A SOCIOLINGUISTIC STUDY OF POSTVOCALIC /S/ VARIATION IN A RIO DE JANEIRO FAVELA: RACE/COLOR, PLACE AND STANCE

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By

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ABSTRACT

This dissertation research investigates the relationship between language and identity in the neighborhood of City of God (Cidade de Deus) in Rio de Janeiro, Brazil. More specifically, it employs a mixed-methods approach to analyze the interrelationship between sociolinguistic variation in postvocalic /s/, a phonological variable, and identity construction across groups of speakers and within the speech of individual speakers. Thus, this research analyzes quantitatively the relationship among the four variants of the dependent variable (palatal, alveolar, glottal, and /s/ deletion) and twelve independent variables or predictors, of which six are linguistic (preceding vowel, following sound, stress, syllabic structure, grammatical category, and word) and six are social (age, gender, race/color, regional origin, education, speaker), in a data set composed of seventeen sociolinguistic interviews with twenty-two residents of City of God. Additionally, it examines qualitatively how the social meanings indexed by the use of this variable relate to the stances taken by individual speakers in conversation about the status of their community within the residential organization of Rio de Janeiro, focusing on different conceptions of the words *comunidade* ‘community’ and *favela* (roughly, slum or shantytown).

The quantitative results showed that the palatal variant is significantly affected by speakers’ regional origin, age, and education. The alveolar is significantly affected by the origin and age of the speaker. The glottal is significantly affected by both age and race/color. Finally,
all social variables, except race/color, significantly affect /s/ deletion. The qualitative analysis revealed that the meanings of the variants of postvocalic /s/ varied based on speakers’ orientations toward the neighborhood and the stances they took in relation to different perceptions regarding the words comunidade ‘community’ and favela.

This study contributes to the field of sociolinguistics by using a mixed-methods approach to provide the first study to date that examines how postvocalic /s/ is used by residents of a community that is defined as a favela in Rio de Janeiro, and by including socio-cultural aspects such as race/color and regional origin which have not yet been addressed in studies of this feature in Brazilian Portuguese.
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Chapter 1. Introduction and background

This dissertation research investigates the relation between language and identity in the neighborhood of City of God (Cidade de Deus) in Rio de Janeiro, Brazil. More specifically, it employs a mixed methods approach to analyze the interrelationship between sociolinguistic variation in postvocalic /s/, a phonological variable, and identity construction across groups of speakers and within the speech of individual speakers. Additionally, it examines qualitatively how the social meanings indexed by the use of this variable relate to the stances taken by individual speakers in conversation regarding how their community fits within the residential organization of Rio de Janeiro and within the discourse that categorizes City of God as a favela (roughly, slum or shantytown). Thus, this study looks at how language variation shapes and is shaped by group affiliations and the individual identities speakers construct and/or negotiate moment by moment in interaction. With these goals in mind, it examines the relationship among the dependent variable (postvocalic /s/) and twelve independent variables or predictors, of which six are linguistic (preceding vowel, following sound, stress, syllabic structure, grammatical category, and word) and six are social (age, gender, race/color, origin, education, speaker), in a data set composed of seventeen interviews with twenty-two residents of City of God.

The Portuguese dialect of Rio de Janeiro and its favelas represent two major aspects of the city’s culture and they have been the topic of numerous studies. However, the intersections between these two areas remain understudied by the academic community. In addition, due to the ways in which the Brazilian society is socially and racially stratified, when one focuses on the nonstandard dialects of Brazilian Portuguese, one is usually dealing with the speech of people of color, who often reside in the less developed regions of urban areas or in rural ones. The notion of standard here refers to a linguistic variety, be it a dialect, register, or phonological variant,
which is accepted and prescribed by the education system and the mainstream media as “correct” or “normal.” Despite the fact that a considerable number of sociolinguistic studies have focused on nonstandard dialects of Brazilian Portuguese (Guy and Zilles 2008), most of them have overlooked the influence that racial identification may have on variable phenomena in these language varieties. In addition, most studies of postvocalic /s/ in Rio de Janeiro have focused on the speech of college-educated speakers and, consequently, /s/ palatalization. The present study is an attempt to help fill the gaps in the literature, providing an updated analysis of four variants of postvocalic /s/, not just the widespread palatalized Rio variant, and incorporating the important element of race/color into the investigation. In addition, the study includes a qualitative investigation of variation and speaker stance, to augment our understandings of the possible social meanings of the variants of postvocalic /s/, including meanings pertaining to individual and group identity, as well as conceptions of social organizations such as favelas.

Prior to outlining the present study, I begin by providing key background information. I first give an overview of the Portuguese language and Brazilian Portuguese, and the Brazilian Portuguese dialect of Rio de Janeiro. This introduction will then lead into discussion of some of the characteristics of and previous studies on postvocalic /s/, the phonological variable analyzed in this dissertation research. This is followed by a discussion of specific aspects of Rio de Janeiro favelas with emphasis to City of God, the community on which this study is based. Towards the end of this chapter, I present the motivations and research questions for the present study. In the second chapter of the dissertation, I focus on theoretical frameworks that inform this research. The third chapter is dedicated to the discussion of the data and methodology. In this part of the text, I emphasize the issues related to data collection, selection of speakers, and procedures for coding and analysis of the data. In the fourth and fifth chapters, I present the quantitative results
and the qualitative analysis of selected segments, respectively. In the sixth and last chapter of the dissertation, I provide the conclusions of the study along with some of the limitations and suggestions for future research.

1.1 Portuguese language

The objective of this section is to situate Rio de Janeiro Portuguese within the various dialects of Portuguese. With this in mind, I start by giving a brief overview of the existing Portuguese language varieties in the world and their main phonological differences. After that, I discuss Brazilian Portuguese and some the distinctive phonological features of its dialects. Then, I focus on the Portuguese dialect of Rio de Janeiro in the end of this section.

Portuguese is among the world’s most spoken languages, with over 250 million speakers worldwide. It is an official language in nine countries, namely Angola, Brazil, Cape Verde, East Timor, Equatorial Guinea, Guinea-Bissau, Mozambique, Portugal, and São Tomé and Príncipe.1 This language is also spoken in the state of Goa in India and in the region of Macau in the People’s Republic of China. Due to their shared characteristics, the Portuguese dialects spoken across the world are often grouped in two broad categories: European or Continental Portuguese and Brazilian Portuguese. It is important to note that this categorization should be seen as an oversimplification, since there is a good bit of variation not only across these varieties but also within each of them. European or Continental Portuguese – EP includes all the dialects spoken in Africa, Asia, Europe, and Oceania. The reason for labeling the Portuguese varieties spoken in

---

1In Guiné-Bissau and São Tomé and Príncipe there are also creoles that resulted from centuries of linguistic contact between Portuguese and the local languages of these countries. In the case of Cape Verde, the creole emerged from the contact between Portuguese and the native languages of enslaved people brought there from Africa.
these continents as EP is the fact that they share common origins in EP and share many linguistic features with those spoken in Portugal.\(^2\) The other broad category is Brazilian Portuguese – BP, which is spoken by the vast majority of native speakers of Portuguese and also encompasses a great deal of variation, aspects of which will be treated in detail in this dissertation.

For the most part, the dialects of Portuguese are mutually intelligible, despite their structural differences. As far as the phonological system is concerned, Mateus et al. (1983) and Mateus and d’Andrade (2000) offer some examples that can give an idea of the nature of these differences. Focusing primarily on the standard Portuguese dialects spoken in Brazil and Portugal, one of the examples these authors give is the pronunciation of pre-stress vowels. These vowels are usually reduced in EP but not in BP. Thus, the word _pegar_ ‘to catch’ is usually pronounced as [pɔˈgar] and [peˈgar], respectively. Another feature that distinguishes EP and BP is the realization of the consonants _/t_ and _/d_ when followed by stressed and unstressed [i]. In this position, these consonants are often realized as affricates [tʃ] and [dʒ] in many BP dialects, especially in the southern regions, while it is not so in the dialects of EP. In this case, the words _tia_ ‘aunt’ and _dia_ ‘day’ would be pronounced in some BP dialects as [tʃiɐ] and [dʒiɐ] and as [tiɐ] and [diɐ] in EP dialects. Moreover, syllable coda _/l_ is usually velarized in EP but is realized as the semivowel [w] in BP. This is the case of the word _papel_ ‘paper,’ which is pronounced as [paˈpel] in EP but [paˈpew] in BP.\(^3\) The final example is syllable coda _/s_. This phoneme is usually palatalized in EP. In some dialects of Portugal it is also palatalized in word-initial position such as in the word _sete_ ‘seven’ [ˈʃeti]. In BP, on the other hand, this linguistic

\(^2\) One of the reasons for the greater amount of linguistic similarities among the European Portuguese varieties is the fact that Portuguese colonization in these places lasted longer. While Brazil became an independent country in 1822, most of the other Portuguese colonies did not become independent until the 1970s.

\(^3\) Syllable coda _/l_ is often velarized in the speech of older members of some communities located in the Southern region of Brazil.
phenomenon is not as widespread as in EP. However, it is definitely a characteristic feature of some coastal cities like Rio de Janeiro, Florianópolis, and Recife. I will come back to this point later as I explore sociolinguistic variation in postvocalic /s/ throughout the dissertation. As we will see in the next section, some of the features that distinguish BP and EP actually mark dialectal differences in the Portuguese dialects of Brazil.

### 1.2 Brazilian Portuguese

Brazilian Portuguese began developing after the sixteenth century with the arrival of Portuguese navigators in the New World. It incorporated several features from the languages spoken by the indigenous peoples as well as those spoken by the enslaved West Africans who were taken to Brazil during the Slave Trade period. A member of the Tupi Guarani language family, Ancient Tupi was the most important and influencing of the indigenous languages spoken along the Brazilian coast. One of the reasons for that was the fact that by the second half of the seventeenth century an evolved version of Ancient Tupi became the língua geral (lingua franca), which was widely used by different groups in Brazil – indigenous peoples, Africans, Portuguese, and their multiracial descendants (Navarro 2012). Currently, the influence of Ancient Tupi on Brazilian Portuguese is mostly seen in the lexicon, including names of places and high-frequency words such as pipoca ‘popcorn,’ abacaxi ‘pineapple,’ capim ‘grass,’ among many others.

Despite the importance of Ancient Tupi and other indigenous languages for the characterization of Brazilian Portuguese, the West African languages, especially Yoruba, are believed to have a greater influence on this language variety (Castro 2015). It is estimated that
Brazil received nearly six million Africans during the Slave Trade period, from 1501 to 1875 (Voyages: The Trans-Atlantic Slave Trade Database). As enslaved Africans and their descendants progressively replaced indigenous peoples in plantations and mining developments, they became the largest group in the country, accounting for 65% of the Brazilian population by the middle of the nineteenth century (Chiavenato, 1980, 237, cited in Lucchesi 2001, 104-5). Sociolinguists Dante Lucchesi (2001) and Gregory R. Guy (1981) are among the scholars who have suggested that the dynamics of slavery in Brazil contributed to the development of two versions of Brazilian Portuguese, namely the standard and the popular or vernacular. Within this framework, the standard variety represents an evolution of Classic Portuguese, which was maintained by the masters and their families and spoken mostly in the emerging villages and towns. The popular or vernacular variety, on the other hand, is often held to be the result of a creolization process between Portuguese and the West African languages, intensified by the imperfect learning of Portuguese by the enslaved Africans and their descendants. Comparing the Brazilian Portuguese popular or vernacular varieties to existing Portuguese creoles, scholars who support this view usually mention the simplification of the rules for number agreement and verb conjugation as evidence of the influence of creolization on Brazilian Portuguese, among other examples. In the case of number agreement, noun phrases like os meninos ‘the boys’ and as casas ‘the houses’ are usually realized as os menino and as casa in popular Brazilian Portuguese dialects. Thus, the plural marking is only kept in the article (or other determiner) and not in the noun. The simplification of the verb conjugation system in Brazilian Portuguese is presented in table 1 below.
Table 1. Conjugation pattern of verb *estudar* ‘to study’ in the present tense

<table>
<thead>
<tr>
<th>Standard Brazilian Portuguese</th>
<th>Popular Brazilian Portuguese</th>
<th>English translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>eu estudo</td>
<td>eu estudo</td>
<td>I study</td>
</tr>
<tr>
<td>tu estudas</td>
<td>tu estudá</td>
<td>you study</td>
</tr>
<tr>
<td>você estudá</td>
<td>você estudá</td>
<td>you study</td>
</tr>
<tr>
<td>ele/ela estudá</td>
<td>ele/ela estudá</td>
<td>he/she studies</td>
</tr>
<tr>
<td>nós estudamos/a gente estudá</td>
<td>nós estudá/a gente estudá</td>
<td>we study</td>
</tr>
<tr>
<td>vocês estudam</td>
<td>vocês estudá</td>
<td>you study</td>
</tr>
<tr>
<td>eles/elas estudam</td>
<td>eles/elas estudá</td>
<td>they study</td>
</tr>
</tbody>
</table>

The verb conjugation pattern of standard Brazilian Portuguese, seen in table 1, is very similar to that of the standard dialects of European Portuguese. The six-ending conjugation pattern is reduced to only two-endings (*estudo* and *estudá*) in the popular or vernacular Brazilian Portuguese.

Despite the differences between standard and popular Brazilian Portuguese, sociolinguistics have been showing that standard dialect speakers have been adopting more and more nonstandard features in their speech (Lucchesi 2001). In other words, some features of standard Brazilian Portuguese have been affected by a bottom-up type of language change, which, as a result, is also increasing the gap between the standard variety of Brazil and that of Portugal. Popular Brazilian Portuguese, on the other hand, has been affected by a top-down type of language change. Also referred to as decreolization or standardization, these changes have to do with the fact that nonstandard features are disappearing from the speech of Popular Brazilian Portuguese speakers, especially the younger generations. According to Lucchesi, this decreolization or standardization process is a result of urbanization in Brazil, which has progressively been intensified during the twentieth and early twenty-first centuries. In addition, as more and more people move from rural areas to urban ones, they have more opportunities to interact with standard forms that were previously only available to them through the media. Also, they are more likely to start or continue their education as they begin to compete for jobs in the
city. The combined result of the bottom-up and top-down changes is the gradual leveling of differences between standard and popular varieties of Brazilian Portuguese.

Another factor contributing to sociolinguistic variation in Brazilian Portuguese is the size of the country’s population and its territory. In 2010, the Brazilian Institute of Geography and Statistics (2011a) found that Brazil had a population of 191 million people, but its estimate for the year 2014 is 202.7 million people. The country’s territory, the world’s fifth largest, is divided into five regions, namely North, Northeast, Central-West, Southeast, and South. In these five regions, there are twenty-five states and one federal district, where the capital Brasilia is located. The distribution of Brazilian regions and states appears in figure 1 below.

Figure 1. Map of Brazilian regions and states
The North region is composed of seven states and is the largest of the Brazilian regions. However, it has the smallest demographic density in the country. With nine states, the Northeast region is the third largest in size and the second largest in population, with approximately fifty million inhabitants. The Central-West region has three states and the Federal District where the capital Brasília is located. Its territory covers 18.86% of the national territory, the second largest in the country, but it has the smallest population (twelve million). The Southeast region is both the richest and the most populous. It has approximately eighty million people distributed in its 4 states, namely São Paulo, Rio de Janeiro, Minas Gerais, and Espírito Santo. Finally, the South region has a population of approximately twenty-six million people in its three states and occupies only 6.8% of the national territory.

The five Brazilian regions are also very diverse in terms of population. Figure 2 below shows the percentage distribution of the Brazilian Population by region (Brazilian Institute of Geography and Statistics 2009).

![Figure 2. Percentage distribution of the Brazilian population by region](image)
This graphic shows that the Southeast and South regions have the greater percentages of people of European descent whereas the North and Northeast regions have the highest percentage of multiracial people, which includes those who descend from Africans and Europeans or Amerindian and Europeans, or a combination of the three. In the Central-West region these groups are more evenly distributed. Later, I will return to this point about race/color in the Brazilian population.

As expected in a country with such large territorial proportions and diverse populations, it has been difficult to determine the isoglosses dividing the country’s regional dialects. Antenor Nascentes (1953) is among the first linguists who compiled a dialect map of Brazil. In 1922, Nascentes published the first version of his dialect map with the first edition of *O linguajar carioca* [The Carioca Dialect or Rio de Janeiro Portuguese]. In the book he states that the map was mostly based on knowledge he gained in his trips and observations throughout the country. In 1953, the year of the publication of the second edition of *O linguajar carioca*, Nascentes published an improved version of his original map. This second version of his dialect map was a more realistic picture of Brazilian regional dialects, especially because during the thirty-year period between the publication of the first and the second version of the map, Nascentes had the opportunity to travel to most parts of the country and was able to document some of the most important regional linguistic differences. Figure 3 shows the 1953 version of Nascentes’ dialect map (18-19), followed by an updated version of it in figure 4.4

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As indicated in his map, Nascentes identifies the existence of six regional sub-falares or sub-dialects in Brazil: *subdialeto amazônico* (Amazon region dialect), *subdialeto nordestino*.
(Northeastern dialect), *subdialeto baiano* (Bahian dialect), *subdialeto mineiro* (Minas Gerais dialect), *subdialeto fluminense* (Fluminense or Rio State dialect), and *subdialeto sulista* (Southern dialect). There is also an undefined area that encompasses the state of Rondônia and the northern part of the state of Mato Grosso. According to Nascentes, this area was mostly uninhabited at that time and so had no characteristic features. He also divided the six regional sub-dialects into two greater dialectal regions: North and South. The greater northern region includes only the Amazon and Northeastern sub-dialects and the southern one includes the remaining regions. This classification was mainly motivated by the difference in pronunciation of pre-stress /e/ and /o/ vowels in words that are not in diminutives or the adverbial suffix –*mente* (equivalent to the adverb suffix –ly in English). Thus, speakers of the northern sub-dialects pronounce these vowels as [ɛ] and [ɔ], but those of the southern ones usually pronounce them as [e] and [o] (Pagotto 2005). Examples of this phenomenon are words like *legal* (cool, legal) and *modelo* (model), which are often pronounced as [lɛ’gaw] and [mo’delu] in the North and as [le’gaw] and [mo’delu] in the South (See Bisol 1988, Lee 2006, Viegas and Veado 1995).

Even though the pronunciation of pre-stress vowels is still considered a linguistic feature that characterizes the difference between Brazilian northern and southern dialects, Nascentes’ dialect map is no longer an accurate representation of Brazilian regional dialects, especially because it fails to account for all the transformations that have taken place in the country in the more than sixty years since its publication. One of these transformations is the fact that the majority of the Brazilian population is now concentrated in urban areas. In the 1940s, about 70% of the Brazilian population lived in rural areas, but this percentage dropped to only 20% in the 1990s. Moreover, most contemporary scholars would also agree with the fact that the Bahian sub-dialect has more in common with the northern dialects than the southern ones, especially in
regards to the pronunciation of pre-stress vowels. Despite some of its current inadequacies, Nascentes’ dialect map highlights some of the variable phenomena that characterize Brazilian Portuguese dialects.

Pagotto (2005) offers examples of variation that illustrate some of the differences among more current Brazilian Portuguese regional dialects. One of these examples is the pronunciation of /t/ when followed by [i]. This consonant in this position is more likely to be realized as a dental fricative in the dialects of the North, and as an affricate in the South. The consonant /d/ has the same characteristics as /t/. In addition, /s/ palatalization in syllable coda is more frequent in cities located along the coastline than in the interior of the country, where the preferred pronunciation for /s/ is the alveolar. Other examples of variation have been documented by national and international sociolinguists, whose regionally situated language analyses can be used to continue building and updating the Brazilian dialect map.

After the dialect map proposed by Nascentes, the only national initiative for creating a dialect map of Brazilian Portuguese is the Linguistic Atlas of Brazil – ILiB Project. According to Cardoso and Mota (2012), the ILiB project began in 1996 and it aims at bridging a huge gap in Brazilian sociolinguistics by demarcating the isoglosses that define the regional dialects of Brazilian Portuguese. Researchers from this ongoing project have already collected and analyzed data in 250 locations around the country and have published the first two volumes of the Linguistic Atlas of Brazil (Cardoso et al. 2014). In addition, some regions and states have already finished their dialectal atlases. Some examples include the Linguistic Atlas of Minas Gerais (EALMG) created in 1977, the Linguistic Atlas of Paraíba (ALPB) created in 1984, the Linguistic Atlas of Sergipe (ALS) created in 1987, the Linguistic Atlas of Paraná (ALPR) created in 1994, and the Linguist and Ethnographic Atlas of the South Region (ALERS) created...
in 2002. What these initiatives have in common is the fact that they benefitted greatly from sociolinguistic research conducted in these geographical areas. Establishing the isoglosses between regional dialects and the features that define them provides an important backdrop for investigating how and for what purposes individuals and groups use the different features available to them in their linguistic repertoires.

Linguistic atlases are very important in that they provide relevant information about sociolinguistic variation on a geographical level, highlighting the similarities and differences that characterize the speech in different language communities. On the other hand, because they concentrate on a more general picture, they can obscure sociolinguistic variation within certain regions. In the case of large countries like Brazil, it is also important to take into account the role that internal migration plays in the characterization of sociolinguistic variation in urban centers. Metropolitan areas are particularly interesting for sociolinguistic research because in these areas local and non-local linguistic features are more likely to interact with one another in multiple situations. For this reason, these environments are highly suitable for the description of how language shapes and is shaped by the identities individuals and groups create and negotiate in their interactions, including place identity. I will return to the issue of internal migration later as I discuss in more detail the setting for the present research. In the next section, I talk about the significance of Rio de Janeiro Portuguese among the dialects of Brazilian Portuguese and discuss some of the elements related to the history and development of the study of postvocalic /s/ in this dialect.
1.3 The *Carioca* dialect, Rio de Janeiro, and the sociolinguistic variable of postvocalic /s/

Rio de Janeiro Portuguese, or the Carioca\(^5\) dialect, is one of the best-known dialects of Brazilian Portuguese due to the historical, social, and economic importance that the city has had over the last three centuries, which certainly contributed to solidify its prestige status in Brazil. Following sociolinguist Gregory Guy (1981), it is also safe to say that the Carioca dialect is considered the national prestige dialect because it has been widely disseminated through the various media productions created in Rio de Janeiro. Since the beginning of the twentieth century, the city has become one of Brazil’s main mass media production centers, being the place where the headquarters of the major television networks, radio stations, newspapers and magazines are located. Moreover, the 1937 National Conference of Sung Language and the 1956 National Conference of the Language Spoken in the Theater confirmed the status of this dialect as the standard pronunciation for professionals in these areas (Bravin dos Santos 2003, Lipski 1976). Moreover, most of the television networks broadcast from Rio de Janeiro, and they generally produce *telenovelas*, or soap operas, that also contribute to the expansion of aspects of the Carioca culture, including the dialectal representative of it. In fact, most Brazilians would also agree with the idea that Rio de Janeiro is Brazil’s Hollywood. Therefore, it can be argued that these circumstances have contributed to the establishment of Rio de Janeiro as a strategic site within Brazil, giving its dialect an outstanding position among all varieties of Brazilian Portuguese.

Portuguese navigators arrived in Rio de Janeiro on January 1, 1502, hence its name “River of January.” However, the city proper was only founded on March 1, 1565, and was named *São Sebastião do Rio de Janeiro*. Historically, the importance of the city of Rio de

\(^5\) Carioca refers to a native or resident of Rio de Janeiro as well as anything associated with the city.
Janeiro can be traced back to 1763, when it became the capital of Brazil, replacing the country’s first capital, Salvador, Bahia. Rio even functioned as the capital of the Kingdom of Portugal for thirteen years, when the Portuguese royal family fled from Napoleon’s invasion of Portugal in 1808. When the capital of Brazil was eventually transferred to Brasília in 1960, Rio de Janeiro had already become the country’s second largest metropolitan and industrial region, surpassed only by São Paulo. Being the center of Brazil’s political administration for nearly two centuries has certainly contributed to the fact that Rio de Janeiro is now a major industrial, commercial, and cultural epicenter in the country.

This outstanding position has made Rio de Janeiro a very attractive site for both migrants and tourists. Looking for jobs and better life conditions, migrants have come from all parts of Brazil, especially the poorer areas of the interior of the State of Rio Janeiro and the Brazilian Northern and Northeastern Regions. Because this internal migration pattern is an important aspect of this dissertation research, I will explore this point in more detail in section 1.4.2. For now, it is important to mention that Rio de Janeiro has been a major destination for migrants since the Colonial period, when the city was one of the main ports for both the large influx of enslaved Africans and the exportation of sugarcane, coffee beans, and other goods to Europe. As happened in many parts of the world in the twentieth century, the population of Brazil transitioned from being primarily rural to chiefly urban. During this time, Rio underwent a process of industrialization and modernization, attracting even more people. People from the Northeast region represent one of the main groups of migrants who moved to the city of Rio, especially between the 1960s and 1980s. Even though during that period this was a major trend in the regional migration in Brazil, the number of people moving from North to South has decreased in the last decade or so (Oliveira, Ervatti, and O’Neil 2011).
In addition to many migrants, tourists have also been attracted to Rio, lured by the city’s exuberant and natural beauty and its cultural diversity, which have made it one of the main tourist destinations in Latin America and in the world. In recent years, Rio de Janeiro has been on global media outlets because of some major international sports events such as the 2014 FIFA World Cup and the 2016 Summer Olympics and the 2016 Summer Paralympics. The expectation is that these events will make the city even more attractive among the most internationally known tourist destinations, but the real effects of such exposure are yet to be determined.

Another point to be noted is the size of the population of Rio de Janeiro, the second largest in Brazil after São Paulo. The 2010 census found that the metropolitan region of Rio de Janeiro had a population of 11.8 million inhabitants at that time, while the city proper had approximately 6.3 million (Brazilian Institute of Geography and Statistics 2011a). These people are distributed throughout the four zones that divide the city, namely Zona Central ‘Central Zone,’ Zona Norte ‘North Zone,’ Zona Sul ‘South Zone,’ and Zona Oeste ‘West Zone.’ The location of these four zones can be seen in figure 5.
The Central Zone is the oldest and most historical area of the city. Most of the government and commercial buildings as well as cultural centers are located in the Central Zone. But there are some residential areas spread out around this region. The North Zone is mostly residential. It is probably the most traditional of the suburban areas of the city. This part of Rio de Janeiro is well connected to the Central and South zones because of the existing railroad and train systems. The South Zone is the richest and one of the busiest areas of Rio de Janeiro. Among its main attractions are the beaches and shops located in its famous neighborhoods, especially Leblon, Ipanema, and Copacabana. Some of the most famous Brazilian favelas, including Rocinha and Vidigal, are also located in South Zone. Finally, the West Zone is the newest part of the city and has undergone a lot of improvements in the last two decades. This is especially the case of the neighborhood of Barra da Tijuca, which is usually not considered part of the West Zone due to its similarities with the South Zone neighborhoods. The other part of the West Zone is mostly residential and it is where the neighborhood of City of God is located.
Given the central role that Rio de Janeiro has played in Brazilian history and society, the Portuguese language variety spoken there has called the attention of many scholars who have noticed the uniqueness of some of its features, including postvocalic /s/ sociolinguistic variation. This variable is certainly one of the most outstanding features of the Carioca dialect (Callou 2009; Lacerda 1961; Lipski 1975; Lipski 1976; Noll 2009). I will outline previous studies on postvocalic /s/ in section 1.3.1, but let’s begin with some preliminary information. Generally speaking, the possible realizations of this variable in Brazilian Portuguese are as follows:

1. It occurs as [s] or [ʃ] in syllable-final position followed by a voiceless consonant or in word-final position. For example, the words revista ‘magazine’ and carro ‘car’ can be pronounced as [hevista] or [hevijta] and [kahus] or [kahuf], respectively.

2. It occurs as [z] or [ʒ] in syllable-final position followed by a voiced consonant. One example would be the word batismo ‘baptism,’ which can be pronounced as either [batʃizmu] or [batʃiʒmu].

3. It is realized as [z] when it occurs in between two vowels, as in as asas ‘the wings,’ which is always pronounced as [azaʃas] or [azaʃaʃ].

In more specific contexts, Carioca dialect speakers can also pronounce postvocalic /s/ as the voiceless glottal [h] as in mesmo [mehmo] ‘same’ or delete it altogether as in os meninos [uʃmeninoʊ] ‘the boys.’ Nevertheless, the glottal or aspirated variant and /s/ deletion are loaded with a certain degree of stigma for being more characteristically associated with lower social classes and lower levels of education, as opposed to the other realizations ([s], [z], [ʃ], and [ʒ]), which tend to be more characteristically associated with the speaker’s regional origin. The glottal and deleted /s/ are the nonstandard variants of postvocalic /s/. In the case of the glottal, although it is sometimes considered to be nonstandard, it seems that speakers are not as consciously aware
of this variant or its seemingly relatively low social status, given that it can be found in varying
degrees in all genders, socioeconomic classes, educational levels, geographical regions,
generations, and speech styles. Based on the postvocalic /s/ sociolinguistic variation in the rural
area of Cordeiro in the north of Rio de Janeiro state, Gryner and Macedo (2000) argue that the
glottal represents an intermediate stage between the palatal/alveolar variant and /s/ deletion. In
their view, this variant is a result of the weakening of the palatal and alveolar which then leads to
/s/ deletion. In contrast, the use of deleted /s/ is much more stratified and so it is strongly avoided
among more educated speakers and in more formal situations. On the other hand, the palatal and
the alveolar are both considered standard variants of postvocalic /s/, though their distribution
depends on the region, as we will see shortly below. In any case, Carioca dialect speakers show
a preference for the palatal realizations of /s/ as opposed to speakers who live in other areas of
the country, especially in the interior, where the alveolar realization is more common.

Palatalization is defined as a linguistic process in which a non-palatal consonant, in this
case the voiced and voiceless alveolar fricatives, changes to, or is pronounced as, a palatal one.
Examples of /s/ palatalization would be the English phrase ‘this year,’ pronounced [ðɪʃjɪr] and
the Portuguese verb gostar ‘to like,’ pronounced [ɡoʃtar]. Figures 6, 7, 8, 9, and 10 illustrate the
distribution of postvocalic /s/ in word-medial and word-final positions among college-educated
speakers in the capital cities of Rio de Janeiro and São Paulo in the Southeast region, Porto
Alegre in the South region, and Recife and Salvador in the Northeast region. These are all coastal
cities, except for São Paulo and Porto Alegre. The results in the figures are based on a study of
processes of weakening of syllable coda /s/, /r/, and /l/ in Brazilian Portuguese conducted by
Callou, Leite and Moraes (2002). These researchers collected 9,026 occurrences of the variable
from the 1970s interview data of the Urban Standard Norm Project (NURC Project) for the five
cities listed above and coded them for gender, age, and geographical origin of the speakers. I discuss the project in more detail below.

Figure 6. Postvocalic /s/ in word-medial and word-final position in Rio de Janeiro

Figure 7. Postvocalic /s/ in word-medial and word-final position in Recife
Figure 8. Postvocalic /s/ in word-medial and word-final position in São Paulo

Figure 9. Postvocalic /s/ in word-medial and word-final position in Porto Alegre
Comparing the results in the figures, we can see that Rio de Janeiro (figure 6) has the highest rate of use of the palatal, followed by Recife (figure 7). The alveolar is the preferred variant in São Paulo (figure 8) and Porto Alegre (figure 9). Out of the five cities, Salvador (figure 10) is the only one where the use of the palatal and the alveolar is more balanced. Though aspiration appears to represent less than 10% of the occurrences and only appears in the three cities that also have palatalization (Rio de Janeiro, Recife, and Salvador), it is important to note that these data are from college-educated speakers. In these cities /s/ deletion also seem to be slightly higher than in São Paulo and Porto Alegre, where the alveolar is the preferred variant.

In the case of Rio de Janeiro, the palatal pronunciation corresponds to 90% and 75% of the occurrences of postvocalic /s/ in word-medial and word-final positions, respectively. While the glottal fricative accounted for 6% of the realizations in word-medial position and 10% in word-final position, /s/ deletion represented 2% and 8% of the occurrences in these positions, respectively. The alveolar fricative pronunciation accounted for 1% in mid-word position and
8% in word-final position. Compared to the less frequent variants, the palatal pronunciation is very prominent in the speech of Rio de Janeiro residents and so has become a feature capable of indexing not only the dialect itself but also the different groups and cultures it represents. However, as /s/ palatalization is constantly reaffirmed by the media as the preferred variant for the standard variety of Portuguese spoken by the Carioca community, the other variants, with the exception of the alveolar, are disfavored for the negative stereotypes usually associated with them. This preference for the palatal also seems to be indicated in the sociolinguistic literature, as most accounts on postvocalic /s/ concentrate on this variant and its evolution within the Portuguese language. In the next section, I delve into more detail regarding the variable analyzed in the present study, postvocalic /s/ in Rio de Janeiro Portuguese, including an overview of previous studies.

1.3.1 Previous studies on postvocalic /s/ in Rio de Janeiro Portuguese

The Portuguese dialect spoken in the city of Rio de Janeiro, also called the Carioca dialect, has been the focus of a number of studies due to the central role that the city has played in Brazilian society and the prominence of its dialect as one of the prestige varieties of Brazilian Portuguese. The literature on postvocalic /s/ sociolinguistic variation in Rio de Janeiro Portuguese has followed two main approaches, namely historical or descriptive and sociolinguistic. Studies under the historical view focus on the possible origins and evolution of the variable realizations of postvocalic /s/, including associations with Continental Portuguese, whereas sociolinguistic studies attempt to provide a description of the variable patterning of this variable, including the linguistic and extra-linguistic factors conditioning its variability. In what
follows I will attempt to discuss the main points of these two views, providing a summary of relevant literature when necessary.

1.3.2 Hypotheses on the origin and evolution of /s/ palatalization in Rio de Janeiro Portuguese

Within the historical approach, Nascentes (1921, 1953) provides an early account of the palatalization of postvocalic /s/ in the Carioca dialect. Discussing the general phonological features of this dialect, Nascentes gives examples of /s/ palatalization in word-initial, word-medial, and word-final positions, which in his view are motivated by a process of assimilation in this dialect and in some areas of Portugal. The author also points out that /s/ is sometimes deleted in word-final position. However, when word-final /s/ represents the morphological plural –s ending, it may be retained, especially in speakers of higher social status. In relation to this point, Nascentes says that “the cultured classes pronounce the final /s/, but chang[e]… it into a palatal like [people do] in the south of Portugal” (1921, p. 317). This suggests that socioeconomic status influences the realization of this feature.

Offering a more general explanation of the origin of the palatalization phenomenon, Lacerda (1961) presents an overview of how the phoneme /s/ evolved from Latin to various romance languages, including Portuguese. Following earlier observations regarding this transition, Lacerda points out that in Portuguese the evolution of the voiceless alveolar /s/ to the voiceless palatal occurred only after the first third of the eighteenth century, becoming the standard pronunciation in Lisbon, Portugal and in Rio de Janeiro, Brazil.
Lipski (1975, 1976) suggests that /s/ palatalization in Rio de Janeiro Portuguese is a result of dialect imitation. Exploring the interrelationship of the historical and linguistic evolution of palatalization of syllable-final /s/ in Rio de Janeiro Portuguese, Lipski’s main argument is that the change from an alveolar pronunciation to a palatalized one was strongly influenced by the transfer of the Portuguese court to Brazil, more specifically to Rio de Janeiro in 1808. The court stayed there until 1822. As he puts it, “[T]he political import of the move is widely recognized, but the impact of the regal transplantation on the linguistic structure of the Brazilian dialects has received almost no mention” (Lipski, 1975, p. 216). In this sense, the palatalized pronunciation of postvocalic /s/ by the members of the court was perceived as a signal of social status among Rio de Janeiro residents and so they started to incorporate this feature in their speech.

Callou (2002) and Callou and Avelar (2002) do not deny the influence that the Portuguese immigrants who came to Rio de Janeiro in or after 1808 and throughout the nineteenth century had on the social, political and economic configuration of the city. However, they look at their influx as something that caused not only the displacement of families that lived in the central areas but also a series of other changes in the infrastructure and organization of the city. Moreover, the presence of the royal family and representatives of the Portuguese kingdom administration led to the establishment of a Portuguese norm that was required by the lifestyle of the court. Consequently, the geographical and social reorganization that emerged around that time in Rio de Janeiro is still evident in the linguistic differences that continue to exist among some areas of the city.

A more recent analysis of the origin of /s/ palatalization in Rio de Janeiro was done by Noll (2009), who rejects the idea that this linguistic phenomenon was a result of dialect imitation
that started in 1808 with the arrival of the Portuguese. According to Noll, the Portuguese influence on the origin of /s/ palatalization in Rio de Janeiro can be rejected based on four main reasons. One of them has to do with the fact that there is documentation that the Portuguese variety spoken in Portugal, especially the feature of /s/ palatalization, did not carry the status of prestige, this being one of the conditions for imitation. A second reason points to the idea that no other phonetic characteristic that was very common in the Continental Portuguese of the beginning of the nineteenth century, such as unstressed vowel reduction, was carried over to Rio de Janeiro Portuguese. In addition, Noll argues that, if the hypothesis of the influence of European Portuguese on Carioca speech is accepted, the speakers of the latter variety should pronounce words such as descer ‘to get down’ and nascer ‘to be born’ as [deʃer] and [naʃer] as do the Portuguese. Nevertheless, in Rio de Janeiro and in all Brazilian regions where there is /s/ palatalization, the alveolar pronunciation is the norm in these lexically conditioned cases. Lastly, Noll points out that there is no report of /s/ palatalization in Rio de Janeiro in the eighteenth century. He then concludes that, “The current documents denote a gradual development of palatalization, which probably began in the second half of the nineteenth century, emerging from the upper classes in the case of Rio de Janeiro and [which] evidently had not been concluded in the beginning of the twentieth century” (p. 312).

Considering all the points made by each scholar about the origin and development of /s/ palatalization in Rio de Janeiro, it is possible to conclude that, even though we have gotten closer to an answer in that regard, there are still many other aspects that need to be further analyzed. The matter gets complicated especially because of the lack of linguistic data from previous historical periods. The aforementioned studies tend to rely on written records or documents produced by non-linguists to justify the existence of palatalization in certain periods of time, and
so this could mask some of the facts. The above ideas about the origin and development of /s/ palatalization in Rio de Janeiro or in Brazilian Portuguese in general are important in that they provide interesting observations and hypotheses that helps us understand more about the evolving process of not only this linguistic phenomenon but the Portuguese language itself. However, there is not enough evidence to arrive at a conclusion at this point. In any case, more systematic examinations on the linguistic phenomenon at hand have been made within the sociolinguistic approach, to which I turn in the next section.

1.3.3 Variationist studies of postvocalic /s/ in the Carioca dialect

The general area of postvocalic /s/ sociolinguistic variation, which has been mostly focused on palatalization, has received considerable attention from many linguistics scholars. A number of studies have examined the spread of /s/ palatalization in other dialects of Brazilian Portuguese, including São Paulo, Porto Alegre, Recife, and Salvador. For example, Callou, Leite and Moraes (2002) and Hora and Pedrosa (2009) have compared aspects of postvocalic /s/ in these Portuguese varieties. Other scholars have explored this linguistic phenomenon in other places, such as the region of Cordeiro in the north of the state of Rio de Janeiro (Gryner and Macedo 2000), the city of Florianópolis in the state of Santa Catarina (Brescancini 2002), the city of João Pessoa in the state of Paraíba (Hora 2003), and Salvador in the state of Bahia (Mota 2002; Lucchesi 2009). However, the largest number of studies on /s/ palatalization have been conducted in Rio de Janeiro, probably because it is an emblematic case among all dialects of Brazilian Portuguese or simply because it is the most known among Brazilians.
In studying /s/ in coda position, some scholars have used different frameworks in order to provide a general characterization of this linguistic phenomenon, focusing on Brazilian Portuguese in general (Bettoni-Techio & Koerich 2008; Brescancini 2003; Guy 1981; Leite & Callou 2002), on the Carioca dialect in particular (Autret & Silva 1944; Callou 2009; López 1979), or on a comparison between the European and Brazilian varieties of Portuguese (Head 1964). One thing to keep in mind is that not all of these studies can be labeled sociolinguistic per se, but one cannot deny the valuable contributions they have made to the study of /s/ palatalization and the Portuguese language as a whole. Nevertheless, there are a few studies that consistently used sociolinguistic principles and tools to analyze the influence of both linguistic and social factors on /s/ palatalization in the Carioca dialect.

The first systematic study of postvocalic /s/ in the Rio de Janeiro dialect was conducted more than forty years ago by Callou and Marques (1975). Between 1970 and 1972, the authors selected and audio recorded 36 participants aged 20 to 45 years. These participants were stratified by gender (male and female), level of education (roughly, elementary education, high school education, and college education), and place of residence in the city of Rio de Janeiro: Campo Grande (West Zone), Jacarepaguá (West Zone), Madureira (North Zone), North Zone, Central Zone, and South Zone. A description of the current characteristics of these areas is given in section 1.3 above. Race/color was not included in their analysis. Another criterion was that all the participants had to be born in Rio de Janeiro and their parents were required to have either been born in Rio or to have moved there by the age of ten.

In terms of methodology, Callou and Marques used both a questionnaire and a picture description task to elicit occurrences of postvocalic /s/ from their participants. The questionnaire covered questions related to biographic information, numbers from 1 to 30, days of the week and
months of the year, parts of the body, and so on. For the task, speakers had to describe 50 pictures.

In their analysis, Callou and Marques found that the palatal as well as the alveolar pronunciations can occur before [p], [t], [tr], [k], [f], [v], and [n]. The alveolar never occurred when followed by [m] or [d]. In addition, the glottal fricative was only pronounced before voiced consonants, especially [v], [m], [n], and [d]. As far as the social variables are concerned, the scholars concluded that the college-educated speakers had the least level of variability, favoring the palatal pronunciation. The participants with a high school level of education had the highest level of variability while the ones with elementary education produced the largest number of glottal fricatives and /s/ deletion. Callou and Marques’ study also indicated that Madureira and South Zone had the highest degree of variation in terms of /s/ realization, leading them to suggest that this might have to do with the fact that in these two regions there is more social and cultural interaction. In fact, these two areas remain very active because of businesses, especially retail stores, and tourism, in the case of the South Zone, at least. Although Callou and Marques did not conduct statistical tests to ensure the significance of their results, their study provides interesting clues to the understanding of how postvocalic /s/ palatalization relates to both social and linguistic factors.

In another sociolinguistic study, Scherre and Macedo (2000)\(^6\) examined some of the phonetic, phonologic, and lexical conditioning factors of postvocalic /s/ in Rio de Janeiro. They analyzed 9,529 tokens of this variable, which were collected from a database called Census Corpus (Corpus Censo). The data were collected in 1980-1983 from 64 participants, selected based on gender (male and female), age (7-14, 15-25, 26-49, and 50-71), and level of education.

\(^6\) The original study is from 1996.
(1-4 years, 5-8 years, and 9-11 years). The factors examined in the study were (1) following sound; (2) preceding vowel; (3) position of /s/, number of syllables, and stress; and (4) lexical category and some specific lexical items (the personal pronoun nós ‘we,’ the adverb mais ‘more,’ the conjunction mas ‘but,’ the adjective/adverb mesmo ‘same/really,’ and the first person plural verb morpheme –mos).

Overall, Scherre and Macedo found that both the palatal and the alveolar variants were favored by following pause and voiceless consonants. The glottal and deleted variants, on the other hand, were more favored by the occurrence of following voiced consonants. They also found that front vowels favored the palatal and the alveolar while the other vowels combined favored the glottal and /s/ deletion. Considering the position of /s/, number of syllables, and stress, Scherre and Macedo report that when /s/ occurs in word-final position, the occurrence of [h] or /s/ deletion is favored, as opposed to word-medial position, which would favor palatalization. As explained by the authors, the presence of [h] and /s/ deletion in mid-word position is restricted in Portuguese because this can lead to a change in meaning. One example of such restriction would be the words *pasto* [ˈpaʃtʊ] ‘pasture,’ *parto* [ˈpahtʊ] ‘childbirth/delivery,’ and *pato* [ˈpato] ‘duck.’ Such restrictions would then lead to a more general avoidance of the glottal and deleted variants in word-medial position, even when the alternation would not result in a change in meaning.

In the case of stress, the authors found that stressed syllables containing /s/ in mid-word position would favor the occurrence of palatalization more than unstressed ones, whereas when /s/ occurs in stressed syllables in word-final position, this would favor the appearance of the glottal. Based on these findings alone, it is hard to determine the extent to which stress plays a
role in the occurrence of these variants because this feature is analyzed in combination with other factors.

For lexical category, Scherre and Macedo found that common and proper nouns, numerals, and verbs favored /s/ palatalization. Verbs, adjectives, and the combined group of conjunctions and adverbs favored the alveolar variant. Conjunctions and adverbs also positively affected the occurrence of /s/ deletion. Out of the specific lexical items included in the analysis, all of them favored the glottal variant, except the verb morpheme –mos. All of the lexical items also favored /s/ deletion, except the personal pronoun nós. These results are very important in that they provide a comprehensive picture of the linguistic factors that condition the variation of postvocalic /s/ in the Carioca dialect.

Another study of postvocalic /s/ sociolinguistic variation was conducted by Reis (1992), who interviewed twelve college-educated participants from Rio de Janeiro. These participants were stratified by gender (male and female) and age (18-25, 26-39, and 40 and older). Reis did not include race/color in his analysis. The interviews were conducted in the summer of 1991 in Rio de Janeiro. Based on Labov’s classic studies of stylistic variation (e.g. Labov 1963, 1972a), Reis elicited the data from the participants using three methods: word list, reading passage, and free conversation. As predicted by Labov (1972a), these three tasks should yield a continuum from less casual to more casual speech.

In describing the results of his study, Reis found that palatalization was more prevalent in the more casual speech (free conversation). Female speakers used palatalization of the sibilants [s] and [z] more than males, even though the difference between the two groups was not significant. Palatalization was also more frequent in the younger age group (ages 18-25). Looking at the alveolar, glottal, and deleted variants of /s/ (i.e. the non-palatal variants) as a
combined group, Reis found that they were more frequent in younger males, which led him to speculate that these variants might be associated with their speech. Reis’ study is important because it sheds light on some of the possible social factors that seem to be significant in influencing the occurrence of /s/ palatalization in the Portuguese variety spoken in Rio de Janeiro. Furthermore, it is one of the first studies to include stylistic variation in the investigation of postvocalic /s/.

Bassi (2011) conducted one of the most recent studies on postvocalic /s/ sociolinguistic variation. In her study, Bassi uses data from the Linguistic Atlas of Brazil – ILiB (begun in 1996) to compare the patterns of use of this variable in the cities of Rio de Janeiro and Florianópolis (located in the southern state of Santa Catarina). She focused her analysis on data collected using three main methods, namely questionnaire, reading passage, and “semi-free” conversation. For her research, Bassi used 784 tokens from 16 participants, who were male and female, from two age groups (18 to 30 years old and 50 to 65 years old), and two educational levels (0-7 years and 12 years or more). Race/color was not used as a social factor in Bassi’s study. In addition to region, speech style, gender, age, and education, Bassi also considered the effect of position of /s/ in the word, syllable stress, preceding environment, following environment, following consonant voice, and number of syllables.

Bassi’s study provides interesting results even though no statistical tests were conducted to measure the significance of the relationship among the variables. Between the two cities, the distribution of the variants was more balanced in Florianópolis than Rio de Janeiro as can be seen in figures 11\(^7\) and 12\(^8\) below.

\(^7\) Translated from Bassi 2011, 107.
Interestingly, Bassi does not report a single case of the glottal variant in her data. Considering the speech styles, Bassi reported that the palatal was more frequent in the semi-free conversation (132 out of 160), followed by the questionnaire responses (357 out of 464), and the reading passage (111 out of 160). The alveolar, on the other hand, was more frequent in questionnaire responses (87 out of 464), followed by the reading passage (21 out of 160), and the

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8 Translated from Bassi 2011, 106.
semi-free conversation (17 out of 160). Additionally, the rate of /s/ deletion was higher in the reading passage (28 out 160) than the semi-free conversation (11 out of 160) and the questionnaire responses (20 out of 160) combined.

Now let us focus on the results related to the 392 tokens produced by the Rio de Janeiro speakers in Bassi’s study. In this group, there was no significant gender difference in the use of the alveolar. However, females (28 out of 196) deleted /s/ four times more than males (7 out of 196). Conversely, males (184 out of 196) used more palatalization than females (160 out of 196). Considering age, the younger group (188 out of 196) produced more palatals than the older group (156 out of 196). However, the older group (32 out of 196) deleted /s/ ten times more than the younger group (3 out of 196). In relation to education, even though the less educated group produced the lowest rates of the alveolar (3 out of 196) and the deleted variants (12 out of 196), they produced the highest rates of palatalization (181 out 196). For the more educated group, the reverse occurred. They palatalized less (153 out of 196) but produced more alveolar /s/ (10 out of 196) and /s/ deletion (23 out of 196) than the less educated group.

For the linguistic variables in the Rio de Janeiro data (392 tokens), Bassi found that there were 200 cases of postvocalic /s/ in medial position, of which 89.5% were realized as palatal, 5% as alveolar and 5.5% were deleted. Out of the remaining 192 tokens which were in word-final position, there were 3 cases of alveolar, 24 of /s/ deletion and 165 of palatalization. In relation to factors included in the syllable stress group, there were 173 occurrences of postvocalic /s/ in stressed syllables, of which 2.3% were alveolar, 94.3% were palatal, and 3.5% were deleted. In addition, there were 106 cases of this variable in pre-stress position, of which 6.6% were deleted.

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Bassi classified /s/ in word-final position also taking into account the following environment and so this factor was represented in her work as final position not followed by any segment but pause, final position followed by pause and consonant, final position followed by pause and vowel, and final position between reduced vowels (sandhi). For the sake of simplicity, I call these cases /s/ in word-final position.
alveolar, 88.7% were palatal, and 4.7% were deleted. In post-stress syllables (N=103), only 1% was alveolar, 84.5% palatal, and 13.6% were deleted. Ten other cases were reported as absence of fricative. As far as preceding vowel is concerned, the alveolar and palatal variants were more frequent when they preceded front vowels\(^{10}\) whereas /s/ deletion was more frequent after central vowels\(^{11}\) [a]. Eighty-seven of 91 occurrences of the variable after back vowels\(^{12}\) were realized as palatal and the remaining 4 were deleted.

As for following environment, the alveolar realization was more common before labial consonants (7 out of 12). The percentage of /s/ palatalization was between 85% and 94% in all following environments considered. Deletion was more frequent before pause (24 out of 35). In terms of consonant voice, Bassi’s results confirm the assimilation phenomenon in the postvocalic /s/ sociolinguistic variation. Thus, she shows that voiced alveolar [z] and voiced alveopalatal [ʒ] occurred before only voiced consonants while voiceless fricative [s] and voiceless alveopalatal [ʃ] occurred only before voiced consonants.

The final group factor Bassi analyzed was number of syllables. She reported that 98.3% of postvocalic /s/ in monosyllabic words were palatalized and 1.7% (1 out of 60) were deleted. In two-syllable words (N=140), 89.2% were palatal, 2.1% were alveolar and 8.6% were deleted. Finally, out of the 182 occurrences of postvocalic /s/ in three-syllable words, 87.9% were palatal, 5.4% were alveolar, and 6.6% were deleted. In summary, Bassi’s study provides not only a comprehensive analysis of postvocalic /s/ in both Rio de Janeiro and Florianópolis but also many insights on the linguistic and social conditionings of this variable.

\(^{10}\) The author referred to front vowels as “coronal semivowel” [y] and “coronal vowels” [e], [ɛ], and [i].

\(^{11}\) Central vowel [a] was referred to as “dorsal vowel.”

\(^{12}\) Back vowels were referred to as both “labial semivowel” [w] and “labial vowels” [o], [ɔ], and [u].
In conclusion, the studies described throughout this section provide many relevant points for the understanding of the relationship between postvocalic /s/ and its influencing linguistic and social factors in the context of Rio de Janeiro. They are relevant in that they provide evidence for many aspects of the realization of postvocalic /s/ in Rio de Janeiro and how these aspects can be taken into consideration for the preparation of new investigations such as this one. My goal so far has been to stress not only the importance of postvocalic /s/ sociolinguistic variation in Rio de Janeiro Portuguese but also the relevance of this dialect within the Brazilian context. With this in mind, I turn now to a discussion of some sociocultural aspects related to the existence of favelas within the residential organization of the city of Rio de Janeiro, focusing on their relevance to the realization of the dissertation research.

1.4 *Favela and asphalt*

The city of Rio de Janeiro is famous for a number of reasons. As demonstrated in the previous sections, one of these reasons is the Rio de Janeiro Portuguese or Carioca dialect, within which postvocalic /s/ sociolinguistic variation, especially the palatal variant, is one of the most remarkable features. Another important element of Rio de Janeiro culture are the favelas (roughly speaking, slums or shantytowns). Due to their ubiquity and complexity, favelas have become an integral part of Rio de Janeiro’s history and culture. So much so that any attempt to analyze the social organization of the city will not be complete without proper consideration of the complex ways in which the favela communities interact with one another and with the more formal areas of the city. In this part of the dissertation, I discuss some of the ways in which favela communities may intersect with other aspects of Rio de Janeiro culture, including its
Portuguese language variety. I end this section talking about specific aspects of the neighborhood of City of God, the community on which this dissertation is based.

A trip to Rio de Janeiro is an extraordinary occasion even for the most experienced traveler, who may be accustomed to seeing the best and the worse when it comes to landscape structure and architecture. After a 30-minute car ride from downtown to any direction into the city, she will have the immediate feeling of being immersed in a kind of “organized chaos.” The visitor will then have the chance to see luxurious historical and modern houses and apartment buildings side by side with favelas located on hillsides or squeezed between them and the more formal city. But the view is not complete without the exuberance of some of the world’s most beautiful beaches and the Tijuca forest, which are all overseen by the statue of Christ the Redeemer. The pervasive inequality between these two worlds—the wealthy and the poor—is what distinguishes the asfalto (pavement or asphalt) from the favela. The first is characterized by the existence of more housing infrastructure and formal urban planning whereas the latter has grown exponentially with minimal or neither of these resources.

The Brazilian Institute of Geography and Statistics – IBGE uses the term subnormal agglomerate to refer to communities like favelas in different regions of the country. The institute utilizes three basic criteria to identify these areas: 1) existence of 51 or more housing units; 2) lack of proper ownership (title deed) of the property; 3) irregularities in the size and form of the streets and lots and/or shortage of basic services such as electricity, piped water, sewage, and garbage collection (Brazilian Institute of Geography and Statistics 2011b). Based on census data from 2010, IBGE found that 6% of the Brazilian population (approximately 11.4 million people) were living in 6,329 subnormal agglomerates. In the city of Rio de Janeiro, the institute found
that 22% of the city’s population (approximately 1.4 million people) were living in 763 of these communities. In view of these figures, there are a few points to be made.

First of all, as IBGE officials point out in their *2011 Subnormal Agglomerates: Territorial Information* report (Brazilian Institute of Geography and Statistics 2011b), the term subnormal agglomerates is used as an attempt to formally address the fact that there are different types of communities that fall under this definition. Even though the word *favela* is well known in all parts of Brazil, especially in the Southeastern Region, where the states of Rio de Janeiro and São Paulo are located, people in other regions might use different words to refer to this same idea of informal housing. This is because of the fact that even though the problems (poverty, unemployment, lack of affordable housing, etc.) that have caused the emergence of these communities in both urban and rural areas are very similar, various localities have dealt with them differently. Localized solutions have had to accommodate to the specific type of land available to them, including hillsides, swamps, beaches, riverbanks, and on and so forth.

Building on the idea just discussed, the second point has to do with the fact that the notion of subnormal agglomerates does not necessarily imply that of geographic periphery. Although *favelas* may be located in peripheral areas in some metropolitan areas around the country, this is not always the case, especially in Rio de Janeiro. Historically, the city’s new residents who could not afford to buy or rent a house or apartment in the more central areas have found two main alternative solutions to this problem. They either went far away from these areas to distant neighborhoods or dormitory cities located in the periphery of the metropolitan region or simply joined thousands of others who were already living in more central communities built on hillsides, riverbanks, or other types of land with very precarious infrastructure. The advantage of this second alternative is the proximity and easier access to work, schools and health facilities.
Thirdly, there is a mismatch between the IBGE’s official definition and people’s perception of these communities. This tends to hold for both insiders and outsiders. My point here is that even though some communities in Rio de Janeiro do not fit into the definition of subnormal agglomerates or *favelas*, they are still considered to be so by the city’s residents. Two examples can be used to illustrate this point. The first one comes from the Pereira Passos Institute – IPP, a research center under Rio de Janeiro city’s government. This institute uses basically the same methods used by the IBGE to identify *favelas* around the city, except for the requirement that the community must have 51 or more housing units. Because the IPP works as a consulting agency on public policy for the municipality, they include other elements in the classification of *favelas*, such as (1) the situation of the *favela* in relation to the area around it (if it is isolated or part of a complex of *favelas*), (2) size, and, (3) level of urbanization. Using these criteria, the IPP have updated the results of the 2010 census for Rio de Janeiro by indicating that 1.7 million people lived in *favelas* around the city at that time. Even though the IPP bases its numbers on the census data from IBGE, its strategy of using its own criteria to determine the number of *favelas* in the city seems more realistic, because it identifies spaces with less than 50 housing units that are usually not taken into consideration by the census.

The second example comes from the Data Popular Institute, a marketing research and consulting firm, and the Unified Center of Favelas (Central Única das Favelas) – CUFA, a non-governmental organization. The two organizations have put together a project called Institute of Favela Data (Instituto Data Favela) to try to identify and understand the realities and consumption needs of *favela* residents around the country. The Institute of Favela Data recruited and trained *favela* residents who interviewed two thousand people from 63 communities around the country. Even though this institute maintained the national figure presented by the 2010
census, which says that 6% of the Brazilian population lived in subnormal agglomerates that year, their finding for the city of Rio de Janeiro was a little surprising. Based on a 2014 news report on the research done by the Data Favela Institute (Mello 2014), there were two million people living in favelas in Rio de Janeiro in 2013. This actually represents 600,000 more people than the 1.4 million indicated in the 2010 census, according to which the number of people living in subnormal conglomerates in the whole state of Rio de Janeiro is two million people (Brazilian Institute of Geography and Statistics 2011b).

The discrepancy among these numbers points to the fact that there is something crucial that the official definition does not capture, something that has to do with the popular discourse that frames the very existence of these communities and their populations. Regardless of the fact that a community may or may not meet all the criteria for the census definition, the popular discourse seems to combine these criteria with other elements such as class, race/color, origin, and maybe language, to create a characterization of what a favela and a favelado(a) ‘favela dweller’ is or should be. Therefore, the points just discussed illustrate the complexity behind what the official data say about a community compared to how insiders and outsiders actually develop their own labeling strategies based on stereotypes and other ideas frequently associated with these places.

As noted above, subnormal agglomerates in Brazil’s different regions exhibit differences, and they may be referred to by different terms. Nonetheless, their residents’ struggle for acceptance and dignity seems to be the same. In the case of Rio de Janeiro, for example, the enduring stigma and prejudice faced by the people who live in these areas have made them avoid using the term favela and replace it with words such as morro ‘hill’ or comunidade ‘community,’ which serve as more neutral designations for their housing location and their place within the
socioeconomic stratification system. As Perlman (2010, 30) points out, “Perhaps the single persistent distinction between *favelas* and the rest of the city is the deeply rooted stigma that adheres to them and to those who reside in them.” Because of this reality it is common to hear people, especially the locals, refer to Rocinha, the largest *favela* in Rio de Janeiro, as *Morro da Rocinha* ‘Hill of Rocinha’ or *Comunidade da Rocinha* ‘Community of Rocinha,’ instead of *Favela da Rocinha* ‘Favela of Rocinha.’

The word *favelado* is also considered a pejorative and insulting term to refer to a *favela* resident. However, based on an analysis of the indexical field or “ideologically related meanings” (Eckert 2008, 453) of this term, Beaton and Washington (2014) have shown that it has also been given a few positive connotations, especially by outsiders. The authors extracted the indexical meanings associated with *favelado(a)* from both academic and institutional sources, as well as discussion forums and blogs, where people contested its meanings and applications. Figure 13 presents the indexical field of *favelado(a)*, according to Beaton and Washington (2014, p. 5). In the figure, lower case represents permanent qualities, upper case represents social types, and dotted line separates positive and negative qualities and social types.
Based on the above indexical field, the term favelado(a) has four positive associations if we count Flamengo fan/player.\footnote{Flamengo is one of Rio de Janeiro’s soccer teams.} In contrast, there were seventeen negative potential meanings for this term, including black and nordestino (from the Northeastern region). I will discuss further these two associative meanings below. In order to understand why some members of these communities have been challenging terms such as favela and favelado(a), it is necessary to consider the pervasive negative associations surrounding these terms, both historically and currently, including in popular discourse and media. It is also important to remember that people react to these labels differently.

For some people, for example, replacing the word favela with morro or comunidade is just a euphemistic solution. Others also argue against replacing the word. Meirelles and Athayde (2014) point out that, despite the diversity that characterizes favelas, their residents are united around the idea that they should increase their sense of pride by redefining and stressing the positive meanings of the word favela. This is a reaction against the enduring negative
representation these communities have had in the mainstream media. By changing or redefining the words that constrain their lives, *favela* dwellers are rejecting mainstream representations of themselves and trying to reaffirm their humanity, which is understandable given the stigma and discrimination they have to face for being who they are and for living where they live.

In the last decade, there has also been an increasing commercial and cultural interest in *favelas* in the mainstream media, which have been exploring stereotypical representations of these places and causing a lot of sensationalization. As a result, the exotic image often associated with *favelas* has made them interesting and “cool” places to visit, attracting more and more national and international visitors, including celebrities. There is another commercial reason why *favelas* have been on the spotlight, which is the fact that most of the families that ascended to the new middle class or class C in Brazil in the last few years are residents of these communities (Meirelles and Athayde 2014). In this view, with the commodification of *favelas* emerged terms like *favela chic* in mainstream media, contributing to an increase in advertisement of *favela* tours and expensive parties to attract wealthier Rio de Janeiro residents and tourists to these areas (Robb Larkins 2015; Perlman 2010).

The movie industry has contributed a lot to the image of *favelas* worldwide, but mostly for issues related to organized crime, drug trafficking, poverty and so on. International film productions like *Cidade de Deus (City of God)*\(^\text{14}\), *Tropa de Elite (Elite Squad)*\(^\text{15}\), and *Tropa de Elite 2: O Inimigo Agora É Outro (Elite Squad: The Enemy Within)*\(^\text{16}\) have reinforced this kind of negative representation, increasing even more the sensationalization of the negative elements

\(^{14}\) *Cidade de Deus [City of God]*, directed by Fernando Meirelles and Kátia Lund, O2 Filmes, 2002.

\(^{15}\) *Tropa de Elite [Elite Squad]*, directed by José Padilha, Zazen Produções, 2007.

\(^{16}\) *Tropa de elite: O Inimigo Agora É Outro [Elite Squad: The Enemy Within]*, directed by José Padilha, Globo Filmes, 2010.
associated with these communities. Probably inspired in these films, video games such as *Call of Duty: Modern Warfare 2* for the Xbox game player have also created a Rio de Janeiro *favela* setting or map, where the users take the role of cops and enter these communities to kill drug dealers, giving them the vicarious experience of being in such an “exotic” and “dangerous” place.

Major Brazilian television networks have also taken advantage of this “*favela* sensation” by exploring stereotypical images of these communities in their *favela*-themed productions. For example, Globo TV, Brazil’s biggest media firm and one of the world’s largest commercial television networks, has produced four *telenovelas* about *favelas* since 2007. Interestingly, the name of one aired in 2015 was supposed to have been *Favela Chique* (Favela Chic) but was changed to *A Regra do Jogo* (The Rule of the Game) weeks before it went on air. This *favela* sensation shows that the more the media explore and highlight *favela* stereotypes, the more they become products that can be offered in the market.

Though this marketability of Rio de Janeiro *favelas* has a long history, it was intensified with the beginning of the pacification process in 2008. Pacification refers to the creation of Pacifying Police Units (*Unidades de Polícia Pacificadora*) – UPP’s. This program is managed by the Rio de Janeiro State government and aims to dismantle the organized crime controlled by gangs of drug dealers in these communities. Thirty-six UPPs have been created across the city since 2008. Since then, the interactions between the *favelas* and the outside world have increased, especially due to commercial reasons such the ones discussed above. However, little has changed in relation to the persisting stigma and discrimination faced by these communities’ residents.
In her forty-year study of Rio de Janeiro favelas, anthropologist Janice Perlman (2010) analyzed perceptions of the causes of stigma and discrimination for three generations of favela dwellers. A summary of her findings is in figure 14.\textsuperscript{17}

![Figure 14](image)

Figure 14. Sources of discrimination as perceived by three generations, 2001

The above figure shows that living in a favela continued to be the major source of stigma and discrimination across the three generations. Race/color, appearance, and place of origin were also perceived as important causes of discrimination, even though their effect has diminished somewhat over time. Therefore, it is important to study how language shapes and is shaped by the views people have around these issues as they continue to represent a source of major concern in these communities. Given that skin color and origin (i.e. birthplace within or outside Rio) are viewed as important elements for understanding some of the issues faced by favela dwellers and that these communities have been disproportionately populated by blacks and planes.

\textsuperscript{17} Adapted from Perlman (2010, 155).
migrants from the interior of the country, especially the Northeastern region of Brazil (Fischer 2014; Perlman 2010; Telles 2004), I will discuss these aspects in more detail in the upcoming sections.

1.4.1 Race/color

People in Brazil and the United States perceive race/color in very distinct ways, especially because of the way the two countries dealt with their African descent population during and after the period of slavery. Skidmore (2010, 35) argues that “The concept of race in a society involves differentiating groups considered as ‘other’ from the groups who view themselves as society’s insiders and therefore, in some sense, superior.” Within this perspective, a major difference between the two countries concerns the so-called one-drop rule. As Rout Jr. (1999, 367) points out, “Where the English settled, any measure of Negro blood made you a Negro. In Brazil, any discernible quantity of white blood made you at least a pardo (mulatto).” Thus, in the United States, this notion has always prevented Americans, especially African Americans, from breaking the rigidity of the country’s racial categories. In Brazil, on the other hand, miscegenation has been seen as a solution to whiten the population and so multiracial Brazilians have always been able and even encouraged to associate themselves with whites. Because of that they have often described themselves using words that give an idea of their position in the color continuum while avoiding the word negro (black) altogether (Da Matta 1991; Telles 2004). As an illustration, in 1976 the Brazilian Institute for Geography and Statistics (1999) did not used any racial category for the census and asked individuals to state what race/color they were, which led them to find that Brazilians used 134 different terms to
describe their skin color. In contrast, in the United States legal segregation forced African Americans to create a stronger sense of racial identity, which ultimately has been used as an important element in their struggle for civil rights.

In Brazil, even though Whites and Blacks had very distinct roles during slavery, their relations were mostly characterized by ambiguity. This led most of the population to believe in what has been described as the myth of racial democracy, or the idea that Brazil was a racially harmonious country. This idea was developed based on the work of cultural anthropologist Gilberto Freyre (1964) and it refers to his description of race relations in Brazil as an outcome of the country’s positive view on miscegenation (Telles 2004). However, this idea is far from the reality, and for many decades, the Brazilian black movements and a number of scholars have challenged Freyre’s ideas and demanded the implementation of public policies to minimize the consequences of racial inequality in the country. In recent years, there have been some positive changes, but racism remains a complex issue that needs to be dealt with.

Brazil was the main destination for the enslaved Africans sent to the New World during the Slave Trade. The country received nearly six million enslaved Africans, which correspond to almost half of the number of Africans taken out of the African continent. This is why Brazil has the largest Afro-descendant population outside Africa today (Skidmore 2010). In 2010, Brazil had a population of 191 million people (Brazilian Institute of Geography and Statistics 2011c). The 2010 census indicated that Brancos ‘Whites’ represented 47.7% of the population, followed by Pardos ‘Multiracial’ with 43.1%, Negros ‘Blacks’ with 7.6%, Amarelos ‘Asian’ with 1.1%, and Indígenas ‘Amerindian’ with 0.4% (Brazilian Institute of Geography and Statistics 2011c). For policy purposes, the Brazilian government and social scientists use the expression população negra ‘black population’ as an umbrella term to represent those who self-identify as both Black
and Multiracial in the census. Thus, Blacks correspond to 50.7% of the Brazilian population. However, they represent 66% of those who live in favelas (Institute of Applied Economic Research 2011), but Meirelles and Athayde argue that this percentage can be as high as 72%.

Based on the 2010 census, the city of Rio de Janeiro has a population of approximately 6.3 million inhabitants, of which 51.2% are White, 48% are Black (Blacks and Multiracial in the census), 0.7% are Asian, and 0.1% are Amerindian. Lack of reliable data makes it difficult to know the exact number of Blacks living in Rio de Janeiro favelas, but most people would agree with the fact that the history of Blacks in Rio is closely related to the emergence and development of favela communities across the city.

Enslaved Blacks were the major labor force in the sugarcane plantations of the Northeast region of Brazil and the coffee plantations and mining explorations of the Southeast from the mid-sixteenth century through 1888. This period corresponds roughly to the Colonial and Imperial eras of Brazilian history. After slavery was abolished in 1888, freed Blacks from these regions started to move to emerging metropolitan areas such as São Paulo and Rio de Janeiro to look for jobs and better opportunities. Faced with the challenges encountered in these cities, the newcomers saw the favelas as places where they could afford to build houses and start a new life. As the main destination for the incoming poor population in Rio de Janeiro and in other urban centers around the world, communities like favelas, that is, slums and shantytowns, have become the norm rather than the exception. Yet, because favelas are populated mainly by the poor and the poor in Brazil are disproportionally Black or multiracial, it is important to analyze how the social dynamics of race, class, and regional origin are involved in the ways inhabitants of these areas and outsiders use language to construct and negotiate their identities in different contexts.
1.4.2 Regional origin

As seen in section 1.2, Brazil is divided into twenty-six states and the federal district, distributed in five regions: North, Northeast, Central-West, Southeast, and South. *Nordestinos* or Northeasters represent a considerable portion of both the migrants and the *favela* population in Rio de Janeiro. Sometimes, people from the North Region are mistakenly included in the group of *Nordestinos* due to the cultural similarities the two regions share. As far as language is concerned, in each state of the North and Northeast Regions people speak dialects of Portuguese with very distinct features even though their accents may sound similar to an inexperienced listener. The difference between the Portuguese dialects spoken in the South and Southeast and those spoken in the North and Northeast of the country is even greater, as seen above in section 1.2. One way to understand this dialectal difference and common attitudes people have about it is to think of the Brazilian North and Northeast as the US South. In this sense, the stereotypical ideas usually associated with the Southern dialects of English in the United States are very similar to those associated with the Northern and Northeastern dialects of Portuguese in Brazil.

*Nordestinos* have been moving south for a long time. In fact, they represented 37.9% of those who immigrated to Rio de Janeiro based on the 2010 census (Instituto Pereira Passos 2013). The main reason for them to migrate has been the constant droughts that caused unemployment and worsened the life conditions of entire communities in the Northeast. Given that industrialization started to flourish in southeastern cities like Rio de Janeiro, especially after the 1950s, moving south represented a possibility of having a better life. This one-way migration route has probably been the most significant in Brazilian history. As Telles (2004, p. 19) explains,
While the South and Southeast have been described as class societies marked by massive European immigration, industrialization, and early urbanization, the Northeast and North have been characterized by their especially great differences and a castelike system, inherited from slavery but not transformed by industrialization or immigration.

This socioeconomic difference between north and south has always been a major source of contention among Brazilians, but it became even more problematic during the 2014 presidential elections. After the results of the first and the second rounds, people used social media platforms to attack Nordestinos by inciting physical violence upon them. Some even proposed the total separation of the Northeast from the rest of the country as a punishment for reelecting president Dilma Rousseff, the candidate for the Partido dos Trabalhadores ‘Worker’s Party’ and an advocate for social programs, including income redistribution. Because the states of the North and Northeast Regions are the most affected by extreme poverty, they are the ones that benefit the most from these income distribution programs. The alleged argument behind such hatred was the fact that these social programs were a way to help the Worker’s Party win the presidential election. Unlike the violent attacks perpetrated by groups such as the Skinheads (Costa 2011), separatists expressed their resentment against the Northeast and the Nordestinos by posting Twitter and Facebook messages in which they made reference to many stereotypical ideas commonly associated with this group, including illiteracy, laziness, and backwardness (O Estado de São Paulo 2014; Tharoor 2014; Young 2014). It is important to think about how the intolerance and prejudice expressed in this behavior affect people’s language in everyday situations given the fact that people in the states of the north and of those of the south are associated with different dialects, including different variants of postvocalic /s/. While in Rio de Janeiro the palatal is the preferred realization for postvocalic /s/, in the most parts of the North...
and Northeast Regions, especially in the interior, the preferred variant is the alveolar. The exception would be the states located along the coastline, in which a more balanced distribution of these two variants is expected. As noted above, this is the case of Salvador in the state of Bahia, and Recife in the state of Pernambuco.

In addition to language, physical appearance is also used to spot those who may have a different origin in Rio de Janeiro. There, a Nordestino person is often referred to as Paraiba, which is actually the name of one of the nine states of the Northeast Region. In that context, however, it is used in reference to anybody who shares the imagined physical and/or intellectual stereotypical characteristics usually attributed to Nordestinos as a group. Language represents an important element in this characterization, because individuals can be easily identified and sometimes mocked based on their dialects. As it is possible to spot linguistic differences on all levels, one can expect that in a city like Rio de Janeiro sociolinguistic variation can be a tool for the demarcation of important identity boundaries among groups. Having covered some major aspects of favela communities in Rio de Janeiro, I now turn to a discussion of City of God, which is the site for this dissertation research.

1.5 City of God

City of God (Cidade de Deus) or simply CDD is a good example of the issues surrounding the conceptual aspects and demographic composition of favelas or popular communities in Rio de Janeiro. This is the main reason why it was chosen as the site for the present research. As can be seen in figure 15 below, City of God is one of the subdivisions within the area called Jacarepaguá in the West Zone of the city of Rio de Janeiro.
The area called City of God started out as a planned housing complex in the first half of the 1960s. This community is one of four housing complexes built in Rio de Janeiro by the Companhias Habitacionais – COHAB (Housing Companies), a federal government program for the creation of popular housing around the country. The other three communities were Vila Aliança ‘Alliance Village’ in Bangu (West Zone), Vila Esperança ‘Hope Village’ in Vigário Geral (North Zone), and Vila Kennedy ‘Kennedy Village’ in Senador Camará (West Zone). This last one was named after former United States president John F. Kennedy, whose government invested in the Alliance for Progress Project, created to promote social and economic development in Latin America (Zaluar 2007).

In building housing complexes like City of God, the main objective of Rio de Janeiro State (then Guanabara State) government was to remove favela residents from other areas of the city, especially the South, North, and Central Zones. Despite its original plan, the first group of
residents of this community came from communities that were displaced by the devastating storms that affected the city of Rio de Janeiro in January 1966. Exactly fifty years ago, some media outlets recorded these storms as the worst of the twentieth century and the most damaging natural disaster that ever occurred in the city. Some even referred to them as the great deluge, in association with the Biblical narrative of Noah’s Ark. Most of these people lost their homes and belongings to the floods and landslides caused by the heavy storms and so had to be sheltered at the Maracanã soccer stadium and other public facilities. Around March of 1966, some of these families were assigned a home in City of God, which was then a brand new housing complex but not yet completely finished.

Each housing unit consisted of one living room, one kitchen, and one or two bedrooms. Some people were also sent to temporary housing units called triagens (screenings) or vagões (wagons), which became permanent due to the increasing number of homeless people and the scarcity of housing. Yet, this original portion of the neighborhood had basic infrastructure, including electricity and shared bathrooms and water fountains located in its squares. Its streets, avenues, and squares, mostly named after biblical characters or stories, were also planned. However, because the city was not yet fully developed at that time, all stores and public services, such as healthcare facilities and schools, were only available in the neighboring areas, from and to which there was limited or no public transportation. Eventually, the construction of new houses and apartments continued but was not enough to absorb all the people who needed to be housed at that moment. The government’s plan was to build houses for poor families for an affordable price. However, as some of the families who went to City of God did not or could not make the required monthly payments, they started to be evicted from their houses. As a result,
these homeless families started building wooden and cardboard shacks along with brick houses in the vicinity of City of God proper.

City of God’s fame can be attributed to media coverage of its history and development. First of all, for decades it witnessed many confrontations between gangs of drug dealers, who were trying to gain control over the drug business in the community. The outcome of these confrontations (deaths, injuries, etc.) would often be reported in local and national newspapers and on television news programs. Moreover, the history of the community or more especially the history of those who were involved with crime inspired the novel Cidade de Deus by former resident Paulo Lins (1997). This book was later adapted into a screenplay for a movie with the same name and was released in 2002. The movie became a huge success and received four Academy Award nominations. After decades of violence caused by the constant clashes between the police and the rival gangs that controlled different but opposing areas of the community, City of God had its UPP (Pacifying Police Unit) installed in 2009. This may not have solved the crime problems the community’s residents have had but at least gave them some hope. In any case, the process of pacification has opened the community’s doors to tourists and important visitors like United States president Barack Obama and First Lady Michelle Obama, who paid a visit in March 2011.

Currently, City of God is one of the 33 administrative regions and one of the 160 neighborhoods of the Rio de Janeiro municipality. The 2010 census reported that City of God had a population of 36,515 inhabitants at that time. Out of this number, 52% (19,001) of its population self-identified as Pardo(a) (Multiracial), 20.6% (7,540) as Preto(a) (Black), 26.1% (9,541) as Branco(a) (White), and 1.2% (433) as Amarelo(a) (Asian). Combining the number of Blacks and Multiracial people, we can see that the Black population in City of God represents
72.6% (26,541) of its inhabitants. However, based on census data from IBGE and Pereira Passos Institute, only 13% (4,596) of the residents of City of God lived in favelas in 2010 (Cavallieri and Vial 2012). The map (figure 16)\(^\text{18}\) shows the estimated number of people living in favelas by neighborhood in Rio de Janeiro city.

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\(\text{Figure 16. Population in favelas by neighborhood}\)

\(\text{Translated and adapted from Cavallieri and Vial 2012, 18.}\)
The map below (figure 17), also produced by the Pereira Passos Institute, shows the location of the areas considered *favelas* or subnormal conglomerates (in red) within the area covered by the Pacifying Police Unit in the City of God community.

![Map of City of God showing favelas](accessed April 11, 2016)

Figure 17. *Favelas* or subnormal conglomerates located in City of God

The above map shows eleven areas (in red) that are categorized as subnormal conglomerates or *favelas*, according to the criteria used by the federal and local governments. Based on this information, one can conclude that the area called City of God is not considered a *favela*, except for some parts of its territory. Nevertheless, it is referred to as a *favela* by some of its residents, by outsiders and, more importantly, by the mainstream media. As discussed before, because the term *favela* carries negative and positive connotations or meanings, people react to it differently. For some, this term represents nothing more than the negative stereotypes.

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reproduced constantly by the mainstream media. For others, especially its residents, the word *favela* has been redefined as a symbol of pride, as evidenced, for example, in the lyrics of samba, rap, funk, and hip-hop music (Meirelles & Athayde 2014; Perlman 2010, ). The samba song *Favela* is a well-known example of a song that highlights the positive characteristics of *favelas* but also calls attention to its complex realities:

Favela

<table>
<thead>
<tr>
<th>Favela, ô</th>
<th>Favela, ow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Favela que me viu nascer</td>
<td>Favela that witnessed my birth</td>
</tr>
<tr>
<td>Eu abro o meu peito e canto o amor por você.</td>
<td>I open my heart and sing my love for you.</td>
</tr>
<tr>
<td>Favela, ô</td>
<td>Favela, ow</td>
</tr>
<tr>
<td>Favela que me viu nascer</td>
<td>Favela that witnessed my birth</td>
</tr>
<tr>
<td>Só quem te conhece por dentro</td>
<td>Only those who know you from the inside</td>
</tr>
<tr>
<td>Pode te entender.</td>
<td>Can understand you.</td>
</tr>
</tbody>
</table>

The various views regarding the concept of *favela* suggest that the term’s official definition should indeed be revised so that it incorporates the nuances that exist in public discourse but not (yet) in official definitions. I argue then that the way the various branches of the government define subnormal agglomerates, which in the case of Rio de Janeiro corresponds to *favelas*, seems to be different from the way these communities are perceived by the general public. The argument made earlier and repeated here is that the public discourse about these areas has always reinforced the idea that they are inherently bad, ugly, violent, and poor. Except for legislators and policy makers, it does not really matter if these communities meet the government’s criteria or not, because what seems to influence people’s perception about these places has more to do with social and racial inequality than with matters such as housing type and access to public services. In other words, the fact that these areas tend to be mostly

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20 Songwriter: Leandro Sapucay [My translation].
populated by people of a certain race/color and origin speaks to the serious inequality issues that Brazil has to face as a nation. Therefore, because City of God epitomizes all of these issues, the present research takes it as the site for the study of the relation between language and identity, including facets of identity that are especially pertinent to Rio and to favelas that have not previous been examined in detail in sociolinguistic studies of Brazilian Portuguese or the Carioca dialect.

1.6 Motivations for the study

Rio de Janeiro favelas have been the topic of numerous studies but little attention has been given to how language intersects with issues related to place of residence, race/color, and origin in these areas. After studying favelas in Rio de Janeiro for more than four decades, anthropologist Janice Perlman expresses the significance of these issues by saying that:

While much has been written about race and gender in Brazil, there is no work I have seen comparing racism or sexism with other forms of exclusion based on place of residence, place of community (central or peripheral), and place of origin (Rio-born versus migrant). These combined factors, signalled [sic.] by clothing, speech, body language, and cues about class, are what create the overall impression –the ‘pinta’ of the person. (Perlman 2010, 153)

Pinta here refers to the way someone comes across to other people. It is mostly based on people’s perceptions of how a certain individual meets or does not meet the requirements to be considered a member of a certain group. Stereotypes play a major role in how each person is “read” by other people as they point to social expectations about how a person should behave, speak, dress, and be.
Another point to be considered is that race/color has not been extensively incorporated as a social category in variationist studies of Brazilian Portuguese. This is partially due to the fact that Brazilians have for so long believed that Brazil is a racial democracy, an idea that was widely disseminated by the work of Gilberto Freyre ([1933] 1964). One important exception, though in the field of discourse analysis rather than quantitative sociolinguistic variation analysis, is the work of Mércia Flannery (2005; 2008a; 2008b), who analyzed identity construction, racial discrimination, and stigma in narratives told by Black Brazilians. In any case, it is important that we study more exhaustively the patterns of speech in communities such as favelas, which are populated mostly by Blacks.

In addition, sociolinguists have made invaluable contributions to the study of variation in Brazilian Portuguese but have given more emphasis to the speech of more educated groups, who tend to use more standard forms. For example, one of the largest sociolinguistic projects ever carried out in Brazil was the Urban Standard Norm Project - NURC Project. In the 1970s and 1990s, the researchers in charge of the project collected and analyzed sociolinguistic data from college-educated speakers in five Brazilian city capitals, namely Porto Alegre, Recife, Rio de Janeiro, Salvador, and São Paulo. The results of these studies have provided material for the publication of many grammar books, dictionaries and other scholarly works.

One point to consider is the composition of the population interviewed for the NURC project. In terms of race/color, for example, the percentage of Blacks ages 24 to 64 who completed college in the 1970s was less than 2% and less than 4% in the 1990s. For Whites, these percentages were 4% and 12%, respectively (Telles 2004). Currently, among those who live in favelas in Rio de Janeiro, only 1% has a college degree (Meirelles and Athaide 2014). As the researchers in the NURC project only controlled for age, sex, and education (college), one
can conclude that the speech of working class Blacks – or Whites – was not significantly represented in the project.

Thus, the major studies on postvocalic /s/ sociolinguistic variation that came out of the NURC project carry the same limitations. Important exceptions are the studies of Callou and Marques (1975) and Bassi (2011), which were reviewed above in section 1.3.3. Given the patterns of postvocalic /s/ sociolinguistic variation in Rio de Janeiro observed in these studies, a problem that emerges is that there still exist many stigmas and negative attitudes toward those who use the non-prestige pronunciations, namely the glottal fricative, /s/ deletion, and, to a lesser extent, the alveolar fricative. Corroborating this idea, Edwards (2009, 65) points out that if “popular attitudes about the superiority/inferiority of languages are resistant to change despite the weight of linguistic evidence, then those concerning styles, accents and dialects are even more deeply ingrained.” In this sense, social pressure can be seen as a factor that stimulates the use of more prestigious variants or varieties. Speaking on this issue, Guy & Zilles (2008, 54) add that “Varieties that are labeled according to the prevailing social wisdom as substandard, incorrect, uneducated, bad, sloppy, or whatever pejorative is attached, are often the deliberate targets of efforts at assimilation or eradication.” With this in mind, the present research attempts to address this belief structure by examining the relationship among language, style, and social identity in City of God, Rio de Janeiro.

All of the elements considered above point to the necessity of new investigations about the various social meanings associated with speakers’ use of the different variants of postvocalic /s/ available to them in their linguistic repertoire. In addition to the quantitative study of the linguistic and social conditioning of /s/ variation across social groups, this study also analyzes how this variable is used in unfolding discourse, thereby providing an up-to-date and
comprehensive account of how the variants of /s/ relate to place of residence, race/color, and origin. This investigation also examines the dynamics of identity construction by analyzing the relationships between the various variants of postvocalic /s/, their associated social meanings, and the stances taken by speakers in conversation regarding how their community fits within the residential organization of Rio de Janeiro and within the discourse that categorizes it as a favela.

Considering this perspective, it seems plausible to approach postvocalic /s/ in Brazilian Portuguese using current views of the study of identity and two current sociolinguistic frameworks: a) speaker design or third wave approaches to stylistic variation with a focus on the notion of indexicality (Eckert 2008; Silverstein 1976; Silverstein 2003; Ochs 1992; Ochs 1993), and b) the stance triangle (Du Bois 2007). I describe these frameworks in detail in chapter two. Ultimately, it will be possible to get a better understanding of how individuals use language to express and negotiate their various identities using a combination of quantitative and qualitative approaches. In the next section, I present the research questions that this investigation intends to answer.

1.7 Research questions

The present study is aligned with social constructionist views on identity in combination with the concepts of indexicality (Eckert 2008; Silverstein 1976; Silverstein 2003; Ochs 1992; Ochs 1993) as applied within third wave or speaker design approaches to stylistic variation (Eckert 2012; Schilling 2013), and the discourse analytical treatment of stance in interaction (Du Bois 2007) in order to answer the following research questions:
1) What are the patterns of postvocalic /s/ variation in Rio Portuguese across groups of speakers in the City of God community? How do race/color and regional origin affect the variable patterns of this variable?

2) What stances do individual speakers take in conversations about the status of City of God within the residential organization of Rio de Janeiro? How does postvocalic /s/ sociolinguistic variation relate to these stances?

3) Do speakers index identities of place, race/color, and regional origin in their situated use of postvocalic /s/? If so, how do the variants of postvocalic /s/ relate to these identities?

In attempting to answer the above questions, this research aims at making the following contributions. First, it intends to provide the first study to date that examines how postvocalic –s is used by residents of a community that is defined as a favela in Rio de Janeiro, hopefully connecting their patterns of use of the variants of this variable to how they index identities of place, race/color, and regional origin. In doing so, I expect to offer a major contribution to the ongoing study of Portuguese in general, and Popular Brazilian Portuguese in particular. Second, I also intend to examine postvocalic –s in terms of intra-speaker or stylistic variation, thereby gaining important insight into the social meaning(s) of its variants and how they are used in interaction to make and shape personal, interpersonal, and group identities. Finally, I plan to make a contribution to the field of sociolinguistics by augmenting a quantitative variation analysis with a discourse-oriented perspective, attempting to identify the ways in which speakers relate the social meanings associated with a phonological variable to the stances they take in conversations about the residential organization of Rio de Janeiro and how their community fits within it.
1.8 Organization of the dissertation

The objective of this first chapter was to give an introduction to some of the aspects that are fundamental to this dissertation research, such as the centrality of Rio de Janeiro Portuguese among the Brazilian Portuguese dialects and within it the importance of postvocalic /s/ sociolinguistic variation as one of its most characteristic features. In this chapter, I also discussed some of the ways in which Rio de Janeiro favelas fit within the residential organization and the culture of the city as a whole. Due to the differences in demographics found in favela communities and the more formal spaces around in Rio de Janeiro, I included a discussion on race/color and regional origin as essential elements for the understanding of how these communities have developed around the city. Towards the end of the chapter, I presented City of God as an example of the discrepancy between the official and public discourses concerning the definition of and attitudes toward various types of communities and their residents.

In the second chapter, I focus on the theoretical frameworks that guide the present research. I then consider some of the elements that make third wave or speaker design approaches to stylistic variation suitable to the present research, emphasizing the notions of indexicality and identity as they fit into these models. That chapter ends with a discussion of some principles of the stance triangle theory as it applies to this study.

The third chapter is dedicated to the data and methods. In this part of the dissertation, I give more details about the data selection process and the selection of participants. I also provide information about the variables analyzed in the study and the procedures for data coding and analysis.
In chapters four and five, I present the quantitative and qualitative analysis, respectively. I end the dissertation offering the conclusions of this study and discussing some of the limitations encountered along the way as well as suggesting ideas for future investigations.
Chapter 2. Theoretical framework of the study

The present study is guided by the belief that analyses of language use can enhance our understanding of how individuals use language to encode and express identity across different contexts, shedding light on how the dynamics of identity operate within a speech community. As such, this research is informed by current approaches to stylistic variation referred to as third wave or speaker design approaches and stance, both of which are aligned with social constructionist views on identity.

Postvocalic /s/ sociolinguistic variation can be seen as a linguistic resource encoded in speakers’ speech styles to index affiliation with or distance from census categories or social groups. In addition, stancetaking in interaction can provide a useful framework to examine how speakers relate to some of the topics explored in the present research and how the stances taken are associated with the social meanings associated with the different variants of postvocalic /s/. In the next section, I present some of the guiding principles of third wave or speaker design approaches, followed by a consideration of some of the central ideas underlying studies conducted under the stance framework.

2. 1 Third wave or speaker design models

Third wave or speaker design approaches to language variation focus on how variants are used by individuals in unfolding interaction (Eckert 2012; Schilling 2013). The theoretical and methodological principles associated with these approaches can be better understood by taking into consideration some of the milestones of the field of variationist sociolinguistics and, within them, the study of stylistic variation. Eckert offers an account of the evolution of the field by
considering the treatment of the social meaning of linguistic variation in different periods. 
According to her, the way social meaning is conceived throughout the variationist sociolinguistics tradition gives the reasoning behind a division of its research accomplishments into three phases or waves of variation studies. Similarly, Schilling (2013) proposes a timeline for the three major approaches to the study of stylistic variation, namely Labov’s (1972b) attention to speech, Bell’s (1984; 2001) audience design, and speaker design approaches. Following Soukup (2011), Schilling argues that these approaches correlate roughly with Eckert’s three waves of variation study. With this in mind, in what follows I briefly discuss some of the connections between these two proposals and then focus on the major principles of third wave or speaker design approaches as they relate to the present study.

Eckert (2012, 88) acknowledges the importance of Labov’s (1963; 1972b) study of Martha’s Vineyard as the first “quantitative community study of linguistic variation.” This well-known study focused on the social meaning associated with speakers’ use of different variants of /ay/ and /aw/. In the study, Labov found that islanders who expressed closer affiliation with the island community favored the production of these diphthongs with centralized nuclei, whereas those with less affiliation to the island favored productions with low nuclei, the more common production in the speech of incoming visitors from the mainland. Nevertheless, Eckert argues that first wave studies started with Labov’s subsequent work on the Social Stratification of English in New York City (1966, 88), at which time “the social study of variation moved quickly away from social meaning to focus on macrosociological categories as they reveal (and presumably structure) the spread of linguistic change through social space.” Under this framework sociolinguists attempted to find relationships between patterns of linguistic variation and socioeconomic categories by using methodological strategies to access speakers’ vernacular
speech or “the style which is most regular in its structure and in its relation to the evolution of the language (…), in which the minimum attention is paid to speech” (Labov 1972c, 112).

The emphasis on the vernacular constituted one of the main principles of Labov’s attention to speech model for stylistic variation. In this model, styles could be ordered in a continuum based on the level of formality perceived in a given context, which would be directly proportional to the amount of attention paid to speech, ranging from a careful speech style (formal) to a more casual speech style (informal) (Labov 1972a). The different styles were assessed by looking at the variable patterning of linguistic variables within the various contexts that arise during the course of the conversational sociolinguistic interview (e.g. narrative, talk about language, talk about childhood), as well as speakers’ performance on some additional tasks such as a reading passage, a word list and minimal pairs. Despite its importance, the attention to speech model has been criticized for its unidimensional focus and its emphasis on the vernacular as unselfconscious speech (Eckert 2012, Schilling 2013). As Schilling (2013, 332) explains, “sociolinguists increasingly are coming to see all speech as self-conscious to a degree and stylistic variation as a primary means for the creative performance of personal identity, interpersonal relations, and social categories and meanings.” Also, because stylistic variation was viewed as a result of different levels of attention to speech, no clear role was assigned to speaker agency (Eckert 2012).

Second wave approaches involve the incorporation of more systematic ethnographic fieldwork in the study of language variation and “the attribution of social agency to the use of vernacular as well as standard features and a focus on the vernacular as an expression of local or class identity” (Eckert 2012, 91). In this regard, Eckert classifies Labov’s Martha’s Vineyard study as a second wave study, even though it pre-dates first wave studies such as Labov’s New
York studies. Other important second wave studies include Milroy and Milroy’s social network-based studies of language variation in Belfast (Milroy 1987; Milroy and Milroy 1992) in which the vernacular was conceived as a tool for the expression of group identity.

Building on this perspective, Eckert (2000, 35) employed the concept of community of practice as “an aggregate of people who come together around some enterprise” to analyze how linguistic variation and social meaning were co-constructed in the speech of Detroit adolescents. These studies therefore highlight the necessity of focusing on relevant local categories and practices in order to describe how speakers use linguistic resources to index social meaning, including group identity.

Bell’s (1984) audience design model for stylistic variation was formulated around the same time second wave approaches started to make their way into the field of sociolinguistic variation. A development of Howard Giles’ and colleagues’ Speech Accommodation Theory, audience design represents a relational or interactional perspective, in which “variation in speech style can be explained as speakers/communicators designing their speech/communicative output in relation to their audiences” [emphasis in original] (Coupland 2007, 54). Moreover, the notion of audience is multifaceted, and its various effects on speakers can be measured based on different levels of audience participation (Schilling 2013).

Studies carried out under the audience design model have shown that speakers also shift their style to conform to changes in topic, setting, and channel. For example, Rickford and McNair-Knox (1994) tested the effects of addressee and topic in the speech style of “Foxy,” an African American teenager resident of East Palo Alto, CA. The authors showed that Foxy’s usage levels for some AAVE features was greater when she talked with the African American
interviewer than with the European American interviewer. They also found that Foxy also style-shifted within interviews based on changes in topic.

Despite its prominence in the area of stylistic variation research, there has been some criticism about some of the principles of the audience design approach. For instance, Schilling (2013, 336) points out that one of the questions about audience design concerns which attributes of the audience speakers respond to when shifting styles. As she points out, they could be responding to characteristics such as ethnicity, age, gender, familiarity, personality, or even addressees’ interactional goals. Finally, like the attention to speech theory, audience design has a limited view of agency, especially because stylistic variation is explained based on the premise that speakers’ style shift primarily as a response to their audiences.

In contrast to both attention to speech and audience design, current third wave studies are orientated towards speakers’ agency and creativity, and so they are also referred to as speaker design approaches. According to Eckert (2012, 97-98), “the emphasis on stylistic practice in the third wave places speakers not as passive and stable carriers of dialect, but as stylistic agents, tailoring linguistic styles in ongoing and lifelong projects of self-construction and differentiation.” In Schilling’s (2013, 340) words, third wave studies focus on “how speakers use linguistic variation in interaction to shape personal identity, interpersonal interactions, and, as individual usages cohere into individual and group styles, to shape group identities as well.” Therefore, in speaker design models there is an emphasis on how speakers creatively employ the different linguistic variants and varieties available to them in their linguistic repertoire to construct and negotiate their identities in local interactions.

The analysis of stylistic variation in situated interactions points to another central aspect of speaker design approaches, which is their alignment with postmodern views on identity. There
are many conceptualizations of identity in the social sciences, but in this research I adopt a
definition proposed by Kiesling (2013, 450), who defines it as “a state or process of relationship
between self and other; identity is how individuals define, create, or think of themselves in terms
of their relationships with other individuals and groups, whether these others are real or
imagined” [emphasis in the original]. Despite its general scope, this definition emphasizes two
aspects that are essential to current understandings of identity and as such are important to the
present study. The first aspect is the understanding of identity as a process rather than a product.
In other words, identity is seen as a fluid, dynamic, and multifaceted construct. This means that
individuals have no fixed, essential or permanent identities (Hall 1992). In this perspective, it
seems plausible to view identities as something that can be socially constructed and are renewed
so that they appear stable (Kiesling 2013).

The second aspect has to do with the role of relationship building as a way to activate the
notions of subjectivity and intersubjectivity among individuals. Implicit in this idea is the fact
that individuals perceive or make sense of their own identity in relation to other individuals or
groups. Interactionally, for example, the act of saying “I” is one of the most basic ways of
establishing a kind of relationship with another person because it presupposes the existence of a
“you” (Benveniste 1971). According to Kiesling, relationships can be defined based on a number
of factors, including similarity and difference, affinity, solidarity, hierarchy, power, status, and
stratification. Also, these relationships are contextualized in terms of dimensions, scales, or
communities. These levels of identification include large census categories, institutional roles,
places, and stances or positions in interaction.

With speaker design approaches, the focus of variation analysis has shifted in order to
incorporate the idea that belonging to particular large census categories can no longer be used as
explanation or causation for individual and group linguistic patterns. However, the quantitative patterning of linguistic variation in these broad social categories is still very important to the analyst because it provides a backdrop to more situated analyses of language variation in individual speakers and in unfolding discourse. Indeed, third wave approaches challenge both the view of identity as group affiliation and the existence of apparently static categories of speakers (Eckert 2012). As Eckert (2012, 93-4) puts it, “The principal move in the third wave then was from a view of variation as a reflection of social identities and categories to the linguistic practice in which speakers place themselves in the social landscape through stylistic practice.” Thus, the meaning of variation and its mutability become central elements in studies developed under this framework. And this is only possible because “variation constitutes a social semiotic system capable of expressing the full range of a community’s social concerns” (Eckert 2012, 94). Within this view, style is a linguistic resource used for specifying and negotiating meaningful nuances of groups’ shared experiences and individuals’ stances in relations to them. One way to approach these social meanings is to look at how they are indexed in interaction and through stancetaking. The next section will be devoted to the discussion of these concepts as they apply to the current research.

### 2.2 Indexicality and stance

The notion of indexicality represents a very useful framework for the analysis of identity expression. For Kiesling (2013, 457), “[a]n index is a type of sign in which the signified is inherently or directly connected to its signifier” [emphasis in original]. Thus, as Ochs (1996, 411) explains, “To index is to point to the presence of some entity in the immediate situation-at-
hand.” In language, this function is performed by the linguistic index, which Ochs (1996, 411) defines as “a structure (e.g. sentential voice, emphatic stress, diminutive affix) that is used variably from one situation to another and becomes conventionally associated with particular situational dimensions such that when that structure is used, the form invokes those situational dimensions.”

Speaking of the connection between the mutability of indexical signs and the idea of indexical order (Silverstein 2003) in third wave studies, Eckert explains that a linguistic feature that is associated with a certain population can be used as an index. As such, “It can then be called up in ideological moves with respect to the population, invoking ways of belonging to, or characteristics or stances associated with, that population” (Eckert 2012, 94). Taking this as a starting point, it is important to stress the fact that styles and their social meanings should also be analyzed in relation to their broader social context, since “interactional stances and identity categories are implicated in social orders and ideologies about social order” (Schilling 2013, 342). In this sense, the social and historical context then provides the boundaries without which the interpretation of particular linguistic forms and their related social meanings, including the stances they may index, have no reference and so become empty.

Stance is seen here as a resource for identity construction in interaction. Du Bois (2007, 163) defines it as “a public act by a social actor, achieved dialogically through overt communicative means, of simultaneously evaluating objects, positioning subjects (self and others), and aligning with other subjects, with respect to any salient dimension of the sociocultural field.” Stance is essential to this investigation because it helps to shed light on how individuals perceive themselves and others in relation to the social meanings indexed by the different variants of postvocalic –s and how they can manipulate these meanings to fulfill their
interactional goals. In this sense, this definition provides a useful framework for analyzing stance based on three dimensions: objectivity, subjectivity, and intersubjectivity. Du Bois’s stance triangle, shown in figure 18 below, is probably the best way to put these ideas together.

![Stance Triangle Diagram](image.png)

Figure 18. The stance triangle

It is possible to see how each element of the stance triangle interacts with each other element, so that each relationship is expressed in terms of the stance actions it produces. For example, the objectivity dimension is defined by the relationship between a stancetaker (subject 1 or 2) and the object of stance through an evaluative stance. In Du Bois’s (2007, 143) terms, evaluation refers to “the process whereby a stancetaker orients to an object of stance and characterizes it as having some specific quality or value.” Sentence (1) below shows an example of evaluation along the dimension of objectivity:

(1) Mary: Linguistics is interesting.
The predicate in example (1) (is interesting) is used by Mary (the person responsible for the utterance) to evaluate a particular object (linguistics). In the case of subjectivity, the subject creates a relationship with an object of stance by positioning him or herself in relation to it. In the following interaction between Mary and Sam, sentence (2) is an example of positioning.

(1) Mary: Linguistics is interesting.

(2) Sam: I’m glad.

In this example, Sam responds to what Mary said in sentence (1) about her evaluation of linguistics. As in any interpretation of stance, the notions of contextualization cues (Gumperz 1992) and dialogicality (Bakhtin [1934] 1981) play an important role here as they provide both the basis and/or the grounds for the understanding of the interaction. Contextualization cues, referred to by Du Bois’s (2007) as indexical signs, are elements that are essential to the interpretive or inferential work that participants need to engage in so that communication can effectively take place (Gumperz 1992). Dialogicality refers to the idea that no utterance is produced in a vacuum; one’s utterances derive from the words of others who have spoken before, immediately in the current interaction or remotely. In our example, Sam’s positioning act can only be understood in the context of Mary’s preceding interactional move. Thus, Sam’s utterance is interpreted as ‘I am glad [that (linguistics is interesting) to you].’

In (2), Sam’s positioning act, the expression of subjectivity is a result of the connection between the subject (I), the predicate (am glad), and the preceding objective stance created by Mary’s utterance.

The third and last dimension of the stance triangle is intersubjectivity. In this case, the act of stance connects one subject to another through alignment. For Du Bois (2007, 144), alignment “is the act of calibrating the relationship between two stances, and by implication between two
Agreement is the most basic way to create alignment in interaction, as can be seen in example (4) below.

(4) Peter: It’s hot today.

(5) Jim: I agree.

The relation of intersubjectivity between Jim and Peter is expressed through Jim’s agreement (I agree) with Peter’s preceding comment about the weather condition (It’s hot today).

In building these relationships, speakers can also index affective and epistemic stance. Affective stance refers to the degrees of emotional involvement that are encoded in a stance action. This includes moods, attitudes, feelings, dispositions, and so on (Ochs 1996). In English, an example of affective stance is the difference in intensity that is expressed in the sentences I like apples and I love apples. The propositional content of each utterance is very similar; however, the second one shows a higher level of emotional involvement. According to Ochs, many linguistic elements can be used to index this kind of stance, including quantifiers, phonological lengthening, interjections, laughter, and repetition.

Epistemic stance relates to the different kinds of intellectual involvement that are conveyed by speakers. Speakers use a variety of linguistic elements, such as adverbs, adjectives, and modal verbs, to index this kind of stance, which not only indicates the level of certainty the speaker has in relation to the knowledge s/he is conveying, but also information regarding the ways in which it was acquired and how reliable it is (Chafe 1986; Ochs 1996). The linguistic marking of epistemic stance can also shed light on the dynamics of power and authority among interactants (Jaffe 2009) by encoding information regarding rights and access to specific knowledge domains.
In third wave models, stance has made it possible for sociolinguists to go beyond the usual correlations between group patterns of language variation and large census-like categories to look into how speakers mobilize the various linguistic resources at their disposal to create and negotiate individual, interpersonal, and social identities. In this perspective, “the concept of stance is a uniquely productive way of conceptualizing the processes of indexicalization that are the link between individual performance and social meaning” (Jaffe 2009, 4). Thus, quantitative analysis continues to be important because it helps the analyst locate these group associations so that s/he can explain them in more detail in more situated discourse.

2.3 Previous studies on the intersection of stylistic variation, indexicality and stance

The present study takes as its premise Kiesling’s (2009) idea that stancetaking is an essential element influencing how speakers choose different linguistic forms as resources to negotiate social meanings and/or to create new ones. In this sense, speakers can use different variants to index qualities or stances that are associated with the individual and group identities they wish to express in interaction (Eckert 2008). In this section, I offer three examples of works that have examined the relation between stylistic or intra-speaker variation, indexicality, and stance.

Kiesling’s (1998) study of the variation patterns of the variable –ing in a college fraternity is one of the works that has explored the intersections among stylistic variation, indexicality and stance in the construction of identity. In this study, Kiesling employs a mixed-methods approach to analyze the occurrences of the variants of –ing (-ing/-in) by speaker, following phonological environment, grammatical category, and activity type (interview speech,
meeting speech, and “socializing” speech). Kiesling found that the alveolar variant –in was used by the fraternity men in his study to index alignment roles, activity types, and stances that helped them create individual and group identities. In his analysis, higher rates of the nonstandard variant (-in) were associated with fraternity values related to both relaxedness (i.e. being “laid back” and hardworkingness (Kiesling 2009). This variant was also related to stances that were confrontational, and which implied nonconformity to hierarchical power. Kiesling’s (1998) analysis stressed the importance of viewing contextualization and social relationships as essential elements to the interpretation of linguistic variables. As he explains, “The variable alone has no ‘meaning’ as such; ‘meaning’ comes about only when an identity takes shape through the tension between text and context and the negotiation between speaker and hearer (Kiesling 1998, 94).” In other words, linguistic variation is only meaningful when seen in relation to its social, ideological, and situational constraints.

Another example of the treatment of stylistic variation, indexicality, and stance is Kiesling’s (2004) study of the term dude among American English speakers in the United States. Based on the observations made by college students in the United States, Kiesling showed that dude was mostly used by young men to address other young men. The study indicated that, under the boundaries of its contexts of occurrence and the social relationships among interactants, dude could simultaneously index stances of both solidarity and distance. Kiesling refers to the combination of these two kinds of stances as cool solidarity. As dude is also associated with masculinity, the study suggests that young European American men use this term to index membership in the “heterosexual male” identity category as well (286). Kiesling’s account of the term dude provides an illustration of how speakers can employ lexical items to construct identities by activating stances that are linked to these elements.
Podesva (2007) also provides an example of the study of stylistic variation, indexicality, and stance. He analyzed the social meanings indexed in falsetto phonation, a voice quality feature, in the speech of Heath, a white medical school student at an East Coast American university. The analysis was based on three major interactional contexts: a barbecue with friends, a phone conversation between Heath and his father, and a doctor-patient interaction. Employing quantitative and qualitative approaches to analyze the data, Podesva found that Heath’s falsetto was more frequent and of longer duration when he was interacting with his friends at the barbecue. Based on Heath’s patterns of falsetto use, Podesva concluded that this supra-segmental feature was used to construct a “diva” persona (i.e. a style of self-presentation that emphasizes flamboyance, image-consciousness and rather arrogant superiority), a facet of Heath’s identity that came to the forefront when he was interacting with his friends but which was more backgrounded in his professional interactions and when talking with his father. Podesva also considered Heath’s use of falsetto as a linguistic resource to build a gay identity. In this study, one can see that Heath utilizes some of the possible social meanings and stances associated with falsetto (e.g. expressiveness, evaluative judgment) to index both a situational identity (diva persona) and a more broad and relatively stable one (gay identity), taking into consideration his audience and the purpose of the interaction in which he is taking part.

The three studies reviewed above are representative of analyses of stylistic variation, indexicality, and stance. Each of them suggests that the social meanings and stances that linguistic features index are not fixed or the same for every individual in a speech community. In other words, linguistic features have several potential social meanings (Eckert 2008; Podesva 2009), which can change according to a number of factors, including, but not limited to, the interlocutors, the situation, and the topic(s) being talked about.
To conclude, I reiterate the importance of the theoretical foundations of third wave or speaker design approaches, indexicality, and stance to the realization of the present study, which has as one of its objectives the quantitative and qualitative analysis of how individuals and groups who live in the City of God community use the different variants of postvocalic /s/ as linguistic resources to index various social meanings, including identity categories and interactional stances. The quantitative analysis, presented in chapter 4, is essential in the process of determining some of the relationships among the dependent variable of postvocalic /s/ and its independent variables, including demographic categories. This step will then lead us to a more in-depth examination, in chapter 5, of how these variants may be associated with the stances speakers take up in expressing individual, interpersonal, and social identity.
Chapter 3. Data and methods

In the present research, I study the sociolinguistic variation of a phonological variable, postvocalic –s, analyzing quantitatively how it patterns across groups of speakers and examining qualitatively how the social meanings associated with its variants relate to the stances taken by individual speakers in conversations related to how the City of God community fits within both the residential organization of Rio de Janeiro and public discourses on favelas. With this goal in mind, in this chapter I discuss in detail the participants of the study and the procedures for the collection, coding and analysis of the data.

3.1 The community and my role as a sociolinguist

In the previous chapter, I discussed some of the points that led me to the conclusion that there was a need for a current sociolinguistic variation analysis of postvocalic –s in Rio de Janeiro Portuguese. As the residential organization of the city, deeply connected with issues of race/color and migration, has not yet received much attention in previous sociolinguistic studies, I argued that it was necessary to investigate this linguistic feature in subnormal conglomerates or favelas, using models of variation analysis that could not only give an updated description of the linguistic and social factors influencing the patterning of the variable but also shed light on how speakers use the variable in crafting styles and taking stances in situated interaction.

The gap between how government officials define favelas and how the general public actually perceives them was one of the main motivations for conducting this study in City of God. As seen earlier, only 13% of the population of City of God live in areas the government classifies as subnormal conglomerates or favelas, even though the entire community is often
referred to as such by residents and non-residents alike. In addition, residents of City of God know exactly where the more informal housing units are located within the community and refer to them using specific names. Surprisingly, they provide different and sometimes opposing opinions when asked how they refer to City of God. Not only in City of God, but in most areas considered subnormal conglomerates in Rio de Janeiro, *comunidade* (community) is the most common response, a term which connotes less stigma in mainstream society than the label *favela*. At the same time, a considerable number of people seem to have no problem using the word *favela* and may in fact use it as a symbol of pride in their residential area. The existence of these two designations symbolically shows how segments of the population of City of God have been using language to challenge and redefine ideas about who they are and how they want to be perceived.

The way the City of God community has been portrayed in mainstream media over the last decades seems to deny intra-community variation or the changes that are happening from within the community, including safer living conditions and increased pride in being from the community, including its *favela* areas. These tensions in issues of labeling, between members and non-members of the community, as well as within different subgroups within the community itself, led me to believe that City of God was an important site for studying language and identity, especially because the different labels symbolize the ongoing struggle to minimize the gap between reality and media representation of communities like City of God, and of other *favela* communities. By investigating more subtle types of linguistic variation, namely the patterning of postvocalic –s, I sought to uncover more nuanced ways in which language is used for the purpose of identity construction and negotiation.
The fact that I have a personal connection with City of God was another reason why I chose it as the site for this research. As a native of Xique-xique, Bahia, Brazil, I had also lived in Guarulhos, a city located in the metropolitan area of São Paulo city, for almost five years. I then moved to Rio de Janeiro, specifically to City of God, where I lived from February to December of 2001, when I was a first-year student in the language arts program at the Pontifical Catholic University of Rio de Janeiro (PUC-Rio). In the following year, I ended up transferring my undergraduate course to University of São Paulo (USP) and returning there. Since the time I moved out of City of God in December 2001, I have returned there several times to visit friends and acquaintances, and so I knew the community well enough to be able to move around without relying on others. Or so I thought. I also knew that, as a Black person, I could easily blend in because I share the skin color of the majority of the community’s residents. But was that enough? I was concerned with two main identity issues.

First, I was aware of the fact that I was an outsider who could have been perceived as such by the community even though I had lived there and knew a good bit about its structure. After all, I had not always lived in City of God, or even in Rio, or Brazil. At the time of data collection, I had been living in the United States for about seven years, and that surely changed the perception I had of myself and how others perceived me. I was not totally convinced of this until some people pointed out to me that my Portuguese sounded a little foreign sometimes, due to the fact that I was using an English-like intonation. In order to minimize the possible implications of my own speech, and my own quasi-outsider identity, on the naturalness and relaxed nature of the interview data I sought, I decided that I would try as much as possible to record participants in small groups rather than individually.
The strategy of having group interviews instead of one-on-ones has been proven to be very effective when interviewers use sociolinguistic interviews to elicit data from participants (Milroy and Gordon 2003; Schilling 2013). The sociolinguistic interview was designed as a way to direct speakers’ attention away from the interactional norms of the typical interview context, so that they produce more naturalistic data (Labov 1963; 1966; 1972d). In other words, the goal is to elicit casual and unselfconscious speech despite the conventional constraints that an interview situation can have. Labov (1972c, 112) refers to this type of speech as the vernacular, or the style “in which the minimum attention is paid to speech.” The group interview creates an even better environment than sociolinguistic interviews with individuals for obtaining vernacular speech, by minimizing the effects of the observer’s paradox, which refers to the idea that, “to obtain the data most important for linguistic theory, we have to observe how people speak when they are not being observed” [emphasis in original] (113). In addition, I also avoided introducing myself as a doctoral student from an American institution as I thought that that could also influence the way the participants would interact with me. But, regardless of my efforts to fit in, I was still something of an outsider. And while in some ways this may have had some negative impact on my data, in other ways it was actually advantageous. For example, I knew that my informants were happy and excited to talk to someone who was living in another country. However, my outsider status still caused me some discomfort in handling all the necessary steps for conducting my field research.

Another issue was related to safety. The point here is not to repeat or reinforce the stereotypical idea that communities like City of God, or favelas for that matter, are inherently unsafe. The issue here concerns the fact that some of these communities were (or have been) controlled by gangs of drug dealers for so long that their residents have developed many skills in
order to survive in an environment where they could not count on anybody but themselves. For some people, the existence of a controlling power meant that they were protected in some way. Thus, instead of a unified state force in charge of protecting all the people, each community controlled by a drug gang had its own army. In this system, each community stood as an enemy to neighboring groups. As a result, most people would avoid entering the territory of other communities because that could be seen with suspicion by whoever was in control. Traditionally, an alternative has been to enter a different community accompanied by someone from that community in order to communicate the message that the “outsider” was not a threat. And even though the implementation of Pacifying Police Units (UPPs) has contributed to transforming these communities into open spaces where people can move much more freely, their presence has not been enough to completely eradicate drug trafficking, or neighborhood “policing” by drug dealer gangs. The fact is that prior to the establishment of these Police Units, which was done with the support of the Brazilian armed forces, there was a central power or leader that ruled the community and protected the residents from other rival groups. At that time, media reports of violence were usually related to clashes between these ruling powers and the police or invading groups trying to take over the area. For better or for worse, the UPPs were able to dismantle this system and build a closer relationship with people in these communities, but drug trafficking remains a problem that they have not been able to eradicate completely. As has been reported by the media in the last few years, remaining groups are still fighting to take control of certain areas, which results in violent confrontations among themselves and the police.

In any circumstance, having had this personal experience with the community was very important because it not only facilitated my access to and my mobility around the community, but also increased my level of independence when I was collecting interviews. In other words, I
could often use my own judgment in making decisions about how and where I could go to meet with interviewees, instead of always relying on someone else, as I would have had to do if I had chosen a different community to work with. Nevertheless, my friends sometimes escorted me around the community, especially at night when I had to catch a bus to a neighborhood in the North Zone of Rio de Janeiro, where I stayed while I was doing field research.

3.2 Data collection

The data for the present study were collected in the summer of 2015, when I did field research in City of God, Rio de Janeiro. When conducting sociolinguistic interviews, variationist scholars usually have speakers perform different tasks in order to elicit data in speech styles ranging from careful to casual (Labov 1972a). In order to reach this goal, variationist scholars have followed Labov’s steps and collected speech data using various methods, including reading passage, word list, minimal pairs, and the interview itself. Even though these methods have been very effective in providing different kinds of data, for this study the conversational sociolinguistic interview was the only method used. (See Appendix I for the interview protocol I used as a guide.). Since the other methods of data collection cited above involve reading, I decided not to use them because I wanted to be able to collect data from both literate and illiterate speakers. After a few days of ethnographic work in the community, I did meet some participants, especially older ones, who have had very little access to formal education and so they would have been excluded from my study if I had used reading tasks. A collection of photos as used by Callou and Marques (1975) or another elicitation method could have been used to
overcome this problem; however, for reasons of interactional naturalness, I chose not to employ these rather artificial types of tasks.

### 3.3 The speakers

I conducted seventeen sociolinguistic interviews with twenty-two participants, six males and sixteen females. The gender imbalance among the participants was due to the fact that I was in the community only during the day or early evening, when other potential participants were either at work or on their way home from work. Because of this, a considerable number of the people who were available to talk to me at the time I was there were either unemployed, retired, or in between jobs or schools.

A couple of times I did try to stay a little later in the community in order to talk to people who were only available at night. Nonetheless, this was not a good move because of the noise factor. The community was definitely busier at night and so most people were home, usually watching television or listening to music. As the houses and apartments were close together, sometimes it was possible to hear the noise coming from the neighboring homes or the streets. It is also important to note that, even though most families have managed to build additional rooms to make the original houses bigger, the houses were still relatively small. Because of that, it was hard to find a quiet place where I could audio record the interviews with little or no interference.

The interviews lasted an average of 40 minutes and, for the most part, followed the structure of the interview protocol in Appendix I. The speakers and I talked mostly about past and current topics related to various aspects of the community, including changes in the
transportation system in preparation for the Summer Olympics, everyday life there, residential discrimination, and comparison between City of God and other communities.

Another interesting point about the speakers is that they are either first or second generation City of God residents, and their ages range from nineteen to eighty-eight years old. For the purposes of this study, they have been divided into three categories or levels: 18-35, 36-55, and 56 and older. These categories are similar to the ones that have been used in previous study of postvocalic /s/ in Rio de Janeiro Portuguese. By using these same age categories the results of the present study are more easily comparable with those of other studies.

In regards to education, speakers were placed in three categories (0-8, 9-12, and 12 or more) according to how many years of formal education they had completed. In terms of the sequencing, the Brazilian and the American education system are very similar. In this sense, the end of the first and second levels (0-8 and 9-12) corresponds roughly to completing elementary/middle school and secondary education, respectively. The third level would include anyone who had at least started a tertiary education level.

As I mentioned above, most of the older participants have had little access to formal education. Regardless of gender, the main reason for that was the fact that they had to start working at a very early age, which compromised their possibilities of getting an education. In the case of some of the female speakers, especially those who were born outside of Rio de Janeiro and migrated there, the situation was even worse. By the time they moved to Rio de Janeiro, they were twelve years old or so and had to quit school because they had to work many hours as domestic workers. Fortunately, their children and their grandchildren have had more access to education. In addition, despite the fact that over the last decades the federal government has implemented a series of measures in order to make education and higher education in particular
more accessible, especially to members of the working class, it is still not part of the reality of many Brazilians. Based on World Bank data, the literacy rate among individuals fifteen years old and older in Brazil has been around 90% for the last ten years. This explains why the younger speakers in this study have at least a high school diploma while most of the older ones have less than eight years of education.

Eleven of the participants were born and raised in Rio de Janeiro city while three were born in Rio de Janeiro state but have lived in the capital most of their lives. Of the remaining eight, five are from other states in the Brazilian Southeast Region (three are from the state of Minas Gerais and two are from the state of Espírito Santo) and three are from the Northeast Region (one from the state of Bahia, one from the state of Paraíba, and one from the state of Pernambuco). Those who were not born in Rio de Janeiro have lived there for most of their lives. Using the Brazilian government census categories for race/color, participants were asked to choose the one that most represented their ethnic identity. Twenty participants (91%) self-identified as either Pardo(a) (Multiracial) or Preto(a) (Black) and only two (9%) self-identified as Branco(a) (White). The list of speaker pseudonyms and their demographic information is in Table 2.

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Table 2. Speakers’ demographic information

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>M/F</th>
<th>Age</th>
<th>Occupation</th>
<th>Origin</th>
<th>Race/color</th>
<th>Years of Schooling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Christina</td>
<td>F</td>
<td>19</td>
<td>Student/Saleswoman</td>
<td>Rio City</td>
<td>Black</td>
<td>9-12</td>
</tr>
<tr>
<td>Nydia</td>
<td>F</td>
<td>19</td>
<td>Student</td>
<td>Rio City</td>
<td>White</td>
<td>9-12</td>
</tr>
<tr>
<td>Flavia</td>
<td>F</td>
<td>21</td>
<td>Pet Caretaker</td>
<td>Rio City</td>
<td>Black</td>
<td>9-12</td>
</tr>
<tr>
<td>Victor</td>
<td>M</td>
<td>21</td>
<td>Student</td>
<td>Rio State</td>
<td>Black</td>
<td>9-12</td>
</tr>
<tr>
<td>Ricky</td>
<td>M</td>
<td>38</td>
<td>Small Business Owner</td>
<td>Rio State</td>
<td>Black</td>
<td>9-12</td>
</tr>
<tr>
<td>Samantha</td>
<td>F</td>
<td>38</td>
<td>Receptionist</td>
<td>Rio City</td>
<td>Multiracial</td>
<td>9-12</td>
</tr>
<tr>
<td>Alex</td>
<td>M</td>
<td>39</td>
<td>Salesmen</td>
<td>Rio City</td>
<td>Multiracial</td>
<td>9-12</td>
</tr>
<tr>
<td>Regina</td>
<td>F</td>
<td>39</td>
<td>Social Worker</td>
<td>Rio City</td>
<td>Black</td>
<td>12+</td>
</tr>
<tr>
<td>Grace</td>
<td>F</td>
<td>49</td>
<td>Retired/Typist</td>
<td>Southeast</td>
<td>Black</td>
<td>9-12</td>
</tr>
<tr>
<td>Stella</td>
<td>F</td>
<td>50</td>
<td>Nurse</td>
<td>Rio City</td>
<td>Multiracial</td>
<td>9-12</td>
</tr>
<tr>
<td>Beatriz</td>
<td>F</td>
<td>62</td>
<td>Self-employed/Retired</td>
<td>Rio City</td>
<td>Black</td>
<td>12+</td>
</tr>
<tr>
<td>Wilson</td>
<td>M</td>
<td>62</td>
<td>Retired/(Former Domestic Worker)</td>
<td>Rio City</td>
<td>Black</td>
<td>12+</td>
</tr>
<tr>
<td>Antonio</td>
<td>M</td>
<td>63</td>
<td>Retired/(Former Mechanic)</td>
<td>Rio City</td>
<td>Black</td>
<td>0-8</td>
</tr>
<tr>
<td>Roberta</td>
<td>F</td>
<td>64</td>
<td>Retired/Housewife</td>
<td>Northeast</td>
<td>Multiracial</td>
<td>9-12</td>
</tr>
<tr>
<td>Patricia</td>
<td>F</td>
<td>65</td>
<td>Retired/(Former Machine Operator)</td>
<td>Rio City</td>
<td>Multiracial</td>
<td>12+</td>
</tr>
<tr>
<td>Cecilia</td>
<td>F</td>
<td>67</td>
<td>Retired/(Former Domestic Worker)</td>
<td>Southeast</td>
<td>Black</td>
<td>9-12</td>
</tr>
<tr>
<td>Helena</td>
<td>F</td>
<td>73</td>
<td>Retired/(Former Domestic Worker)</td>
<td>Southeast</td>
<td>Multiracial</td>
<td>0-8</td>
</tr>
<tr>
<td>Cynthia</td>
<td>F</td>
<td>74</td>
<td>Retired/(Former Domestic Worker)</td>
<td>Northeast</td>
<td>Black</td>
<td>0-8</td>
</tr>
<tr>
<td>Fernando</td>
<td>M</td>
<td>78</td>
<td>Retired/(Former Mechanic)</td>
<td>Rio State</td>
<td>Multiracial</td>
<td>0-8</td>
</tr>
<tr>
<td>Lola</td>
<td>F</td>
<td>81</td>
<td>Retired/(Former Domestic Worker)</td>
<td>Southeast</td>
<td>White</td>
<td>0-8</td>
</tr>
<tr>
<td>Teresa</td>
<td>F</td>
<td>82</td>
<td>Retired/Artist</td>
<td>Rio City</td>
<td>Multiracial</td>
<td>0-8</td>
</tr>
<tr>
<td>Rosa</td>
<td>F</td>
<td>88</td>
<td>Retired/(Former Domestic Worker)</td>
<td>Southeast</td>
<td>Multiracial</td>
<td>0-8</td>
</tr>
</tbody>
</table>

Note: Superscript symbols indicate subjects interviewed together.

All the interviewees were recruited using the “friend of a friend” or snowball sampling technique. As designed by Milroy and Milroy (1987) in their study of Belfast, in Northern Ireland, this network-based approach allows the researcher to recruit new participants through the initial ones (Milroy & Gordon 2003; Schilling 2013). I started out with Alex, Samantha, and Regina, whom I have known since 2001. I met Beatriz, Helena, Patricia, and Roberta sometime after that in one of the several visits I have made to the community over the years. The remaining fifteen speakers were introduced to me by this initial group of participants or by someone else.
from the community. All the participants lived in the areas that are not considered *favelas* or subnormal conglomerates, according to the local and federal government’s criteria. However, even though these people may not think of themselves as *favela* dwellers, they might be considered as such by others, especially outsiders. In reality, this is a complicated issue that will be addressed further in subsequent chapters, especially the qualitative analysis one.

The houses and apartments where the data were collected were part of the original City of God housing complex built in the 1960’s by the government. The large majority of these houses have been completely remodeled to a point that they hardly resemble the one- and two-bedroom units that they once were. At least in the areas I went, all the streets had pavement and all public services seemed to be available. While I was there, I was told that the local government had renovated the public playgrounds and squares, which gave me the impression that the neighborhood was being cared for.

Most of the interviews took place in the interviewees’ homes, and they were usually recorded in the presence of their friends and/or family members, whose status in the interaction was mostly as ratified participants. In other words, their presence was acknowledged but they rarely participated in the conversation (Goffman 1981). Lola and Teresa were the only ones who did not have company when I interviewed them. For the most part, all the interviewees seemed to be relaxed and excited to participate in the study.

### 3.4 Coding methods for postvocalic /s/

The transcription of the seventeen interviews conducted in City of God, Rio de Janeiro, in summer of 2015, was the first step of the analysis phase of the study. The coding method was
based on auditory analysis and accounted for every occurrence of the dependent variable of postvocalic –s in the data. Initially, the idea was to report on all the tokens of this variable in both word-medial and word-final positions, as had been previously done in other studies of postvocalic –s in Rio de Janeiro Portuguese (Bassi 2011; Callou & Marques 1975; Scherre & Macedo 2000). However, that strategy would not meet the criteria for the principle of accountability, which states that the analyst should “report values for every case where the variable element occurs in the relevant environments,” assuming that all subclasses or variants vary in the same way (Labov 1972a, 72). After considering Scherre and Macedo’s (2000) findings on the variable’s phonological restrictions, I decided to only account for the occurrence of the variable in word-final position. As they point out, while the four variants of postvocalic /s/ (palatal, alveolar, glottal, and deleted) can occur word-finally, only the palatal and the alveolar can occur word-internally without compromising lexical meaning. In other words, the occurrence of the glottal and zero variants, instead of the palatal or the alveolar, is only possible in a limited number of words. Let’s consider, for example, the feminine adjective *gasta*, which means ‘worn-out.’ This word can be pronounced as [ˈgaʃta] or [ˈgasta] with no change in meaning. However, the meaning of the word changes if it is pronounced as *[ˈgahta] or [ˈgata] ‘female cat.’ With this in mind, the tokens of postvocalic /s/ in final-word position were coded for its four possible realizations:

- **Palatal.** As noted in section 1.3, postvocalic /s/ usually assimilates to the voice and other characteristics of the following environment. Thus, the palatal category included both the voiced and voiceless postalveolar fricatives [ʃ] and [ʒ], as in *umas flores* [ˈumaʃˈfloɾiʃ] ‘some flowers’ and *dez mil* [ˈdeyʃ ˈmiw] ‘ten thousand.’
- Alveolar. For the reasons just given above, this category included both the voiced and voiceless alveolar fricatives [s] and [z], as in *casas feias* ‘ugly houses’ [ˈkazaz ˈfeias] and *casas verdes* [ˈkazaz ˈvehdʒis] ‘green houses.’

- Glottal. Following Guy (1981, 133), I considered any usual realization for /s/ in Rio de Janeiro Portuguese for this category, including the voiced and voiceless glottal fricatives [h] and [ɦ] and the voiceless velar fricative [x].

- Deleted. As its name implies, this variant represents the absence of /s/; word-final /s/ may correspond to a morpheme, such as the plural marker –s as in *as casao* [as ‘kaza] ‘the houses,’ part of a morpheme, such as the first person plural –mos in *comemoo* [ko’memu] ‘we eat,’ or part of lexical item as in *menoo* [menu] ‘less/fewer.’

In relation to the social status of these variants, as I discussed briefly in section 1.3 above, the palatal is considered the most widespread variant of postvocalic /s/ in Rio de Janeiro and probably other coastal cities. In the interior of the country, however, the alveolar tends to be the preferred realization for this variable and so it is considered the standard in this part of the country. Because of the prevalence of the palatal in Rio de Janeiro, the alveolar may also be associated with the idea of non-localness. The glottal and /s/ deletion are nonstandard variants. Beyond nonstandardness, the social status of the glottal is not entirely clear, as people do not react to it as negatively as they do to /s/ deletion.

In addition, I excluded from the data all instances where the following sound was a vowel, in which case /s/ is typically realized as the voiced alveolar fricative [z] in all dialects of Brazilian Portuguese. According to Scherre and Macedo (2000), in cases like this a process of re-syllabification occurs, such that the /s/ in coda position becomes the new onset of the following vowel-initial syllable. Examples of this phenomenon are the words *casas* (houses) and *azuis*
(blue), which are pronounced, respectively, as ['kazas] and [a'zuys] when they are produced in isolation, but as ['kazaza'zuys] when they form a noun phrase. I also excluded tokens that were followed by [s], [z], [ʃ], [ʒ], and [h] as they represent categorical contexts for the realization of the variable (Guy 1981; Tagliamonte 2006). Taking these considerations into account, the phonological variable postvocalic –s was coded for a total of twelve predictors or independent variables, of which six were internal or linguistic and six were external or extra-linguistic. Table 3 shows a list of all the predictors analyzed for their effect on postvocalic /s/ and their corresponding levels or factors.
<table>
<thead>
<tr>
<th>Predictors</th>
<th>Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Linguistic (Internal)</strong></td>
<td></td>
</tr>
<tr>
<td>Preceding Vowel</td>
<td>Front, Back, Central</td>
</tr>
<tr>
<td>Following Sound</td>
<td>Labial, Coronal, Dorsal, Liquid, Pause</td>
</tr>
<tr>
<td>Syllabic Stress</td>
<td>Yes, No</td>
</tr>
<tr>
<td>Syllabic Structure (Number of Syllables)</td>
<td>Monosyllable, Disyllable, Trisyllable, Polysyllable</td>
</tr>
<tr>
<td>Grammatical Category</td>
<td>Adjective, Adverb, Article, Conjunction, Noun, Numeral, Pronoun, Verb</td>
</tr>
<tr>
<td>Word</td>
<td>Random effect</td>
</tr>
<tr>
<td><strong>Social (External)</strong></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>Male, Female</td>
</tr>
<tr>
<td>Race/color</td>
<td>Multiracial, Black, White</td>
</tr>
<tr>
<td>Regional Origin</td>
<td>Rio city, Rio state, Southeast, Northeast</td>
</tr>
<tr>
<td>Age</td>
<td>18-35, 36-55, 56+</td>
</tr>
<tr>
<td>Education</td>
<td>0-8, 9-12, 12+</td>
</tr>
<tr>
<td>Speaker</td>
<td>Random effect</td>
</tr>
</tbody>
</table>
Even though most of the predictors presented in the above table are straightforward, some of them may require some explanation. Among the linguistic predictors, this is particularly the case of syllable stress.

For the purposes of the present study, stress refers to “the relative prominence between syllables” (Zsiga 2013, 354). In the Portuguese language, the vowels in prominent or stressed syllables are typically longer in duration and of higher amplitude than the vowels in preceding (pre-stress) or following (post-stress) syllables (Perini 2002; Silva 1998). Because stress is a contrastive feature in Portuguese, its placement within a word is very important. For example, stress is the only distinctive feature between the verb form sabia [saˈbɐj] ‘(I) knew,’ the feminine adjective sâbia [ˈsabia] ‘wise’ and the noun sabiá [sabˈiɐ] ‘the name of a bird.’ Based on this explanation, a particular token of postvocalic /s/ in word-final position was coded as “yes” if its syllable was stressed and “no” if otherwise. The classification of monosyllables followed the rules for oxytones, which are words whose final syllables are stressed. In this sense, monosyllables were coded “yes” if their nucleus was a stressed vowel (i.e. marked with a diacritic) or diphthong. In the Portuguese orthography, the stress on a final vowel is usually indicated by either an acute (i.e. pê(s) ‘foot/feet,’ pâ(s) ‘shovel(s)’) or circumflex (i.e. mês ‘month’) accent. In reality, it is common for Portuguese speakers to diphthongize stressed final vowels that are followed by –s. In this sense, the word pés ‘feet’ is often pronounced as [peyʃ] or [peys] and mês ‘month’ as [meyʃ] or [meys].

Previous studies have either examined the effect of stress, number of syllables, and position of /s/ separately (Bassi 2011; Hora 2003; Gryner & Macedo 2000) or combined them in one single factor group (Scherre & Macedo 2000). Because I wanted to have a clear sense of how each of these independent variables influenced the occurrence of the dependent variable, I
decided to analyze them separately. Having established the above parameters, the next step was to conduct the quantitative analysis of the data using Rbrul (Johnson 2009), whose procedures are explained in the next section.

3.5 Procedures for the quantitative analysis

The quantitative or statistical analysis of the data was carried out with Rbrul (Johnson 2009), which is a variable rule analysis computer program written in the programming language R. The first step in conducting the quantitative analysis of the data was to conduct a mixed-effects variable rule analysis in order to estimate the relationship between the dependent variable and the independent variables. In Rbrul, this relationship is expressed by both the log-odds coefficients and factor weights. As explained Rbrul’s developer Daniel Johnson (2009, p. 361), log-odds are obtained “from probabilities by taking the natural (base $e$) logarithm of the odds, where the odds are the probability of an event occurring, divided by the probability of it not occurring. (...) [A] positive value is a favoring effect, a negative value disfavoring, and a value of 0 is neutral.” Unlike log-odds, factor weights are coefficients of probability that range from 0 to 1, in which case 0.5 is the threshold dividing favoring effects (above 0.5) from disfavoring ones (below 0.5). Both log odds coefficients and factor weights are reported in the tables presented throughout the next chapter. Given that Rbrul is designed as a bridge between the common statistical package R and the Varbrul and Goldvarb programs designed specifically for variationist sociolinguistics (and traditionally most familiar to them; see Sankoff 1975; Sankoff, Tagliamonte, and Smith 2005), presenting both measures of probability will make it possible to compare these findings to those of previous and future studies. I refer mostly to log-odds when
presenting the results but may mention factor weights when it makes more sense in terms of comparison.

The dependent and independent variables in this study were analyzed as categorical. In Rbrul, a categorical dependent variable must be binary – that is, have two possibly values. As the dependent variable of postvocalic /s/ has four variants (palatal, alveolar, glottal, and deleted), the independent variables were tested for their effect on each of the four variants separately. This means that each of the variants of postvocalic /s/ was set as the application value in relation to the other three (non-application value).

The relationship between the four variants and the independent variables was measured using a logistic regression analysis, which is accomplished by utilizing the step-up/step-down and other similar functions in Rbrul. The statistical procedure was accomplished in two separate runs for each of the four variants of postvocalic /s/ in order to minimize the possibility of interaction among some of the independent variables. Getting rid of the interactions among variables is actually a difficult task, because linguistic and social variables often interact in some way although this is not desirable in a quantitative analysis (Tagliamonte 2006).

The interactions among linguistic variables avoided in the statistical analysis included preceding vowel and grammatical category, syllabic structure (number of syllables) and stress, syllabic structure and grammatical class. One example of the interaction between preceding vowel and grammatical category is the fact that the majority of the verbs in the data end in the vowel /o/, which is usually realized as [u]. This is so because for a verb to end /s/ in Portuguese it has to be conjugated either in the second person singular tu ‘you’ (falas/ escreves, etc.) or the first person plural nós ‘we’ (falamos, escrevemos, etc.). The former appears very rarely and so the latter would account for almost all the occurrences of verbs in our data.
Another example is the interaction between grammatical class and syllable structure. In Portuguese, articles and pronouns have a small number of syllables compared to nouns and verbs and this prevents all the four possible variants of syllable structure (monosyllable, disyllable, trisyllable, and polysyllable) from occurring. Thus, not taking this kind of interaction between the variables into consideration may obscure important effects that each of them may have on the dependent variable.

Among the social predictors, I tried to avoid interactions between gender and age, gender and race/color, origin and age, education and age, among others. As noted above, in the context of Cidade de Deus and other communities with similar demographics, it is possible to assume that age interacts with education due to the fact that younger speakers generally have more access to education than older ones. Besides, one is faced with the difficulty of filling every single cell for each category of speaker. By avoiding these interactions, my goal was to try to get a better idea of how each of the independent variables influences the occurrence of each of the variants of the dependent variable.

Keeping the above interactions among variables in mind, in the first run (Run1) of the logistic regression analysis, the groups of independent variables consisted of preceding vowel, syllabic structure, gender, origin, and education. In the second run (Run 2), the selected independent variables were following sound, stress, grammatical class, age, and race/color. The variables word and speakers were tested for random effects in both runs for each of the four variants.

Some differences were noted when doing the regression analysis with all the independent variables together in one run and in two separate runs. Assuming that in two separate runs the effect of some predictors was not blurred by the effect of others, there was an increase in the
number of favoring predictors, the log likelihood ratio (level of significance) of favoring predictors, and the range among log odds within a factor group. Other statistical results such as the input probability and the deviance, which will be presented along with the results of the regression analysis in the next chapter, also help determine how accurate each model or run is in predicting the occurrence of a given variant of postvocalic /s/. According to Johnson (2009), the input probability is a measure that shows “the predicted probability of the response, averaged over all factor combinations (or cells) (379), whereas the deviance represents the extent to which the data deviates from the predictions of the model or how well the model fits the data. Small numbers represent better-fitting models. Detailed information on the results is given in chapter four.

3.6 Procedures for the qualitative analysis

The qualitative analysis of the data consists of the selection of specific segments of the interviews for the examination of speaker stance on topics related to how City of God fits within the residential organization of Rio de Janeiro and within public discourses on *favelas*. Within these segments, I also look at how postvocalic /s/ variation patterns relate to the stances being taken. More specific information about this analysis is given in chapter five.

3.7 Chapter summary

In this chapter, I presented the methods that were used in conducting the present dissertation research. I started out providing information about the community of City of God and reflecting on my role as a sociolinguist researcher there. The next step was to present the
speakers who formed my subject pool, followed by a discussion of data collection and coding methods. The chapter ended with an overview of procedures for both the quantitative and qualitative analyses of the data. The following chapter is dedicated to the presentation and discussion of the statistical results.
Chapter 4. Linguistic and social conditioning of postvocalic /s/ in City of God

4.1 Introduction

One of the goals of this dissertation research is to provide an updated analysis of sociolinguistic variation in postvocalic /s/ in Rio de Janeiro Portuguese, a relatively well studied variable, by including socio-cultural aspects such as race/color and origin which have not yet been addressed in studies of this feature in Brazilian Portuguese. In addition, the focus on the speech of residents of the Cidade de Deus community in Rio de Janeiro adds important elements to this kind of sociolinguistic research in that it embraces the diversity of urban spaces as the foundation for linguistic exchanges among different groups. With these goals in mind, throughout this chapter I present the results and discussion of the logistic regression analysis conducted on each of the four variants of postvocalic /s/, namely the palatal, the alveolar, the glottal, and /s/ deletion.

As noted in the last chapter, the logistic regression analysis or step up/step down is the function used to analyze the relationship between the dependent variable and its linguistic and social predictors. If the dependent variable is a categorical or nominal variable, meaning that it has two or more categories or levels and no intrinsic ordering among them, Rbrul requires it to have binary responses. As our dependent variable of postvocalic /s/ has four variants, this situation was addressed by testing the effect of the independent variables on each of its four variants separately. Each time, one of the variants was selected as the application value and the remaining variants together represented the non-application value.

I also mentioned in the last chapter that two runs of the logistic regression analysis were conducted for each of the variants in order to avoid possible interactions among some of the
independent variables. Among the linguistic predictors, the interactions I tried to avoid included preceding vowel and grammatical category, syllabic structure (number of syllables) and stress, syllabic structure and grammatical class. Thinking of the demographics of the group of speakers that are part of the study, the interactions among the social predictors included gender and age, gender and race/color, origin and age, and education and age. Despite our efforts to avoid or minimize these interactions, it is important to remember that social predictors are expected to interact (Tagliamonte 2006). With this in mind, the logistic regression analysis for each of the variants of postvocalic /s/ was done in two steps/runs based on the following groups as seen below in table 4:

Table 4. Distribution of predictors by run

<table>
<thead>
<tr>
<th>Run 1</th>
<th>Run 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preceding vowel</td>
<td>Following sound</td>
</tr>
<tr>
<td>Syllabic structure</td>
<td>Stress</td>
</tr>
<tr>
<td>Gender</td>
<td>Grammatical category</td>
</tr>
<tr>
<td>(Regional) Origin</td>
<td>Age</td>
</tr>
<tr>
<td>Education</td>
<td>Race/color</td>
</tr>
<tr>
<td>Word (random effect)</td>
<td>Word (random effect)</td>
</tr>
<tr>
<td>Speaker (random effect)</td>
<td>Speaker (random effect)</td>
</tr>
</tbody>
</table>

Each group of predictors shown in table 4 represents a model that provides information about how they influence the occurrence of each of the variants of the dependent variable of postvocalic /s/. Detailed information about the levels or categories within each predictor is given throughout chapter three.

As a reminder, it is also important to keep in mind that some of the social associations the four variants of postvocalic /s/ may have in the Rio de Janeiro Portuguese. As mentioned before, the palatal is the preferred realization of postvocalic /s/ in Rio and so it is considered a standard
variant in the city’s dialect. In other coastal cities, such as Florianópolis in the South region and Recife and Salvador in the Northeast region, this variant may share this status with the alveolar. The alveolar is considered the standard realization of postvocalic /s/ in non-coastal cities, especially because it accounts for the majority of the realizations of this variable in these areas. In this sense, because the alveolar is not as common as the palatal in Rio de Janeiro, it may convey the idea of non-localness.

On the other hand, the glottal and deleted can be considered the nonstandard variants of postvocalic /s/. It is also worth noting that these two variants are not restricted to Rio de Janeiro Portuguese. /S/ deletion is a regular feature of virtually every dialect of Brazilian Portuguese, whereas the glottal seems to be more common in dialects that also present a higher rate of /s/ palatalization, as the regional patterns seen in section 1.3 suggest. In truth, these variants are more common in nonstandard or popular varieties of Brazilian Portuguese, which are not taught in school or presented in the media. Even though individuals generally do not show negative attitudes related to the use of the glottal, they express a certain degree of prejudice against those who have higher amount of /s/ deletion in their speech, especially in formal situations. The possible social associations of the four variants of postvocalic /s/ will be relevant as I discuss the results of the quantitative and qualitative analyses of the data in this and the next chapters, respectively.

4.2 Results

Throughout this section, I present the linguistic and social factors or predictors that condition the sociolinguistic variation in postvocalic /s/ in a dataset consisting of seventeen
interviews with twenty-two residents of City of God in Rio de Janeiro. Before reporting in more
detail the results of logistic regression analysis, I present the general frequency distribution of the
data in table 5 below.

Table 5. Overall frequency distribution of the four variants of postvocalic /s/

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Levels</th>
<th>Alveolar</th>
<th>Glottal</th>
<th>Palatal</th>
<th>Zero</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Preceding vowel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Back</td>
<td>107</td>
<td>7.1</td>
<td>104</td>
<td>6.9</td>
<td>917</td>
<td>60.9</td>
</tr>
<tr>
<td>Central</td>
<td>95</td>
<td>6.2</td>
<td>222</td>
<td>14.5</td>
<td>937</td>
<td>61.3</td>
</tr>
<tr>
<td>Front</td>
<td>228</td>
<td>13.4</td>
<td>96</td>
<td>5.4</td>
<td>1358</td>
<td>76.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Following Sound</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coronal</td>
<td>10</td>
<td>8.3</td>
<td>223</td>
<td>17.9</td>
<td>726</td>
<td>58.2</td>
</tr>
<tr>
<td>Dorsal</td>
<td>57</td>
<td>7.8</td>
<td>15</td>
<td>2</td>
<td>606</td>
<td>82.6</td>
</tr>
<tr>
<td>Labial</td>
<td>107</td>
<td>8.1</td>
<td>153</td>
<td>11.6</td>
<td>950</td>
<td>71.9</td>
</tr>
<tr>
<td>Liquid</td>
<td>8</td>
<td>7.6</td>
<td>28</td>
<td>26.7</td>
<td>45</td>
<td>42.9</td>
</tr>
<tr>
<td>Pause</td>
<td>164</td>
<td>11.7</td>
<td>3</td>
<td>0.2</td>
<td>885</td>
<td>63.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stress</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>187</td>
<td>13.7</td>
<td>127</td>
<td>4.3</td>
<td>1962</td>
<td>66.3</td>
</tr>
<tr>
<td>Yes</td>
<td>253</td>
<td>6.3</td>
<td>295</td>
<td>16</td>
<td>1250</td>
<td>67.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Syllabic Structure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monosyllable</td>
<td>235</td>
<td>11</td>
<td>302</td>
<td>14.2</td>
<td>1560</td>
<td>73.3</td>
</tr>
<tr>
<td>Disyllable</td>
<td>155</td>
<td>9.3</td>
<td>93</td>
<td>5.6</td>
<td>1055</td>
<td>63.0</td>
</tr>
<tr>
<td>Trisyllable</td>
<td>42</td>
<td>5.2</td>
<td>23</td>
<td>2.9</td>
<td>487</td>
<td>60.7</td>
</tr>
<tr>
<td>Polysyllable</td>
<td>8</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>110</td>
<td>54.7</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grammatical Category</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjective</td>
<td>36</td>
<td>10.4</td>
<td>11</td>
<td>3.2</td>
<td>221</td>
<td>64.1</td>
</tr>
<tr>
<td>Adverb</td>
<td>57</td>
<td>11.7</td>
<td>77</td>
<td>15.8</td>
<td>337</td>
<td>69.2</td>
</tr>
<tr>
<td>Article</td>
<td>50</td>
<td>7.4</td>
<td>51</td>
<td>7.6</td>
<td>567</td>
<td>84.7</td>
</tr>
<tr>
<td>Conjunction</td>
<td>45</td>
<td>14.6</td>
<td>100</td>
<td>32.5</td>
<td>162</td>
<td>52.6</td>
</tr>
<tr>
<td>Noun</td>
<td>137</td>
<td>7.8</td>
<td>59</td>
<td>3.4</td>
<td>1038</td>
<td>59.1</td>
</tr>
<tr>
<td>Numerals</td>
<td>33</td>
<td>14.7</td>
<td>35</td>
<td>15.6</td>
<td>155</td>
<td>68.9</td>
</tr>
<tr>
<td>Pronoun</td>
<td>63</td>
<td>9.4</td>
<td>64</td>
<td>9.5</td>
<td>522</td>
<td>77.7</td>
</tr>
<tr>
<td>Verb</td>
<td>19</td>
<td>5.7</td>
<td>25</td>
<td>7.5</td>
<td>210</td>
<td>62.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>372</td>
<td>10</td>
<td>339</td>
<td>9.1</td>
<td>2457</td>
<td>65.7</td>
</tr>
<tr>
<td>Male</td>
<td>68</td>
<td>6.4</td>
<td>83</td>
<td>7.8</td>
<td>755</td>
<td>70.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Race/color</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>168</td>
<td>10.2</td>
<td>125</td>
<td>7.6</td>
<td>1130</td>
<td>68.4</td>
</tr>
<tr>
<td>Multiracial</td>
<td>194</td>
<td>6.8</td>
<td>294</td>
<td>10.2</td>
<td>1935</td>
<td>66.9</td>
</tr>
<tr>
<td>White</td>
<td>74</td>
<td>28.5</td>
<td>3</td>
<td>1.2</td>
<td>147</td>
<td>56.5</td>
</tr>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Origin</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Northeast</td>
<td>153</td>
<td>16.9</td>
<td>154</td>
<td>17</td>
<td>399</td>
<td>44.4</td>
</tr>
<tr>
<td>Rio City</td>
<td>16</td>
<td>0.06</td>
<td>207</td>
<td>7.2</td>
<td>2345</td>
<td>81.1</td>
</tr>
<tr>
<td>Rio State</td>
<td>67</td>
<td>13</td>
<td>24</td>
<td>4.7</td>
<td>342</td>
<td>66.5</td>
</tr>
<tr>
<td>Southeast</td>
<td>204</td>
<td>41.4</td>
<td>37</td>
<td>7.5</td>
<td>126</td>
<td>25.6</td>
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<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>18 – 35 yo</td>
<td>1</td>
<td>0.04</td>
<td>10</td>
<td>3.6</td>
<td>251</td>
<td>91.6</td>
</tr>
<tr>
<td>36 – 55 yo</td>
<td>18</td>
<td>1.2</td>
<td>61</td>
<td>2</td>
<td>1325</td>
<td>86.5</td>
</tr>
<tr>
<td>56 yo +</td>
<td>421</td>
<td>14</td>
<td>351</td>
<td>11.7</td>
<td>1636</td>
<td>54.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 – 8 years</td>
<td>406</td>
<td>23.9</td>
<td>164</td>
<td>9.7</td>
<td>755</td>
<td>44.5</td>
</tr>
<tr>
<td>9 – 12 years</td>
<td>28</td>
<td>1.3</td>
<td>176</td>
<td>8.3</td>
<td>1670</td>
<td>78.7</td>
</tr>
<tr>
<td>12 years +</td>
<td>6</td>
<td>0.06</td>
<td>82</td>
<td>8.3</td>
<td>787</td>
<td>79.7</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>440</td>
<td>9.2</td>
<td>422</td>
<td>8.8</td>
<td>3212</td>
<td>66.8</td>
</tr>
</tbody>
</table>

As seen in table 5, the palatal variant accounts for 66.8% of the occurrences of
postvocalic /s/, followed by /s/ deletion with 15.2%, the alveolar with 9.2%, and glottal with
8.8%. In the four subsequent sections, I present the results of the two runs for each of the four variants of postvocalic –s and consider specific aspects of their conditioning factors.

4.2.1 Conditioning factors of /s/ palatalization

The significant factors for the occurrence of the palatal variant are shown in tables 6 and 7, representing Runs 1 and 2 of the logistic regression procedure on Rbrul, respectively. The independent variables appear in descending order of significance but will be discussed below according to their type (linguistic or social). Out of the social factors, gender (Run 1) and race/color (Run 2) were not selected as significant.
Table 6. Run 1 of the logistic regression analysis for the palatal /S/ Realization: Palatal (Application Value)

<table>
<thead>
<tr>
<th></th>
<th>Log Odds</th>
<th>Factor Weight</th>
<th>Proportion</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input Probability</strong></td>
<td>0.532</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total N</strong></td>
<td>4804</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Deviance</strong></td>
<td>3215.255</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

|                      |          |               |            |    |
| **Preceding vowel**  |          |               |            |    |
| Front                | 1.778    | 0.855         | 77         | 1771|
| Back                 | -0.632   | 0.347         | 61         | 1505|
| Central              | -1.146   | 0.241         | 61         | 1528|

| **Origin**           |          |               |            |    |
| Rio City             | 1.427    | 0.807         | 81         | 2891|
| Rio State            | 1.205    | 0.769         | 66         | 514 |
| Northeast            | -0.763   | 0.318         | 44         | 906 |
| Southeast            | -1.870   | 0.134         | 26         | 493 |

| **Education**        |          |               |            |    |
| 9 to 12 years        | 1.044    | 0.74          | 79         | 2121|
| 12+ years            | -0.002   | 0.499         | 80         | 987 |
| 0 to 8 years         | -1.042   | 0.261         | 44         | 1696|

| **Syllabic Structure**|          |               |            |    |
| Disyllable           | 0.375    | 0.593         | 63         | 1674|
| Monosyllable         | 0.311    | 0.577         | 73         | 2127|
| Trisyllable          | -0.183   | 0.454         | 61         | 802 |
| Polysyllable         | -0.503   | 0.377         | 55         | 201 |

| **Gender**           |          |               |            |    |
| Female               | 0.57     | 0.639         | 66         | 3738|
| Male                 | -0.57    | 0.361         | 71         | 1066|

| **Word**             | (Random) |               |            |    |
| **Speaker**          | (Random) |               |            |    |
Table 7. Run 2 of the regression analysis for the palatal

<table>
<thead>
<tr>
<th>/S/ Realization: Palatal (Application Value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input probability 0.834</td>
</tr>
<tr>
<td>Total N 4804</td>
</tr>
<tr>
<td>Deviance 3622.218</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Log Odds</th>
<th>Factor Weight</th>
<th>Proportion</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Following sound (p = 7.5e-36)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dorsal</td>
<td>1.331</td>
<td>0.791</td>
<td>83</td>
</tr>
<tr>
<td>Pause</td>
<td>0.453</td>
<td>0.611</td>
<td>63</td>
</tr>
<tr>
<td>Labial</td>
<td>0.009</td>
<td>0.502</td>
<td>72</td>
</tr>
<tr>
<td>Coronal</td>
<td>-0.287</td>
<td>0.429</td>
<td>58</td>
</tr>
<tr>
<td>Liquid</td>
<td>-1.506</td>
<td>0.181</td>
<td>43</td>
</tr>
</tbody>
</table>

| **Grammatical Category (p = 7.34e-06)**      |
| Article          | 1.297         | 0.785      | 84 | 675 |
| Pronoun          | 0.635         | 0.654      | 78 | 672 |
| Numeral          | 0.417         | 0.603      | 69 | 225 |
| Verb             | -0.068        | 0.483      | 63 | 335 |
| Adjective        | -0.288        | 0.428      | 64 | 345 |
| Adverb           | -0.525        | 0.372      | 69 | 487 |
| Noun             | -0.579        | 0.359      | 59 | 1757|
| Conjunction      | -0.888        | 0.291      | 53 | 308 |

| **Age (p=7.99e-05)**                           |
| 18 – 35   | 1.681         | 0.843      | 92 | 274 |
| 36 – 55   | 0.601         | 0.646      | 86 | 1532|
| 56+       | -2.283        | 0.093      | 55 | 2998|

| **Stress (p=0.000121)**                        |
| Yes      | 0.361         | 0.589      | 68 | 1844|
| No       | -0.361        | 0.411      | 66 | 2960|

| **Race/color (Not significant)**               |
| Black    | 0.219         | 0.554      | 68 | 1651|
| White    | 0.152         | 0.538      | 56 | 260 |
| Multiracial | -0.371   | 0.408      | 67 | 2893|

| **Word (Random)**                              |
4.2.1.1 Linguistic factors influencing the occurrence of /s/ palatalization

*Preceding vowel.* Preceding vowel had the most significant effect on the occurrence of the palatal. Out of three types of vowels considered, only front vowels had a favoring effect on palatalization, with a positive coefficient of 1.778. Back and central vowels, on the other hand, had a disfavoring effect with negative coefficients of -0.632 and -1.146, respectively.

*Following sound.* Following sound or absence thereof (pause) had the second highest significant effect on /s/ palatalization. Out of the different types of consonants, dorsal consonants were the only group that had a favoring effect on palatalization (coefficient of 1.331). Postvocalic /s/ was also likely to be realized as a palatal before pause (coefficient of 0.453). Labial consonants (coefficient of 0.009) had a neutral effect and coronals (coefficient of -0.287) had a somewhat disfavoring effect on /s/ palatalization. Unlike dorsal consonants, liquids strongly disfavor /s/ palatalization (-1.506).

*Grammatical category.* In the case of the grammatical category, out of the eight factors within this group, articles had a strong favoring effect with a coefficient of 1.297. Pronouns and numerals also slightly favored palatalization with coefficients of 0.635 and 0.417, respectively. Verbs and adjectives had a neutral effect on this variant. In contrast, adverbs (coefficient of -0.525), nouns (coefficient of -0.579), and conjunctions (coefficient of -0.888) affected negatively the occurrence of /s/ palatalization.

*Stress.* Like the factor groups listed above, presence or absence of stress in the syllable where /s/ occurs showed a significant effect on palatalization. As mentioned in the previous
chapter, if a syllable is stressed in Portuguese, the vowel in its nucleus is longer and louder than the vowels in other syllables. For the purposes of the present study, monosyllables were classified as stressed or unstressed based on the rules for oxytones, which include words whose final /s/ is preceded by a stressed vowel or diphthong. Examples include the adverb mais [mayʃ]/[mays] ‘more,’ and the noun mês [meʃ]/[meys]. Based on the results reported in table 7, stressed syllables (coefficient of 0.361) had a slight favoring effect on palatalization whereas unstressed ones (coefficient of -0.361) had the opposite effect.

Syllabic structure. Syllabic structure was also selected as significant to the probability of /s/ being realized as a palatal. However, there was a small range between the positive log odds coefficients and negative ones. The results in table 6 indicate that disyllables and monosyllables had a minor favoring effect on palatalization, which is demonstrated by the coefficients of 0.375 and 0.311, respectively. In contrast, trisyllables (coefficient of -0.183) had a neutral effect on palatalization while polysyllables (coefficient of -0.503) had a minor disfavoring effect on it.

4.2.1.1.1 Discussion

The palatal is the preferred variant for the realization of postvocalic /s/ in Rio de Janeiro Portuguese, as it has been shown in this study and previous ones. Even though the early reports on /s/ palatalization were mostly focused on explaining its origins and how its patterns were different from those of other Portuguese dialects, the first investigations of this variable using a variationist sociolinguistic approach started to be conducted in the 1970s, following the early developments of the field by William Labov (1963; 1966) in the 1960s. As seen in previous chapters, the study of postvocalic /s/ sociolinguistic variation in Rio de Janeiro Portuguese has
traditionally been taken as the study of palatalization or how this variant is spread out across the

city’s residents. In terms of comparison, this focus on /s/ palatalization will make it possible to
find some parallels between our results and those of previous investigations but it may limit our
ability to do the same in relation to the other variants.

The above quantitative results show that five out of the six linguistic variables included in
the logistic regression analysis, namely preceding vowel, syllabic structure, following sound,
grammatical category, and stress, had a significant effect on /s/ palatalization. In the remainder
of this subsection, I will explore these results in more detail and compare them with those of
previous studies.

Preceding vowel was the most significant linguistic factor for /s/ palatalization. As seen
in the results, front vowels favor the occurrence of this variant while back and central vowels
disfavor it. Scherre and Macedo (2000) have also confirmed the positive influence of front
vowels on /s/ palatalization. In their study of 64 speakers from Rio de Janeiro, front vowels
favored the palatal variant (factor weight of 0.63) while the other vowels disfavor it (0.24). The
robustness of this finding does not come as a surprise, given the fact that front vowels are well
known to be triggers of palatalization in Portuguese, not only in the case of the consonant /s/ but
also in the case of /t/ and /d/ (Nascentes 1921; Pagotto 2005). /S/ palatalization after front vowels
is also common in an array of other languages and dialects, including American English (Zsiga
2013). Thus, when /s/ is preceded by a high front vowel like [i] it is more likely to be realized a
palatal as a result of this consonant’s assimilation to the frontness and height of the vowel.

The following linguistic environment was also significant in terms of the occurrence of
the palatal variant. Dorsal consonants and pause had a favoring effect on this variant whereas
coronal and liquid consonants disfavored it. Looking at these results, it is possible to assume that
the influence of how the tongue connects to the place articulation of the following consonant was
the main influencing factor for how each group of consonant affected /s/ palatalization. In this
sense, the consonants whose place of articulation antecedes the palate (coronals and liquids)
disfavor the palatal. On the other hand, those that are made further back in relation to the palatal
(dorsal) favor it.

It is important to note that, unlike previous studies on postvocalic /s/, I decided to only
consider the occurrences of this variable in word-final position, which may account for the
differences between the results found here and in other studies. For example, Hora (2003)
analyzed data collected in the 1990s for the Project of Linguistic Variation in the Paraíba State
(Projeto Variação Linguística no Estado da Paraíba - VALPB), considering the palatal and the
alveolar variants in word-medial position and the four variants of /s/ in word-final position.
Considering following environment, Hora found that coronal consonants had a favoring effect on
/s/ palatalization (factor weight of 0.86) while dorsal and labial ones had the opposite effect.

In addition, previous studies vary in terms of how following environments were
categorized. For example, other studies have examined the influence of following phonological
environment on /s/ palatalization by looking at the type of following sound (vowel, pause, or
consonant), place and manner of articulation of the following consonant (Gryner and Macedo
2000; Scherre and Macedo 2000), or even the individual consonants as factors (Callou and
Marques 1975). An aspect that is common in these studies is the analysis of following
environment in terms of consonant voice. These studies have shown that voiceless consonants
favor /s/ palatalization more than voiced ones. Again, it is difficult to compare our results with
those of other studies because they investigated /s/ in both medial and word-final position and
used different categorizations for the various following environments.
For grammatical category, only articles, pronouns, and numerals favored /s/ palatalization, whereas conjunctions, nouns, adverbs, adjectives, and verbs disfavored it. Conversely, in their study, Scherre and Macedo (2000) found that proper nouns (factor weight 0.68) and common nouns (factor weight 0.59), numerals (factor weight 0.76), and verbs (factor weight 0.60) had a favoring effect on /s/ palatalization while conjunctions/adverbs (factor weight 0.46) disfavored it. Nevertheless, the fact that Scherre and Macedo analyzed postvocalic /s/ in both medial and final positions might explain this difference. The point here is that postvocalic /s/ sociolinguistic variation only interacts with morphology in word-final position. It is also important to keep in mind how the number agreement rule works in standard and nonstandard dialects of Brazilian Portuguese. In the standard varieties, all elements of a noun phrase (NP) must have the plural marker –s or one of its variants. Taking the NP *os carros brancos* ‘the white cars,’ it is possible to see that plural is marked in all its elements. In nonstandard varieties, this rule is simplified, such that plural is marked only in one of the elements, usually the first determiner, as in *os carro* _branco_. Considering that the final /s/ in articles, pronouns, and numerals in our data correspond to the plural marker –s, which tends to be kept, and the fact that palatalization is the preferred variant in the dialect of Rio de Janeiro, one can expect that the existence of a final /s/ in these grammatical categories increases the likelihood of it being realized as a palatal.

The last two linguistic variables that had a significant effect on /s/ palatalization were stress and syllabic structure. In regards to stress, /s/ was more likely to be palatalized when it occurred in a stressed syllable than an unstressed one. In a study of data collected between 1975 and 1978 in the rural region of Cordeiro in the north of Rio de Janeiro state, Gryner and Macedo (2000) also found the same favoring effect of stressed syllables (factor weight of 0.54).
contrast, analyzing interview data collected in the 1970s for the Standard Urban Norm Project (Projeto da Norma Urbana Culta – NURC) in Rio de Janeiro, I found different results (Brito 2016). In that study, unstressed syllables showed a small favoring effect on palatalization (factor weight of 0.54). However, this difference from the results of the current study may be due to the fact that postvocalic /s/ was analyzed in both medial and final positions for the previous study, which is not the case in the present study.

Scherre and Macedo (2000) provide some additional points in relation to the influence of stress on /s/ palatalization. They combined syllabic structure (number of syllables), stress, and position of /s/ in the word as one single variable. The levels they considered were monosyllables, word-final /s/ in a stressed syllable, word-final /s/ in an unstressed syllable, word-medial /s/ in a stressed syllable, and word-medial /s/ in an unstressed syllable. Scherre and Macedo found that, regardless of stress and the number of syllables, /s/ in word-final position had a disfavoring effect on palatalization. In contrast, the occurrence of /s/ in word-medial position in words with two or more syllables, regardless of stress, favors palatalization. Therefore, the discrepancy between the results of my early study and this one might be attributed to the fact that stress has a different effect on /s/ variation depending on its position in a word and probably the word size.

In the case of syllabic structure, the quantitative results showed that smaller words (one and two syllables) favored the occurrence of palatalization while words with three or more syllables disfavored it. Figure 19 below presents a cross-tabulation of the occurrence of /s/ palatalization (y-axis) by stress and syllabic structure. The lines indicate percentages in intervals of 20 percent and the circles show how each cell compare to one another in terms of their actual value in the data.
Figure 19 shows that the proportion of /s/ palatalization was higher in monosyllables and disyllables than trisyllables and polysyllables. In contrast, lack of stress seems to contribute to /s/ palatalization regardless of word size. This interaction between stress and syllabic structure may be explained by what I said earlier in regards to the role of determiners (articles, pronouns, and nouns). As I pointed out then, these grammatical classes were the ones that mostly favored /s/ palatalization and they happen to be shorter. Conversely, nouns, adjectives, and verbs tend to be bigger and have either the plural morpheme –s (nouns and adjectives) or the first person plural morpheme –mos (verbs). In the case of nouns and adjectives, the plural morpheme –s will typically be realized with ∅ if a determiner with this morpheme precedes these words in a phrase.
In addition, the final syllable of a plural word is usually unstressed because the majority of words in Portuguese are paroxytone, meaning that their penultimate syllable is stressed. Similarly, the final syllable of verbs ending in –mos (first person plural morpheme) is always unstressed. This results show that it was important to have stress and syllabic structure in two separate runs/models while conducting the logistic regression analysis. Doing so made it possible to see their real effect on /s/ palatalization, which we might not have been able to see otherwise.

4.2.1.2 Social factors influencing the occurrence of /s/ palatalization

**Age.** The age of the speaker was the most significant social predictor of /s/ palatalization. The younger speakers (18-35 years old) were more likely to palatalize /s/ than were the older ones, which is indicated by the coefficients of 1.681 for younger speakers. The middle group (36-55 years old) also favored /s/ palatalization (coefficient of 0.601). The older group (56 years old and older) disfavored the palatal variant (coefficient of -2.283). These results suggest that as the speaker gets older his/her level of /s/ palatalization decreases. In other words, the younger the speaker the more he or she is likely to pronounce postvocalic /s/ as a palatal, suggesting that this represents an age-grading phenomenon. See below for more discussion on age-grading vs. community change in terms of /s/ palatalization.

**Origin.** Being born in the city of Rio de Janeiro or in other cities of the state of Rio de Janeiro had a favoring effect on /s/ palatalization, which is expressed with the log odds coefficients of 1.427 in the case of speakers born in the city of Rio and 1.205 in the case of speakers born in the state of Rio. On the other hand, being born in the Northeast and Southeast disfavors palatalization, which is indicated by the coefficients of -0.763 and -1.870, respectively.
*Education.* The speaker’s level of education also showed a significant effect on /s/ palatalization. Speakers with 9-12 years of education (coefficient of 1.044) were more likely to realize /s/ as a palatal whereas those with 0-8 years were less likely to do so. Having more than 12 years of education showed no effect on the occurrence of the palatal variant.

4.2.1.1.2 Discussion

As mentioned before, six social factors were tested for their effect on /s/ palatalization. These variables were age, gender, origin, education, race/color, and speaker (random effect). Out of these six variables only age, origin, and education were selected as significant. Age was the most significant social factor and represented three age groups, namely 18-35, 36-55, and 56 and older. The two younger groups favored the occurrence of /s/ palatalization while the older group disfavored it. Stated differently, the logistic regression analysis showed that the younger the speaker, the more s/he favors /s/ palatalization. Figure 20 shows the cross-tabulation of /s/ palatalization by gender and age group.
The data in figure 20 above illustrate that the younger group (18-35) presents the highest proportion of /s/ palatalization, even though the older groups (36-55 and 56+) produced more of this variant in the analyzed data. The fact that younger speakers tend to favor /s/ palatalization was also observed in previous studies, such as Brito (2016), Gryner and Macedo (2000), Reis (1992), Brandão (2008), and Bassi (2011). In my analysis of 1970s data from the NURC Project in Rio de Janeiro, I found that the younger group (25-35) favored /s/ palatalization (factor weight of 0.65) whereas the older ones (36-55 and 56+) slightly disfavored it (factor weighs of 0.40 and 0.44, respectively). Considering that the data were balanced per age group (Total N=600), the percentage of use of the palatal for the younger was 59.5%, against 47% for the middle-aged group and 51% for the older one. The data analyzed by Gryner and Macedo were collected.
between 1975 and 1978 in the Cordeiro region in the north of Rio de Janeiro state. Their findings show that the younger group of speakers (13-30) slightly favored palatalization (factor weight of 0.56), corresponding to 35% of their realizations. The middle-aged group (31-50) showed a minor disfavoring effect (factor weight of 0.45) and the palatal represented 25% of their realizations. It is important to note that in palatalization represented only 31% of the occurrences of postvocalic /s/. Finally, the older group (51 and older) showed no effect on this variant (factor weight of 0.50) and the palatal accounted for 30% of their realizations.

Reis (1992) analyzes postvocalic /s/ variation in data collected from three different tasks or speech styles: word list, reading passage, and free conversation. Considering the total number of occurrences in these three styles, Reis found that the younger group (18-25) palatalized in 99% (641 out 648) of the occurrences of postvocalic /s/. The middle-aged group (26-39) realized /s/ as a palatal in 96.5% (684 out of 709) of the cases while the older group (40 and older) did so in 98% (840 out 858). Brandão reports on the factor weights obtained from a study by Rodrigues (2001), whose data was collected in the north and northeast regions of Rio de Janeiro state. Considering postvocalic /s/ in word-final position, the study shows that the younger group (18-35) also favored the palatal (factor weight of 0.58) and the middle-aged group (36-55) showed no effect (factor weight of 0.50) and the older group (56+) slightly disfavored this variant (factor weight of 0.40). Bassi analyzed data collected between 2001 and 2007 in Rio for the Linguistic Atlas of Brazil (Atlas Linguístico do Brasil – ILiB). In her study she compared the speech of two age groups, 18-30 and 50-65. She found that the rate of palatalization for the younger group was 95% while the older group was 79%. The consistency of younger groups being the ones who have higher levels of /s/ palatalization in their speech across four decades contradicts the idea that this is a change in progress as argued by previous studies (Callou, Leite & 2002; Gryner &
Macedo 2000). A comparison of the above findings indicates that this is most likely an age-grading phenomenon, showing that /s/ palatalization represents a feature that is more characteristic of the younger generations. At the same time, though, a comparison of levels of palatalization across time periods gives some suggestion of community change despite the persistent age-grading pattern.

The regional origin or place of birth of the speaker was also a significant predictor of the occurrence of /s/ palatalization. Speakers who were born in the city of Rio de Janeiro or in other cities of the state of Rio de Janeiro were more likely to pronounce postvocalic /s/ as a palatal than were those from the Southeast and the Northeast. Although expected, this finding confirms the idea that /s/ palatalization is indeed an important element of the Carioca dialect. Taking this result into consideration, it is possible to say that /s/ palatalization serves as an aspect of localness in the Cidade de Deus community as well as in Rio de Janeiro in general. The fact that younger speakers use this variant significantly more than older ones also suggests that they are probably more engaged in expressing this idea of localness through the use of the palatal. This seems to be a reason why younger speakers often put more emphasis on their pronunciation of the palatal variant, making it longer and higher in amplitude than the way older speakers produce it.

Education was the last conditioning social factor of /s/ palatalization. The results showed that speakers with 9 to 12 years of education strongly favored this variable while those with zero to 8 years strongly disfavored it. Having more than 12 years of education showed no effect. Figure 21 shows the effect of each of these factors on /s/ palatalization.
As can be seen in figure 21, speakers with fewer years of education use /s/ palatalization proportionally less than the other two groups. The figure also shows that even though speakers who have 9-12 years of education and college-educated speakers have about the same proportion of /s/ palatalization (about 80% of their respective /s/ realizations), the former group contributes more tokens than the latter.

Other studies also provide interesting results about the relationship between level of education and /s/ palatalization. For example, Gryner and Macedo’s (2000) study indicated that having more than 11 years or college education (factor weight of 0.61) favored /s/ palatalization.
while lower levels of education had a small disfavoring effect on it. The factor weight for zero to 4 years of education was 0.44 and for 5 to 11 years of education was 0.45. Analyzing data collected in the 1990’s, Hora’s (2003) study of Portuguese dialect of João Pessoa, state of Paraíba, suggested that there was a small correlation between low educational level and higher levels of /s/ palatalization. Having up to 4 years of education had a small favoring effect, which was shown by the factor weight of 0.53. Having 5 to 11 years of education had no effect on the palatal (factor weight of 0.51) and more than 11 years of education had a small disfavoring effect (factor weight of 0.43).

It is actually surprising that these studies present different results regarding the relationship between level of education and /s/ palatalization. One could argue that this difference may be due to fact that /s/ palatalization does not have the prestige status or positive associations with localness in João Pessoa, northeastern state of Paraíba, as it does in Rio de Janeiro, for example. But, more information is necessary in order to validate this assumption. In the case of our study, speakers’ individual intercepts on /s/ palatalization (table 8) might explain why the more educated speakers in our data do not show a significantly high level of palatalization in their speech. The intercept (average values or rates of application) shows the rate of individual variation or how each speaker contributes to /s/ palatalization.
Table 8. Speaker intercepts for /s/ palatalization

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Intercept</th>
<th># of tokens</th>
<th>Mean /s/ palatalization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rosa</td>
<td>1.438</td>
<td>198</td>
<td>0.328</td>
</tr>
<tr>
<td>Beatriz</td>
<td>1.431</td>
<td>93</td>
<td>0.495</td>
</tr>
<tr>
<td>Samantha</td>
<td>1.234</td>
<td>108</td>
<td>0.833</td>
</tr>
<tr>
<td>Teresa</td>
<td>0.941</td>
<td>459</td>
<td>0.817</td>
</tr>
<tr>
<td>Victor</td>
<td>0.794</td>
<td>44</td>
<td>0.977</td>
</tr>
<tr>
<td>Lola</td>
<td>0.666</td>
<td>136</td>
<td>0.206</td>
</tr>
<tr>
<td>Cecilia</td>
<td>0.545</td>
<td>59</td>
<td>0.559</td>
</tr>
<tr>
<td>Nydia</td>
<td>0.493</td>
<td>123</td>
<td>0.959</td>
</tr>
<tr>
<td>Regina</td>
<td>0.472</td>
<td>212</td>
<td>0.877</td>
</tr>
<tr>
<td>Christina</td>
<td>0.241</td>
<td>29</td>
<td>0.966</td>
</tr>
<tr>
<td>Ricky</td>
<td>0.058</td>
<td>243</td>
<td>0.909</td>
</tr>
<tr>
<td>Alex</td>
<td>0.02</td>
<td>291</td>
<td>0.928</td>
</tr>
<tr>
<td>Patricia</td>
<td>-0.148</td>
<td>651</td>
<td>0.79</td>
</tr>
<tr>
<td>Roberta</td>
<td>-0.25</td>
<td>577</td>
<td>0.586</td>
</tr>
<tr>
<td>Wilson</td>
<td>-0.684</td>
<td>124</td>
<td>0.702</td>
</tr>
<tr>
<td>Grace</td>
<td>-0.956</td>
<td>492</td>
<td>0.817</td>
</tr>
<tr>
<td>Stella</td>
<td>-1.03</td>
<td>186</td>
<td>0.839</td>
</tr>
<tr>
<td>Flavia</td>
<td>-1.031</td>
<td>78</td>
<td>0.795</td>
</tr>
<tr>
<td>Antonio</td>
<td>-1.323</td>
<td>137</td>
<td>0.409</td>
</tr>
<tr>
<td>Fernando</td>
<td>-1.36</td>
<td>228</td>
<td>0.346</td>
</tr>
<tr>
<td>Cynthia</td>
<td>-1.764</td>
<td>235</td>
<td>0.06</td>
</tr>
<tr>
<td>Helena</td>
<td>-1.765</td>
<td>101</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Regina, Patricia, and Wilson are the speakers who have more than 12 years of education.

Out of these three speakers, Regina is the only one who had a favoring effect for /s/ palatalization, whereas Patricia and Wilson actually disfavored it. Perhaps, the fact that the group that has the highest level of education does not have the highest level of palatalization might have to do with individual patterns and how each speaker influences the occurrence of this variant in our data. Another speculation about the unexpected finding that college-educated speakers had a neutral effect on /s/ palatalization is that living in a community like Cidade de Deus may give these speakers the capability of transitioning from standard (palatal and alveolar)
and nonstandard variants (glottal and /s/ deletion) of postvocalic /s/ more than they would if they lived in other communities.

4.2.2 Conditioning factors for /s/ as alveolar

Tables 9 and 10 below correspond respectively to the first (Run 1) and second runs (Run 2) of the logistic regression procedure on Rbrul. They show the linguistic and social predictors of the alveolar variant in descending order of significance. In Run 1, gender and education were not selected as significant, and in Run 2, race/color was not significant. Word and speaker were tested for random effects in both runs.
Table 9. Run 1 of the regression analysis for the alveolar

/S/ Realization: Alveolar (Application Value)

<table>
<thead>
<tr>
<th></th>
<th>Log Odds</th>
<th>Factor Weight</th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input probability</td>
<td>0.018</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total N</td>
<td>4804</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deviance</td>
<td>1105.5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Preceding vowel (p=4.9e-23)</th>
<th>Log Odds</th>
<th>Factor Weight</th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front</td>
<td>1.508</td>
<td>0.819</td>
<td>13</td>
<td>1771</td>
</tr>
<tr>
<td>Central</td>
<td>-0.573</td>
<td>0.361</td>
<td>06</td>
<td>1528</td>
</tr>
<tr>
<td>Back</td>
<td>-0.935</td>
<td>0.282</td>
<td>07</td>
<td>1505</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Origin (p=7.59e-05)</th>
<th>Log Odds</th>
<th>Factor Weight</th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southeast</td>
<td>3.031</td>
<td>0.954</td>
<td>41</td>
<td>493</td>
</tr>
<tr>
<td>Northeast</td>
<td>0.431</td>
<td>0.606</td>
<td>17</td>
<td>906</td>
</tr>
<tr>
<td>Rio State</td>
<td>-0.154</td>
<td>0.462</td>
<td>13</td>
<td>514</td>
</tr>
<tr>
<td>Rio City</td>
<td>-3.307</td>
<td>0.035</td>
<td>01</td>
<td>2891</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Syllabic Structure (p=0.0469)</th>
<th>Log Odds</th>
<th>Factor Weight</th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monosyllable</td>
<td>0.515</td>
<td>0.626</td>
<td>11</td>
<td>2127</td>
</tr>
<tr>
<td>Disyllable</td>
<td>0.391</td>
<td>0.597</td>
<td>09</td>
<td>1674</td>
</tr>
<tr>
<td>Trisyllable</td>
<td>-0.160</td>
<td>0.46</td>
<td>05</td>
<td>802</td>
</tr>
<tr>
<td>Polysyllable</td>
<td>-0.746</td>
<td>0.322</td>
<td>04</td>
<td>201</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender (Not Significant)</th>
<th>Log Odds</th>
<th>Factor Weight</th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>0.717</td>
<td>0.672</td>
<td>10</td>
<td>3738</td>
</tr>
<tr>
<td>Male</td>
<td>-0.717</td>
<td>0.328</td>
<td>06</td>
<td>1066</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education (Not Significant)</th>
<th>Log Odds</th>
<th>Factor Weight</th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 8 years</td>
<td>1.916</td>
<td>0.872</td>
<td>24</td>
<td>1696</td>
</tr>
<tr>
<td>9 to 12 years</td>
<td>-0.268</td>
<td>0.433</td>
<td>01</td>
<td>2121</td>
</tr>
<tr>
<td>12+ years</td>
<td>-1.648</td>
<td>0.161</td>
<td>01</td>
<td>987</td>
</tr>
</tbody>
</table>

| Word (Random)                 |          |               |    |    |
| Speaker (Random)              |          |               |    |    |
Table 10. Run 2 of the logistic regression analysis for the alveolar

/S/ Realization: Alveolar (Application Value)

<table>
<thead>
<tr>
<th></th>
<th>Log Odds</th>
<th>Factor Weight</th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input probability</td>
<td></td>
<td>0.0004</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total N</td>
<td></td>
<td>4804</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deviance</td>
<td></td>
<td>1124.72</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Stress (p=1.43e-12)**

<table>
<thead>
<tr>
<th>Stress</th>
<th>Log Odds</th>
<th>Factor Weight</th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>0.571</td>
<td>0.639</td>
<td>14</td>
<td>1844</td>
</tr>
<tr>
<td>No</td>
<td>-0.571</td>
<td>0.361</td>
<td>06</td>
<td>2960</td>
</tr>
</tbody>
</table>

**Following sound (p=7.11e-05)**

<table>
<thead>
<tr>
<th>Following sound</th>
<th>Log Odds</th>
<th>Factor Weight</th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pause</td>
<td>0.749</td>
<td>0.679</td>
<td>12</td>
<td>1397</td>
</tr>
<tr>
<td>Labial</td>
<td>0.058</td>
<td>0.514</td>
<td>08</td>
<td>1321</td>
</tr>
<tr>
<td>Dorsal</td>
<td>0.009</td>
<td>0.502</td>
<td>08</td>
<td>734</td>
</tr>
<tr>
<td>Liquid</td>
<td>-0.385</td>
<td>0.405</td>
<td>08</td>
<td>105</td>
</tr>
<tr>
<td>Coronal</td>
<td>-0.431</td>
<td>0.394</td>
<td>08</td>
<td>1247</td>
</tr>
</tbody>
</table>

**Grammatical Category (p=0.000211)**

<table>
<thead>
<tr>
<th>Grammatical Category</th>
<th>Log Odds</th>
<th>Factor Weight</th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Article</td>
<td>1.175</td>
<td>0.764</td>
<td>07</td>
<td>675</td>
</tr>
<tr>
<td>Pronoun</td>
<td>0.515</td>
<td>0.626</td>
<td>09</td>
<td>672</td>
</tr>
<tr>
<td>Adverb</td>
<td>0.430</td>
<td>0.606</td>
<td>12</td>
<td>487</td>
</tr>
<tr>
<td>Adjective</td>
<td>0.243</td>
<td>0.56</td>
<td>10</td>
<td>345</td>
</tr>
<tr>
<td>Conjunction</td>
<td>0.040</td>
<td>0.51</td>
<td>15</td>
<td>308</td>
</tr>
<tr>
<td>Verb</td>
<td>-0.692</td>
<td>0.334</td>
<td>06</td>
<td>335</td>
</tr>
<tr>
<td>Noun</td>
<td>-0.818</td>
<td>0.306</td>
<td>08</td>
<td>1757</td>
</tr>
<tr>
<td>Numeral</td>
<td>-0.894</td>
<td>0.29</td>
<td>15</td>
<td>225</td>
</tr>
</tbody>
</table>

**Age (p=0.0417)**

<table>
<thead>
<tr>
<th>Age</th>
<th>Log Odds</th>
<th>Factor Weight</th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>56+</td>
<td>2.429</td>
<td>0.919</td>
<td>14</td>
<td>2998</td>
</tr>
<tr>
<td>36 – 55</td>
<td>-0.053</td>
<td>0.487</td>
<td>01</td>
<td>1532</td>
</tr>
<tr>
<td>18 – 35</td>
<td>-2.377</td>
<td>0.085</td>
<td>01</td>
<td>274</td>
</tr>
</tbody>
</table>

**Race/color (Not significant)**

<table>
<thead>
<tr>
<th>Race/color</th>
<th>Log Odds</th>
<th>Factor Weight</th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>1.345</td>
<td>0.793</td>
<td>28</td>
<td>260</td>
</tr>
<tr>
<td>Multiracial</td>
<td>-0.337</td>
<td>0.417</td>
<td>07</td>
<td>2893</td>
</tr>
<tr>
<td>Black</td>
<td>-1.008</td>
<td>0.267</td>
<td>10</td>
<td>1651</td>
</tr>
</tbody>
</table>

**Word (Random)**

**Speaker (Random)**
4.2.2.1 Linguistic factors influencing the occurrence of /s/ as alveolar

*Preceding vowel.* Preceding vowel had the highest significant effect on the alveolar variant. Out of three types of vowel considered, front vowel was the only group that had a strong favoring effect on this variant of /s/, which was indicated by the coefficient of 1.508. Conversely, both central and back vowels affected negatively the occurrence of the alveolar, with coefficients of -0.573 and -0.935, respectively.

*Stress.* As occurred with the palatal, when in a stressed syllable /s/ was more likely to be realized as an alveolar, as indicated by the coefficient of 0.571. Unstressed syllables had the opposite effect, showing a disfavoring effect on this variant.

*Following sound.* This factor group was also selected as significant for /s/ alveolarization. Pause was the only factor with a favoring effect on this variant (coefficient of 0.749). Labial and dorsal consonants had a neutral influence, having coefficients of 0.058 and 0.009, respectively. Liquids and coronals, on the other hand, dis favored the occurrence of the alveolar.

*Grammatical category.* Out of the categories within this factor group, articles had the strongest positive effect on the alveolar, with a coefficient of 1.175. Pronouns (coefficient of 0.515), adverbs (coefficient of 0.430), and adjectives (coefficient of 0.243) also showed a favoring but lower effect on this variable. Conjunctions had no effect on the occurrence of alveolarization. In contrast, verbs, nouns, and numerals negatively influenced the occurrence of this variant.

*Syllabic structure.* The above results showed that when /s/ occurred in words with fewer syllables it was more likely to be realized as an alveolar. In other words, monosyllables and disyllables had a small favoring effect on alveolarization, having coefficients of 0.515 and 0.391,
respectively. In contrast, the effect of trisyllables and polysyllables on alveolar realization was negative, being indicated by the coefficient of -0.160 for the former and of -0.746 for the latter.

4.2.2.1.1 Discussion

Six linguistic factors were tested for their effect on the alveolar variant and five of them were selected as significant, namely preceding vowel, stress, following sound, grammatical category, and syllabic structure. The variable word was tested as a random effect and it was not selected as significant. In this section, I discuss in more detail the results presented in the tables above.

The most significant linguistic predictor of /s/ alveolarization was preceding vowel. Whereas front vowels strongly favored the occurrence of this variant, central and back vowels disfavored it. Looking at the difference between high front vowels and other vowels, Scherre and Macedo (2000) also found the former to favor the alveolar (factor weight of 0.54). Lucchesi (2009) studied 10,800 tokens of postvocalic /s/ from 36 interviews collected between 1998 and 2000 for the Project for the Study of the Popular Portuguese of Salvador (Projeto de Estudo do Português Popular de Salvador – PEPP). Moving away from other studies that have focused on standard Portuguese varieties spoken by individuals who have completed tertiary education, Lucchesi analyzes what he calls Popular Portuguese, which he defines as the speech of individuals who have either completed one to four years of education or finished secondary education. He also found similar results in relation to the effect of front vowels on /s/ alveolarization in his data. As seen in section 1.3, the palatal and the alveolar are more equally distributed in Salvador than in other capitals like São Paulo, Rio de Janeiro, Recife, and Porto Alegre (Callou, Leite, and Moraes 2002).
In Lucchesi’s study, syllable stress also had a significant effect on /s/ alveolarization. Different from what we found in regards to stressed syllables favoring /s/ alveolarization (factor weight of 0.64), Lucchesi found that /s/ was more likely to be realized as an alveolar when it was in word-final position after a stressed syllable, i.e. in an unstressed final position (factor weight 0.60). Regardless of stress, /s/ in medial position did not favor alveolarization in Lucchesi’s study. This difference might have to do with the fact that Lucchesi considered postvocalic /s/ in both word-medial and word-final positions but also took into account its position within the word (post-stress syllable, pre-stress syllable, and stressed syllable). The difference in coding procedure makes it difficult to pinpoint the real reason for this difference. In Gryner and Macedo’s (2000), syllable stress showed no effect on the alveolar.

Following sound was also significant in predicting the alveolar variant. However, only pause had a favoring effect on it. Given that front vowels significantly affect alveolarization, one can assume that it would be easier for the speaker to produce an alveolar after them and proceeded by pause because the tongue is already positioned in the front area of the mouth and will not need to move right away in order to produce another sound. While labials and dorsal consonants had no effect on /s/ alveolarization, liquids and coronals had a small disfavoring effect on it. In Lucchesi’s study, he only considers three types of following consonants: velar (dorsal), labial, and alveolar (coronal). Lucchesi found that dorsal consonants had a favoring effect (factor weight of 0.62), labials had almost no effect (factor weight of 0.53), and coronals had a small negative effect on alveolarization. These differences might due to differing conditioning factors on postvocalic /s/ realization in Rio de Janeiro Portuguese and Salvador Portuguese. In addition, the alveolar has a relatively small number of occurrences in Rio de
Janeiro (9.2% of 4,804 tokens), whereas in Salvador it occurs in a much higher rate (36% of 10,753 tokens).

In the current study, grammatical class was also statistically significant in the occurrence of alveolar /s/. Articles had the strongest positive effect on this variable, as they did with the palatal. Pronouns, adverbs, and adjectives showed a favoring effect as well. While conjunctions showed no effect on /s/ alveolarization; verbs, nouns and numerals disfavored it. In Scherre and Macedo’s (2000) study, conjunctions and adverbs (factor weight of 0.61), adjectives (factor weight of 0.64), and verbs (factor weight of 0.55) showed a favoring effect on the alveolar. In contrast, proper nouns (factor weight of 0.42) and numerals (factor weight of 0.42) had a small disfavoring effect and common nouns (factor weight of 0.51) had no effect on this variant.

In the case of syllabic structure, I found that smaller words favored the alveolar whereas bigger ones disfavored it. A similar result was found in Scherre and Macedo’s (2000) study, on which monosyllabic words were the only ones to favor alveolarization. Regardless of stress, bigger words showed either no effect or a small negative effect on the alveolar.

4.2.2.2 Social factors influencing the occurrence of /s/ alveolarization

**Origin.** Origin or birthplace of speaker also significantly affected the occurrence of the alveolar variant. Not surprisingly, the influence of the factors within this group is exactly the reverse of that seen above for the palatal. In this sense, being from any state in the Southeast region, except Rio de Janeiro, strongly favors the occurrence of alveolarization as indicated by the coefficient of 3.031. Similarly, having one’s origin in the Northeast also had a favoring effect on this variant. Speakers who were born in the state of Rio de Janeiro, excluding the city of Rio de Janeiro, slightly disfavored alveolarization in their speech (coefficient of -0.154).
Janeiro-born speakers showed the strongest disfavoring effect on the alveolar (coefficient of -3.307).

Age. The above results show that while the older speakers strongly favored alveolarization, the younger ones strongly disfavored it. Their coefficients were 2.429 and -2.377, respectively. Middle-aged speakers (36-55 years old) showed no effect on the alveolar variant.

4.2.2.2.1 Discussion

In the logistic regression analysis, I tested for the effects of six predictors or factor groups (gender, origin, education, age, race/color, and speaker as a random effect). Only origin and age were selected as significant. In the case of origin, each factor affects /s/ alveolarization exactly in the opposite way they affect /s/ palatalization: Speakers whose origin is the Southeast strongly favor the alveolar in their speech. Northeasterners also show a favoring effect but not as strong as Southeasterners. In contrast, /s/ alveolarization is slightly disfavored by speakers who were born in the state of Rio de Janeiro, not including the capital. Being born in the city of Rio de Janeiro had a strong disfavoring effect on this variant. These findings confirm the idea that while the palatal variant seems to be related to being local to Rio de Janeiro, the alveolar may be associated with being local to a place where it is the most used variant of postvocalic /s/. This is the case of the speakers in the current study who had the highest levels of the alveolar variant in their speech, namely Helena (Minas Gerais, Southeast) with 71%, Cynthia (Paraíba, Northeast) with 63%, Lola (Espírito Santo, Southeast) with 54%, Rosa (Minas Gerais, Southeast) with 26%, Fernando (Rio de Janeiro state, Southeast) with 26%, and Cecilia (Espírito Santo, Southeast) with 14%. All the other speakers had less than 1% of alveolarization.
The logistic regression analysis showed that the oldest group (56 years old and older) strongly favored /s/ alveolarization while the two younger groups disfavored it. In Gryner and Macedo’s (2000) study, they found their two older groups (31-50 and 51+), slightly favored the alveolar variant, which is shown by their respective factor weights of 0.53 and 0.56. The younger group (13-30) had a minor favoring effect (factor weight of 0.41) on this variant.

In the case of the present study, the individual patterns about regional origin listed above might help to explain the relationship between age and the alveolar variant in the data. It is hard to rely on these findings alone to make a generalization about the use of /s/ alveolarization across age groups, especially because not all age groups were represented in each of the regions considered here. In addition, the speakers who were born in the city of Rio de Janeiro had from zero to 5 occurrences of alveolar /s/. Thus, the fact that alveolarization was strongly favored by older speakers could be a result of the fact that all the speakers in the two younger groups (18-35 and 36-55) are from either Rio city or Rio state. Therefore, the results commented in this section could be attributed just to the fact that the speakers who mostly use the alveolar variant are part of the older group and were born in the Northeast or Southeast regions of Brazil.

4.2.3 Conditioning factors of /s/ glottalization

The conditioning factors for the glottal variant or aspiration are shown in tables 11 and 12, which correspond to Run 1 and Run 2 of the logistic regression procedure. Variables are presented in descending order of significance in both tables. None of the social factors (origin, gender, and education) tested in Run 1 were selected as significant. All variables in Run 2 were
significant for /s/ being realized as the voiceless glottal fricative [h]. In both runs, word and speaker were tested for random effects.

Table 11. Run 1 of the logistic regression analysis for the glottal

<table>
<thead>
<tr>
<th></th>
<th>Input probability</th>
<th>Factor Weight</th>
<th>Proportion</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>/S/ Realization: Glottal (Application Value)</td>
<td>0.006</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total N</td>
<td>4804</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deviance</td>
<td>1182.741</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Log Odds</th>
<th>Factor Weight</th>
<th>Proportion</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preceding vowel</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central</td>
<td>2.586</td>
<td>0.93</td>
<td>14</td>
<td>1528</td>
</tr>
<tr>
<td>Back</td>
<td>1.182</td>
<td>0.765</td>
<td>07</td>
<td>1505</td>
</tr>
<tr>
<td>Front</td>
<td>-3.768</td>
<td>0.023</td>
<td>05</td>
<td>1771</td>
</tr>
</tbody>
</table>

| **Syllabic Structure** |          |               |            |     |
| Monosyllable         | 4.015    | 0.982         | 14         | 2127|
| Disyllable           | -1.057   | 0.258         | 06         | 1674|
| Polysyllable         | -1.425   | 0.194         | 02         | 201 |
| Trisyllable          | -1.533   | 0.178         | 03         | 802 |

| **Origin** (Not Significant) |          |               |            |     |
| Northeast             | 1.317    | 0.789         | 17         | 906 |
| Southeast             | -0.128   | 0.468         | 07         | 493 |
| Rio City              | -0.176   | 0.456         | 07         | 2891|
| Rio State             | -1.013   | 0.266         | 05         | 514 |

| **Gender** (Not Significant) |          |               |            |     |
| Female                | 0.127    | 0.532         | 09         | 3738|
| Male                  | -0.127   | 0.468         | 08         | 1066|

| **Education** (Not Significant) |          |               |            |     |
| 0 to 8 years          | 0.501    | 0.623         | 10         | 1696|
| 12+ years            | -0.226   | 0.444         | 08         | 987 |
| 9 to 12 years        | -0.275   | 0.432         | 08         | 2121|

| **Word** (Random) |          |               |            |     |
| **Speaker** (Random) |          |               |            |     |
Table 12. Run 2 of the logistic regression analysis for the glottal /S/ realization: Glottal (Application Value)

<table>
<thead>
<tr>
<th></th>
<th>Log Odds</th>
<th>Factor Weight</th>
<th>Proportion</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input probability</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total N</strong></td>
<td>4804</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Deviance</strong></td>
<td>1746.531</td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Following sound</strong> (p=2.6e-95)</th>
<th>Log Odds</th>
<th>Factor Weight</th>
<th>Proportion</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid</td>
<td>2.766</td>
<td>0.941</td>
<td>27</td>
<td>105</td>
</tr>
<tr>
<td>Coronal</td>
<td>1.353</td>
<td>0.795</td>
<td>18</td>
<td>1247</td>
</tr>
<tr>
<td>Labial</td>
<td>0.831</td>
<td>0.697</td>
<td>12</td>
<td>1321</td>
</tr>
<tr>
<td>Dorsal</td>
<td>-1.293</td>
<td>0.215</td>
<td>02</td>
<td>734</td>
</tr>
<tr>
<td>Pause</td>
<td>-3.657</td>
<td>0.025</td>
<td>01</td>
<td>1397</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Stress</strong> (p=2.88e-13)</th>
<th>Log Odds</th>
<th>Factor Weight</th>
<th>Proportion</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>0.818</td>
<td>0.694</td>
<td>16</td>
<td>1844</td>
</tr>
<tr>
<td>No</td>
<td>-0.818</td>
<td>0.306</td>
<td>04</td>
<td>2960</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Grammatical Category</strong> (p=1.1e-05)</th>
<th>Log Odds</th>
<th>Factor Weight</th>
<th>Proportion</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conjunction</td>
<td>1.089</td>
<td>0.748</td>
<td>32</td>
<td>308</td>
</tr>
<tr>
<td>Article</td>
<td>0.573</td>
<td>0.639</td>
<td>08</td>
<td>675</td>
</tr>
<tr>
<td>Adverb</td>
<td>0.245</td>
<td>0.561</td>
<td>16</td>
<td>487</td>
</tr>
<tr>
<td>Numeral</td>
<td>0.022</td>
<td>0.506</td>
<td>16</td>
<td>225</td>
</tr>
<tr>
<td>Pronoun</td>
<td>-0.206</td>
<td>0.449</td>
<td>09</td>
<td>672</td>
</tr>
<tr>
<td>Adjective</td>
<td>-0.366</td>
<td>0.409</td>
<td>03</td>
<td>345</td>
</tr>
<tr>
<td>Verb</td>
<td>-0.423</td>
<td>0.396</td>
<td>07</td>
<td>335</td>
</tr>
<tr>
<td>Noun</td>
<td>-0.934</td>
<td>0.282</td>
<td>03</td>
<td>1757</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Age</strong> (p=0.0157)</th>
<th>Log Odds</th>
<th>Factor Weight</th>
<th>Proportion</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>56+</td>
<td>0.887</td>
<td>0.708</td>
<td>12</td>
<td>2998</td>
</tr>
<tr>
<td>18-35</td>
<td>-0.410</td>
<td>0.399</td>
<td>04</td>
<td>274</td>
</tr>
<tr>
<td>36-55</td>
<td>-0.476</td>
<td>0.381</td>
<td>04</td>
<td>1532</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Race/color</strong> (p=0.033)</th>
<th>Log Odds</th>
<th>Factor Weight</th>
<th>Proportion</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiracial</td>
<td>0.853</td>
<td>0.701</td>
<td>10</td>
<td>2893</td>
</tr>
<tr>
<td>Black</td>
<td>0.793</td>
<td>0.688</td>
<td>08</td>
<td>1651</td>
</tr>
<tr>
<td>White</td>
<td>-1.646</td>
<td>0.162</td>
<td>01</td>
<td>260</td>
</tr>
</tbody>
</table>

**Word (Random)**

**Speaker (Random)**
4.2.3.1 Linguistic factors influencing the occurrence of /s/ glottalization

*Preceding vowel.* Out of the three groups of vowels considered, central and back vowels had a strong favoring effect on /s/ glottalization. Their coefficients were respectively 2.586 and 1.182. In contrast, front vowels had a strong negative effect on this variant, with a coefficient of -3.768.

*Following sound.* Both liquids and coronal consonants had a strong favoring effect on the glottal variant, with coefficients of 2.766 and 1.353. Labials had a favoring effect as well but not as strong as liquids and coronals. The coefficient for labials was 0.831. Conversely, dorsal consonants and pause had a strong negative effect on /s/ being realized a glottal as indicated by their coefficients, which were respectively -1.293 and -3.657.

*Stress.* The effect of stress on /s/ glottalization was also significant. Whereas stressed syllables favored glottalization (coefficient of 0.818), unstressed ones disfavored it (-0.818).

*Syllabic structure.* In this group, monosyllables were the only factor that had a strong favoring effect on /s/ glottalization, with a coefficient of 4.015. Conversely, words with two, three or more syllables strongly disfavored the glottal variant. Their coefficients were -1.057, -1.425, and -1.533, respectively.

*Grammatical category.* Out of the categories considered for this factor group, conjunctions were the only one that had a strong positive effect on the glottal variant, with a coefficient of 1.089. Articles (0.573) and adverbs (0.245) also had a favoring effect but not as strong as conjunctions. The effect of numerals on /s/ glottalization was neutral. In contrast, pronouns (-0.206), adjectives (-0.366), and verbs (-0.423) had a minor negative effect on this variable whereas nouns had the highest negative effect, with a coefficient of 0.934.
4.2.3.1.1 Discussion

There were 422 occurrences (8.8%) of the glottal variant in our data. In the logistic regression analysis of this variant, five out of six linguistic factor groups were selected as significant. In decreasing order of significance, these groups were preceding vowel, following sound, stress, syllabic structure, and grammatical category. Even though these factor groups were also selected as significant for the occurrence of both the palatal and the alveolar variants, their factors affect glottalization in a different manner, as I will show in this section.

As seen with palatalization and alveolarization, preceding vowel had the most significant effect on glottalization. The difference here is that central and back vowels had a strong favoring effect on the glottal variant while high vowels strongly disfavored it. Scherre and Macedo (2000) also found a similar result given that vowels that were not high front vowels strongly favored /s/ glottalization (factor weight of 0.72) in their study. A close look at a number of examples of glottalization in the data showed that the front semivowel of diphthongal nuclei is often deleted when preceding the word-final glottal. As an example, the noun phrase *mais bonito* ‘more beautiful’ can be pronounced as [mayʒ bonitu], [mayəz bonitu], or [mah bonitu]. Deletion does not happen if the diphthong ends in a central vowel as in *duas mil* ‘two thousand,’ which can be pronounced as [duaʃ miw], [duaz miw], or [duah miw] with a glottal. This phenomenon shows a strong connection between central and back vowels and glottalization.

In the case of following sound, our results show that following liquids, coronals, and labials had a favoring effect on /s/ glottalization whereas following dorsals and pause disfavored it. These factors had almost the reverse effect on the palatal and alveolar. Preceding vowel and following sound work together for the realization of the variants of postvocalic /s/. The difference between these two groups is that for preceding sound it seems that postvocalic /s/
assimilates to the height of the vowel, but for following consonants it is influenced by the difference in place of articulation. Thus, the fact that the glottal is favored by preceding central and back vowels points to the idea that the tongue is a little retracted to a medial or back position, which would make it easier to produce this variant. On the other hand, it seems logical for preceding front vowels to favor the alveolar and palatal variants because it would take less effort to reach the place of articulation for liquids, coronals, and labials. Based on this, proximity and amount of effort might play a role in this variation pattern. But this only works for preceding vowels.

In the case of the following sound, the place of articulation of the variant of postvocalic /s/ and the following consonant need to be different. This explains why glottalization is favored before labials, coronals, and liquids and the palatal and the alveolar, to a certain extent, are disfavored before these sounds. The effect of dorsal consonants works in the opposite direction, favoring the palatal, but disfavoring the glottal.

In addition, the fact that pause does not favor /s/ glottalization has to do with the fact that this variant only occurs in words immediately followed by another word. Taking into account the rule for number agreement mentioned earlier, which requires that either all or the first element (usually a determiner) of an NP carry the plural marker –s, /s/ glottalization is more likely to occur in this first element because it is the one where the /s/ will be kept in a standard or nonstandard variety of Portuguese.

The effect of syllabic structure is also interesting. Monosyllabic words strongly favored glottalization (coefficient of 4.015). Conversely, bigger words strongly disfavored it. The coefficient for disyllables was -1.057, followed by polysyllables with -1.425 and trisyllables with -1.533. In Scherre and Macedo’s (2000) study, one-syllable words also favored /s/ glottalization.
In bigger words, in their case words with two or more syllables, they found that the glottal was favored when /s/ was in a stressed final position. Syllable stress seems to be the element positively affecting glottalization. As the monosyllables presented by Scherre and Macedo as examples (vez ‘time’ as in one time, mais ‘more,’ faz ‘does/makes’ as in she does/makes, dois ‘two’) have diphthongal nuclei, which are always stressed, they fall under the same rule as the bigger words with a stressed final syllable. This suggests that the number of syllables might not be as important as the stress that the final syllable bears.

Grammatical category was the least significant of the factor groups considered. From this group, conjunctions, articles, and adverbs favored /s/ glottalization whereas pronouns, adjectives, verbs, and nouns disfavored it. Numerals had a neutral effect. In Scherre and Macedo’s (2000) study, conjunctions and adverbs (factor weight of 0.54) had a small favoring effect on the glottal. Proper nouns (factor weight of 0.35), verbs (factor weight of 0.37), and numerals (factor weight of 0.38) slightly disfavored it. Common nouns (factor weight of 0.49) and adjectives (factor weight of 0.51) showed no effect on the glottal variant. This goes back to what was stated above about the fact that the glottal variant occurs mostly in determiners, and so it occurs primarily in articles, pronouns, numerals, and adjectives, since these grammatical categories are the ones that usually carry the plural marker –s.

4.2.3.2 Social factors influencing the occurrence of /s/ glottalization

Age. The older group (56 years old and older) was the only one that showed a favoring effect on the use of the glottal variant (coefficient of 0.887). Differently, the younger (18-35) and middle-aged speakers (36-55) showed a disfavoring effect on glottalization as indicated by their coefficients, which were -0.410 and -0.476, respectively.
Race/color. Identifying as both multiracial and black had a favoring effect on /s/ glottalization. The coefficients for these two groups of speakers were 0.853 and 0.793, respectively. Identifying as white, on the other hand, had a disfavoring effect on aspiration or the realization of /s/ as voiceless glottal fricative (coefficient of -1.646).

4.2.3.2.1 Discussion

The logistic regression analysis tested the extent to which the occurrence of /s/ glottalization was influenced by six social factors: gender, origin, education, age, race/color, and speaker (as a random effect). Out of these factor groups, only age and race/color were selected as statistically significant for the occurrence of the glottal.

In the case of age, the first thing to point out is that /s/ glottalization was more likely to occur in the speech of the older group (56+). This variant was not favored by either the younger 18-35) or the middle-aged group (36-55). In their study of postvocalic /s/ in the north of the state of Rio de Janeiro, Gryner and Macedo (2000) found quite the opposite result. The younger group (13-30 in their case) favored the glottal variant (factor weight of 0.62) while the older groups (31-50 and 51+) slightly disfavored it. In the case of this study, the younger groups (18-35 and 36-55) might be avoiding the glottal because of its nonstandard status, as none of them has less than eight years of schooling. Samantha is the only speaker that fits into this category in the two younger groups. The fact that the younger group (13-30) analyzed by Scherre and Macedo also included speakers who were still completing primary education might explain why this group showed a favoring effect on /s/ glottalization.

The results in table 12 above show that both speakers who self-identify as black and multiracial speakers favored /s/ glottalization while those who self-identify as white disfavored it.
in their speech. This finding suggests the existence of a correlation between the nonstandard glottal variant and the black population (multiracial and black) in the Cidade de Deus community and maybe other similar communities in Rio de Janeiro. This aspect will be explored in more detail in the next chapter, when a more situated analysis of the data will be conducted, focusing on the glottal and /s/ deletion. Even though /s/ glottalization does not have the same negative status as /s/ deletion does, it is also being affected by the standardization of Brazilian Portuguese (Guy and Zilles 2008; Lucchesi 2001). In this perspective, it is expected that as speakers advance in their education, they will have fewer occurrences of /s/ glottalization and deletion in their speech. As the younger speakers in our study are concentrated only in one of the levels of education (9-12 years), it is hard to know how the results would hold with a more representative population.

4.2.4 Conditioning factors of /s/ deletion

Tables 13 and 14 below present the conditioning factors of /s/ deletion in interview data from Cidade de Deus, Rio de Janeiro. Table 13 corresponds to Run 1 of the logistic regression analysis, on which preceding vowel, syllabic structure, gender, origin, and education were tested for their effect on /s/ deletion. Following sound, stress, grammatical category, age, and race/color were tested in Run 2, whose results appear in Table 14. In both runs, word and speaker were tested for random effects. All the factor groups tested were selected as significant, except race/color. They are listed and discussed below in descending order of significance.
Table 13. Run 1 of the logistic regression analysis for /s/ deletion

<table>
<thead>
<tr>
<th></th>
<th>Log Odds</th>
<th>Factor Weight</th>
<th>Proportion</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>/S/ Realization: Deletion (Application Value)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Input probability</td>
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<tr>
<td>Total N</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Deviance</td>
<td>1854.452</td>
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<td></td>
</tr>
<tr>
<td><strong>Syllabic Structure</strong> (p=1.09e-22)</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Polysyllable</td>
<td>1.419</td>
<td>0.805</td>
<td>39</td>
<td>201</td>
</tr>
<tr>
<td>Trisyllable</td>
<td>1.198</td>
<td>0.768</td>
<td>31</td>
<td>802</td>
</tr>
<tr>
<td>Disyllable</td>
<td>0.106</td>
<td>0.527</td>
<td>22</td>
<td>1674</td>
</tr>
<tr>
<td>Monosyllable</td>
<td>-2.724</td>
<td>0.062</td>
<td>01</td>
<td>2127</td>
</tr>
<tr>
<td><strong>Preceding vowel</strong> (p=3.19e-12)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Back</td>
<td>0.727</td>
<td>0.674</td>
<td>25</td>
<td>1505</td>
</tr>
<tr>
<td>Central</td>
<td>0.356</td>
<td>0.588</td>
<td>18</td>
<td>1528</td>
</tr>
<tr>
<td>Front</td>
<td>-1.084</td>
<td>0.253</td>
<td>04</td>
<td>1771</td>
</tr>
<tr>
<td><strong>Education</strong> (p=0.00101)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 to 8 years</td>
<td>0.674</td>
<td>0.662</td>
<td>22</td>
<td>1696</td>
</tr>
<tr>
<td>12+ years</td>
<td>0.045</td>
<td>0.511</td>
<td>11</td>
<td>987</td>
</tr>
<tr>
<td>9 to 12 years</td>
<td>-0.719</td>
<td>0.328</td>
<td>12</td>
<td>2121</td>
</tr>
<tr>
<td><strong>Origin</strong> (p=0.0256)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southeast</td>
<td>1.178</td>
<td>0.765</td>
<td>26</td>
<td>493</td>
</tr>
<tr>
<td>Northeast</td>
<td>0.836</td>
<td>0.698</td>
<td>22</td>
<td>906</td>
</tr>
<tr>
<td>Rio City</td>
<td>-0.593</td>
<td>0.356</td>
<td>11</td>
<td>2891</td>
</tr>
<tr>
<td>Rio State</td>
<td>-1.420</td>
<td>0.105</td>
<td>16</td>
<td>514</td>
</tr>
<tr>
<td><strong>Gender</strong> (p=0.0197)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>0.588</td>
<td>0.643</td>
<td>15</td>
<td>1066</td>
</tr>
<tr>
<td>Female</td>
<td>-0.588</td>
<td>0.357</td>
<td>15</td>
<td>3738</td>
</tr>
<tr>
<td><strong>Word</strong> (Random)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Speaker</strong> (Random)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 14. Run 2 of the logistic regression analysis for /s/ deletion

<table>
<thead>
<tr>
<th>/S/ Realization: Deletion (Application Value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input probability</td>
</tr>
<tr>
<td>Total N</td>
</tr>
<tr>
<td>Deviance</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Log Odds</th>
<th>Factor Weight</th>
<th>Proportion</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress (p=4.86e-21)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>1.443</td>
<td>0.809</td>
<td>23</td>
<td>2960</td>
</tr>
<tr>
<td>Yes</td>
<td>-1.443</td>
<td>0.191</td>
<td>03</td>
<td>1844</td>
</tr>
<tr>
<td>Grammatical Category (p=7.12e-16)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noun</td>
<td>1.989</td>
<td>0.88</td>
<td>30</td>
<td>1757</td>
</tr>
<tr>
<td>Adjective</td>
<td>1.396</td>
<td>0.802</td>
<td>22</td>
<td>345</td>
</tr>
<tr>
<td>Verb</td>
<td>1.276</td>
<td>0.782</td>
<td>24</td>
<td>335</td>
</tr>
<tr>
<td>Adverb</td>
<td>0.526</td>
<td>0.628</td>
<td>03</td>
<td>487</td>
</tr>
<tr>
<td>Pronoun</td>
<td>0.060</td>
<td>0.515</td>
<td>03</td>
<td>672</td>
</tr>
<tr>
<td>Numeral</td>
<td>-1.242</td>
<td>0.224</td>
<td>01</td>
<td>225</td>
</tr>
<tr>
<td>Conjunction</td>
<td>-1.606</td>
<td>0.167</td>
<td>01</td>
<td>308</td>
</tr>
<tr>
<td>Article</td>
<td>-2.399</td>
<td>0.083</td>
<td>01</td>
<td>675</td>
</tr>
<tr>
<td>Age (p=5.27e-07)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>56+</td>
<td>1.661</td>
<td>0.84</td>
<td>20</td>
<td>2998</td>
</tr>
<tr>
<td>36 – 55</td>
<td>-0.363</td>
<td>0.41</td>
<td>01</td>
<td>1532</td>
</tr>
<tr>
<td>18 – 35</td>
<td>-1.298</td>
<td>0.214</td>
<td>01</td>
<td>274</td>
</tr>
<tr>
<td>Following sound (p=4.21e-05)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liquid</td>
<td>0.355</td>
<td>0.588</td>
<td>23</td>
<td>105</td>
</tr>
<tr>
<td>Pause</td>
<td>0.279</td>
<td>0.569</td>
<td>25</td>
<td>1397</td>
</tr>
<tr>
<td>Coronal</td>
<td>0.132</td>
<td>0.533</td>
<td>16</td>
<td>1247</td>
</tr>
<tr>
<td>Labial</td>
<td>-0.049</td>
<td>0.488</td>
<td>08</td>
<td>1321</td>
</tr>
<tr>
<td>Dorsal</td>
<td>-0.717</td>
<td>0.328</td>
<td>08</td>
<td>734</td>
</tr>
<tr>
<td>Race/color (Not significant)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiracial</td>
<td>0.437</td>
<td>0.607</td>
<td>16</td>
<td>2893</td>
</tr>
<tr>
<td>Black</td>
<td>-0.082</td>
<td>0.479</td>
<td>14</td>
<td>1651</td>
</tr>
<tr>
<td>White</td>
<td>-0.354</td>
<td>0.412</td>
<td>14</td>
<td>260</td>
</tr>
<tr>
<td>Word (Random)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaker (Random)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.2.4.1 Linguistic factors influencing the occurrence of /s/ deletion

Syllabic structure. The results shown in Run 1 indicate that /s/ is more likely to be deleted in words with three or more syllables. Stated differently, the bigger the word the higher the likelihood of its final /s/ being deleted. Being favoring factors of /s/ deletion, polysyllables and trisyllables had coefficients of 1.419 and 1.198, respectively. Words with two syllables had a small favoring effect on /s/ deletion, with a coefficient of 0.106. In addition, the effect of monosyllables was negative. That is, when final /s/ occurs in a one-syllable word, it is more likely to be kept, which is indicated by the coefficient of -2.724.

Stress. Based on the above results, when final /s/ occurred in an unstressed syllable it was more likely to be deleted (coefficient of 1.443). Stressed syllables showed the reverse effect by strongly disfavoring /s/ deletion (-1.443).

Grammatical category. Out of the eight categories considered in logistic regression analysis, three had a strong favoring effect on /s/ deletion. When final /s/ occurred in a noun (coefficient of 1.989), adjective (coefficient of 1.396), or verb (coefficient of 1.276), it was more likely to be deleted. Adverbs also showed the same favoring effect, but not as strong (coefficient of 0.526). On the other hand, numerals (coefficient of -1.242), conjunctions (coefficient of -1.606), and articles (coefficient of -2.399) had a strong negative effect on /s/ deletion, meaning that when postvocalic /s/ occurred in such grammatical categories it was more likely to be kept. Pronouns showed no effect on /s/ deletion.

Preceding vowel. Back and central vowels had a positive effect on /s/ deletion. Their coefficients were 0.727 and 0.356, respectively. Conversely, when final /s/ followed a front vowel, it was more likely to be kept. The disfavoring effect of front vowels on /s/ deletion was showed by the coefficient of -1.084.
Following sound. Postvocalic /s/ was relatively more likely to be deleted when it was followed by a liquid consonant (coefficient of 0.355), pause (coefficient of 0.279), and a coronal consonant (coefficient of 0.132). But the favoring effect of these factors was rather small. Conversely, Dorsal consonants had a negative effect on /s/ deletion (coefficient of -0.717). Labials showed no effect on /s/ being deleted in word-final position.

4.2.4.1.1 Discussion

Syllabic structure was the most significant of the linguistic factors tested for their effect on /s/ deletion. Unlike the palatal, the alveolar and the glottal variants, which were more favored by words with one or two syllables, /s/ deletion was more likely to occur in words with three or more syllables. In terms of stress, /s/ deletion was favored when it occurred in an unstressed syllable (Gryner and Macedo 2000; Guy 1981). The frequency distribution of /s/ deletion by number of syllables and stress is presented in figure 22.
Based on the data in figure 22, the occurrence of /s/ deletion was proportionally higher in unstressed syllables of all word sizes, except monosyllables. In Guy’s (1981) study unstressed syllables also favored /s/ deletion. Scherre and Macedo (2000) used a combination of position of /s/ in the word, stress, and number of syllables as a variable and so it is difficult to compare their results with ours without some hesitation. In any case, they found that monosyllables (factor weight of 0.77) favored /s/ deletion. In their analysis, they did not classify these one-syllable words based on stress. Moreover, words with two or more syllables had the same positive effect on /s/ deletion when it was in final position. Stressed final syllables had a factor weight of 0.83 and unstressed ones, 0.90. In word-internal position and regardless of stress, /s/ deletion was disfavored.
The logistic regression analysis also yielded interesting results about grammatical category. Nouns, adjectives, verbs, and adverbs favored /s/ deletion. Conversely, numerals, conjunctions, and articles disfavored it. Pronouns had a neutral effect on this variant. Interestingly, the favoring factors of /s/ deletion actually disfavor palatalization, alveolarization and glottalization. It should be noted that, as I am only considering /s/ in word-final position, the group of words representing verbs are mostly conjugated in the first person plural and so have the suffix –mos, as in *temos* ‘we have’ and *estudamos* ‘we study.’ In Scherre and Macedo’s (2000) study, verbs ending in this suffix strongly favored /s/ deletion (factor weight of 0.85). Gryner and Macedo (2000) found a similar result (factor weight of 0.69). Our study also confirms this correlation between verbs (the suffix –mos) and /s/ deletion (factor weight of 0.79).

In the case of nouns and adjectives, the final /s/ in many cases coincides with the plural morpheme –s. This means that the /s/ that is being deleted can be both a part of a singular word that ends in this consonant or plural –s. In other words, the /s/ that is being deleted can have a phonological or morphological function or both. This is true especially given the grammar rules of the Popular Brazilian Portuguese variety mentioned previously. According to the noun phrase number agreement rule in nonstandard varieties of Portuguese, nouns phrases composed of two or more constituents mark number in only one of them. Taking the noun phrase *o menino inteligente* ‘the smart boy’ as an example, the application of the number agreement rule would yield the plural form *os menino inteligente* ‘the smart boys’ in Popular Brazilian Portuguese and *os meninos inteligentes* in Standard Brazilian Portuguese. In addition, the final syllable of pluralized nouns and adjectives is usually unstressed, which is certainly one of the reasons this context favors /s/ deletion.
Looking at the results for preceding vowel, we can see that back and central vowels favor /s/ deletion more than front vowels. This finding accords with Scherre and Macedo’s results. Considering that /s/ deletion occurs proportionally and significantly more in words that are nouns, adjectives, and verbs, as can be seen in figure 23, it is expected that most of the vowels preceding /s/ are back and central vowels. This is so especially because most nouns and adjectives in Portuguese must carry a gender marker of either –a, for feminine, or –o for masculine. In Popular Brazilian Portuguese, when plural and gender rules have to be applied, the plural morpheme –s and its equivalent can be omitted in some elements of an NP, but the gender morpheme –a/–o cannot. Taking these restrictions into account is key to understanding /s/ deletion in the data being analyzed here and perhaps also in other varieties of the Portuguese language.

Figure 23. Cross-tabulation of /s/ deletion (y-axis) by preceding vowel and grammatical category

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22 In Brazilian Portuguese, unstressed /o/ is usually raised in word-final position.
The final linguistic factor group to be considered is following sound, which was also significant for /s/ deletion. From this group, liquids, pause, and coronals had a favoring effect on /s/ deletion while dorsal consonants disfavored it. Labials had a neutral effect on this variant. While pause has been shown to have a neutral effect on /s/ deletion, following voiced consonants have been shown to have a favoring effect on it (Guy 1981; Scherre and Macedo 2000). This result suggests that, in order to understand /s/ deletion in Brazilian Portuguese, one should consider not only how each of the independent variables analyzed here affects the occurrence of this phenomenon, but also how their interactions play a role in this linguistic phenomenon.

4.2.4.2 Social factors influencing the occurrence of /s/ deletion

Age. The older group of speakers (56 years old and older) was more likely to delete postvocalic /s/ (coefficient of 1.661) than were the younger ones. Middle-aged (36 to 55 years old) and younger (18-35 years old) showed a disfavoring effect on /s/ deletion. While the middle-aged group had a mild effect (coefficient of -0.363) on /s/ deletion, the younger group strongly disfavored it in their speech (coefficient of -1.298).

Education. Speakers who studied up to eight years were more likely to delete /s/ (coefficient of 0.674) than those who studied more years. The group composed with people with nine to twelve years of education had a disfavoring effect on /s/ deletion (coefficient of -0.719), whereas people with more than twelve years had a neutral effect on /s/ being deleted.

Gender. Males showed a relatively small favoring effect on /s/ deletion, with a coefficient of 0.588. In contrast, females disfavored /s/ deletion, as indicated by the coefficient of -0.588.
Origin. Speakers who were not born either in the city or the state of Rio de Janeiro showed a positive effect on /s/ deletion. Speakers from the Southeast had the greatest favoring effect on /s/ deletion, with a coefficient of 1.178. In the case of speakers from the Northeast, the coefficient was 0.836. Being born in the city of Rio had a small negative to neutral effect on /s/ being deleted. On the other hand, people from other cities within the state were less likely to delete /s/ or had a disfavoring effect on it, which was indicated by the coefficient of -1.420.

4.2.4.2.1 Discussion

The results of the logistic regression analysis showed that four social variables were selected as significant for /s/ deletion, namely age, education, gender, and origin. In the case of age, older groups of speakers showed a favoring effect on /s/ deletion while the two younger groups disfavored it. This pattern can also be observed in the frequency distribution of /s/ deletion by age and gender, as reported in table 15.

Table 15. Frequency of /s/ deletion by age and gender

<table>
<thead>
<tr>
<th>Age</th>
<th>Male % Deletion</th>
<th>N</th>
<th>Female % Deletion</th>
<th>N</th>
<th>Total % Deletion</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 – 35 yo</td>
<td>2.3</td>
<td>43</td>
<td>4.8</td>
<td>231</td>
<td>4.4</td>
<td>274</td>
</tr>
<tr>
<td>36 – 55 yo</td>
<td>4.5</td>
<td>534</td>
<td>10.4</td>
<td>998</td>
<td>8.4</td>
<td>1532</td>
</tr>
<tr>
<td>56 yo +</td>
<td>27.6</td>
<td>489</td>
<td>18.1</td>
<td>2509</td>
<td>19.7</td>
<td>2998</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>1066</td>
<td>15.2</td>
<td>3738</td>
<td>15.2</td>
<td>4804</td>
</tr>
</tbody>
</table>

In table 15, it is possible to see the proportion of /s/ deletion increasing across age groups. Based on our results, males favor /s/ deletion more than females. Looking at table 15 we see that female speakers show higher proportions of /s/ deletion than males in all age groups, except for the male speakers 56 year old and older. Perhaps, the fact that male speakers still show a
significant favoring effect on /s/ deletion may have to do more with individual patterns than group patterns. Table 16 below might help us understand what is going on.

Table 16. Speaker intercepts for /s/ deletion

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Intercept</th>
<th># of tokens</th>
<th>Mean /s/ deletion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fernando</td>
<td>1.162</td>
<td>228</td>
<td>0.307</td>
</tr>
<tr>
<td>Grace</td>
<td>1.076</td>
<td>492</td>
<td>0.128</td>
</tr>
<tr>
<td>Stella</td>
<td>0.735</td>
<td>186</td>
<td>0.086</td>
</tr>
<tr>
<td>Antonio</td>
<td>0.683</td>
<td>137</td>
<td>0.285</td>
</tr>
<tr>
<td>Roberta</td>
<td>0.594</td>
<td>577</td>
<td>0.208</td>
</tr>
<tr>
<td>Cecilia</td>
<td>0.544</td>
<td>59</td>
<td>0.203</td>
</tr>
<tr>
<td>Wilson</td>
<td>0.421</td>
<td>124</td>
<td>0.21</td>
</tr>
<tr>
<td>Flavia</td>
<td>0.412</td>
<td>78</td>
<td>0.09</td>
</tr>
<tr>
<td>Beatriz</td>
<td>0.149</td>
<td>93</td>
<td>0.28</td>
</tr>
<tr>
<td>Regina</td>
<td>0.13</td>
<td>212</td>
<td>0.071</td>
</tr>
<tr>
<td>Teresa</td>
<td>0.089</td>
<td>459</td>
<td>0.126</td>
</tr>
<tr>
<td>Patricia</td>
<td>0.054</td>
<td>651</td>
<td>0.109</td>
</tr>
<tr>
<td>Christina</td>
<td>0.028</td>
<td>29</td>
<td>0.034</td>
</tr>
<tr>
<td>Rosa</td>
<td>-0.022</td>
<td>198</td>
<td>0.288</td>
</tr>
<tr>
<td>Helena</td>
<td>-0.154</td>
<td>101</td>
<td>0.238</td>
</tr>
<tr>
<td>Victor</td>
<td>-0.227</td>
<td>44</td>
<td>0.023</td>
</tr>
<tr>
<td>Lola</td>
<td>-0.237</td>
<td>136</td>
<td>0.243</td>
</tr>
<tr>
<td>Nydia</td>
<td>-0.298</td>
<td>123</td>
<td>0.024</td>
</tr>
<tr>
<td>Cynthia</td>
<td>-0.396</td>
<td>235</td>
<td>0.23</td>
</tr>
<tr>
<td>Ricky</td>
<td>-0.408</td>
<td>243</td>
<td>0.041</td>
</tr>
<tr>
<td>Samantha</td>
<td>-0.53</td>
<td>108</td>
<td>0.093</td>
</tr>
<tr>
<td>Alex</td>
<td>-0.758</td>
<td>291</td>
<td>0.048</td>
</tr>
</tbody>
</table>

The three male older speakers, namely Fernando, Antonio, and Wilson, all had a favoring effect on /s/ deletion. In terms of proportion, they also show some of the highest levels of /s/ deletion in the whole group. Thus, /s/ deletion accounts for 31% of the tokens produced by Fernando, 28% of those produced by Antonio, and 21% of those produced by Wilson.

Level of education was also significant for the occurrence of /s/ deletion. Out of the three factors considered in the analysis, /s/ deletion was preferred significantly more by those speakers.
with 0-8 years of education. Those with 9-12 years of education disfavored this variant and those with more than 12 years of education showed a neutral effect on it. Because /s/ deletion is considered a nonstandard feature in Brazilian Portuguese, it is expected that it decreases as level of education increases, as has been found in previous studies (Gryner and Macedo 2000; Callou and Marques 1975). In her comparative study of /s/ palatalization in Rio de Janeiro and Florianópolis, Bassi (2011) found that speakers with a low level of education (up to four years) deleted /s/ proportionally less than those with a college education. As mentioned previously, she analyzes linguistic material from the Linguistic Atlas of Brazil (ALiB), for which sociolinguists elicited data in three styles: survey, storytelling, and reading. Bassi attributed the higher proportion of /s/ deletion in the speech of more educated speakers to their speed while reading. The patterns of /s/ deletion for speakers with 12 years of education or more found in our study might have to do with the expectations in the community toward education. Even though they have achieved a high level of education, they might still use nonstandard features as a way to not be viewed as self-important. In other words, the use of nonstandard features like /s/ deletion balances the expectations people may have about their education. In my own experience, using some nonstandard features has often helped me connect better with people who have told me that they feel uncomfortable talking to more educated people because of the grammar mistakes they might make.

Speakers’ origin or place of birth was also selected as significant. Whereas those from the Northeast and Southeast regions favored /s/ deletion, those who were born in Rio de Janeiro city and state disfavored it. The fact that all speakers from the Northeast and Southeast are part of the older group and have less than eight years of education might explain the nature of these results, especially because these two represented the most significant to the occurrence of /s/ deletion.
4.3. Chapter summary

In this chapter, I presented the results of the mixed-effects variable rule analysis of the interview data used in the present study. Logistic regression was the main statistical procedure used to examine the relationship among the dependent variable and the independent variables. The fact that this function in Rbrul works with binary responses posed a problem to our analysis because the dependent variable of postvocalic /s/ had four variants. To solve this problem, the independent variables were tested for their effect on each of the four variants separately. Two runs of the logistic regression analysis were conducted for each of the variants due to the possibility of interaction among some of the independent variables. These interactions included preceding vowel and grammatical category, syllabic structure (number of syllables) and stress, syllabic structure and grammatical class, gender and age, gender and race/color, origin and age, and education and age. With this in mind, the results for each variant of postvocalic /s/ were then reported and discussed. In what follows, the main findings regarding the effect of each predictor on these variants are summarized.

Preceding vowel was selected as a significant predictor for all four variants of postvocalic /s/. However, each level in this group factor affected them differently. Preceding front vowels favored the palatal and the alveolar variants and disfavored /s/ glottalization and deletion. Preceding central and back vowels had the reverse effect, favoring the glottal and the deleted variants, but disfavoring the other two variants. These results suggest that this variable patterning is influenced by both the relative articulatory position of the tongue for the production of a vowel and the role of the active (the tongue) and passive articulators (e.g. teeth, lips, alveolar ridge, etc.) in the production of each variant. In this case, co-articulatory effects of preceding vowels and following /s/ seem to influence the occurrence of the palatal and alveolar variants (the ones
with fronter articulation) than the others. However, this seems not to hold for the effects of following phonetic environment.

In the case of following phonetic environment, the relation between the tongue and passive articulators seems to be established by contrast. In this factor group, following labials, coronals, and liquids, which are consonants that are produced in places of articulation anterior to the palate, either disfavor or had no effect on palatalization and alveolarization. However, these consonants had a minor to great effect on the occurrence of the glottal and /s/ deletion. In addition, following dorsal consonants, which are produced in a more posterior location than the palate, had a positive effect on palatalization but were neutral with respect to alveolarization and disfavored the other two variants. Apparently, the difference between place of articulation of a certain variant of postvocalic /s/ and that of the following consonant plays an important role in the variation patterns seen here. Thus, the palatal and the alveolar variants of /s/, which are also coronal consonants, are more likely to occur before dorsal consonants. On the other hand, the glottal variant, which is also a laryngeal consonant, is more likely to occur before labials, coronals, and liquids. These findings regarding place of articulation of following sound are of course counter to expectation, since we expect palatalization before more anterior than posterior sounds (at least with respect to following vowels); again, though, perhaps articulatory dissimilation is at play here. Finally, pause favored all variants except the glottal, which is mostly motivated by the fact that the glottal does not usually occur in an environment where /s/ is the last phonological element of a word.

Stress was also significant for the occurrence of the four variants. Stressed syllables favored the palatal, the alveolar, and the glottal, whereas unstressed syllables favored only /s/ deletion. As demonstrated throughout this chapter, this has to do with the fact that in word-final
position most of the cases of /s/ deletion are related to the morphology of the language, specifically the plural morpheme –s and the –s that is part of the first person plural verb morpheme –mos. This point becomes clearer if one considers the results for syllabic structure and grammatical class.

For syllabic structure or number of syllables, monosyllables and disyllables favored the palatal and the alveolar. The glottal was favored only by monosyllables. Words with three or more syllables favored /s/ deletion. As explained throughout the chapter, this might be a result of the fact that when postvocalic /s/ corresponds to plural marker –s, it is more likely to be kept in smaller words because these words tend to be determiners. As seen above, in standard varieties of Brazilian Portuguese the number agreement rule requires all elements of an NP to carry the plural morpheme. But, in nonstandard varieties, this rule only applies to the first determiner of the NP, which is usually an article, pronoun, or numeral. This also helps to understand the results for grammatical category. In this factor group, articles favored all variants but /s/ deletion. Other words that function as determiners and as the first elements of NPs (e.g. pronouns and numerals) were more likely to positively affect palatalization. In addition, the glottal was also favored by adverbs and conjunctions. Finally, /s/ deletion was favored by adjectives, adverbs, nouns, and verbs. At least in the case of adverbs, nouns, and verbs, they are bigger words and their final syllables tend to be unstressed. All of these results point to the fact that it is difficult to account for one of these variables without taking into account their possible interactions.

Among the social variables there were also interesting results. For example, gender was only significant for the occurrence of /s/ deletion. Males favored this variant while females disfavored it. However, females deleted /s/ proportionally more than males in all age groups but the older one. The fact that there were no male speakers with less than eight years of education in
the two younger groups makes it difficult to know if the favoring effect of males would hold if just the younger groups were considered. Regardless of gender, as /s/ deletion is considered a nonstandard variant, it is expected to have a higher occurrence in the speech of less educated speakers.

The race/color predictor was only significant for the occurrence of glottalization. While black and multiracial speakers favored this variant, white speakers disfavored it. As stated above, the glottal is a nonstandard variant of postvocalic /s/ but it does not have the same negative evaluation that /s/ deletion does. A close look at the situated use of this variable might provide some clues for establishing some of the social meanings this variant can have and how speakers used it for identity work.

Regional origin was significant for the realization of all variants but the glottal. Based on the results presented above, the palatal was favored by speakers who were born in both Rio de Janeiro city and state. In contrast, those who were from the Southeast and Northeast regions favored the alveolar and /s/ deletion. Thus, the use of one variant or the other is indicative of the regional origin of the speaker and maybe his/her possible orientations towards these place identities.

In the case of age, the two younger groups favored palatalization and disfavored /s/ deletion. The alveolar and /s/ deletion were only favored by the older group. In the case of the latter the reason could be the fact that there were no Rio-born speakers in this group. In addition, the age-based patterns seem to corroborate the idea that when working-aged people start to participate more actively in the workforce their speech also becomes more standard as a reaction to the “conservatizing pressures of the linguistic marketplace,” which explains why younger speakers, especially adolescents, and older people show more similar linguistic behavior in terms
of variation than people in their middle, working years (Eckert 1997, cited by Milroy and Gordon 2003, 39). In the case of /s/ deletion, there were also effects based on education. This predictor was only significant for the palatal realization and /s/ deletion. Whereas having from zero to eight years of education favored /s/ deletion and disfavored palatalization, having between nine and twelve years had the opposite effect. The group that had more than twelve years of education showed no effect on these two variants. These results suggest that as individuals advance in the education, they tend to avoid the nonstandard variants. In other words, their speech becomes more standardized. The linguistic patterns exhibited by the more educated speakers in the data might reflect the way they see the social expectations about education within the community. In this sense, the occurrence of nonstandard variants, especially the glottal, in their speech helps them to create a more laid back and informal identity and still be seen as authentic members of the community.

As mentioned before, the quantitative analysis is the backdrop for the qualitative one. As such, it is going to be used as the starting point for a more situated analysis of how the variants of postvocalic /s/ studied throughout this chapter relate to the stances that individual speakers take in conversations about their community’s status within the residential organization of Rio de Janeiro. This is the topic of the next chapter.
Chapter 5. Postvocalic /s/ and stance on favela and community

5.1 Introduction

The objective of this chapter is to provide a situated analysis of the phonological variable of postvocalic /s/ combined with the examination of the stances residents of the City of God neighborhood in Rio de Janeiro take up in relation to the status of City of God within the residential organization of Rio de Janeiro. In the last chapter, I presented the results of the quantitative analysis of postvocalic /s/, which focused on specific aspects of the linguistic and social conditioning of each of the variants of postvocalic /s/, namely the palatal, the alveolar, the glottal, and /s/ deletion. That analysis provided important information regarding group patterns for these variants and the possible social meanings they can have in association with the social categories included in the analysis (gender, race/color, origin, age, and education).

The statistical results suggested that the palatal variant is associated with the speech of the two younger groups (18-35 and 36-55) or speakers born in Rio de Janeiro. As a standard variant of postvocalic /s/, the use of the palatal may also index formality and correctness, which are perceived as attributes of those who belong to higher socioeconomic classes. Thus, this variant can be associated with an individual’s real or desired social status.

The alveolar variant may have similar meanings in cities where it is the standard variant of postvocalic /s/, which include most of the cities in the interior of Brazil. The sociolinguistic analysis of the data from City of God residents showed that this variant was associated with the speech of older individuals who migrated there from other states. In the case of this study, it refers specifically to states of the Southeast and Northeast regions.
The statistical analysis also revealed interesting results for the glottal and deleted variants, the nonstandard variants of postvocalic /s/. In the case of the glottal, the analysis suggested a possible association between this variant and the speech of older black and multiracial speakers. For /s/ deletion, the quantitative analysis indicated that it was associated with the speech of older males and less educated speakers. This variant was also more likely to occur among speakers who were not from the state of Rio de Janeiro.

These possible social meanings are taken as the starting point to further understand the more situated meanings of postvocalic /s/ in unfolding discourse. In addition, the qualitative analysis of this variable also emphasizes the role of stancetaking as a resource that can be used by speakers to create and/or negotiate individual and social identities in specific contexts of interaction. As explained in chapter two, stancetaking is analyzed based on Du Bois’s (2007) stance triangle framework. The usefulness of this framework is the fact that it allows for the analysis of both affective (speaker’s emotional involvement with what is being said) and epistemic (speaker’s intellectual involvement in relation to knowledge that is conveyed in an utterance) stances based on three dimensions: objective, subjective, and intersubjective. Each dimension establishes or describes the kind of relationship that results from the stancetaking act, which is performed by three main kinds of stances: evaluation, positioning, and alignment. For instance, when a stancetaker evaluates an object, s/he establishes an objective relationship with it. Through positioning, a stancetaker establishes a subjective relationship between him/her and a stance object. Finally, an intersubjective relationship is established when a stancetaker aligns him/herself with another stancetaker.

As stated in the beginning of this chapter, stancetaking is analyzed in relation to the status of City of God within the residential organization of Rio de Janeiro, more specifically the
different perceptions people hold about the words comunidade ‘community’ and favela. But, before presenting this analysis, it is important to contextualize these two notions within the context of Rio de Janeiro.

As discussed in the first chapter of this dissertation, Rio de Janeiro has an important position among the Brazilian cities due to its long-lasting role as Brazil’s capital (1763-1960) and more recently as the second richest and most populous city in the country after São Paulo. The important changes in industrialization and modernization that occurred in Rio de Janeiro throughout the twentieth century were among the main causes of the city’s rapid population growth. Given the pattern of urbanization that took place in Brazil in this period, more and more people moved to cities like Rio de Janeiro as a way to find new employment opportunities and possibly a better life. Hoping for this possibility, thousands of people left the impoverished areas of the interior of the country, especially the Northeast, to move to Rio and other emerging metropolitan areas. As the city was never prepared to receive these newcomers, the alternative they found was to join other poor people who had already been living on hillsides or other precarious areas. Given the way social and racial inequality works in Brazil, the majority of the people living in these places have been disproportionally black or mixed. That is how the areas called favelas, roughly slums or shantytowns, started to develop around the city.

The first favela communities were built on hillsides near the most affluent areas of the Rio de Janeiro, such as the Central and South Zones. But due to modernization projects in these zones many of these communities were removed and transferred to more distant areas of the city, where people did not have access to public transportation, schools, hospitals, and other services. In their initial phases, the houses in these communities were mostly shacks made out of cardboard or wood, but as their residents started to make money these materials were replaced
with bricks. Nevertheless, as the city grew over time so did the gap between these areas, which are considered informal or subnormal, and those that are not.

In the public discourse, mostly disseminated by the mainstream media, the idea of informality and sub-normality have always been linked to a number of other negative stereotypes, including poverty, crime, and violence. As repeated representations of favelas, these negative associations represent some of the main aspects behind the stigma and discrimination faced by their residents.

However, the various social and cultural movements that either emerged from these communities or are associated with them have also developed an alternative discourse about these places. Creating different images of favelas and sometimes contesting their pervasive negative stereotypes, cultural elements such as rap, hip-hop, samba, and funk have made these communities more visible to the public and, above all, have given their residents an opportunity to feel proud and to have a strong sense of belonging.

The negative and positive meanings associated with favelas represent the two extremes in a continuum that is the basis for the different orientations people have about them. The discussion about how people should label these places provides a good example. In general, people who are oriented toward their negative stereotypes and the stigma and discrimination that result from them, usually see the term comunidade ‘community’ as a better designator for the type of housing community they live in. Besides, it is argued that this term is more applicable because it removes the negative connotations that the term favela has accumulated over the years.

On the other hand, those who have a stronger sense of belonging and pride tend to not see any problems with the word favela. They are aware of the negative and positive stereotypes that
have been associated with their communities but have also embraced the idea that they are the ones in charge of bringing about change in relation to how they want to be perceived by other social groups. This sentiment reverberates in the voices of many *favela* residents and is expressed in the lyrics of many samba, hip-hop, rap, and funk songs.

Nevertheless, as anthropologist Janice Perlman (2010, 332) reminds us, “if the word *favela* has been reappropriated by *favela* residents, it remains a term of derision in the rest of society.” City of God residents represent a good example of how people can react to these two conflicting ideas. As discussed previously, based on official government criteria, it is possible to say that this neighborhood is not considered a *favela* because 87% of its territory does fit the requirements for being classified as *normal* or *formal*. Regardless of the official classification, representations of City of God made by the mainstream media have always reproduced and explored the negative stereotypes often associated with *favelas*. Consequently, the power of these images has contributed to the strengthening of this kind of perception among both insiders and outsiders.

Examining these aspects of the discussion about the labeling of the community leads to the conclusion that for everyday people the official classification does not really matter or, at least, it is not taken into consideration in the way the public discourse defines which communities are *favelas* or not. Rather, what seems to play an important role in the process of labeling these places is a constellation of factors related to socioeconomic class, race/color, regional origin, speech, body language, and so on, which have been perceived to be attributes of those who live in these places (Perlman 2010). Because of the associations between these places and the attributes that their residents are expected to have, the words *favela* and *favelado(a)* can sometimes be evoked or enregistered (Silverstein 2003) in the same ways the term *ghetto* is used.
in conversation in the United States. This kind of prejudice leads to (residential) discrimination or *favela*-ism, a persisting problem in Rio de Janeiro society, according to Perlman (2010, 153).

The contextualization just provided is at the core of the qualitative analysis presented in the remainder of this chapter and as such will be very helpful for describing and understanding both the patterns of variation for postvocalic /s/ and the stance acts that are described below. In what follows, I analyze speakers’ stances on the status of City of God within the residential organization of Rio de Janeiro and the possible ways in which these stances relate to postvocalic /s/. The initial idea was to analyze these issues within the individual interviews but this ended up being a very difficult task because the interview format did not provide opportunities for the occurrence of all the three components of the stance triangle I was planning to analyze. In my role as an interviewer, for example, I tried not to express my personal opinion about the topics I introduced. Even if I had given my opinion, it would have been difficult to do a self-analysis given my degree of intentionality in the interaction. In order to avoid these problems, I decided to focus on the small group interviews, from which I selected three segments. These included the interviews with Beatriz and Cecilia, Helena and Cynthia, and Nydia, Victor, and Christina. These segments were chosen because of the level of negotiation the speakers engaged in when they were talking about *favela* and *comunidade*. In the only group interview not selected (Alex and Samantha), the discussion about this topic was mostly a monolog dominated by Alex with a few backchanneling reactions from Samantha and me. Specific information about these speakers is given before the analysis of their respective segments.

Each segment illustrates both the stances individual speakers take up in relation to the status of City of God within Rio de Janeiro’s residential organization and their possible connections with postvocalic /s/ variation. In each segment, only the occurrence of the variable
in word-final position is accounted for. This excludes categorical contexts such as when postvocalic /s/ is followed by a vowel or the consonants [s], [z], [ʃ], [ʒ], and [h]. Each occurrence of postvocalic /s/ is identified with its respective realization. Thus, the palatal is represented by the consonants [ʃ] and [ʒ], the alveolar by [s] and [z], the glottal by [h], and /s/ deletion by the symbol [Ø].

5.2 The labeling issue

The first segment comes from the interview with Beatriz and Cecilia, who have been neighbors and friends ever since they moved to City of God in the late 1970s. Beatriz, who self-identifies as multiracial, came to Rio from the Northeastern state of Bahia at the age of 12 and was 62 years old at the time of the interview. Cecilia, who self-identifies as black, moved to Rio from the Southeastern state of Espírito Santo at the age of 17 and was 67 years old when the interview was recorded. Before and after moving to City of God, both of them worked as domestic workers for middle-class families in the South Zone. As they also lived in the houses where they worked, they could only visit their relatives on the weekends. Due to the long hours of work, Beatriz did not complete her elementary education. However, Cecilia managed to graduate from high school. After retiring from her work as a housemaid, Beatriz started working at home as a seamstress. Cecilia is retired and divides her time between taking care of her house and babysitting her grandchildren.

The interview took place at Beatriz’s house. Three other people were present during the interview: Beatriz’s son Peter, a teenage neighbor, and their friend Jessica. They were mostly quiet and were rarely directly addressed by the two interviewees. Before the following segment,
we had been talking about how and why Beatriz and Cecilia moved to City of God, which led to my question about how it has changed over the years.

The following excerpt shows how both Cecilia and Beatriz use their stancetaking moves in order to express their views on the status of City of God within the residential organization of Rio de Janeiro. Even though they seem to have similar definitions for the words *favela* and *comunidade* ‘community,’ they show disagreement about how City of God should be categorized. There are 12 occurrences of postvocalic /s/ in word-final position, 11 of which are produced by Cecilia. I argue that her use of the different variants indirectly indexes her relationship with her interlocutors as well as with the claims she makes regarding her community.

**Excerpt 1. Beatriz and Cecilia**

<table>
<thead>
<tr>
<th></th>
<th>Edvan:</th>
<th></th>
<th>Cecilia:</th>
<th>Edvan:</th>
<th>Beatriz:</th>
<th></th>
<th>Cecilia:</th>
<th>Edvan:</th>
<th>Cecilia:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>...Do tempo que vocês chegaram aqui pra agora, que que mudanças que [que aconteceram no bairro?</td>
<td>From the time you arrived here until now, what changes that happened in the neighborhood?</td>
<td></td>
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<tr>
<td>2</td>
<td>[Aquí no bairro ou na nossa vida?</td>
<td>Here in the neighborhood or in our lives?</td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>3</td>
<td>[Na vida, no bairro.</td>
<td>In life, in the neighborhood.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>[No bairro? Geral?</td>
<td>In the neighborhood? In general?</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>E muito, Cecilia.</td>
<td>And a lot, Cecilia.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Look, I think that this this here changed a lot.</td>
<td>This here used to be extremely bad, very precarious.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Isso aqui era péssimo, muito precário.</td>
<td>This is used to be extremely bad, very precarious.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>It has the same old problems, you know. But it improved a lot. Urbanization.</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>[As rua[f] foram todas asfaltada[Ø].</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>The streets were all asphalted.</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Tem água, tem luz[f], telefone que aqui era. [Tem de tudo. Tem esgoto.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>There is water, there is electricity, telephone that here was. There is everything. There is a sewage system.</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Tem tudo é le- tudo é legal. Tem esgoto, água, luz[f], (.) esgoto. Tem tudo aqui.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Here everything is c- everything is cool. There is a sewage system, water, electricity, sewage. There is everything here.</td>
<td>Here is a favela. It’s a favela because the people, you know, [(inintelligible).</td>
<td></td>
<td></td>
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</tbody>
</table>
In line 1, I questioned Cecilia and Beatriz about what had changed in City of God from the time they had moved there. Beatriz provides an answer in line 6 (E muito, Cecilia./And a lot, Cecilia.), which is directly addressed to Cecilia, as she had requested me to clarify what specifically (stance object) I was talking about. Cecilia offers an answer in line 7 (Olha, eu acho que isso isso aqui mudou muito./Look, I think that this this here changed a lot.) also showing an alignment with Beatriz through the use of repetition, which has been shown to be an important linguistic resource for creating involvement in conversation (Tannen 2007). Both Cecilia and Beatriz express evaluative stances with their statements (lines 6 and 7, respectively) as their statements can be understood as saying City of God is very different now, even though this does not directly answer my initial question in line 1 (que mudanças que [que aconteceram no bairro /what changes that happened in the neighborhood). The answer to my question and the specific meaning of the phrase isso aqui mudou muito/this here changed a lot is only revealed with other evaluative stances offered by Cecilia in lines 9 (Isso aqui era péssimo, muito precário./This here used to be extremely bad, very
Both of these utterances show Cecilia’s affective stance on the past and present situation of City of God, the object of stance she is evaluating. The temporal difference is expressed by the use of the past imperfect tense (era/used to be) and the state difference is expressed by the past tense (melhorou/improved). The opposition between these two periods is also marked with the adversative conjunction mas ‘but’ in line 11. Thus, in the first utterance in line 9, Cecilia shows an intensified negative affect in relation to the past situation of City of God with the superlative forms (péssimo, muito precário/ extremely bad, very precarious). In contrast, an intensified positive affect is indexed by the use of phase melhorou muito/improved a lot. Nevertheless, the idea that some problems have not changed is conveyed by the initial statement in line 11 ([Tem o[Ø] problema[Ø] de sempre, né. /It has the same old problems, you know.). It is possible that the occurrence of /s/ deletion (problema [Ø]) and the glottal (Ma[h]) in Cecilia’s speech reinforces the casual and informal stance she is taking in relation to her audience, as well as her involvement with City of God.

The idea of casualness and informality is also expressed in Cecilia’s following statement in line 13 ([As rua[Ø] foram todas asfaltada[Ø]./ The streets were all asphalted.), which consists of an epistemic stance based on factual information and provides evidence for the kind of change she mentioned before. This same idea is conveyed by the list of phrases in line 15 (Tem água, tem lu[Ø], telefone que aqui era. [Tem de tudo. Tem esgoto./There is water, there is electricity, telephone that here was. There is everything. There is a sewage system.), which, combined with the previous statement in line 13, reinforce Cecilia’s knowledgeable stance in relation to the evidence she is giving to exemplify the changes that have occurred in City of God. More
generally, the factual information Cecilia is providing, with objective stance, is commonly used as evidence for the characterization of a place or community as a *favela* or non-*favela*. In this sense, if we take into consideration the temporal dimension of Cecilia’s previous statements, we can conclude that she is probably pointing to the idea that City of God used to be a *favela* when it did not have the public services and infrastructure (asphalt, water, electricity, sewage system) that these places usually lack, but now that it has those things it can no longer be categorized as such. However, as we will see later, even though some people, especially government officials, often take these elements into consideration in the categorization of *favela* and non-*favela* places, other people do not think that they are enough. Cecilia expresses this divergence between these two viewpoints in her next interactional moves.

In line 16, Beatriz aligns herself with Cecilia in relation to the changes that have taken place in City of God. She does that by not only providing an evaluative stance ([*Aqui tudo é legal.*/*Here everything is cool.*]) but also repeating Cecilia’s words ([*Tem esgoto, água, luz*] / [*There is a sewage system, water, electricity, sewage.*] / [*There is everything here.*]), also taking an objective stance on the current state of City of God. Up to this point, the two friends seem to be involved in collaboratively answering my question and strengthening their involvement, which they do by providing details and repeating each other’s words (Tannen 2007). But their collaboration ends because of their disagreement regarding whether City of God should be called a *favela* or a *comunidade*.

The disalignment between Cecilia and Beatriz starts after the former provides an evaluative stance in line 17 ([*Aqui é uma favela*] / [*Here is a favela.*]), which defines the stance object *City of God* by associating it with the shared negative associations of the term *favela*. It is possible to say that Cecilia does not necessarily think that City of God is a *favela* given the
factual information she gave earlier, especially concerning the existence of public services and infrastructure. This point is confirmed by her following statement in line 17 (É uma favela porque a[s] pessoas assim [(não cuidam)./ It’s a favela because the people, you know, [(do not care).]), which explains the probable reason why people think City of God is a favela. Beatriz shows disalignment with Cecilia by taking a positioning stance in line 19 ([Não vejo que isso aqui seja uma favela, não./ I don’t see that here is a favela, no.), which is repeated again in line 24. In addition to these two sentences, Beatriz’s evaluative stance in line 22 ([É uma comunidade assim né./ It is a community, right.) also show her disagreement with Cecilia’s opinion about the status of City of God. It is important to note that Beatriz’s disalignment and positioning stance also indicate the subjective relationship she has with this issue, reinforced by her repetition of negation. Taking these statements into consideration, one can say that Beatriz had been positioning herself in favor of the idea that City of God had everything that a normal neighborhood has and so it should be called a community and not a favela.

In the series of statements that follow Beatriz’s disagreeing stance, Cecilia tries to mitigate her evaluative stancetaking move by first aligning herself with Beatriz and trying to justify her point in line 21 (Ê, ma[h] não não./ It is, but no no.). Cecilia’s use of the glottal, as a feature that indexes casualness and informality, may also add to her attempt at regaining her interactional involvement with Beatriz. This is reinforced by the justification that begins in the two statements that start in line 21 and continues in lines 23 and 26 (É porque [não conta como favela. É comunidade ma[s](.) falou que é lugar de pobre, [eles chamam logo de favela, né./ It’s community but (.) saying that it is a place of the poor, they instantly call it favela, you know.). In these two statements Cecilia shows a defensive stance that not only gives a justification for why she says that City of God is a favela but also takes an epistemic stance in relation to the source of...
her knowledge. In these two statements, she connects her knowledge with two sources. In the first one (É porque não conta como favela./ it doesn’t count as a favela.), she is probably referring to the fact that City of God is not a favela according to government officials, who use some of the criteria that she listed previously. The second statement (É comunidade mas (.) falou que é lugar de pobre, [eles chamam logo de favela, né./ It’s community but (.) saying that it is a place of the poor, they instantly call it favela, you know.), on the other hand, can be situated within the mainstream discourse on favela, which describes it as a place of and for the poor (lugar de pobre/place of the poor). The fact that Cecilia uses the pronoun eles ‘they’ also indicates how her stance in relation to the knowledge she is conveying should be interpreted. In addition, this statement establishes a power relationship between “we” (insiders, residents of City of God and other similar communities) and “they” (outsiders) who can categorize City of God as a favela. Cecilia’s use of an elongated /s/ alveolar followed by pause in the adversative conjunction mas ‘but’ seems to add to the opposition between these two groups (we and they) and may point to their different opinions in relation to the status of City of God.

The word pobre ‘poor,’ which is used by Cecilia in her second statement (line 26), may indirectly index other related meanings such as black, ugly, dirty, illiterate, which were found to be part of the indexical field of favelado(a) ‘slum dweller’ as described by Beaton and Washington (2014). As pointed out by Perlman (2010, 153), because they are perceived as common characteristics of favelados(as), “these elements in turn bear direct consequence for the way that those from the formal city judge a person’s character and make decisions about whether or not a person from a favela is qualified for employment,” for example.

Based on this analysis, Cecilia and Beatriz seem to have similar ideas regarding the changes that have taken place in City of God and how these changes have contributed to shifting
its status from a *favela* to a formal neighborhood or community. This is seen mostly in the way they show alignment and involvement by collaboratively creating a characterization of the changes that City of God has been through over the years. It is possible to say that they also have similar definitions for the words *favela* and *comunidade* and, to a certain extent, showed disagreement regarding whether City of God should be categorized as a favela or a community. In addition, their partial disagreement in relation to this matter discontinued their collaboration and jeopardized their interactional involvement. Finally, Cecilia’s use of the variants of postvocalic /s/ seem to work together in combination with other linguistic elements to convey the closeness and the distance that resulted from the stances she took up throughout this segment.

Helena and Cynthia

The next segment is from the interview with Helena and Cynthia, who have been neighbors in City of God for more than thirty years. When the interview took place, Helena was 74 years old and Cynthia was 73. Helena moved from the southeastern state of Minas Gerais to Rio de Janeiro in her early twenties. Before getting married and moving to City of God, she worked for many years as a domestic worker. She self-identifies as multiracial and did not finish elementary school. She has raised her four kids in City of God. Cynthia self-identifies as black and is from the Northeastern state of Paraíba. She also came to Rio to work as a housemaid. Like Helena, she did not finish her elementary education. The two of them were interviewed at Helena’s house. Three of Helena’s kids, all adults, and her grandchildren were also present. The two interviewees addressed them sometimes, but they remained silent for the majority of the time. Helena and Cynthia seemed comfortable in talking and sometimes asked each other questions not related to the topics of the interview.
In the following segment, I show the stances that Helena and Cynthia take up in relation to the status of City of God within the residential organization of Rio de Janeiro, calling attention to the possible meanings of postvocalic /s/ in the interaction. Prior to the part of the interview I analyze below (lines 20-24), I had asked them if there was any kind of prejudice against people who lived in City of God (lines 1 and 4). Cynthia did not directly address my question but said that she never had to hide where she lived. She continued answering my question by comparing her previous house located on a hill (morro in line 18) in the South Zone and her present one in City of God.

Excerpt 2. Helena and Cynthia

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<th>Edvan:</th>
<th>Cynthia:</th>
<th>Helena:</th>
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| 1 | Vocês acham que tem muito preconceito com gente que mora nas comunidades?  
  Do you think that there is a lot of prejudice against people who live in the communities? | A respeito de quê?  
  In relation to what? | Ai. |
| 2 | Sei lá, por exemplo, se eu disser pra uma pessoa que eu moro na Cidade de Deus, vocês acham que eles [vão me tratar mal?  
  I don’t know, for example, if I say to someone that I live in City of God, do you think that [they will treat me badly? | Olha, eu não sei dizer o senhor porque eu nunca nego daonde eu moro nem daonde eu sou.  
  Look, I can’t tell you because I ne- I never hide where I live nor where I am from. | Mh. |
| 3 | Mh. | Mh. | Mh. |
  I am from Paraíba. I am very proud to be a Paraíbana. I am not ashamed to say that. I have lived in City of God for forty-four years, thank god. I mean, here it is thirty-three. | Mhm. | Mhm. |
| 5 | Mas não tenho vergonha de dizer onde que é não. Se disser e se alguém perguntar, você gosta da Cidade de Deus? Gosto.  
  But I am not ashamed to say where it is, no. If I say it and if someone asks me, do you like City of God? I do. | You know, maybe not. | Mhm. |
| 6 | Vai saber (mesmo) não.  
  You know, maybe not. | Graças a deus, tenho um apartamento pra morar.  
  Thank god, I have an apartment to live in. | }
Helena’s statement in line 20 ([Porque o po- nós somo[Ø] tachado[Ø] como favelado[s] né./Because the pe- we are labeled as favela dwellers, you know.) is still responding to my question on the existence of prejudice against City of God residents. Instead of a yes or no answer, she began to explain why there is prejudice. She provides a false start (Porque o po- /Because the pe-) and a statement with which she takes a powerless stance by using passive voice (nós somo[Ø] tachado[Ø] como favelado[s], né./ we are labeled as favela dwellers, you know.). In this sense, nós ‘we’ (powerless) is in opposition to eles/elas ‘they’ (powerful), which is omitted in her utterance. Note that a similar relationship was also indicated by Cecilia in her conversation with Beatriz, when she said eles chamam logo de favela, né./ they instantly call it favela, you know.). An alternative interpretation to ‘we’ as powerless vs. ‘they’ as powerful is that perhaps the use of ‘they’ to indicate who labels places as favelas is an empowering strategy whereby the speaker indicates that the label (favela, favelado/a) comes from someone else with whom they disagree.

Helena’s use of postvocalic /s/, which corresponds to plural marking in this sentence, may also contribute to her stance of distancing herself from those who label City of God a favela. I am assuming that Helena is applying the plural agreement rule of nonstandard varieties of Portuguese, in which plural marking can be omitted in some elements if it can retrievable from
other elements in a noun phrase or nominal sentence. In this case, Helena could also have
omitted postvocalic /s/ in the word *favelados*. The fact that she does not do that points to the idea
that she is distancing herself from this word and connecting it with *they*, the people that label
City of God residents as *favelados*.

In line 22 ([Então, mas é assim não. (ininteligível)/So, but it is not like that.
(unintelligible)], Helena provides a negative statement that can be interpreted as an evaluative
stance of the idea that outsiders (they) label City of God residents as *favelados*. This statement is
followed by Cynthia’s evaluative stance acts in line 23 ([Aqui não é favela, não. Aqui é um
conjunto habitacional. Conjunto Margarida[s]./Here is not a favela, no. Here is a housing
complex. *Housing Complex Margaridas*.]), with which she aligns herself with Helena’s previous
comment in line 20. Both of Cynthia’s statements evaluate the object of stance City of God,
indexed by the deictic *aqui* ‘here’ as not a *favela*, but a housing complex (conjunto habitacional).
It is possible to see that the difference is exactly related the fact that *favela* conveys the idea of
informality or sub-normality whereas housing complex conveys the contrary. The expression
*Conjunto Margaridas/Housing Complex Margaridas* refers to a specific area within City of God.

Considering the official name of the housing complex (Conjunto Habitacional Gabinal
Margarida), one can see that the word *Margarida* has no –s. Considering of the idea of
standardness associated with both the palatal and the alveolar, by adding a plural marker –s in
this word, it is possible that Cynthia is trying to stress the importance of conjunto
habitacional/housing complex over *favela*.

Helena provides the last statement in this segment in line 24 (Ma[h] falou que mora na
Cidade de Deu[j] falam que é tudo favela. Então./But saying that you live in City of God, they
say that everything is favela. So.), with which she starts with the word *mas* ‘but’ showing
opposition to, and disalignment with, Cynthia’s previous statement. It is possible that she also
thinks that City of God is not a favela, but that is not what other people say. Helena uses the
same rationale used by Cynthia to explain why the status of City of God depends much more on
what (other) people think than on the official government criteria. In addition, Helena shows a
relatively powerless stance in relation to how this categorization process works. As in her first
statement in line 20, Helena establishes an opposition and a power relationship between we and
they, on which she attributes the labeling power not to herself or her community, but to outsiders.
In this statement, Helena also points to the idea that the association between City of God and
favela is already crystalized in the public opinion because the former is taken to be the latter.

In addition, Helena’s use of postvocalic /s/ may be related to the opposition between City
of God residents (we) and outsiders (they) or those who say it is a favela. The first occurrence of
postvocalic /s/, a glottal in the word Mas ‘But,’ is adjacent to the verb falou ‘saying/if you say,’
which refers to nós, the people who are present at the moment of the interaction, or anybody
from City of God who may say they live there. On the other hand, the second occurrence of
postvocalic /s/, a palatal in the word Deus ‘God,’ is followed by the verb falam ‘they say,’ which
points to the people who do not live in city of God but label it as a favela (falam que é tudo
favela/ they say that everything is favela.). By using the glottal to align with City of God
residents and using the palatal to show disalignment with non-residents, it is possible that she is
also using these two variants to reinforce the stance she is taking in relation to the status of City
of God.

This part of the analysis showed that both Helena and Cynthia have similar views on the
meaning of the word favela. However, while Cynthia uses factual evidence (conjunto
habitacional/ housing complex) to defend the idea that City of God is not a favela, Helena seems
to disagree with her based on the fact that the evidence provided by Cynthia does not really matter because what counts is what the other people (they) say. In this sense, by not taking responsibility for the labels *favela* and *favelado/a*, Helena shows the same powerless stance that was taken by Cecilia in that both of them share the idea that the categorization of City of God is more based on people’s ideas of what a *favela* is or should be and not necessarily what the official documents say. She also shows how complex this issue really is. On the one hand, it seems that the decision about what a place like City of God is or should be is beyond the power of their residents. On the other hand, residents seem to be aware of the fact that they can accept these labels, reject them, or at least challenge their stereotypical meanings. When Cecilia says *they say is all favela*, she is implicitly questioning the idea that all residents of these communities are part of a homogenous group. In fact, this is what a label does; it limits all members of a certain group to one single category and crystalizes them as such. Rejecting, challenging or redefining homogenizing labels can be seen as an empowering strategy, which has been used by many marginalized groups as a way to reclaim ownership of their identities. In the next part of the analysis, Nydia and Victor show a different set of stances in relation to this labeling issue.

Nydia, Victor, and Christina

The next excerpt is part of the interview I conducted with Nydia, Christina, and Victor. Both Nydia and Christina participated in the whole interview. Victor joined us for the last two thirds of it. Only Victor, Nydia, and I participated in the part that is analyzed here. They all seemed to be comfortable in participating in the interview. When I met them, Nydia was 19 years old and both Christina and Victor were 21. Nydia and Christina were born in City of God and Victor was born in a nearby city, but moved there with his family when he was a child. Victor
and Nydia met each other in high school, a very competitive elite public school located in the North Zone of Rio de Janeiro. The three of them had attended the same pre-college training course in the previous year and were getting ready to start their undergraduate courses in the following semester. Both Christina and Victor self-identify as black while Nydia self-identifies as white. During our conversation, they all mentioned that most of the activities they did were outside of the community. And even though they grew up in City of God, they plan to move out of there as soon as possible.

In this segment, I show how Victor and Nydia show similar stances in order to convey the idea that the term favela is better than comunidade ‘community.’ They are among the participants with the highest amounts of /s/ palatalization. In fact, there were very few occurrences of the other variants in their speech. I argue that their linguistic choices, including stances and the palatal variant, reflect identities of correctness that are aligned with their personal and professional goals, including graduating from college and moving out of the community.

Prior to the following segment, we had been talking about the trips they have taken and their preferred places in Rio de Janeiro. My initial question in this segment actually introduces a different topic in the conversation.

Excerpt 3. Victor, Nydia, and Christina

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<th>Edvan:</th>
<th>Victor:</th>
<th>Nydia:</th>
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| 1 | Então, vocês não sei se vocês entram nessa discussão sobre, por exemplo, Rio de Janeiro é conhecido também pelo pelas comunidades ou favelas, né. Não só aqui mas no mundo todo. Vocês têm um termo que vocês preferem mais que o outro? Ou não faz diferença nenhuma. | Eu acho que comunidade é um, tipo, é um eufemismo muito feio. | [É, eu também acho.]
| 2 | So, you I don’t know if you guys engage in this discussion about, for example, Rio de Janeiro is known also for for the communities or favelas, you know. Not only here but around the world. Do you have a term that you prefer more than the other? Or it doesn’t make any difference. | I think that community is, like, is a very ugly euphemism. | [Yeah, I think so too.]
| 3 | | | [Por quê?]
| 4 | | | [Why?]
| 5 | | |
My question in lines 2-3 (Você têm um termo que vocês preferem mais que o outro? Ou não faz diferença nenhuma.) sets the grounds for the statements that are presented by both Victor and Nydia throughout this segment, which is the difference between the terms *favela* and *comunidade* ‘community.’ The first stance object is the term *comunidade*, which may not refer specifically to City of God in this case but to any place in Rio de Janeiro to which the words *favela* or *comunidade* could apply.
With his statement in line 4 (Eu acho que comunidade é um, tipo, é um eufemismo muito feio./I think that community is, like, is a very ugly euphemism.), Victor uses the verb achar ‘to think’ to express both his degree of certainty (epistemic stance) and positioning in relation to the sentence (object of stance) comunidade é um, tipo, é um eufemismo muito feio./community is, like, is a very ugly euphemism. Within this sentence, Victor distances himself from the word community by providing a negative evaluation about it (é um eufemismo muito feio/is a very ugly euphemism). Nydia aligns herself with Victor by both agreeing with his statement and expressing a distancing positioning in relation to the term comunidade.

As I request Victor and Nydia to justify their positions, Victor provides an example of constructed dialogue (Tannen 2007) in line 7 (Ah, você (.) fulano mora em comunidade, sabe./You know, you (.) so and so lives in a community, you know) in order to demonstrate how derogatory of a term the word comunidade is. It is possible that Victor is using constructed dialogue when uttering the sentence fulano mora em comunidade, sabe./so and so lives in a community, you know in order to reinforce the distancing stance he showed earlier in his previous utterance in line 4.

His next utterance, in lines 7 and 9 (Você acha eu acho que comunidade é meio que (.) é, tipo, é muito ruim/You think I think that community is a little (.) it is, like, it’s very bad.), also reinforces the stance he took earlier, with which he positioned himself against the word comunidade. A similar statement is made by Nydia in line 8 (Eu acho muito pejorativo./I think it is very pejorative.), which not only helps her establish her personal relationship with the word comunidade but also creates an alignment with Victor by expressing ideas that are similar to the ones he has been presenting.
The fact that Victor and Nydia use the adverb *muito* ‘very’ in phrases like *eufemismo muito feio*/very ugly euphemism (line 4) and *muito pejorative*/very pejorative (line 8) demonstrates their intensified negative affect in relation to the word *comunidade*. As we will see later, their affective stance shifts to a positive intensified affect as they start to talk about the term *favela*.

Up to this point, all the stance acts performed by both Victor and Nydia are related to the stance object *comunidade*, but in line 9 (Eu prefiro favela/ I prefer favela.) Victor changes it to *favela* by expressing a positive connection with this word, with the sentence *eu prefiro favela*/I prefer favela. By taking the floor in line 10 ([Eu também./I do too.], Nydia agrees with his statement, aligning herself with Victor and affirming her positive affect with the word *favela*.

Victor continues to take a positive stance on the word *favela* with his statement that starts in lines 9 through 12 (Eu acho é muito [mai[3] digno, muito mai[f] (.)/I think it is much more dignified, much more (.)), which he interrupts to make a metalinguistic comment in line 14 (Eu ia falar muito mai[3] melhor, ma[f] tudo bem./I was gonna say much more better, but never mind.). His metalinguistic comment, which was followed by a period of hesitance (pause) and was interpreted as a joke by his audience, makes reference to a prescriptive grammatical rule of standard varieties of Brazilian Portuguese. According to this rule, it is not “appropriate” to say *muito mai[3] melhor/much more better*. The fact that he stops himself to evaluate his own language in relation to the prescribed rule of the standard Portuguese suggests that he is projecting a personal identity that is connected to correctness. His use of the palatal throughout this segment seems to reinforce this idea. On the one hand, it is possible that his self-conscious comment resulted from the unbalanced power relationship that was established among us based
on the fact that I was an interviewer and a Brazilian doctoral student coming from an American university. In some occasions, the group did ask me some questions about what made me decide to move to the United States as well as specific things related to my studies in this country. On the other hand, the fact that both Victor and Nydia used the word *tipo* (equivalent to the word *like*) (lines 4, 9, and 23), a word that indexes solidarity, also points to the idea that perhaps they were comfortable enough to not view me as a superior. In any case, it is difficult to know how much my personal and professional identities affected the way they were speaking, but it is important to take that into consideration.

In between Victor’s utterances just discussed, Nydia again aligns herself with him with her positioning statement in line 24 (Eu acho que é é favela porque esse negócio de comunidade é ser o políticamente correto./ *I think that it is is favela because this thing of community is to be the politically correct.*). In this statement, she establishes a contrast between the word *favela* and *comunidade* by evaluating the former as being a non-politically correct term and the latter as being the contrary. In describing these two terms based on their political correctness, Nydia is also indirectly conveying the idea that people do not really mean it when they use the word *comunidade* to refer to places like City of God. In her viewpoint, using *comunidade* only masks people’s real perceptions of these terms.

Victor shows his alignment with Nydia in line 22 (É/Yes) by confirming her idea. After that, Nydia provides an example of being politically correct in the form of a constructed dialogue in lines 23 and 25 (É, tipo, ser ‘ah, não vamo[Ø] falar mal dele[∫] que eles são coitadinhos. Então ele[ŋ] não moram na favela, [ele[∫] moram na comunidade./ *It’s like to be ‘you know, we are not gonna say bad things about them because they are poor. So they don’t live in the favela, they live in the community.*). In this case, she projects the voice of an outsider who expresses his/her view
about people who live in communities like City of God (them). Assuming that she is projecting an identity that is connected with correctness, the occurrence of /s/ deletion, which is extremely rare in Nydia’s speech, seems to point to her distance from both her words and the idea of political correctness. At the end of the segment, Victor aligns himself again with Nydia with both his back channeling comment in line 24 ([Ahm./Uhum.] and his utterance in line 28 (Comunidade nada./It's not community.).

Seemingly, Nydia’ and Victor’s linguistic choices, including the high rates of the palatal and avoidance of the other variants, connect them with the values of higher socioeconomic classes. Their stancetaking actions on the words favela and comunidade suggest that they want to be integrated in this new world but without losing their connection with City of God. In other words, they do not see any problem with using the favela especially because their example of educational achievement (and their language) contradicts social expectations about favela youth. Probably this is what helps them present a strong stance in terms of why this word should be used. As seen in the analysis of the other groups, Victor and Nydia also indirectly project the opposition between City of God residents (we) and outsiders (they) by using constructed dialogue to animate the voices of the people who are using the word comunidade as a way to minimize the effects of the negative associations of the word favela.

5.3 Chapter summary

In this chapter I analyzed the stancetaking actions performed by City of God residents in relation to its status within the residential organization of Rio de Janeiro, calling attention to the possible meanings of postvocalic /s/ variation. Assuming that the meanings indexed by the use of
linguistic elements is not fixed and depends on the co-occurrence of other elements within the interaction, the objective was to find possible connections between the different stances taken up by speakers and the variants of postvocalic /s/.

Despite the difficulty in pinpointing exactly what meanings were associated with each occurrence of postvocalic /s/, it was possible to find some connections based on the stances that were taken up by the various speakers. It is important to remember that one single occurrence of a variant is not enough to establish its meaning in an utterance. As mentioned before, the interpretation of linguistic features such as phonological variables and lexical items must be done in combination with the linguistic elements that co-occur with them in the interaction, as well as as full an understanding of the extralinguistic context as possible. Definitive definition of the meaning of a particular instance of a given variant may not be possible, but informed interpretation can be gleaned through careful consideration of linguistic elements in context.

Taking these ideas in mind, for those who were orientated toward City of God and showed higher levels of the nonstandard variants, namely the glottal and /s/ deletion, it is possible to say that they were using these variants to index casualness and closeness with their interlocutors and City of God, creating involvement with them. In contrast, the use of the palatal and the alveolar in combination with some stancetaking moves was probably related to the idea of distance. From the point of view of the speakers who were oriented more toward activities outside of the community, the palatal was used to indirectly index the idea of correctness while /s/ deletion was used in an instance of constructed dialogue, which could be interpreted as distance from people who look down on City of God and their residents alike.

The above analysis showed two different perspectives in relation to the use of the words *favela* and *comunidade* ‘community’ and how they are connected to City of God. In the first two
segments, it was possible to see that overall the speakers were aware of the fact that City of God met the government criteria for not being considered a *favela*. In this sense, the use of the term *comunidade* would be appropriate because it would minimize or eliminate the negative associations that the word *favela* has accumulated over the years. However, these same speakers showed a powerless stance in relation to the complex ways in which outsiders categorize not only their neighborhood but also themselves.

In the case of the last segment, a different perspective in the use of *comunidade* and *favela* was presented. Probably due to their aspirations in regards to upward mobility and integration in higher social classes, Victor and Nydia showed a disfavoring stance in relation to the word *comunidade*, which they see as a derogatory term. In this sense, the politically-correctness dimension that is associated with *comunidade* seems to be interpreted by Victor and Nydia as way for people to show pity and maybe hide the real perceptions they have about the people who live in places like City of God.

In this sense, it is possible to say that Victor and Nydia are oriented toward the positive associations that the word *favela* has received, including the idea of pride. For them, integration into new social groups is important but without losing their connections with City of God. In this sense, integration implies equality among different groups. In the case of Helena, Cynthia, Beatriz, and maybe Cecilia, their stances points to a desire for assimilation in the Rio de Janeiro society, which would be possible or facilitated by the use of the word *comunidade*. On the other hand, the word *favela* represents an obstacle for the dignity and recognition of City of God residents because it emphasizes the same negative characteristics that they have been challenging for so long.
Thus, it is possible to conclude that the difference in the way these groups deal with the words *favela* and *comunidade* has to do with their generational difference. The older groups certainly lived during times when the word *favela* was known only for its negative meanings and so probably had to face the stigma associated with it. Younger people like Victor and Nydia, who have had more access to education and to opportunities to connect with the outside world, have learned to redefine the meanings of *favela* and so do not see any problem in accepting it as a positive word. In addition, they have been able to negotiate place identities in ways that were never possible for the older groups.
Chapter 6. Conclusions

In this chapter, I revisit my original research questions and discuss how my analyses have addressed them, as well as raise additional questions for further study. The goal of the present research was contribute to the sociolinguistic literature by providing an updated analysis of postvocalic /s/ sociolinguistic variation based on the speech of underrepresented social groups of the city of Rio de Janeiro and by analyzing qualitatively their perceptions on the residential organization of the city and their community’s place within it, focusing on the different stances they take with respect to the words comunidade and favela and to City of God itself.

6.1 Research questions

6.1.1 Sociolinguistic variation of postvocalic /s/

1. What are the patterns of postvocalic /s/ variation in Rio de Janeiro Portuguese across groups of speakers in the City of God community? How do race/color and regional origin affect the variable patterns of this variable?

The quantitative analysis of the phonological variable of postvocalic /s/ was approached by measuring the influence of linguistic and social predictors on the occurrence of each of its variants, namely the palatal, the alveolar, the glottal, and the deleted. With this in mind, the best way to address the first part of the above question is to focus on the effect of the social categories used in the study on each of these variants separately.

The palatal variant. The quantitative analysis showed that this variant was significantly affected by the speakers’ regional origin or place of birth, age, and education. In relation to geographical origin, the results showed that the palatal variant occurred significantly more in the
speech of speakers who were born in both in Rio de Janeiro city and other cities of Rio de Janeiro state. In contrast, speakers who were from the Northeast and the other states of the Southeast Region showed a disfavoring effect on this variant. Among the age groups considered in the analysis, the two younger groups (18-35 and 36-55) favored the palatal. The older group showed a disfavoring effect on /s/ palatalization. In relation to education, the speakers who had between nine and twelve years of education favored the palatal significantly more than the other groups of speakers. Speakers with less than eight years of education showed a disfavoring effect on /s/ palatalization and those with more than twelve years had a neutral effect on this variant.

The alveolar variant. Only two social predictors significantly affected this variant, namely geographical origin and age. Unlike the palatal, the alveolar was favored by speakers who were born in the Northeast and Southeast Regions but disfavored by those who were born in Rio de Janeiro city and state. Out of the three age groups included in the analysis, only the older group (56+) showed a positive effect on the alveolar variant. Whereas the younger group showed a disfavoring effect on the alveolar, the middle-aged group had a neutral effect on this variant.

The glottal variant. Based on the quantitative analysis, only race/color and age had a significant effect on the glottal variant. Out of the categories or levels of the race/color predictor, speakers who self-identified as black and multiracial showed a favoring effect on this variant while those who self-identified as white showed the opposite effect. Among the age groups, both the middle-aged and older groups favored the glottal. The younger group showed a disfavoring effect on this variant.

Deleted. Among the social predictors included in the quantitative analysis, gender, geographical origin, age, and education significantly affected /s/ deletion. Based on the results, males favored /s/ deletion while females disfavored it. In relation to geographical origin, the
results showed that speakers born in Rio city and state disfavored /s/ deletion while those who were born in the Northeast and Southeast favored it. Among the age groups considered, only the older group favored /s/ deletion. The two younger groups disfavored it. In terms of education level, only speakers with less than eight years of education favored /s/ deletion. Speakers with 9-12 years of education showed a minor disfavoring effect on its occurrence and those with more than twelve years or more disfavored this variant.

The second part of the above question focuses on the effect of race/color and geographical origin on the effect of postvocalic /s/ sociolinguistic variation. The above results suggested that the effect of race/color on the palatal, alveolar, and null variants was due to chance. In other words, this social predictor had no significant effect on these variants. However, this predictor was significant for the occurrence of the glottal variant, which was favored by the speakers who self-identified as both black and multiracial and disfavored by white speakers. Stated differently, this finding indicates that the use of this variant is significantly higher for black and multiracial speakers than white ones. Considering that the relationship between race/color and language variation has not been sufficiently addressed by national and international sociolinguistics who have studied Brazilian Portuguese, this finding is particularly important because it shows a possible difference between the Portuguese spoken by blacks (blacks and multiracial) and whites in Brazil. In any case, the lack of comparable data and the constraints imposed by the sample size used in this study limits the possibility of generalization of these results. In spite of that, these results open a path for the analysis of this and other linguistic variables in many other speech communities.

The above results also showed that regional origin was a significant predictor for the occurrence of the palatal, the alveolar, and /s/ deletion. Above all, this research confirms the
preference of the palatal by Rio de Janeiro-born speakers and of the alveolar by those who came from communities where this variant is the main realization of postvocalic /s/. Thus, it is possible to say that while the palatal may index the idea that the speaker is local to Rio de Janeiro, the alveolar may index the idea that the speaker is local to other cities or regions where it is the preferred variant. However, as the Rio de Janeiro-born speakers also show low levels of the alveolar variant in their speech, it is important to remember that the use of one of the variants of postvocalic /s/ is probably not enough to index a speaker’s origin. Rather, origin is indexed by a combination of linguistic elements, including other phonological features, morphosyntactic structure, and intonation, that must co-occur in order to give a sense of a person’s regional linguistic identity (Mendoza-Denton & Jannedy 2011).

6.1.2 The connection between stance and postvocalic /s/

2. What stances do individual speakers take in conversations about the status of City of God within the residential organization of Rio de Janeiro? How does postvocalic /s/ sociolinguistic variation relate to these stances?

In the segments analyzed, speakers took up stances mostly related to the words *favela* and *comunidade*, which centralize some of the issues associated with the status of City of God within the residential organization of Rio de Janeiro. Older speakers were mostly oriented toward the word *comunidade* and so they showed stances that connected them with this word. *Comunidade* seems to do justice to the fact that City of God has the public services and infrastructure that exist in any other non-*favela* community in Rio de Janeiro. Besides, this term is not associated with the stigma and negative associations that the term *favela* has accumulated over the years.
For this reason, the stances that older speakers showed in relation to *favela* positioned them away from this word. In the power relationship expressed with their stances, it was possible to see that these older speakers view their position as powerless in terms of how the words *comunidade* and *favela* are used by others. In this sense, these others are the ones who decide which communities are *favelas* and which ones are *comunidades*. Apparently, in this case, what seems to be the real reason is not necessarily the place or its attributes, but the kinds of people who live there. And, as one of the speakers said, these people are perceived as poor.

Younger speakers, on the other hand, were more oriented toward life outside of the City of God and projected identities that were compatible with their educations and professional goals. These speakers showed negative stances in relation to the word *comunidade* and positive stances in relation to the word *favela*. For them, the word *comunidade* is pejorative and an unnecessary politically correct term. As they preferred *favela*, the assumption was that they were orientated toward the positive meanings that this word has received in recent years. In addition, these young speakers seem not to have any problem using *favela* because for them this word has been redefined and its meanings have been stretched in order to incorporate new possibilities, including counter-stereotypes.

The ways in which postvocalic /s/ may be related to these stances can be also understood in terms of how a particular speaker was oriented toward his/her audience and the kind of stance s/he was taking at a particular moment of the interaction. For example, for older speakers whose lives are mostly connected with the activities and people from City of God, the use of the glottal and /s/ deletion may be related to closeness, casualness, or informality. The use of the palatal or alveolar within particular stancetaking moves may be related to the idea of distance, including temporal and spatial.
In the case of the younger speakers who were more oriented toward life outside of City of God, the palatal helped them create an identity that was more in line with their personal and professional goals. There was only one occurrence of /s/ deletion within an example of constructed dialogue used to illustrate a point against the use of the word *comunidade*. Because this nonstandard variant was very rare in the speaker’s speech, it is possible that she was attempting to distance herself from her own words and the idea of political correctness associated with in the word *comunidade*.

6.1.3 Postvocalic /s/ and identity

3. Do speakers index identities of place, race/color, and regional origin in their situated use of postvocalic /s/? If so, how do the variants of postvocalic /s/ relate to these identities?

Overall, the answer to this question is that variants of /s do not seem to index identity directly, or in isolation form other linguistic features. Even though based on the quantitative analysis it is possible to speculate about some of the possible associations between the idea of race/color and regional origin, the qualitative analysis, which was mostly focused on the different stances taken up by speakers in their moment-by-moment interactional moves, did not provide any evidence that the use of the different variants of postvocalic /s/ were indexing these identities.

The results of the quantitative analysis provide important insights on how each of the variants of postvocalic /s/ is related to the broad social categories included in the analysis. However, these results may not be enough to conclude that the groups that use a particular feature more than others necessarily identify with that feature. Further analysis would be
necessary to establish that relationship. In the field of sociolinguistics, indexicality and stance are among the main approaches that have been used to examine the relation between linguistic variation and identity construction and/or negotiation, especially in unfolding discourse. In general, studies focused on the intersection of these two areas are designed to identify the ways in which they are connected by comparing speech data collected in different situations, on different topics, or sometimes considering the effect of different audiences.

One of the initial ideas guiding the present study was that raising the topic of residential discrimination would get speakers to talk about race/color and origin in relation to place of resident in Rio de Janeiro, which did not happen. After the first interviews were recorded, I realized that speakers hardly ever mentioned race/color and region or migration issues as elements related to or reasons for discrimination, even though these are related issues as demonstrated in previous studies (Goldstein 2013; Perlman 2010). As a result, there were very few mentions of issues related to race/color and origin in the data, which made it difficult for this study to address the above question.

6.2 Limitations

The sample was probably one of the main limitations of the present study. Even though the sample used may be representative of communities like City of God, the research would have benefited from a more diversified sample in terms of education and origin. The reality in this community and similar ones across the country is that the younger population has more access to education than the older population. Public policies implemented by the Brazilian federal government have contributed to a reduction in the illiteracy rate across all age groups and to an
increase in the number of people finishing primary, secondary, and, to a lesser extent, tertiary education. As these policies reach primarily younger individuals, older ones continue to be part of the statistics of lower educational achievement. Thus, finding speakers with similar levels of education across all age groups will continue to be a difficult task.

Regional origin also represents a problem that is difficult to solve in studies of this kind due to how internal migration has changed in the last decades in Brazil. There is still a considerable number of people moving from other regions to big cities like Rio de Janeiro to look for work but that number has decreased in recent years. Finding younger speakers who are first generation migrants is especially difficult in established communities like City of God. The number of younger people who are part of the first generation of migrants is small. That might be a minor problem is newer communities that are still being populated. The problem with this second option is the fact that, due to how the city has grown, these new communities are located in very remote areas.

Another aspect of the research that could have been better addressed was the data collection methods. First of all, having a good knowledge of the community’s culture definitely helped a lot in planning the steps of the field study, including observations and data collection. However, it would be important to spend more time in the community in order to observe different aspects related to how different sub-communities and groups communicate. Perhaps observing a larger range of the different social activities the community residents engage in would have helped me not only develop the relationships I already had but also create and nurture new ones.

The use of the sociolinguistic interview was important because it gave me the possibility of including speakers who had few years of formal education. This could not have happened if I
had used different types of tasks such as reading passages and minimal pairs. However, it would have been beneficial to include such tasks in order to obtain speech of different situational styles to possibly create points of comparison. Not including these different sociolinguistic interview tasks limited my ability to find out how each individual speaker uses the phonological feature analyzed here in different speech styles.

Also, it is important to think of my role as researcher in the community. It is undeniable that my professional status as an international doctoral student in the United States had an impact on how people interacted with me. Even though in most cases I used the strategy of talking to the participants in the company of other people they knew in order to minimize the possible effects of my presence on their linguistic behavior, the fact that I was an outsider was still relevant for how they communicated with me.

6.4 Suggestions for future research

The completion of the present dissertation research made me think about other possibilities for research that might be worth pursuing in the future. For example, because of the connection between race/color and the glottal variant found in the present study, it would be interesting to design other studies to confirm the existence of the relationship between these elements and maybe find new aspects related to how they interact. A good way to start is to review and incorporate the existing findings about this variant that have been presented by Spanish language sociolinguists. This analysis of this existing body of research would provide a number of new insights into how to better analyze the use of the glottal in the context of Brazilian Portuguese.
Also, given the level of social and racial stratification in cities like Rio de Janeiro, it is important to think about sociolinguistic variation of postvocalic /s/ or any other feature on a number of possible levels. On the individual level, it would be interesting to analyze the various speech styles that a single speaker uses in different situations and with different audiences. This would provide some insights on how intra-speaker variation is affected by topic and audience. Assuming that people have different styles and employ them according to different situations, it would be interesting to see how an individual who lives in a poor community in Rio de Janeiro and studies or works in the richest areas of the city would use a particular feature with different people and in different contexts, including home, school, work, church, and so on. The variable patterns observed in each of these situations would provide many insights into how intra-speaker variation is used in identity construction and negotiation.

On the group level, it would be interesting to analyze sociolinguistic variation of particular features in, for example, a poor and predominantly black community and a wealthy predominantly white one, comparing how these features are used by different groups of speakers. This kind of study would add more information on the effect of socioeconomic class, race/color, and place on language variation. In addition, this would shed light on the structural differences between standard and popular varieties of Brazilian Portuguese, which need to be explored much further by the academic community.

Finally, considering the fact that popular varieties of Brazilian Portuguese are going through a process of standardization, it would be important to develop studies focusing on how people are using more standard features in their speech. Some studies have shown that this is a steady process affecting especially relatively remote rural communities, but it is necessary to see how this process is affecting urban communities as well.
6.5 Overall conclusions

In sum, the present study contributes to the sociolinguistic investigation of Brazilian Portuguese, in particular the very important variable of postvocalic /s/, in a couple of important ways. First, it sheds light on the variable patterning of postvocalic /s/ in population groups that may never before have been included in sociolinguistic studies of Brazilian Portuguese or Rio Portuguese – lower income favela-dwellers who are black and multiracial. Secondly, this is the first study of Brazilian Portuguese to attempt to investigate the situated meaning of variable /s/ in unfolding discourse. The investigation indicates that while there are indeed quantitative associations between each of the variants and the various social groups studied, these associations do not lead directly to readily determinable indexical meanings for the variants. Rather, the social meanings of the variant s of postvocalic /s/, like all linguistic variables, are fluid and multifaceted, as well as intertwined with the array of social meanings attached to the other linguistic and situational features with which they co-occur. Nonetheless, language and dialect are important components of place and racial identities in Rio de Janeiro and its favelas, identities which also continue to unfold in their unique contextual situations.
Appendix I: Sample interview questions

(English version)

Topic: General life in Rio de Janeiro (italics are instructions for Interviewer)
What brought you to Rio (to City of God)?

*If born here* Any idea why your parents came here?
   Did they move around in the area? *If yes,* where did they live? Any ideas which area they liked the most... and why?
   Have you always lived in City of God? In this house?
   What’s changed in the area since you were a child? e.g. more crowded, more (or less) safe, more (or less) expensive, better (or worse stores) probe for details

*If not born here* How many years have you been here?
   If you can remember, why did you decide to live in City of God?
   Where else did you look?
   How did you find this house/apartment?
   How does it compare with where you lived before? probe for details

One of the things I want to learn about is how much time you spend in your neighborhood, in the general area, in the city itself, and what you do where.
So, on a typical weekday, for example, what do you do? *use follow up questions*

*If they work:* how do you get to work?

*Ideas for follow up questions*
   How do you get around the city?
   If they drive/ride a bike: What’s the traffic like around here?
   What do you think of the BRT (Bus Rapid Transit) System which was implemented in preparation for the 2014 World Cup and the 2016 Olympics?

What do you do on a typical weekend day? *develop some follow up questions.*
Where does your family (*or the rest of your family*) live?
How often do you (get to *if far*) see them?
And where do most of your friends live?
How about in City of God... are there people around here that you’re friendly with?
   *If so,* how did you meet them?
Suppose you wanted to go out, to a restaurant, movie, theater... where might you go?

Do you want to stay in City of God/Rio de Janeiro, or would you like to move somewhere else?
   *If so,* where? Back “home”? To another neighborhood/city? Why?
What are the advantages and disadvantages of living in this area/Rio de Janeiro?
What would be the differences in lifestyle between the people who live here and the people who live in the South Zone, for example?
In general, do you think the place where someone lives affects the way they are treated by other people? Why or why not?
How do they know if a person is from/lives in a poor or rich area of the city? *use follow up questions*
Have you experienced any kind of discrimination for living in this area?  
*If they have What happened?*  
Have you seen the movie City of God?  
*If yes What is your opinion about the movie?*  
Do you agree with the way City of God is portrayed in the movie? Why/Why not?  
Did you hear about the visit of President Barack Obama paid to City of God in 2011?  
*If yes What do you think about that?*

(Portuguese version)

Tópico: Vida em geral no Rio de Janeiro (*italico* são instruções para o Entrevistador)  
O que te trouxe para o Rio (para este bairro)?

*Se nascido(a) aqui* Você tem alguma ideia de porquê seus pais vieram pra cá?  
Eles se mudaram muito até chegar aqui? *Se sim, onde eles moraram?* Que lugar eles gostaram mais... e por quê?  
Vocês sempre morou/moraram na Cidade de Deus? Nesta casa?  
O que mudou nesta área desde que você era criança? Por exemplo, está mais movimentada, mais (ou menos) segura, mais (ou menos) cara, lojas melhores (piores)...  
*Peça detalhes*

*Se não nascido(a) aqui* Há quantos anos você mora aqui no Rio?  
Você se lembra porquê você decidiu morar na Cidade de Deus?  
Você procurou moradia/casa em outros lugares?  
Como você encontrou esta casa/este apartamento?  
Como é aqui comparado com o lugar onde você morava antes? *Peça detalhes*

Uma das coisas que eu quero saber é sobre quanto tempo você passa no seu bairro, na região, na cidade, e o que você faz nestes lugares.  
Então, num dia de semana típico, por exemplo, o que você faz? *Faça perguntas subsequentes*

*Se trabalha*: como você chega até o trabalho?  
*Ideias para perguntas subsequentes*

Que tipo de transporte você usa para ir à outras partes da cidade?  
*Se dirige/anda de bicicleta*: Como é o trânsito por aqui?  
O que você acha do Sistema BRT (*Bus Rapid Transit System* que foi implementado em preparação para a Copa do Mundo e as Olimpíadas)?

O que você faz num fim de semana típico? *Faça perguntas subsequentes.*

Onde sua família (*ou o resto da sua família*) mora?  
Com que frequência vocês se encontram?  
E onde a maioria dos seus amigos moram?  
E na Cidade de Deus... você conhece/tem amigos(as) por aqui?  
*Se sim, como vocês se conheceram?*

Suponha que você quisesse sair, para um restaurante, cinema, teatro... onde você iria?
Você quer continuar morando aqui na Cidade de Deus/Rio de Janeiro, ou gostaria de se mudar para outro lugar?

*Se sim*, para onde? Para sua terra natal? Para outro bairro/cidade? Por quê?
Quais são as vantagens e desvantagens de morar nesta área/no Rio de Janeiro?
Quais seriam as diferenças de estilo de vida entre as pessoas que moram aqui e as pessoas que moram na Zona Sul (do Rio de Janeiro), por exemplo?
Em geral, você acha que o lugar onde uma pessoa mora afeta o modo como ela é tratada por outras pessoas? Por quê? Por que não?
Como você sabe se uma pessoa é da área/vive na x ou área y? *Faça perguntas subsequentes*
Você já sofreu algum tipo de discriminação por morar nesta área?

*Se sim* O que aconteceu?
Você já assistiu o filme Cidade de Deus?

*Se sim* Qual é a sua opinião sobre o filme?
Você concorda com a forma como a Cidade de Deus foi retratada no filme? Por quê? Por que não?
Você ouviu falar sobre a visita que o Presidente Barack Obama fez à Cidade de Deus em 2011?

*Se sim* O que você acha disso?
Appendix II: Transcription conventions

( ) Unintelligible
[ ] Overlap between utterances
[ ] Phonetic transcription
( . ) Noticeable pause
. Falling intonation
? Rising intonation
, Continuing intonation
= Latched utterances by the same speaker or by different speakers
- Self-interruption
CAPS Very emphatic stress
:: Vowel or consonant lengthening
@ Laughter
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