatively high rate of final /s/ retention displayed by Cartagena Spanish speakers was the result of their interaction with the researcher who conducted the data collection and speaks *caleño* Spanish, a relatively more conservative Spanish variety.

Furthermore, this study implements a perception test to verify the validity of the tense-lax vowel alternation in eastern Andalusian Spanish. Except for Carlson (2006), no study on Andalusian vocalism has implemented such a perception test. Carlson (2006), however, did not indicate the participant's origin whose stimuli utilized in her perception test. Recall that the speech samples analyzed in Carlson's (2006) acoustic study were recorded from three participants from western Andalusia and three participants from eastern Andalusia. In addition, 23 of the 25 participants in the perception test employed in Carlson's (2006) perception test were from western Andalusia. The present study, therefore, did implement a perception test and conducted it with native speakers of Granada Spanish and native speakers of Cartagena Spanish. The perception test results in this study suggest that neither participants from Granada nor participants from Cartagena are

able to determine whether final /s/ has been deleted. The perception test results from the present study do not support the claim that speakers of eastern Andalusian Spanish are able to readily determine when final /s/ is deleted.

Finally, results in the present study do not support the Functional Hypothesis (Kiparsky, 1982), which maintains that “there is a tendency for semantically relevant information to be retained in surface structure” (1982:87). Final /-s/ deletion is not resisted in Granada and Cartagena Spanish, even though it has a grammatical function. These results concur with Poplack (1980) and Ranson (1993), among others.

7.5. Future Research

For future research, the alternation of vowels preceding the deletion of other codas different than /s/ needs to be evaluated. Given that lenition of final consonants is one of the main phonological characteristics of radical varieties of Spanish, it would be interesting to explore the effect of the lenition of other consonants in final contexts. Consequently, one possible extension to this type of research could be to investigate the quality of the vowels preceding deletion of other final consonants such as the phoneme /d/, e.g. *pared* ‘wall’ [pa'reð] → [pa.'reØ] and *verdad* ‘truth’ [ber.'dað] → [ber.'daØ]. Furthermore, vowel length before the phoneme /θ/ when deleted which occurs in coda position in peninsular dialects of Spanish, e.g., *avestruz* ‘ostrich’ [a.βes.'truθ] → [a.βes.'truØ] and *andaluz* ‘Andalucian’ [an.ða.'luθ] → [an.ða.'luØ] should be investigated.

In addition, given that stress seems to play a role in the tense-lax vowel alternation displayed before deleted /s/, it would be interesting to analyze the effect of stress on minimal sets such as *tomo* ['to.mo] 'I take/volume,' *tomó* [t̪o.'mo] 'He/she took,' *tomos* ['t̪o.mɔØ] 'volumes' and *ultimo* [ul.'t̪i.mo] 'I finish,' *ultimó* [ul.t̪i.'mo] 'I finished,' *último* ['ul.'t̪i.mo] 'last,' and *últimos* ['ul.t̪i.moØ] 'the last ones.'

From a cross-dialectal perspective, *porteño*, another Spanish non-conservative dialect, would provide a fascinating scenario for the analysis of vowels alternation for vowels before final /-s/ deletion because of the use of *voseo* or *vos* as a second person singular pronoun. Many *voseo* verb forms contrast in stress with nouns and provide minimal pairs such as *tomás* 'you take' and *tomas* 'outlets,' *llamás* 'you call' and *llamas* 'flames,' and *hablás* 'you talk' and *hablas* 'speeches.'

Another phonological phenomenon that could be a research topic for future studies is the effect of aspiration of voiceless stops on vowel alternation. O'Neill (2009) points out that the voiceless stops are articulated as aspirated stops /p^h t^h k^h/ in the consonant clusters /sp st sk/ in Almería and Granada. During the data collection for the present study, the author noted this pattern in the speech of the speakers from Granada. For instance, the word *gusta* ['gus.ta] 'to like' would be rendered as ['guØ.t̪^ha] with an aspirated stop or as ['guØ.t̪ːta] with a geminated stop. This feature may affect the formant structure in vowels following post-deletion of /s/ in /-st/-clusters.

7.6. Conclusion

The objective of this study was to investigate the existence and extension of tense-lax vocalic alternation and to verify its functional role in Granada Spanish. Although vowel alternation was assessed for this variety as well as for Cartagena Spanish, its functional role is not supported for either dialect. Although the Spanish vowel system is regarded as relatively simple with five phoneme vowels, the phonetic variation they undergo is great. Acoustic measurements show that vowels display change in timbre or quality throughout the acoustic space in which they are articulated. However, it seems the case that no matter how great a vowel alternation can be, perceptually-wise, listeners only recognize five vowels.

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APPENDICES

Appendix A

Elicitation Task Sentences

Form A

1. Me lo dijo ayer.
2. El tren sale a las ocho.
3. ¿No te gusta jugar al tenis?
4. Ayer pintaron la casa.
5. Es cierto que lo busca.
6. Juan trabaja mucho en la universidad.
7. Jesús es el hombre con barba y patillas.
8. No creo que salga.
9. Pablo mira tus fotos.
10. Estaba muy contento.
11. Es posible que lo haga.
12. Conozco bien a ese mimo.
13. El ideal de esta gente no consiste en gobernar, sino ser gobernados.
14. Puedes escribir con bolígrafo o con lápiz.
15. Tengo que estudiar ahora.
16. No he pasado nunca por esas calles.
17. Esta es la lección que no entiende.
18. Tengo el libro que buscas.
19. Aunque me gusta cantar, prefiero bailar.

20. En este barrio buscábamos las casas.
21. A las ocho llega el buque.
22. Es importante que salgas.
23. Fuiste a la fiesta, ¿verdad?
24. ¿Dónde están esos pueblos?
25. No dejes de escribirme.
26. Una es para mi tía y la otra es para mis padres.
27. Cuando vaya a mi pueblo no deje de avisarme.
28. No me gusta el arroz.
29. Las cosas pequeñas las meteré en la maleta.
30. No le dije la verdad.
31. Obtuve el pasaporte y nos fuimos para París.
32. No has terminado el trabajo todavía.
33. Ernesto es muy alto.
34. Francisca sabe más que sus padres.
35. Matar es un gran pecado.
36. Dudo que lo hagas.
37. Esos hombres se fueron en taxis.
38. Los camiones no pasan por esa calle.
39. ¿Quieres acompañarme a hablar con mi sastre?
40. Favor de prestarme tu libro.
41. Las niñas del colegio se pusieron a cantar.

42. Sus padres se fueron para ese pueblo.
43. Los señores viven en estas casas bonitas.
44. Hay varios problemas que no comprendes.
45. ¿Dónde está la casa de su prima?
46. Debes repetirme la frase otra vez.
47. Creo que la ve.
48. Creo que la ves.
49. Dos asnos rebuznan detrás de la roca.
50. Ponte el sombrero y la capa.

Form B

1. Tengo que estudiar ahora.
2. Voy a la escuela mañana.
3. ¿No te gusta jugar al tenis?
4. Ayer pintaron las casas.
5. Es cierto que lo buscas.
6. El tren sale a las nueve.
7. Tengo que tomar las mismas pastillas.
8. No creo que salgas.
9. Pablo mira tu foto.
10. Estaban muy contentos.
11. Es posible que lo hagas.
12. Conozco bien a esos mimos.
13. Las niñas se pusieron a cantar.
14. Debes repetirme las frases otra vez.
15. No has terminado el trabajo todavía.
16. No he pasado nunca por esa calle.
17. Esta es la lección que no entiendes.
18. Tengo el libro que busca.
19. Cuando vaya a mi pueblo no deje de avisarme.
20. En este barrio buscábamos la casa.
21. Es importante que lo busque.

22. Es importante que salga.
23. El ideal de esta gente no consiste en gobernar, sino en ser gobernados.
24. ¿Dónde está ese pueblo?
25. Aunque me gusta cantar, prefiero bailar.
26. Una es para mi tía y la otra es para mi papá.
27. Fuiste a la fiesta, ¿verdad?
28. La capital de Bolivia es La Paz.
29. Las cosas pequeñas las meteré en las maletas.
30. Juan trabaja mucho en la universidad.
31. Obtuve los pasaportes y nos fuimos para París.
32. No dejes de escribirme.
33. Ernesto y José son altos.
34. Francisca sabe más que su padre.
35. No me gusta comer pescado.
36. Dudo que lo haga.
37. Esos hombres se fueron en taxi.
38. Los camiones no pasan por esas calles.
39. ¿Quieres acompañarme a hablar con mis sastres?
40. Favor de prestarme tus libros.
41. Me lo dijo ayer.
42. Sus padres se fueron para esos pueblos.
43. Los señores viven en esta casa bonita.

44. Hay varios problemas que no comprende.
45. ¿Dónde está la casa de sus primas?
46. ¿Hoy día hace calor otra vez.
47. Piensa que la ve.
48. Piensa que la ves.
49. El asno rebuzna entre las rocas.
50. Ese es el mejor remedio para la caspa.

Appendix B

Perception Test Answer Sheet

Part I

This section contains 54 sentences. Listen to the last word in each of the sentences and select the option you hear.

- | | | | |
|---------------|------------|---------------|------------|
| 1. salga | salgas | 28. busca | buscas |
| 2. prima | primas | 29. comprende | comprendes |
| 3. casa | casas | 30. foto | fotos |
| 4. salga | salgas | 31. casa | casas |
| 5. salga | salgas | 32. haga | hagas |
| 6. haga | hagas | 33. casa | casas |
| 7. calle | calles | 34. foto | fotos |
| 8. busca | buscas | 35. taxi | taxis |
| 9. entiende | entiendes | 36. ve | ves |
| 10. ve | ves | 37. prima | primas |
| 11. calle | calles | 38. foto | fotos |
| 12. entiende | entiendes | 39. pueblo | pueblos |
| 13. taxi | taxis | 40. taxi | taxis |
| 14. comprende | comprendes | 41. prima | primas |
| 15. busca | buscas | 42. comprende | comprendes |
| 16. entiende | entiendes | 43. pueblo | pueblos |
| 17. foto | fotos | 44. salga | salgas |
| 18. entiende | entiendes | 45. calle | calles |
| 19. salga | salgas | 46. taxi | taxis |
| 20. haga | hagas | 47. prima | prima |
| 21. comprende | comprendes | 48. pueblo | pueblos |
| 22. ve | ves | 49. foto | fotos |
| 23. busca | buscas | 50. casa | casas |
| 24. busca | buscas | 51. prima | primas |
| 25. ve | ves | 52. haga | hagas |
| 26. calle | calles | 53. pueblo | pueblos |
| 27. haga | hagas | 54. entiende | entiendes |

Part II

This section contains a series of 24 isolated words. Select in each case the word you hear.

- | | | | |
|-------------|-----------|--------------|-----------|
| 1. patillas | pastillas | 13. pecado | pescado |
| 2. buque | busque | 14. pecado | pescado |
| 3. patillas | pastillas | 15. buque | busque |
| 4. patillas | pastillas | 16. patillas | pastillas |
| 5. buque | busque | 17. pecado | pescado |
| 6. pecado | pescado | 18. mimo | mismo |
| 7. patillas | pastillas | 19. pecado | pescado |
| 8. buque | busque | 20. mimo | mismo |
| 9. pecado | pescado | 21. buque | busque |
| 10. mimo | mismo | 22. patillas | pastillas |
| 11. mimo | mismo | 23. mimo | mismo |
| 12. mimo | mismo | 24. mimo | mismo |

Part III

This section contains a series of 30 isolated words. Select in each case the word you hear.

- | | | | |
|-------------|-----------|--------------|-----------|
| 1. casa | casas | 17. padre | padres |
| 2. padre | padres | 18. pastilla | pastillas |
| 3. pastilla | pastillas | 19. calle | calles |
| 4. pueblo | pueblos | 20. foto | fotos |
| 5. foto | fotos | 21. foto | fotos |
| 6. pueblo | pueblos | 22. pueblo | pueblos |
| 7. casa | casas | 23. calle | calles |
| 8. foto | fotos | 24. pastilla | pastillas |
| 9. casa | casas | 25. padre | padres |
| 10. padre | padres | 26. pastilla | pastillas |
| 11. sastre | sastres | 27. foto | fotos |
| 12. calle | calles | 28. pueblo | pueblos |
| 13. padre | padres | 29. sastre | sastres |
| 14. sastre | sastres | 30. casa | casas |
| 15. sastre | sastres | 31. pueblo | pueblos |
| 16. calle | calles | 32. casa | casas |

Part IV

This section contains a series of 26 isolated words. Select in each case the word you hear.

- | | | | |
|--------|-----|--------|-----|
| 1. su | sus | 15. la | las |
| 2. mi | mis | 16. mi | mis |
| 3. tu | tus | 17. lo | los |
| 4. le | les | 18. le | les |
| 5. mi | mis | 19. su | sus |
| 6. la | las | 20. la | las |
| 7. tu | tus | 21. tu | tus |
| 8. le | les | 22. mi | mis |
| 9. mi | mis | 23. lo | los |
| 10. lo | los | 24. le | les |
| 11. la | las | 25. su | su |
| 12. su | sus | 26. lo | los |
| 13. le | les | 27. la | las |
| 14. su | sus | 28. tu | tus |

Appendix C

Perception Test Answer Key

*Words in bold are control items. In control items /s/ → [s].

Part I

- | | |
|----------------------|-------------------|
| 1. salga | 28. busca |
| 2. prima | 29. comprende |
| 3. casa | 30. foto |
| 4. salgas | 31. casas |
| 5. salga | 32. haga |
| 6. hagas | 33. casa |
| 7. calle | 34. foto |
| 8. buscas | 35. taxis |
| 9. entiende | 36. ves |
| 10. ves | 37. primas |
| 11. calles | 38. fotos |
| 12. entiendes | 39. pueblo |
| 13. taxi | 40. taxis |
| 14. comprendes | 41. primas |
| 15. buscas | 42. comprendes |
| 16. entiendes | 43. pueblos |
| 17. fotos | 44. salgas |
| 18. entiendes | 45. calles |
| 19. salgas | 46. taxi |
| 20. hagas | 47. prima |
| 21. comprende | 48. pueblos |
| 22. ve | 49. fotos |
| 23. busca | 50. casas |
| 24. buscas | 51. primas |
| 25. ve | 52. hagas |
| 26. calle | 53. pueblo |
| 27. haga | 54. entiende |

Part II

*Words in bold are control items. In control items /s/ → [s].

- | | |
|---------------------|--------------------|
| 1. pastillas | 13. pescado |
| 2. busque | 14. pescado |
| 3. pastillas | 15. buque |
| 4. patillas | 16. pastillas |
| 5. busque | 17. pecado |
| 6. pecado | 18. mismo |
| 7. pastillas | 19. busque |
| 8. buque | 20. mismo |
| 9. pescado | 21. busque |
| 10. mimo | 22. patillas |
| 11. mismo | 23. pescado |
| 12. mismo | 24. mimo |

Part III

*Words in bold are control items. In control items /s/ → [s].

- | | |
|-------------------|--------------------|
| 1. casa | 17. padre |
| 2. padres | 18. pastilla |
| 3. pastillas | 19. calles |
| 4. pueblo | 20. fotos |
| 5. foto | 21. foto |
| 6. pueblos | 22. pueblos |
| 7. casa | 23. calle |
| 8. fotos | 24. pastilla |
| 9. casas | 25. padre |
| 10. padres | 26. pastillas |
| 11. sastre | 27. fotos |
| 12. calles | 28. pueblo |
| 13. padres | 29. sastres |
| 14. sastres | 30. casas |
| 15. sastre | 31. pueblos |
| 16. calle | 32. casas |

Part IV

*Words in bold are control items. In control items /s/ → [s].

- | | |
|----------------|----------------|
| 1. sus | 15. las |
| 2. mis | 16. mis |
| 3. tu | 17. lo |
| 4. les | 18. les |
| 5. mi | 19. sus |
| 6. la | 20. la |
| 7. tus | 21. tus |
| 8. le | 22. mis |
| 9. mi | 23. los |
| 10. lo | 24. le |
| 11. las | 25. su |
| 12. sus | 26. los |
| 13. les | 27. las |
| 14. su | 28. tu |

Appendix D

Interview Transcripts

Interview with Participant 1

I = Interviewer, P = Participant

I: ¿Cómo te llamas?

P: Veintiún años.

I: ¿Por qué escogiste la carrera de Administración?

P: Ah bueno, ehh, cogí la carrera de Administración de Empresas en Cartagena porque bueno... primeramente quería, quiero empezar mi negocio. Ya sé que ahora voy pa' décimo semestre, ya tengo unas bases. Aparte que también había estudiado una carrera técnica en el Sena, que, pues, que me dió las bases para querer estudiar la carrera Administración de Empresas como tal, eh.

I: ¿Si pudieras cambiar algo para mejorar el programa, qué sería?

P: Bueno, de pronto conseguir, eh, algunos, algunos módulos, unos mejores profesores, más preparados. Ciertamente me he dado cuenta que hay muchos, digamos que no tienen todos los requerimientos necesarios para ser, digamos de una, una material tan importante por ejemplo como ******, que hay profesores que por ejemplo no, no dan la talla, o de pronto no son pedagogos, sino de pron... estudiaron otra cosa y porque tienen experiencia en eso los cogieron para, para trabajar en ese campo, pero no son docentes como tal.

I: ¿Qué le recomiendas a una persona que viene a Cartagena?

P: Bueno, la realidad es que mucha gente viene a Cartagena también por todo lo que han sabido de, eh sitios nocturnos, toda la vida nocturna. Bueno, pero también te recomendaría muchas, aquí hay bastantes actividades, sobre todo en Getsemaní, que uno puede encontrar de todo, en ese pequeño bar, porque es como la unión de, digamos la clase obrera de Cartagena, dentro del mismo lu, cordón amurallado, que es todo turismo, hay bastantes actividades. Me gusta ir a un lugar que se llama, ¿cómo se llama ese *****? Ah, no me acuerdo, como se llama, bueno, queda en Getsemaní. Un sitio donde, pues, uno puedo ir a cla, a clases de aeróbicos, si uno quiere, clase de Zumba, hay un restaurante también, los cocineros siempre son, como un sitio tipo hostal, mucha gente de otros países viene y a cambio de que le den la estadía ellos trabajan, hacen, cocinan, o sea, alimentos de otro, otros países, eh, ¿qué más? Ah sí, se llama Ciudad ***, el sitio, un buen sitio para ir, si, aparte de todo lo que tiene Cartagena, digamos en la, sitios nocturnos.

I: ¿Dónde cursaste tus estudios secundarios?

P: En ****, se llama el colegio.

Interview with Participant 2

I= Interviewer, P = Participant

I: ¿Qué estudias?

P: Contaduría Pública.

I: ¿En qué semestre estás?

P: Estoy en octavo semestre.

I: ¿Por qué escogiste esta carrera?

P: Eh, pienso que soy bueno en las finanzas y los números, y se me ha facilitado este, este tipo de cosas desde que era muy niño, entonces siento que también puede ser una carrera afín a lo que yo quiero hacer. Yo siempre he querido como trabajar independiente, y no ser dependiente de algún empleador o ese tipo de cosas.

I: ¿Y cómo te ha ido en la carrera?

P: Hasta el momento bien, este, eh... me ha ido bien, me ha ayudado, a des... a desenvolverme en diferentes ámbitos en mi vida, y uno de esos es el liderazgo, eh... actualmente soy líder estudiantes de mi programa, y pues, si me ha, eh... académicamente también me ha ido muy bien, este, eh, prácticamente no he pagado casi ningún semestre sino siempre, por medio de becas, el primero, segundo, tercer puesto, me hicieron.

I: ¿Si pudieras cambiar algo de la carrera para hacerla mejor que sería?

P: Eh, de pronto, ¿qué pudiera cambiar? ¿En la parte académica o en la parte ya...?

I: En general.

P: Eh, pienso que, que sería en mucha utilidad que los contadores públicos de la Universidad de Cartagena se les instruyera más en las herramientas que necesitan para ser un profesional de la actualidad porque muchas de las cosas que nos enseñan ahora no van de acuerdo a... a lo que el contador público necesita aquí en Colombia hoy en día. Entonces sería eso, sería como que estructurar mejor el pensum, hacer ese tipo de reformas académicas que van en pro de lo que se necesita.

I: ¿Si alguien viene a Cartagena, que sitios o actividades le recomiendas?

P: ¿Cómo turista o...

I: En general.

P: General, pues, Cartagena es muy rica en el aspectos culturales y de turismo, puede ser viajes a las islas, Isla del Rosario, la Isla Barú, eh, puede ser un recorrido por el Centro Amurallado, puede ser, este, eh, pues, las noches son muy fantásticas si te gustara cenar o un plan más movido, de rumba, hay diferentes tipos de, de ambientes, ambiente, eh, Caribe, ambiente cubano, ambiente de pronto de salsa, merengue, rumba, el mismo autóctono de acá, la que es la champeta, pues, son diferentes tipos de ambientes para todos los gustos y todos los estilos.

I: ¿La gente como tú como se divierte?

P: Pues, a mí me gusta salir a bailar, salir al centro, en la Avenida también hay muchas discotecas buenas, también salir de pronto a caminar por el centro a compartir con los amigos, ese tipo de cosas.

Interview with Participant 3

I = Interviewer, P = Participant

I: ¿Qué estudias?

P: Estudio química farmacéutica.

I: ¿En qué semestre estás?

P: Ya terminé académicamente, son diez semestres.

I: ¿Qué te ha parecido la carrera?

P: Interesante, realmente no creí que cumpliera con tantas expectativas. Es una carrera que tiene mucha salida, esto, prácticamente, el que se queda varar, varar en esta carrera es porque quiere.

I: ¿Si pudieras cambiar algo de la carrera para hacerla mejor, qué sería?

P: ¿Qué sería? Pues, el simple hecho de que nosotros siempre cuando terminamos, egresamos, nos vamos a la parte laboral, nosotros siempre vamos a ser jefes, nosotros siempre, no es que vamos a empezar abajo, eso es raro que empecemos abajo y si empezamos abajo empezamos, quedamos en un segundo renglón, es decir, quedamos bajo del jefe directo. Entonces, ¿qué pasa? A nosotros no nos enseñan a hacer esa parte de gerencia, entonces, ¿en qué sentido? Pues, uno muchas veces ve falencias, por ejemplo, en mí, yo en mi formación de Gestión Administrativa no, no la sentí fuerte. Eso fue en cierta parte una pérdida de tiempo. Entonces, ¿qué pasa? Yo afortunadamente tuve la fortuna de hacer un diplomado, lástima que no se culminó, pero en los módulos que hice había una parte de eso, de Gerencia en

el Servicio Farmacéutico y ahora que estoy trabajando con el Dr. ***** pues también la formación de microempresas, modelos de negocios, entonces eso me abre un poco más la perspectiva en esas falencias que tenía y siento que todos necesitamos, no importa el área en el cual nos vamos a dedicar.

I: ¿Si alguien viene a Cartagena, que sitios le recomiendas?

P: ¿Qué sitios le recomiendo? Bueno, realmente siempre el que viene a Cartagena siempre quiere conocer lo bonito, y no se lo voy a negar. Hay que conocer las Islas del Rosario, el Castillo de San Felipe, ya lo que te digo Centro, ya es cuestión de centro, porque el Centro es pequeño, es caminable, en dos, tres días tú conoces todo el Centro. Pero también le haría una invitación a esas personas que conozcan más allá del Castillo de San Felipe. Hay gente qué cree, una vez un amigo me dijo: ****, ¿tú que tan lejos vives de la playa? No, vivo como a una hora en bus. ¡Tan lejos! Sí, ¿por qué? Él creía que yo vivía así como dónde estoy ahora que me queda a unos cuantos metros, fácil acceso, caminando y no, entonces, yo creo, yo siempre que viene alguien, siempre lo invito a mi casa, siempre. Yo vivo por, más o menos, por donde queda el Consultorio Empresarial, quedo como a diez minutos caminando, es cerca, ahí mismo. Entonces, yo siempre los invito, trato de que conozcan esa zona de allá. Tampoco lo voy a llevar a un barrio popular, porque ni yo mismo me meto, porque son zonas algo pesadas, algo que si uno se va a meter allá, hay que ir con alguien que sea de la zona, porque uno también puede correr un riesgo. Entonces, esa es la invitación que siempre

digo, vamos por allá, vamos a comer por allá, eh, vamos a caminar por allá, y conocer por acá, rumbear, también se puede rumbear por allá y es mucho más económico, pero se pasa el mismo ambiente, igual de chévere.

Interview with Participant 4

I = Interviewer, P = Participant

I: ¿Qué estudias?

P: Odontología.

I: ¿En qué semestre estas?

P: En o sea, en cuarto y voy para quinto.

I: ¿Y por qué escogiste Odontología?

P: Bueno, me parece que es una carrera que, que como le comentaba combina el, pues el arte y la ciencia, si me entiende, o sea que, tiene mucho fundamento que es científico, pero también mucho necesita del parte del profesional como estética, como saber armonizar eso.

I: ¿Cuándo estabas en el bachillerato querías estudiar eso?

P: Cuando estaba en el bachillerato estaba entre medicina, biología y odontología pero finalmente me interesó odontología.

I: ¿En qué colegio estudiaste?

P: En *****.

I: ¿Es público o privado?

P: Público.

I: Y allí hiciste los seis años.

P: Eh, sí, desde quinto del bachillerato hasta que me gradué.

I: ¿Si pudieras cambiar algo de la carrera para hacerla mejor que sería?

P: Bueno, me gustaría de que, eh, tuvieran, o sea, los estudiantes tuvieran más posibilidad de encontrar pacientes, ¿ya? Como que abrir más los servicios a la, a la ciudad y a la comunidad que sean más visibles, porque, eh, en la facultad, nosotros, eh, necesitamos tener pacientes para practicar, ¿cierto? Eh, pues, nuestras materias y con eso es que, pues, se aprueban. Pero si el, el estudiante no tiene un paciente pues pierde la materia, entonces muchas veces, como que el, los docentes le dicen tú necesitas un paciente con, eh, con estos requisitos, que tenga tales, eh, características en los dientes, entonces, muchas veces no los consiguen y, eso, es como que el, la tra, el, el queje, lo que trunca.

I: ¿Y cómo se podría mejorar eso?

P: Bueno, yo digo de que se hagan más visibles los, los servicios de, de la facultad de la, de pronto comerciales, eh, más publicidad, para que así, pues, los estudiantes no sean los que tengan que buscar pacientes, sino que vean, que los, los pacientes vean que la Universidad está ofreciendo servicios de calidad y que pueden buscálos.

I: ¿Si alguien viene a Cartagena que sitios o actividades le recomiendas?

P: Bueno, bueno, yo le recomendaría conocer el Centro Histórico, La Ciudad Amurallada, eh, tal vez, los museos, el Museo del Oro, el Naval, eh, toda esa zona, pues, colonial, todos los balcones, es muy bonito y pues, eh, actividades como, eh, natación, buceo, todas esas, esas cosas.

Interview with Participant 5

I = Interviewer, P = Participant

I: ¿Cuántos años tienes?

P: Veintidós.

I: ¿Qué estudias?

P: Comunicación

I: Noveno

P: Bueno, el programa de comunicación lo describiría como un programa que me ha posibilitado desarrollar bastante, bastante ehh, experiencias y experiencias no tanto a nivel profesional, sino a nivel de vida, a nivel de vida basándonos también como, un poquito en el contexto que tiene nuestra ciudad. Un contexto bastante marcado por la pobreza, entonces creo que ha sido muy puntual en lo que quería de pronto encontrar en una carrera universitaria con, y fue Comunicación la que, la que me pudo brindar la oportunidad de conocer ese, ese, ese medio que, y esas dinámicas que nos posibilitan la interacción entre, entre seres humanos.

I: ¿Si pudieras cambiar algo de la carrera para hacerla mejor qué sería?

P: De pronto un poco la parte de, de, del currículo en, de clases, de las clases porque está un poquito basado mucho más al periodismo. Entonces creo que necesitamos mucha más investigación, proyectos, gestión de proyectos de tipo, de corte social, para el desarrollo social y no tanto periodismo porque realmente del primer semestre hasta octavo semestre que prácticamente

estamos toda la carreras es periodismo, periodismo y periodismo y líneas
perio, periodísticas, entonces no hay ese enfoque realmente fuerte en
investigación, que la Universidad no lo tiene.

I: ¿Cómo describirías a Cartagena?

P: La describiría como una ciudad mitad humana, mitad comercial. ¿Por qué?
Porque de murallas hacia acá es una cosa muy distinta de murallas hacia
afuera. Las murallas es algo, una dinámica totalmente diferente de lo que se
vive aquí en el centro de Cartagena, dentro de las Murallas, Bocagrande,
Castillo Grande, Crespo, que son barrios, eh, de una élite muy alta y por fuera
de las Murallas están esas, esas, esas, esos barrios de esa gente trabajadora
que prácticamente tiene que, tra, venir al centro por algún motivo, solamente
de que, o trabajo o alguna vuelta de notarías o cosas así pero que realmente
no habitan una ciudad que es suya, que es de ellos, que es la Ciudad
Amurallada, la Ciudad Vieja. Prácticamente la desconocen por completo
como. como propia.

I: Háblame de los deportes preferidos en Cartagena.

P: Son amantes al deporte. Muchos son, el fútbol creo que en Latinoamérica se
mueve de una forma que pasan barreras. Aquí en Cartagena no es ajeno a eso,
el fútbol acapara todas las miradas aquí en la ciudad. Pero también hay
deportes como el béisbol que tienen gran fuerza, el béisbol, eh, el otro es,
deportes por ejemplo de mesa como el ajedrez, eh, son, son los deportes que
de pronto marcan mucho más la pauta aquí en la ciudad.

- I: ¿Cuál es la diferencia entre un pez y un pescado?
- P: Bueno un pez, es algo que está vivo, un ser vivo dentro del mar; un pescado es ya el pez para consumir.
- I: ¿Qué clases de peces conoces?
- P: Bastantes, por ejemplo, el tiburón ballena, eh, mojarra, pargo, eh, barracudas, sargento, trompeta, eh, payaso.
- I: ¿Lo sabes preparar? ¿Cómo lo preparas?
- P: Como, si claro, limón, ajo, un poco de sal y un poco de pimiento negra.
- I: ¿Cuál es el mejor lugar para comer pescado acá en la ciudad?
- P: Aquí en Cartagena, bueno, muy humildemente mi casa pero es muy famoso, eh, la "María Mulata" porque dicen que preparan muy bien los pescados y el sazón que tienen es muy rico.
- I: ¿Cuál es la diferencia entre 'buque' y 'barco'?
- P: Bueno un buque es una edificación, una embarcación mayormente construida por, por acero y un barco ya es algo mucho más con fibra de vidrio, realizado con fibra de vidrio. Entonces creo que esa es la diferencia, algo un poco más, el buque es un poco más utilizado como para inspeccionar, de pronto, es algo mucho más científico, por decirlo así. El barco ya puede ser una embarcación que transporta personas para disfrute de la gente, en fin.
- I: Cuál es la diferencia entre 'pastilla' y 'Tableta'?

P: Bueno, una pastilla puede ser, no sé, algo muy pequeño, realmente. Una pastilla es algo, un medicamento muy pequeño, la Tableta si es poco más grande y mucho más, no sé compacta.

Interview with Participant 6

I = Interviewer, P = Participant

I: ¿Tu nombre es indígena?

P: No, de Venezuela, creo, no sé.

I: ¿Significa algo?

P: No.

I: ¿Cuántos años tienes?

P: Veintitrés.

I: ¿Qué estudias?

P: Estudio ingeniería de alimentos. Terminé este año académicamente.

I: ¿Cuándo es la graduación?

P: Creo que en marzo. Vamos a ver qué pasa.

I: ¿Por qué escogiste esta carrera?

P: Cuando estaba en el colegio, llegaron unas ingenieras de alimentos, dictando unas capacitaciones y dije me gustaría ser ingeniera para mirar el control de calidad de, de los alimentos, lo que uno se come, que hace, que no hace y por ahí me fui. Cuando terminé me presenté a la Universidad de Cartagena y pues...

I: ¿Si pudieras cambiar algo de la carrera para hacerla mejor que sería?

P: Le quitaría más Cálculo y metería más Control de Calidad en la Industria Alimentaria.

I: ¿Por qué?

P: Porque eso es lo que está exigiendo. Ese es el boom del momento. Entonces como que se matan por darnos unos cálculos, siete cálculos, tres físicas, dos álgebras. Y por lo que verdaderamente vamos a aplicar en la industria de alimentos, como que lo disminuyen, le meten más a los cálculos. Eso no significa de que los cálculos no sean importantes, todo tiene su importancia y me gustan los cálculos.

I: ¿Si alguien viene a Cartagena tú que le recomiendas?

P: Los sitios turísticos de Cartagena, el Centro, India Catalina, eh, centros comerciales que es lo que uno va es acá y playa, mucha playa.

I: ¿Cuál es tu favorita?

P: Me gusta Bocagrande, acá en Bocagrande, el Laguito.

I: ¿La gente joven como tú cómo se divierte?

P: Discotecas, playas, rumba, cine.

I: ¿Una discoteca que esté en furor?

P: Cobache.

I: ¿Has ido?

P: A mí me gusta Cobache, pero como eso es cuestión de gustos, para mí eso es moda, no sé para otras personas qué será su moda.

I: ¿Por qué te gusta?

P: Porque me divierto, ponen música que, que le gusta a uno.

Interview with Participant 7

I = Interviewer, P = Participant

I: ¿Y una clase como Trabajo Social I cuántos créditos te da?

P: Seis. O sea, las, las básicas, así, o sea empiezan de tres a cuatro, después ya...

I: ¿Cómo les llaman, propias?

P: Sí, trabajo social con individuos, con grupo, con comunidad, entonces ya esas valen más.

I: ¿En qué semestre estás?

P: Noveno ya finalizado, pa' décimo semestre.

I: ¿Por qué escogiste Trabajo Social?

P: Porque es una carrera que me gusta mucho porque yo me muevo mucho por lo social, también traba... o sea, me encanta el trabajo en grupo, aunque el trabajo social también se maneja el trabajo con individuos, pero es más dado el trabajo en grupo, entonces a mí me gusta mucho lo social, el trabajo con comunidades, ¿ya?

I: ¿Si pudieras cambiar algo de la carrera para hacerla mejor que sería?

P: Pues, como de buscar una definición de la especificidad de la profesión porque Trabajo Social en si no tiene definido si trabaja o con los problemas o con el sujeto, entonces ella, se da una mezcla entre eso, entonces por eso se da una confusión entre lo que es la sicología y la sicología social, entonces no logra como, como diferenciarse en eso, y hace que la, que la carrera sea un poquito más subordinada o menospreciada por así decirlo. Entonces como

buscar eso, una especificidad y darle como mayor rango mayor reconocimiento.

I: ¿Cuándo termines qué quieras hacer con tu carrera?

P: Pues yo, o sea, a mí me gustaría principalmente, o sea como adquirir experiencia unos años, después si la Especialización en Diseño y Proyecto de Gestión. Trabajar en eso, y me gustaría lograr, crear una ONG.

I: ¿En qué colegio hiciste el bachillerato?

P: En *****, uno que queda por allá por dónde yo vivo.

I: ¿Ahí hiciste los seis años?

P: No, estuve en uno hasta noveno, en ***** y después el diez y si once los hice allá en ***** y finalicé allá.

I: ¿Si alguien viene a Cartagena qué sitios le recomiendas?

P: Eh, los sitios turísticos como a... para, para iniciar, pero también como que conozca a fondo lo que es Cartagena, por lo menos, las comunidades esas más vulnerables, como para que se lleve una imagen completa de la ciudad y no solamente los, los sitios bonitos, los, ajá, los turísticos y eso, sino toda una imagen completa, y que logren construir un concepto real de la ciudad.

I: ¿La gente joven como tú como se divierte?

P: Pues depende, depende de los gustos, las edades, no sé, pues se van más como por la rumba, eh, salidas, a conocer los sitios.

I: ¿Y tú tienes un sitio en especial?

P: Pues en especial no, pero si me gusta mucho lo que es plan de playa.

P: Eh, Playas Blancas y los Lagos.

I: ¿Dónde esta Playa Blanca?

P: Playas Blancas quedan cruzando el ferry de, de más allá de Santana, pero es Cartagena, de Pasacaballos, un corregimiento de Cartagena.

Interview with Participant 8

I = Interviewer, P = Participant

I: ¿Qué estudias?

P: Comunicación Social.

I: ¿En qué semestre estás?

P: Ya me gradúo en marzo.

I: ¿Planes?

P: Pues, viendo a ver si una maestría, si viajo al exterior, tengo varias cosas pero no estoy segura de nada.

I: ¿Por qué escogiste esta carrera?

P: Porque me gusta mucho, no tanto el periodismo, sino como la comunicación con la comunidad, como se llega a la gente a través de herramientas de comunicación. Eso lo necesita en realidad muchas empresas, lo que pasa es que la gente no se da cuenta que la comunicación es más allá del periodismo, de los medios, sino estrategias de comunicación para, por ejemplo, una campaña de la Presidencia de las niñas embarazadas, como se llega con herramientas de comunicación para que te entiendan eso, ¿no? No simplemente no son carteleras, sino más allá de eso.

I: ¿Si pudieras cambiar algo de la carrera para hacerla mejor qué sería?

P: ¿De la carrera o la universidad?

I: Tu carrera.

P: Mi carrera, ¿pero la carrera en si o como la universidad maneja la carrera?

I: El criterio que tú quieras.

P: Bueno, la universidad tienen muchas falencias porque no hay docentes de alta calidad. La carrera está empezando, aunque tenga ya ocho años, en realidad es muy joven y le falta muchísimo, sobre todo disciplinas, por ejemplo, tu apenas ves cuatro, cuatro materias por semestre, o sea hay muchos huecos, no hay, das tanto periodismo como comunicación para el desarrollo pero no es en profundidad. Yo siento que le falta muchísimo tanto en materia como en docentes. He visto que en la cara de otras carreras, otra universidad que tienen mucho del pensum, mucho más, o sea, hay mucho más rigurosidad, muchas son materias, por ejemplo Comunicación Organizacional, más profundidad en radio y televisión, no se ve, solo hay dos énfasis.

I: ¿En qué colegio estudiaste?

P: En *****.

I: ¿Es público o privado.

P: Privado.

I: ¿Desde el colegio querías estudiar esto?

P: No para nada, yo estaba en once y no sabía que escoger.

I: Me puse a ver universidades, sabía que tenía que entrar a una pública, por los recursos. Bueno, me puse a ver y pues, fue la que tuve más afín, pero no me arrepiento para nada de coger esta carrera.

P: ¿Si alguien viene a Cartagena tú que le recomiendas?

I: ¿Turísticos?

P: De todo.

I: Bueno, de pronto que también conociera los barrios pobres, obviamente si uno va a una ciudad, uno también quiere ver lo lindo, ¿no? Las playas, a mí me gusta, por, por ejemplo, todo lo que es paseo en las playas. Todo lo que sea, este, montarse en lo que se llama aquí el gusanito, que son cosas como más baratas, más accesibles, o las islas, me gustan como las actividades acuáticas...

P: ¿Tienes una isla en particular?

I: Hmm, no. Aquí queda Tierra Bomba, cerquita, y queda una que se llama, una playa que se llama Playa Linda, que es como la, la más limpia, porque aquí también, aunque uno frecuenta las playas, no son muy limpias, por eso es que recomienda las islas que son, están menos contaminadas.

P: ¿Y la gente joven como tú que hace para divertirse?

I: Es muy complicado. Aquí no, yo no siento que hayan muchos planes, le faltan mucho lugar de la cultura, mucho teatro, ciclovías, parques, no hay nada de eso. Acá lo que uno hace es el cine, salir, caminar, a veces en el Centro si hay planes de bicicletas, pero por lo general, no, ya esas tres cosas, que tú te sientes que siempre estás haciendo como las mismas actividades, o la playa, el cine.

Interview with Participant 9

I = Interviewer, P = Participant

I: ¿Qué estudias?

P: Enfermería.

I: ¿Por qué escogiste Enfermería?

P: Porque era mi segunda opción.

I: ¿Y cuál era tu primera opción?

P: Sicología.

I: ¿Y qué pasó?

P: No había la, el factor monetario.

I: ¿En qué semestre de enfermería estás?

P: Voy para noveno.

I: ¿Y qué te ha parecido la carrera?

P: Muy bonita.

I: ¿Por qué? ¿Qué te gusta?

P: La manera en la que la enfermera interactúa con la persona, con el paciente.

I: ¿Si pudieras cambiar algo de la carrera para hacerla mejor qué sería?

P: Que no todas las personas deberían entrar.

I: ¿Por qué?

P: Por qué es una carrera de vocación y a no, no a todo a el mundo le gusta la enfermería, entonces al finalizar se convierten en profesionales frustrados o mediocres, amargados.

- I: ¿Si alguien viene a Cartagena qué sitios le recomiendas?
- P: Pues, si tiene el factor monetario, que visite todos los sitios turísticos.
- I: ¿Por ejemplo?
- P: El Castillo de San Felipe, el Museo del Oro, eh, las Bóvedas...
- I: ¿Qué son las Bóvedas?
- P: Las Bóvedas son, son un, como unas bodegas, unos cuartos, dónde ahí venden cosas artesanales que están del lado de las Murallas. Entonces, se le llaman Bóvedas porque anteriormente eran unas Bóvedas.
- I: ¿Y cuál es tú favorito?
- P: ¿Mi favorito? Yo creo que las Murallas. Si porque yo no salgo mucho, entonces, lo necesario, sino que las Murallas son un lugar tranquilo, a veces, tú sabes dónde te puedes sentar, mirar la playa, no pagas sobretodo.

Interview with Participant 10

I = Interviewer, P = Participant

I: ¿Qué estudias?

P: Estudié la comunicación.

I: ¿Por qué escogiste esa carrera?

P: Ah, Bueno la verdad era porque tenía como vocación para escribir, siempre he sabido como expresarme bien, oralmente y a través de la escritura pero realmente yo siempre quise estudiar Derecho, pero cuando estaba ya en la aplicación se me dio por poner Comunicación Social y me encanta.

I: ¿En qué año estas?

P: Estoy en mi último año. Es quinto.

I: ¿Cuáles son los componentes de la carrera?

P: Bueno tenemos Periodismo, tenemos Comunicación para el Desarrollo, que son esos, básicamente esos dos énfasis que tiene la Universidad de Cartagena.

I: ¿Qué te ha parecido el programa?

P: Pues bien, tiene sus deficiencias en cuanto a currículo y eso pero, pues, uno tiene como una buena base.

I: ¿Si pudieras cambiar algo de la carrera para hacerla mejor qué sería?

P: Hmm, pues, adicionaría como un componente de competitividad global, de tal manera que le... sus egresados puedan ser competitivos en un contexto

global, que tengan la oportunidad de también explorar espacios laborales fuera de Cartagena.

I: ¿Tienes alguna sugerencia en particular?

P: Pues no sería ligado directamente a eso pero si me gustaría como que adicionaran clases que le preparen a uno para el mundo laboral, como clases de entrevistas que tienen aquí. Me he dado cuenta, clases de Preparación, Preparación de Negocios. Eso es algo que nosotros no tenemos.

I: ¿Qué le sugieres a alguien que quiera visitar Cartagena?

P: Bueno la playa es algo que nosotros siempre como que vendemos. Las playas de Cartagena. Este... definitivamente las islas del Rosario, las Islas de Barú. El Centro Histórico de la ciudad, alrededores como Turbaco.

I: Básicamente playa, ¿no?

P: También el Centro Histórico para conocer la historia de la ciudad que es, a mi me parece la ciudad, la historia de Cartagena, me parece súper interesante.

Ah, bueno sí, las islas son playas (giggles), Barú es playa.

I: ¿Qué es el Centro Histórico?

P: El Centro Histórico de Cartagena... es como es de donde partió la ciudad. Fue primeramente lo que significaba Cartagena en la época de la Colonia, y desde allí empezó a expandirse, y se creó lo que es la ciudad ahora. Entonces ahí es dónde está toda la historia, desde que fue fundada hasta, y como fue el devenir ese de la Colonia, de la República.

I: ¿Recuerdas tu colegio?

P: Pues claro que sí. Tampoco es que haya salido hace mucho tiempo.

I: ¿Hace cuánto te graduaste?

P: Me gradué hace, pues, cinco años que llevo de carrera.

Interview with Participant 11

I = Interviewer, P = Participant

I: ¿Cuántos años tienes?

P: Diecinueve.

I: ¿Qué estudias?

P: Traducción e interpretación?

I: ¿Por qué escogiste esta carrera?

P: Porque me gustan mucho los... me gustan los idiomas y diría que podía ser una buena salida pa... para mí. Y bueno me gustaban muchas otras cosas pero al final me decanté por traducción.

I: ¿En qué semestre estás?

P: Ehh, primero.

I: ¿Y qué te ha parecido el programa?

P: Pues, el programa muy bien. La... la manera de darlo, no, no por él, no por él. Con él estoy muy contento, de verdad. Bueno, en general, eh, el sistema educativo en general, pues, lo considero, lo veo deficiente.

I: ¿En qué sentido?

P: La manera de orientar la clase, el con... no solo por, el contenido, el contenido está bien pero...

I: ¿Eres de Granada?

P: Si soy de aquí

I: ¿Has vivido toda la vida aquí?

P: Si, siempre he vivido aquí.

I: ¿Qué le dices a un turista que viene a Granada? ¿Cómo le vendes tu ciudad?

P: Bueno, primero, lo primero que le digo es que es una ciudad con mucha historia y, y dónde lo llevaría es el barrio del Albaicín, que es de dónde yo soy.

I: ¿Por qué?

P: Porque, eh, bueno, eso es como en primer lugar, lo llevaría al Albaicín. Porque es el origen de la ciudad y, y bueno, porque es muy bonito.

I: ¿Por qué dices que es origen de la ciudad? ¿Qué pasó?

P: Porque, porque es dónde, eh, bueno, con el andaluz, con el Reino de Granada, se fundó la ciudad en esa zona, donde está el Albaicín y, y por eso.

I: ¿Qué otro sitio recomendarías?

P: Recomendaría también el Sacromonte.

I: ¿Qué es eso?

P: El Sacromonte es otro barrio que está cerca al Albaicín, y también, bueno, el Centro... Histórico.

I: ¿Qué tiene de especial el Sacromonte?

P: ¿Qué tiene de especial? Que, bueno, pues, tiene mucho arte. Es un barrio de mucho arte, hmm, porque, bueno, sobre todo para el flamenco, un centro pa'l flamenco, de mucho interés porque es donde, donde se... donde se ha gestado todo ese, todo ese arte, allí el cen... lo que hay que ver.

- I: ¿La gente joven como tú que actividades hace y que sitios frecuenta?
- P: Hmm, hombre, dependiendo de cada uno pero normalmente, la gente de mi edad, a la gente de mi edad le gusta ir a, a discotecas a la mayoría pero en mi caso, no es así, en mi caso, me gusta, también, pero también disfruto haciendo otras cosas totalmente diferente, no? Hmm, simplemente con una conversación con alguien, me divierto, disfruto, aprendo, intento siempre aprender de, de cualquier cosa que veo, entonces, solamente con dar un paseo y ir viendo, mirando la gente, viendo a las casas, la, el modo de vida, todo, disfruto con, con cualquier detalle.
- I: ¿Cuántos años tienes?
- P: Diecinueve.

Interview with Participant 12

I = Interviewer, P = Participant

I: ¿Cuántos años tienes?

P: Diecinueve

I: ¿Qué estudias?

P: Traducción e interpretación.

I: ¿Por qué escogiste esta carrera?

P: Pues porque pensaba que... meterse en traducción de chino... mmm...pueda tener bastante salida ahora que está en expansión.

I: ¿Y en que semestre estás?

P: En primero.

I: ¿Cuántos años dijiste que tenías?

P: Diecinueve.

I: ¿Qué te ha parecido el programa?

P: ¿El programa?

I: Como te han parecido las clases?

P: Pues hombre, hay de todo. Los profesores en general bien, aunque, por lo general, bastante bien

I: ¿Si hay un turista que viene a Granada, tu como le vendes la ciudad, que le recomiendas?

P: Hombre pues, yo creo Granada es una ciudad bastante turística, tiene la Alhambra, tiene todo lo que queda contiguo al Albaicín, tiene muchísimos sitios, una gastronomía muy buena, no sé, tiene bastante...

I: ¿Que es el Albaicín?

P: Un barrio que está situado en el caso antiguo de la ciudad, que es característico porque tiene una serie de cuevas, dónde la gente... vive, hay mucha, mucha zona así, muchos miradores, está cerca a la Alhambra.

I: ¿Y cuál es tu sitio favorito?

P: Pues, por ejemplo, allí hay un mirador que se llama el Mirador de San Nicolás que está bastante... me gusta bastante porque normalmente es muy bonito, tiene una vista muy chula, el atardecer se ve muy bien desde allí, la Alhambra, también.

I: ¿Y la gente joven como usted que actividades hacen para divertirse y que sitios frecuentan?

P: Pues, normalmente aquí en Granada o todas las cosas famosas de Granada, aunque sea malo es el botellón, y después, esto, hay muchos sitios de donde salimos por Pedro Antonio de Alarcón que es una calle que está llena de pubs y también, pues ahí en Granada hay muchas discotecas, Granada Diez, Campus, en las afueras también esta 'Embrujo'.

I: ¿Que es el botellón?

P: Pues, es una plaza, una planada que está... que es dónde es legal, en la calle no es legal beber en Granada, pero en ese sitio si es legal. Entonces la gente va ahí a hacer botellón, básicamente a beber, es dónde se reúnen.

I: ¿Y has vivido en Granada toda tu vida?

P: Sí, Granada, he estado toda la vida aquí.

I: ¿Has viajado?

P: Sí, bueno, a Pozo Alcón algunos veranos, y después por Jaén, ocasionalmente, en verano y eso.

I: ¿Si hubiera algo que podrías cambiar del programa, que sería?

P: Pues, por ejemplo, mmm, que las clases fueran un poco más dinámicas, que la, el profesor exigiese un poco más de participación de los alumnos, a nivel oral, o más dinámica del trabajo de grupo, no sé, cosas así, que te hicieran las clases un poco más amenas.

I: Okay, muy bien.

Interview with Participant 13

I = Interviewer, P = Participant

I: ¿Qué estudias?

P: Estudio traducción e interpretación de inglés aquí en la Facultad de Granada,

I: ¿Y qué te parece el programa?

P: Pues bien, me parece un poco difícil pero bueno.

I: ¿Por qué te parece difícil?

P: No sé, eh... muchas asignaturas y un nivel avanzado.

I: ¿Cuántas asignaturas ves por trimestre?

P: Tenemos cinco cada trimestre pero todas en su mayor o menor medida son amplias.

I: ¿A qué te refieres con amplias?

P: Que de materias son un poco amplias algunas otras menos pero bueno no te va mal.

I: ¿Que le dirías a un turista que quiere venir a Granada?

P: Pues, primero le enseñaré una foto de la Alhambra, del Albaicín

I: ¿Qué es la Alhambra?

P: La Alhambra es un palacio árabe, em... que primero fue como una mezquita y luego ya fue transformado en un palacio para la, para la, para lo... para que vivieran los más mandatarios árabes y ya con la Reconquista se convirtió en una residencia cristiana y ahora se da como un monumento.

I: ¿Además de la Alhambra que más hay?

P: Pues el barrio del Albaicín.

I: ¿Qué es eso?

P: Pues es el barrio, el barrio árabe de Granada, que en mi opinión es el más bonito de todos, pues por las calles, por las pistas que tiene la Alhambra.

I: ¿Pistas? ¿Cómo así?

P: Una pista... que... a ver, como te explicaría. Lo... lo que puedes ver tú allí, desde un sitio, a los sitios que puedes ver con la vista. Y también hay muchas tiendas árabes, teterías y muy bien.

I: ¿La gente joven como tú cómo se divierte?

P: ¿Aquí en Granada? Pues, pues bueno les gusta mucha también, como había dicho, el Albaicín, no, un paseo por esa zona, y ya lo que es fiesta, pues el botellón.

I: ¿Qué es el botellón?

P: Pues es un sitio, un lugar donde se reúne la gente joven para beber. Y también, pues, en plan discoteca, pues, las más conocidas son Mae West que está por el centro, en el Neptuno.

I: ¿Qué tipo de música ponen?

P: Pues, en general de todo, música actual, pop, reguetón y todo tipo de música actual.

I: Perfecto.

Interview with Participant 14

I = Interviewer, P = Participant

I: ¿Cuántos años tienes?

P: Diecinueve.

I: ¿Qué estudias?

P: Traducción e interpretación

I: ¿Por qué escogiste esta carrera?

P: Pues la verdad, cuando era chico, ya me gustaba a mí el tema este de los idiomas, me gustó, me atra... me atra... me atrajo bastante, y ya con el tiempo pues fui descubriendo y ya que tengo la oportunidad de estudiar aquí en Granada, en mi tierra, pues escogí la carrera y bueno, y me ha ido bastante bien, estoy orgulloso.

I: ¿Es tu primer cuatrimestre, segundo?

P: Es el segundo año, primer cuatrimestre ahora.

I: ¿Qué te ha parecido la carrera hasta ahora?

P: Pues la carrera en si interesante. Me parecen que faltan algunas cosillas, ¿no? Pero...no sé, por ahora me está gustando.

I: ¿Si pudieras mejorar algo del programa, qué sería?

P: ¿Mejorar algo? En primer, en el primer año, por ejemplo, faltan, faltan algunas cosillas, ¿no? faltan, por, por ejemplo, más, una asignatura en el primer cuatrimestre porque hay nomás tres, creo, y podés hacer cuatro o

cinco, y algunas de segundo cuatrimestre quitarlas y, y adelantarlas y poder ver esta opción antes, ¿no? Mejor.

I: ¿Si viene un turista a Granada, tú que le recomiendas?

P: Hombre, lo más famoso que tenemos, ¿no? es el monumento de la Alhambra, ¿no? de los árabes, porque podrían ir a verlo y, y es más, entre cosas, también así moriscas, ¿no? árabes. También está, tenemos el Parque de las Ciencias, un edificio que ya es ma... más moderno y qué es interactivo también, y puede ir la gente y... y meterse de la ciencias.

I: ¿Y la gente joven como tú que tipo de actividades prefiere hacer?

P: Normalmente, la gente se va 'pubs', ¿no? y se va de t..., le gusta más

I: ¿De qué?

P: De 'pubs'.

I: ¿Qué es eso?

P: Un 'pub' es como un bar pero a la versión inglesa.

I: Okay.

P: Si más, es otro rollito, ¿no? y eso, y si, aquí hay bastante, es una ciudad bastante famosa en eso, eh, ahora que lo pienso, que todos estudiantes que vienen, vienen na' más por eso, no pa' estudiar, ahí donde los ve.

I: ¿Y tú tienes algún sitio favorito?

P: Pues no, la verdad es que no tengo ahora ninguno, antes si solía ir a uno pero ya lo cerraron, ya lo cerraron, estaba por el centro, por dónde tengo yo la facultad.

- I: ¿Cómo se llamaba?
- P: Pues yo, la verdad, no lo sé, porque no tenía cartel, no me acuerdo.
- I: ¿Y además de irse de 'pubs', qué otras cosas?
- P: ¿Qué otras cosas? ¿Es que qué otras cosas? Hombre también, la gente, hombre, esto está relacionado con el beber, no?
- I: ¿Con qué?
- P: Con el beber, con el alcohol. Y eso que, se va la gente p... básicamente a beber a, a plaza o se va la gente a beber a lo que tenemos, que es un sitio que se llama botellódromo, si te suena.
- I: ¿Qué es el botellódromo?
- P: 'Botellódromo' es un sitio que no, no es una plaza, dónde se va la gente y bebe, ya está.
- I: ¿Y es un sitio específico, o hay varios?
- P: No, hay, hay, si ya, ya homologaron uno, ¿no? porque la gente bebía en cualquier esquina y, y no, no era eso salubre.
- I: Perfecto.

Interview with Participant 15

I = Interviewer, P = Participant

I: ¿Cuántos años tienes?

P: Veinticinco.

I: ¿Qué estudias?

P: Pues, estoy terminando la Licenciatura en Traducción e Interpretación.

I: ¿Cómo te ha parecido el programa?

P: Ehh, bien. He hecho solamente tercero y cuarto pero, bueno, entré por segundo ciclo y la verdad que tenerlo en dos años lo que la gen... otra gente hace en cuatro no está mal.

I: ¿Cómo lograste hacer eso?

P: Ehh... antiguamente, bueno hace, este año no, el anterior era, se podía entrar por pasarela antes de que se cambiase todo el tema del Plan Boloña y entonces hice un examen de acceso y entré directamente a tercero. Tengo que hacer cuatro asignaturas de complementos de formación pero el primer ciclo me lo convalidan entero.

I: ¿Y para cuándo piensas terminar?

P: Si todo va bien en junio.

I: ¿Y qué piensas hacer cuándo termines?

P: Bueno, yo estudié Comunicación, bueno, y ahora me gustaría enfocarla más al tema de otros idiomas.

I: ¿Por ejemplo, a qué idioma?

P: Ehh, tengo inglés y francés y bueno, tengo que ver también rumano ahora este año.

I: El rumano, ¿es una lengua popular ahora?

P: Ehh, bueno, es popular por todo el éxodo, ¿no?, que están viviendo los ru... los rumanos por, por Europa, ¿no?, por el tema de las circunstancias de que hay en el país. Entonces, bueno, sí que es verdad que en España hay muchísimo rumano ahora mismo y creo que es una lengua que de cara al futuro tiene posibilidades

I: ¿Si hubiera algo que pudieras cambiar en el programa que sería?

P: Creo que se necesita, ehh... más formación en lengua directamente. Hay mucha en Traducción e Interpretación pero yo creo que el formante en la propia lengua en si no estaría mal.

I: ¿Cómo práctica oral?

P: Sí, práctica oral y, bueno, que estar en contacto con la lengua a través de práctica oral, también haciendo texto, ehh... producción escrita también

I: ¿Has viajado?

P: Pues, por Francia y Reino Unido.

I: ¿Qué le recomiendas a alguien que visita Granada?

P: Hombre, depende de... por cuánto tiempo venga, pero bueno, en general, yo le llevaría, siempre que viene un amigo de fue... de fuera lo llevo por la zona de la catedral, también vamos a la Alhambra evidentemente, lo llevo de tapas

por el Centro, y si tenemos más tiempo, pues, nos vamos a la Sierra Nevada, la Alpujarra que es muy bonita, sobretodo.

I: ¿Qué es la Alpujarra?

P: La Alpujarra es la comarca que hay, la cara sur, la vertiente sur de Sierra Nevada, o sea, Sierra es dónde está la estación de esquí, es la parte que pega a la ciudad y luego la cara que está más cerca de la costa es la Alpujarra. Es una comarca que está llena de pueblecitos muy pequeños, las casas, pues, son típicas, no ha llegado mucha, bueno tal vez, civilización si hay, pero no es lo mismo que vivir en una gran ciudad, muy rural todo, es una manera de vivir muy tranquila y muy, muy bonita.

I: ¿A qué le atribuyes la importancia de la Alhambra?

P: Hombre, la Alhambra es el símbolo de, de la ciudad por excelencia. Granada estuvo ocho siglos más que el resto del país tal y como es hoy en mano de los musulmanes, de los árabes, entonces la Alhambra es el estandarte de esa, de esa reminiscencia cultural que hay en Granada, que no la hay en otra ciu... ninguna otra ciudad de España, Córdoba pero no fue tan reciente como en Granada, la esencia de lo que fue.

I: Bien.

Interview with Participant 16

I = Interviewer, P = Participant

I: ¿Qué estudias?

P: Traducción e interpretación.

I: Eres de Granada.

P: Sí.

I: ¿Cuántos años has vivido en Granada?

P: Ehh, pues, desde que tenía siete pero nací aquí. Vaya que me... me he criado aquí pero antes vivía en Sevilla. Desde que tenía un año viví en Sevilla y luego aquí en Granada.

I: ¿Qué le recomiendas a un turista de Granada?

P: ¿Qué vaya a visitar o... que vaya a ver?

I: Un turista que viene aquí. ¿Tú cómo le dices, oye ven a Granada que es lo mejor?

P: Porque es lo mejor (giggles).

I: ¿Por qué?

P: Porque... no sé, una gran ciudad que tiene mucho encanto, muy bonita. Eh, tiene la Alhambra que no , no puede encontrar nada igual en otro sitio. Y no sé, que es una ciudad que es pequeñita, que se puede callejear mucho, las calles son muy... no sé. El Albaicín que es así, como un barrio muy...muy antiguo.

I: ¿Qué es el Albaicín?

P: ¿Qué es el Albaicín?

I: Sí.

P: Pues, es el barrio... creo que musulmán pero no estoy muy segura, de Granada antiguamente, o sea, donde vivían allí los musulmanes, y tiene unas callecillas muy pequeñas, tiene muchas cuestas, el suelo empedrado, las calle... las casitas blancas, lo típico así, un poco andaluz.

I: ¿La gente joven como tú cómo se divierte en Granada?

P: Aquí en Granada, bueno la gente sale mucho de fiesta y la gente se viene aquí a estudiar porque dicen que hay mucha fiesta y que es muy barato, sobre todo para comer, por ejemplo, pues están las tapas, que tu vas, te pides un refresco una cerveza y por ese precio nada más te ponen una tapa y con eso prácticamente con dos o tres has cenado. Y luego, hay mucho sitio pa' salir de fiesta. También está 'el botellódromo' que hicieron pa' pa' que la gente pueda hacer botellón...

I: ¿Qué es?

P: Es un s... es como un recinto al aire libre porque como está prohibido beber en la calle aquí en Granada, pues, para que se reúna la gente y pueda beber, allí es legal beber, en la calle.

I: Ese es el botellódromo. ¿Algo más?

P: No, se van de fiesta y ya está.

I: Perfecto.

Interview with Participant 17

I = Interviewer, P = Participant

I: ¿Cuántos años tienes?

P: Diecinueve.

I: ¿Qué estudias?

P: Estoy en tercero de Traducción e interpretación.

I: ¿Y qué te parece el programa?

P: Pues, creo que algunas asignaturas, o sea, veo que algunas asignaturas tengo más interés en ellas y otras como un poco menos pero en realidad todo ayuda.

I: ¿En qué semestre estás?

P: En el primero.

I: ¿Qué le recomiendas a un turista que viene a Granada?

P: Está claro que la Alhambra (giggles) porque es patrimonio y la verdad que es bastante bonito.

I: ¿Qué es la Alhambra?

P: Pues es un monumento que lo hicieron los musulmanes y no sé es bastante grande, era como una fortificación y... y también yo creo que le aconsejaría la catedral que también es bastante importante en el mundo del arte.

I: ¿Por qué es importante?

P: Porque lo vi, porque lo vi el año pasado, o sea, no hace dos años, en historia del arte y tiene hace una arquitectónica que es, que es bastante interesante, o

sea, con los arcos y demás. Y yo creo que en casi todas las ciudades, lo que más llama la atención, a lo mejor, es la catedral, por ejemplo, en Sevilla, Málaga, también las catedrales son, son importantes.

I: ¿La gente joven como tú donde se divierte en Sevilla?

P: En Sevilla o en Granada?

I: En Granada, perdón.

P: Pues en Granada, hombre, yo creo que lo típico, primero a lo mejor, se va a cena, de, luego, casi siempre suele ir al bote, al botellódromo.

I: ¿Qué es el botellódromo?

P: Pues es una zona, como en Granada está prohibido beber, pues hay como una zona para jóvenes que, y allí es donde beben y están allí. También hay mucha vigilancia, suele pasar la policía, o sea, es una zona como para que no estén los jóvenes bebiendo por las calles, como una zona de concentración, y luego pues se suele ir a discotecas.

I: Dijiste 'las tapas'. ¿Qué son las tapas?

P: Pues 'las tapas' es comi.., o sea, pues te ponen un plato de cualquier cosa que tú pidas o te ponen y que va acompañado con la bebida y no te cuesta nada.

I: ¿Y cuál es tu sitio favorito para las tapas?

P: Pues donde está Ciencias hay una calle que se llama Gonzalo Gallas que allá hay un montón de bares y está muy bien.

I: Okay, muy bien.

Interview with Participant 18

I = Interviewer, P = Participant

I: ¿Qué estudias?

P: Traducción e interpretación.

I: ¿En qué semestre estás?

P: Ehh... primero

I: ¿Qué te parece el programa?

P: Ehh... bien, me gusta (giggles).

I: ¿Por qué?

P: Creo que las asignaturas son interesantes y además estoy aprendiendo un montón porque, claro, del Instituto de toda la vida, te están dando Lengua, tal, no sé qué. Ahora en español es lingüística, pues aprendo otras cosas distintas

I: ¿Qué quieres hacer cuando termines esta Carrera?

P: Pues, quiero hacer un master's (giggles) y ya cuando acabe pues me gustaría trabajar en la Unión Europea pero bueno, está difícil.

I: Muy bien ¿Tú que le recomiendas o qué le dices a un turista que apenas llega a Granada?

P: Que vaya de tapas (giggles).

I: ¿Qué es eso?

- P: Eh... ir a los bares y pedir un refresco, una cerveza, normalmente una cerveza y te ponen comida. Pero no te ponen lo típico... pipas o las patatillas. Te ponen patatas fritas y bocadillos y todo eso y te lo ponen súper bien.
- I: ¿Y tienes algún sitio especial, favorito para estas tapas?
- P: Yo iría al Amador, que está en Pedro Antonio.
- I: ¿Por qué? ¿Por qué te gustan las tapas de allá?
- P: Pues no sé. Hmm, siempre te ponen pizza o perritos calientes, tal y, y te ponen la jarra de cerveza y te sale súper económico en realidad
- I: Bueno, ya que hablamos de sitios. ¿La gente joven como tú qué le gusta hacer en Granada y qué sitios frecuenta?
- P: Pues, lo que más frecuenta es el botellón (giggles)
- I: ¿Qué es el botellón?
- P: Eh, es un una planada que está un poco a las afueras y la gente va allí a beber porque está prohibido beber en las calles. Entonces eso es un sitio que está como habilitado pa' que la gente beba.
- I: ¿Y además del botellón?
- P: Van de discotecas, tal, no sé qué, y también, bueno, van de tapas sobre todo, es que es lo que más hacemos.
- I: Perfecto.

Interview with Participant 19

I = Interviewer, P = Participant

I: ¿Cuántos años tienes?

P: Diecinueve.

I: ¿Qué estudias?

P: Traducción.

I: ¿Por qué escogiste Traducción?

P: Porque... no sé. Me gustan los idiomas y creo que, que va a hacer muy útil en el futuro.

I: ¿Y en qué semestre estás?

P: Ennn, estoy en el segundo año.

I: ¿Y qué te ha parecido el programa?

P: Pues, bien en si, por ahora bien, pero todavía no he tenido ninguna asignatura de traducción, traducción.

I: ¿Y qué te ha gustado hasta ahora en estos dos semestres?

P: Pues, lo que más me ha gustado ha sido las asignaturas, las asignaturas de español. Me gustan más.

I: ¿Y por qué te gustan más?

P: No sé, porque las veo más interesantes.

I: ¿Si viene un turista a Granada, tú que le recomiendas?

P: Hombre, pues, evidentemente que visite la Alhambra

I: ¿Por qué?

P: Porque...

I: ¿Qué es la Alhambra?

P: ¿La Alhambra?

I: Sí.

P: Pues, un monumento de Granada, el más famoso, y no sé, a mí me gusta mucho porque es como muy árabe, muy musulmán.

I: ¿Por qué es famoso?

P: ¿Por qué es famoso? Porque... lo construyeron los árabes y todavía sigue intacto. Está muy bien conservado.

I: ¿Y además de la Alhambra, que otros lugares?

P: Pues, en Granada hay mucha iglesia, muy bonita, y yo también le recomendaría que visitaran el Albaicín.

I: ¿Qué es el Albaicín?

P: Un barrio de Granada que...

I: ¿Por qué es especial?

P: Porque, ehh, pues, es muy típico de Granada por las calles, los edificios y eso.

I: ¿Los jóvenes como tú como se divierten, que sitios frecuentan?

P: Pues, hmm, antes íbamos al cine y eso, pero ya pues, con la crisis nosotras normalmente vamos a cafeterías o nos tomamos algo, o a los bares de tapas por la noche, o también, a lo mejor vamos a casa de algún amigo y jugamos algún juego de mesa o algo así.

I: ¿Qué es eso de la crisis que hablaste?

P: Pues (giggles) que ahora no se puede gastar tanto dinero porque está la economía bastante mal.

I: ¿Y a qué se le atribuye?

P: A qué pues, a que antes de gastó más dinero del que se podía entonces se crearon mucha, no sé, muchos préstamos y muchas cosas así y ya. No se puede... entonces, pues, se ha generado una crisis económica y, pues, no se sabe cómo salir de ella ahora mismo.

I: ¿Y tú crees que algún día se saldrá de este crisis?

P: Espero pero no sé. Está muy difícil.

I: ¿Le hechas la culpa al gobierno?

P: No sé, no sé (giggles).

I: Muy bien.

Interview with Participant 20

I = Interviewer, P = Participant

I: ¿Cuántos años tienes?

P: Diecinueve.

I: ¿Eres de Granada?

P: Sí.

I: ¿Has vivido aquí toda tu vida?

P: Sí, desde que nací, vaya.

I: Perfecto. ¿Qué estudias?

P: Pues, Traducción e interpretación de francés y de inglés.

I: ¿Y en qué semestre estás?

P: Bueno, cuatrimestre, ¿no? En el tercero.

I: ¿Qué te ha parecido el programa?

P: ¿Qué programa?

I: Dijiste que interpretación, ¿cierto?

P: Ah.

I: ¿Por qué escogiste ese programa?

P: Pues, lo escogí porque en principio siempre me han gustado las lenguas y es lo que más me atraía y más que Filología aparte de conocer solo la lengua extranjera, Traducción te permite más conocer tu lengua propia y la lengua a la que vas a traducir.

I: ¿Y la lengua a las que vas a traducir es inglés o francés?

P: Francés es la primera, inglés es la segunda.

I: ¿Y qué te ha parecido el programa?

P: Pues, la verdad es que me ha gustado mucho. No sabía lo que me iba a encontrar pero las asignaturas me han gustado bastante, y bueno por ahora muy bien.

I: ¿Si un turista llega acá a visitar, tú qué le recomiendas?

P: Pues, lo primero que supongo que todo el mundo recomendaría sería la Alhambra

I: ¿Por qué? ¿Qué es la Alhambra?

P: La Alhambra es un monumento que hay en Granada, que es uno de los más importantes de España, que fue con... fue construido por los reyes musulmanes, creo que hubo aquí hace un tiempo, bastante tiempo y la verdad que es muy bonito porque al ser donde vivían los reyes... musulmanes, pues, era uno de los edificios más bonito que construyeron, y no sé está muy bien. Tiene unos jardines, que es el Generalife, el Patio de los Leones.

I: ¿Algo más?

P: Pues, luego aparte de la Alhambra, también en Granada una de las cosas más famosas son las tapas.

I: ¿Qué son las tapas?

- P: Pues, es como una porción de comida que te ponen por cada bebida que pides y entonces en Granada tienen la peculiaridad de que suelen ser gratis, que la bebida te cuesta dos euros y luego, pues, las tapas te la dan gratis.
- I: ¿Y tú tienes una tapa especial que te guste?
- P: Pues.
- I: ¿Qué le recomendarías a un turista?
- P: Si, a mí me gusta la calle Gonzalo Gallas que está por Plaza Einstein en la zona Hipercor, porque allí, mmm, es una calle que básicamente es de bares de tapas.
- I: ¿Cómo se llama la calle?
- P: Gonzalo Gallas. Entonces, pues, esa calle me gusta.
- I: ¿Todas o algún sitio en especial?
- P: Si, 'El Peruano' me gusta mucho, las patatas fritas.
- I: ¿'El Peruano'? ¿Pero son solo papas?
- P: No, te ponen normalmente algo con patatas fritas. Pero las patatas de allí están más buenas porque son hechas caseras, y en el resto de los sitios, creo que son congeladas.
- I: ¿La gente joven como tú donde se divierte?
- P: Pues, depende, si es para cenar o algo de eso, pues, los sitios de tapas, ¿no? Y luego ya, pues, por la noche, la gente suele quedar por la zona Hipercor, para ir, por la calle Pedro Antonio que hay muchos bares y pubs para tomarse algo

y luego, pues, normalmente se van a alguna discoteca de las que hay por el centro, o sino en verano a la que hay en el Albaicín, que es el Camborio.

I: ¿Y esos son los sitios más frecuentados?

P: Si, esa es la zona por la que se ve todo el mundo.

I: ¿Cómo se conoce la zona?

P: El Pedro... la calle Pedro Antonio de Alarcón.

I: Muy bien.

Appendix E
Analysis of Variance (ANOVA)

Between-Subjects Factors

		N
Vowel	1.0	40
	2.0	40
	3.0	40
Dialect	1	60
	2	60

Tests of Between-Subjects Effects

Dependent Variable: Percent

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2240.942 ^a	5	448.188	1.367	.242
Intercept	181596.870	1	181596.870	553.698	.000
Vowel	1259.978	2	629.989	1.921	.151
Dialect	792.434	1	792.434	2.416	.123
Vowel * Dialect	188.530	2	94.265	.287	.751
Error	37388.693	114	327.971		
Total	221226.505	120			
Corrected Total	39629.635	119			

a. R Squared = .057 (Adjusted R Squared = .015)

Estimates

Dependent Variable: Percent

Vowel	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
[a]	35.250	2.863	29.578	40.922
[e]	38.329	2.863	32.656	44.001
[o]	43.125	2.863	37.453	48.797

Pairwise Comparisons

Dependent Variable: Percent

(I) Vowel	(J) Vowel	Mean Difference (I-J)	Std. Error	Sig. ^a	95% Confidence Interval for Difference ^a	
					Lower Bound	Upper Bound
[a]	[e]	-3.079	4.050	1.000	-12.918	6.761
	[o]	-7.875	4.050	.163	-17.715	1.965
[e]	[a]	3.079	4.050	1.000	-6.761	12.918
	[o]	-4.796	4.050	.716	-14.636	5.043
[o]	[a]	7.875	4.050	.163	-1.965	17.715
	[e]	4.796	4.050	.716	-5.043	14.636

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Univariate Tests

Dependent Variable: Percent

	Sum of Squares	df	Mean Square	F	Sig.
Contrast	1259.978	2	629.989	1.921	.151
Error	37388.693	114	327.971		

The F tests the effect of Vowel . This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

Vowel * Dialect

Dependent Variable: Percent

Vowel	Dialect	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
1.0	1	39.000	4.050	30.978	47.022
	2	31.500	4.050	23.478	39.522
2.0	1	39.163	4.050	31.141	47.185
	2	37.494	4.050	29.472	45.517
3.0	1	46.250	4.050	38.228	54.272
	2	40.000	4.050	31.978	48.022

Post Hoc Tests

Multiple Comparisons

Dependent Variable: Percent

Tukey HSD

(I) Vowel	(J) Vowel	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
[a]	[e]	-3.0788	4.04951	.728	-12.6952	6.5377
	[o]	-7.8750	4.04951	.131	-17.4914	1.7414
[e]	[a]	3.0788	4.04951	.728	-6.5377	12.6952
	[o]	-4.7962	4.04951	.465	-14.4127	4.8202
[o]	[a]	7.8750	4.04951	.131	-1.7414	17.4914
	[e]	4.7962	4.04951	.465	-4.8202	14.4127

Based on observed means.

The error term is Mean Square(Error) = 327.971.

Homogeneous Subsets

Percent

Tukey HSD^{a,b}

Vowel	N	Subset
		1
1.0	40	35.2500
2.0	40	38.3288
3.0	40	43.1250
Sig.		.131

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error)
= 327.971.

a. Uses Harmonic Mean Sample Size =
40.000.

b. Alpha = .05.

Appendix F

Correct Responses Rate for Control Items in Perception Test

Granada Dialect

In control items /s/ → [s]

Number of participant	Part I	Part II	Part III	Part IV	Total
1	100	100	100	100	100
2	100	100	100	100	100
3	100	100	100	100	100
4	100	100	100	100	100
5	100	100	100	100	100
6	100	100	100	100	100
7	100	100	100	100	100
8	100	100	100	100	100
9	100	100	100	100	100
10	100	100	100	100	100
11	100	100	100	100	100
12	100	100	100	100	100
13	100	100	100	100	100
14	100	100	100	100	100
15	100	100	100	100	100
16	100	100	100	100	100
17	100	100	100	100	100
18	100	100	100	100	100
19	100	100	100	100	100
20	100	100	100	100	100
Total	100	100	100	100	100

Correct Responses Rate for Control Items in Perception Test

Cartagena Dialect

In control items /s/ → [s]

Number of participant	Part I	Part II	Part III	Part IV	Total
21	100	100	100	100	100
22	83.33	100	100	100	95.83
23	100	100	100	100	100
24	100	100	100	100	100
25	83.33	100	100	100	95.83
26	83.33	100	100	100	95.83
27	100	100	100	100	100
28	100	100	100	100	100
29	100	100	100	100	100
30	100	100	100	100	100
31	100	100	100	100	100
32	100	100	100	100	100
33	100	100	100	100	100
34	100	100	100	100	100
35	100	100	100	100	100
36	100	100	100	100	100
37	100	100	100	100	100
38	100	100	100	100	100
39	100	100	100	100	100
40	100	100	100	100	100
Total	97.49	100	100	100	99.37

Appendix G

Questionnaire

Cuestionario para el participante

1. Información General

Edad: _____

Género: _____ Masculino _____ Femenino

País de origen: _____

Región: _____

Ciudad de origen: _____

Tiempo vivido en esta ciudad: _____ años

2. Nivel de educación

_____ Primer año de universidad

_____ Segundo año de universidad

_____ Tercer año de universidad

_____ Cuarto año de universidad

_____ Maestría

_____ Doctorado

_____ Otro (especifique) _____ -

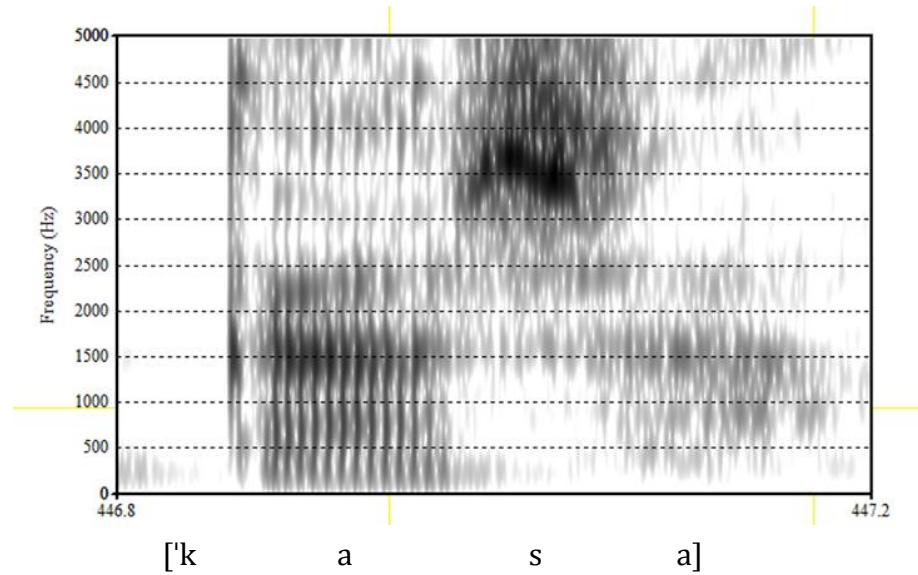
Appendix H

Spectrograms

The following spectrograms were taken from participant 11 (Granada male). Values for utterance-final /a/ in the word *casa* 'house.'

F1=689; F2= 1,526.

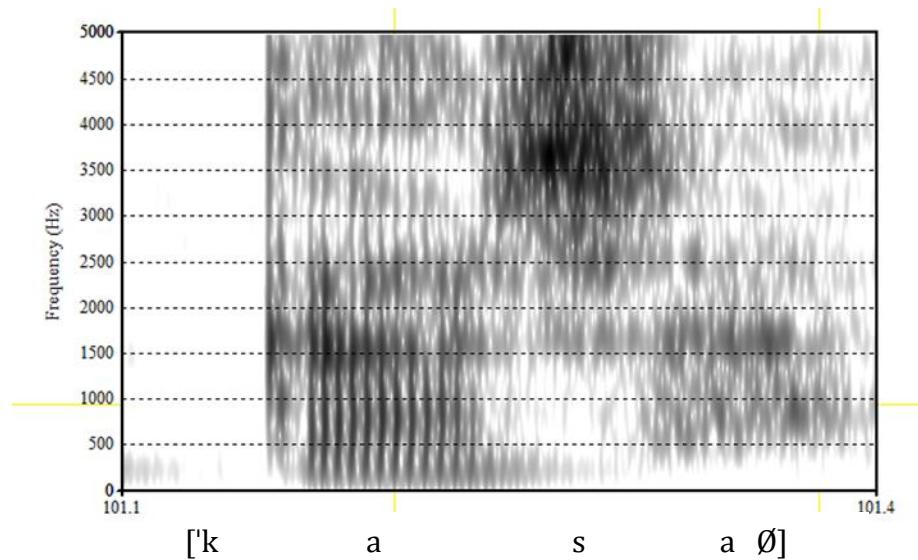
F1=611; F2=1,482 (values for tonic /a/).



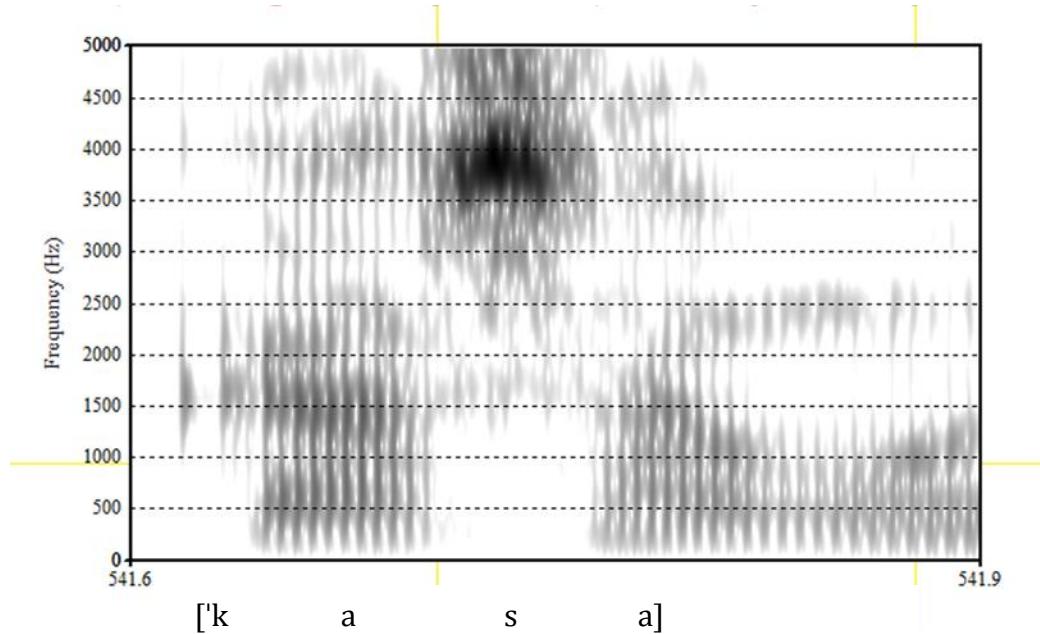
Values for utterance-final /a/ in the word *casas* 'houses.'

F1=779; F2=1,613.

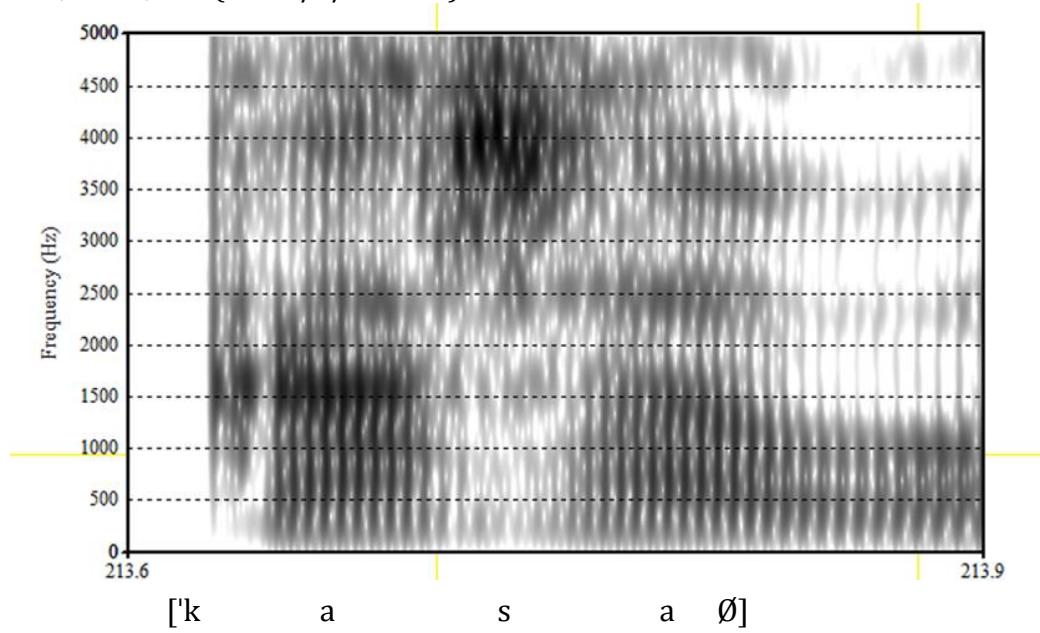
F1=594; F2=1,512 (tonic /a/).



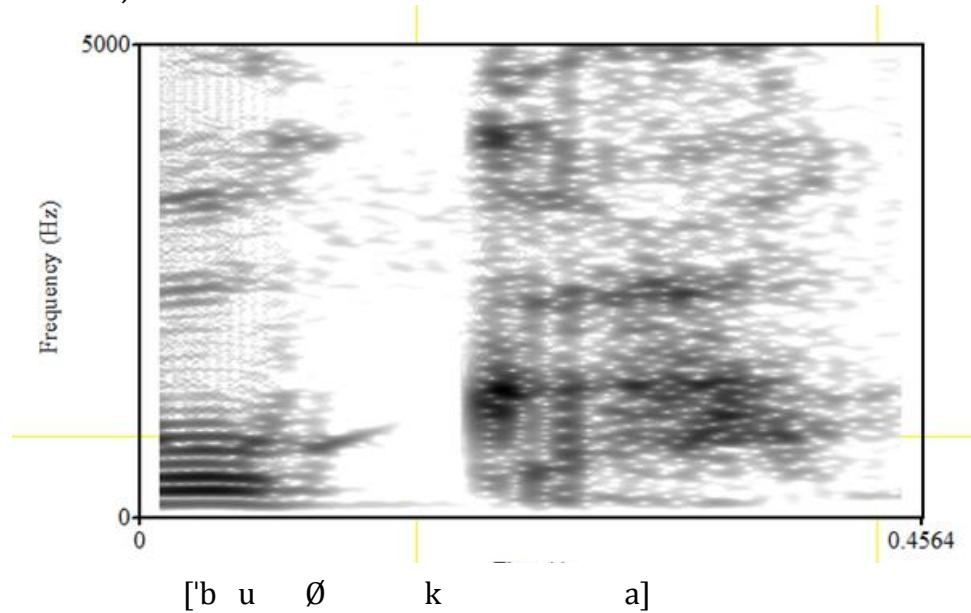
Values for word-final /a/ in the word *casa* in *casa bonita* 'beautiful house.'
 F1=536; F2=1,364 (word-final /a/).
 F1=589; F2=1,474 (tonic /a/ in *casa*).



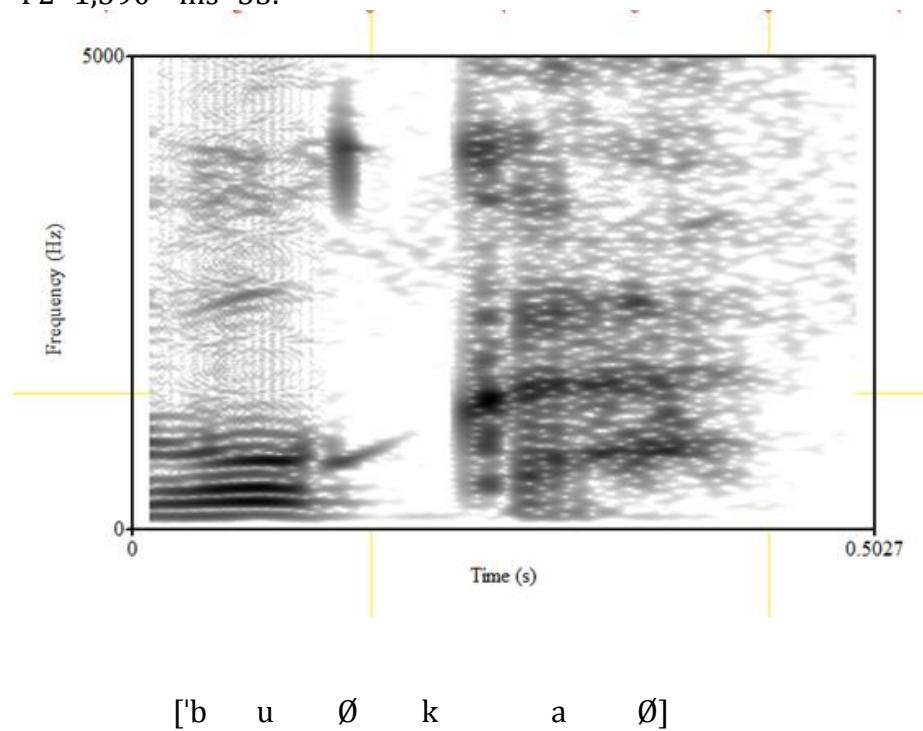
Values for word-final /a/ in the word *casa* in *casas bonitas* 'beautiful houses.'
 F1=579; F2=1,416.
 F1=649; F2=1,547 (tonic /a/ in *casa*).



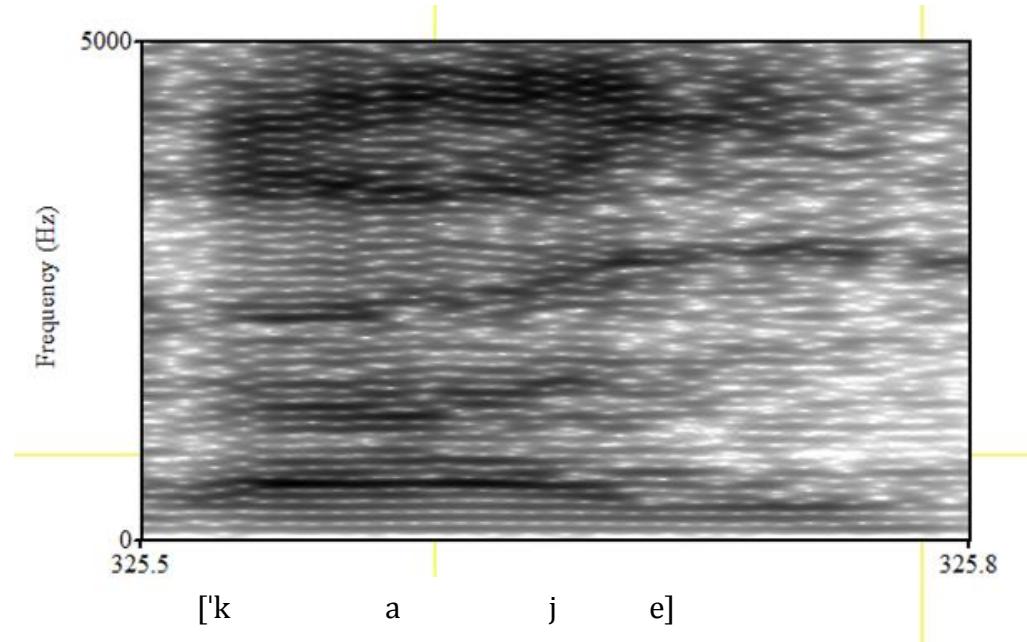
Values for utterance-final /a/ in the word *busca* 'she looks for.'
 F1=647 F2= 1,523 ms=59.



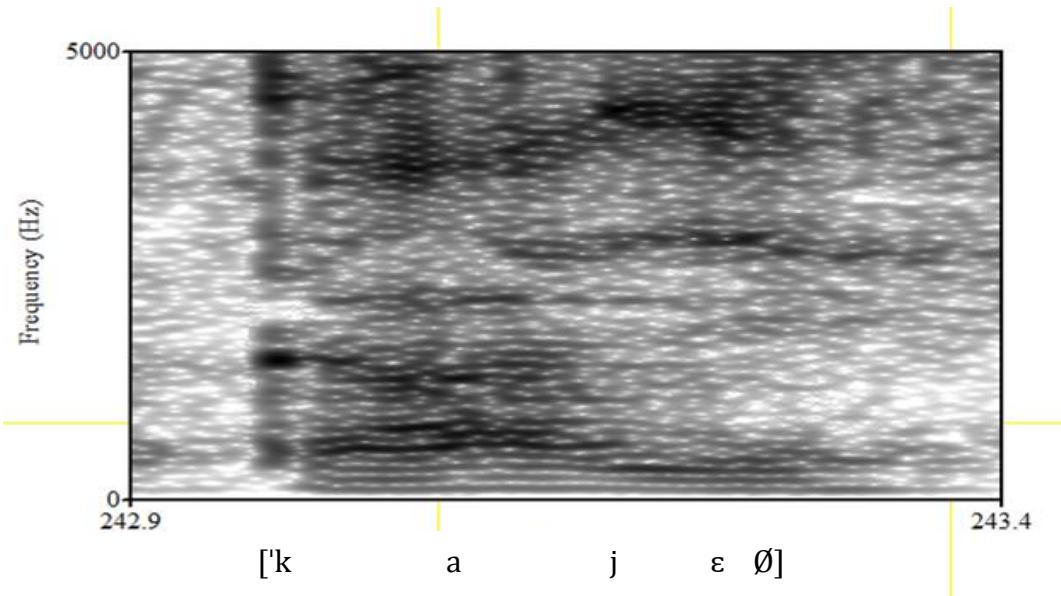
Values for utterance-final /a/ in the word *buscas* 'you look for.'
 F1=619 F2=1,590 ms=55.



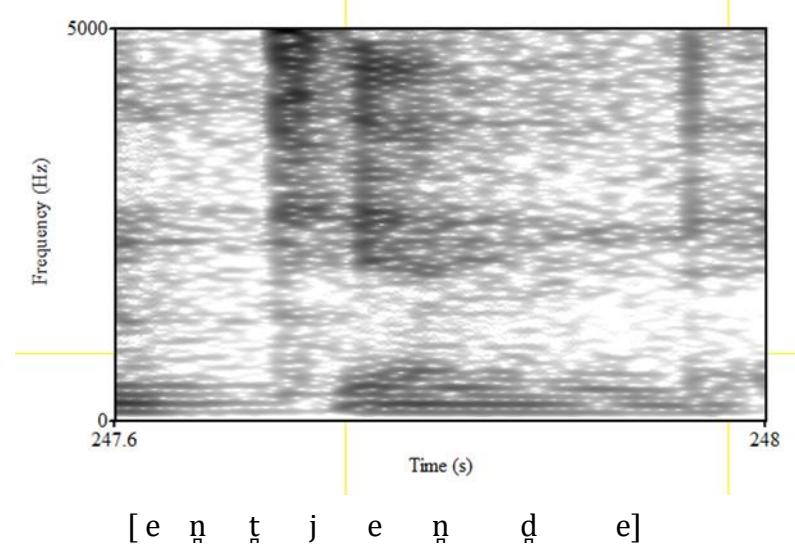
Values for utterance-final /e/ in the word *calle* 'street.'
 F1=508 F2=1,895 ms=49.



Values for utterance-final /e/ in the word *calles* 'streets.'
 F1= 541 F2= 1,784 ms=63.

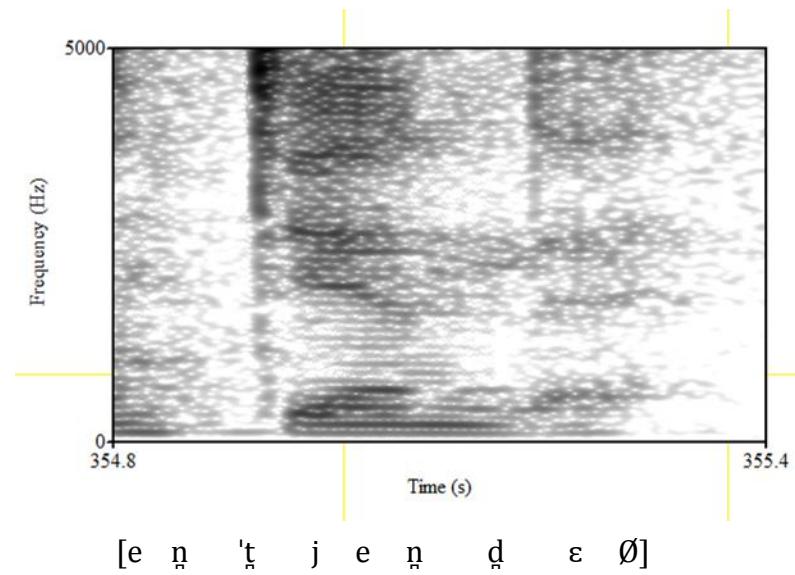


Values for utterance-final /e/ in the word *entiende* 'he/she understands.'
 F1=491 F2= 1,924 ms=37.

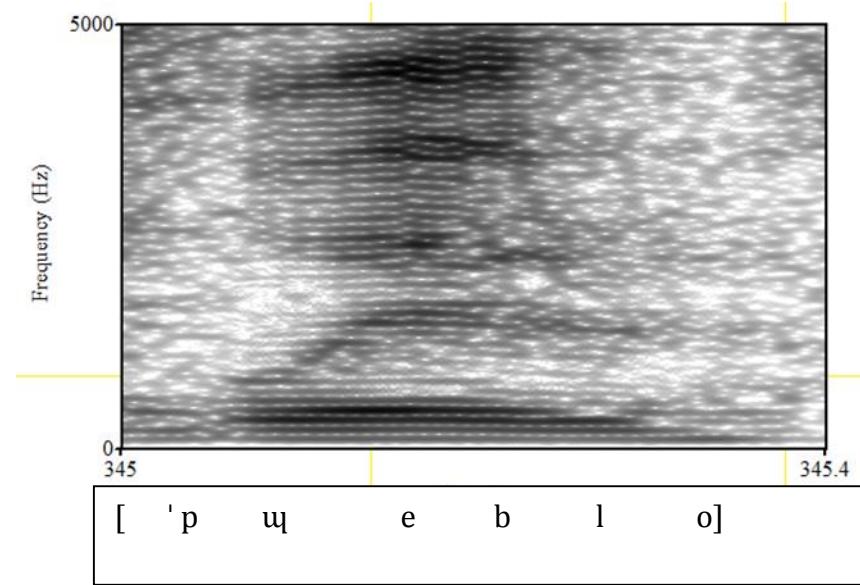


Values for utterance-final /e/ in the word *entiendes* 'you understand.'

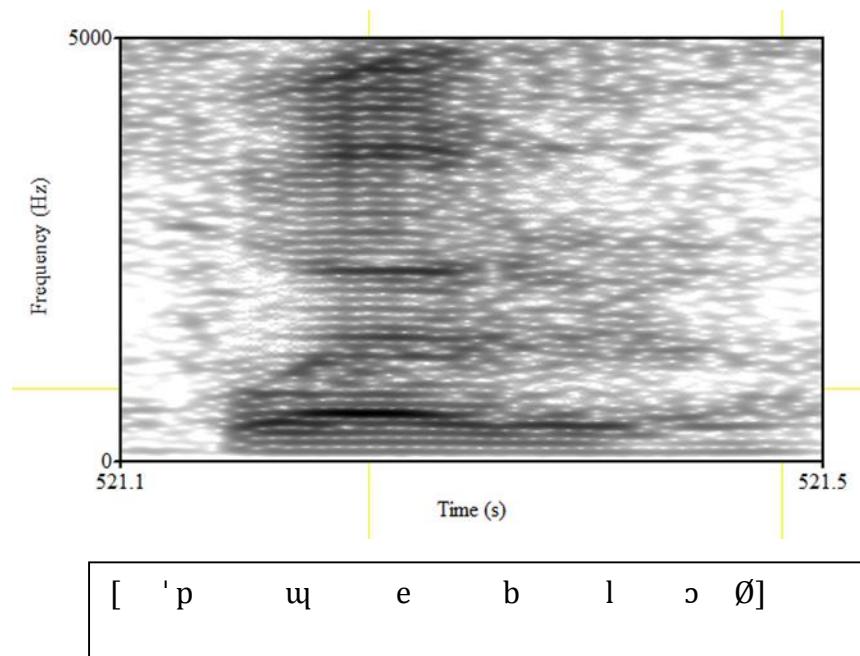
F1= 578 F2= 1,795 ms=53.



Values for utterance-final /o/ in the word *pueblo* 'town.'
 F1= 480 F2= 1,080 ms=51.



Values for utterance-final /o/ in the word *pueblos* 'towns.'
 F1= 594 F2= 1,175 ms=63.



VITA

VITA

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EDUCATION

Doctor of Philosophy
Hispanic Linguistics
Purdue University, May 2015

Master of Arts
Foreign Languages and Literatures
Washington State University, May 2007

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Major: Modern Languages
University of Valle, Colombia, August 2003

RESEARCH INTERESTS

Phonetics and Phonology
Sociolinguistics
Language Change
Dialectology

TEACHING EXPERIENCE

Teaching Assistant
School of Languages and Cultures
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English Instructor

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Spokane Falls Community College
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COURSES TAUGHT

Purdue University

SPAN 361 The Structure of Spanish I: Phonetics, Phonology, and Dialectology
SPAN 305 Advanced Spanish for Heritage Speakers
FLL 261 Introduction to Linguistics
SPAN 402 Spanish Level VIII
SPAN 401 Spanish Level VII
SPAN 302 Spanish Level VI
SPAN 301 Spanish Level V
SPAN 202 Intensive Summer Course
SPAN 202 Spanish Level IV
SPAN 201 Intensive Summer Course
SPAN 201 Spanish Level III
SPAN 102 Spanish Level II

Washington State University

SPAN 306 Spanish Translation and Reading
SPAN 102 Intensive Summer Course
SPAN 101 Intensive Summer Course
SPAN 201 Intermediate Spanish I
SPAN 102 Basic Spanish II

Universidad del Valle

English for Specific Purposes: Accounting
English for Specific Purposes: Health Professions

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SPAN 201 Intermediate Spanish I
SPAN 102 Elementary Spanish II
SPAN 101 Elementary Spanish I

OTHER ACADEMIC RELATED EXPERIENCE

Linguistics Consultant at Mango Languages, 2013-2014. Developed materials for language courses based on feature length film dialogs for the instruction of Spanish and English as a Second Language.

AWARDS

Department Travel Grant, 2015. School of Languages and Cultures. Purdue University Amount \$ 500.

Department Travel Grant, 2015. School of Languages and Cultures. Purdue University Amount \$ 300.

PRF Summer Research Grant, 2011. Purdue University. Amount: \$2,300.

CONFERENCE PRESENTATIONS

Alternancia vocálica producida por la elisión de /s/ final en español: Un estudio perceptual. 2015 KFLC: The Languages, Literatures, and Cultures Conference. April, 2015. University of Kentucky, Lexington, KY.

Language attitudes toward final /-s/ weakening among young adults in the speech of Cartagena and Granada. 3rd Symposium on Luso-Hispanic Linguistics. November, 2014. University of Wisconsin, Madison, WI.

Syllable- and word-final /-s/ reduction in two Spanish dialects: What has changed? Modern Language Conference. January, 2014. Chicago, IL.

A quantitative and qualitative analysis on final /-s/ reduction in Cartagena Spanish. Kentucky Foreign Language Conference. April, 2013. University of Kentucky. Lexington, KY.

An updated account of final /-s/ realizations in Cartagena Spanish. American Association for Applied Linguistics. March, 2013. Dallas, TX (Poster).

Using songs and games in the foreign language classroom. Washington Association for Language Teaching Conference (Workshop). March, 2007. Washington State University, Pullman, WA.

SERVICE

Hispanic Linguistic Symposium Volunteer. School of Languages and Cultures. November, 2014. Purdue University. West Lafayette, IN.

SLC Graduate Symposium Committee, 2011-2012. School of Languages and Cultures. Purdue University. West Lafayette, IN.

Graduate Student Newsletter Committee, 2010-2013. School of Languages and Cultures. Purdue University.

Guest Speaker for Center for Instructional Excellence Seminar. Teaching in the American classroom. August, 2013. Purdue University

Guest Speaker in Panel Lunch and Learn Diversity Series. Hispanic, Latino, or Other: A question of identity and politics. Division of Housing and Food Services. May, 2013. Purdue University.

Guest Speaker for Workshop: Pursuing Postgraduate Studies in the US. May, 2012. University of Cartagena. Cartagena, Colombia.

Co-organizer *FLLinguistics* Posters Display (Workshop). School of Languages and Cultures. April, 2010. Purdue University.

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