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'A CATEGORY OF THEIR OWN': QUANTITATIVE METHODS IN THE USE OF PILE-SORT DATA IN PERCEPTUAL DIALECTOLOGY

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THESIS

A thesis submitted in partial fulfillment of the
requirements for the degree of Master of Arts in the
College of Arts and Sciences
at the University of Kentucky

By

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ABSTRACT OF THESIS

‘A CATEGORY OF THEIR OWN’:
QUANTITATIVE METHODS IN THE USE OF PILE-SORT DATA
IN PERCEPTUAL DIALECTOLOGY

The purpose of this study is to investigate how Mississippi Gulf Coast Creoles perceive language differences in their home area. A pile-sort task was carried out in which respondents were given stacks of cards with local communities written on them and instructed to stack together the regions where people “talk the same.” Once the piles were made, the fieldworker discussed their sortings with the respondents. The stacks were analyzed by means of a hierarchal agglomerative cluster analysis and non-parametric multidimensional scaling with k-means cluster analysis overlays to extract the perceived dialect areas. The groupings reveal that respondent strategies are based on geographical concerns (e.g. distance), linguistic facts, and related ethnic identity beliefs. These areas were also analyzed using qualitative data from the post-pile-sort discussion and revealed the respondent’s attitudes, stances, and presupposed and implicated meanings that aided in the interpretation of their perceptions and attitudes with regard to local language ideology in the region. The results show that there are six perceived dialect areas on the Mississippi Gulf Coast. The Principal Component Analysis revealed that urban and rural is the biggest differentiation among dialect groups, followed by Frenchness and Southernness.

KEYWORDS: Perceptual Dialectology, Sociolinguistics, Computational Linguistics, Mississippi Gulf Coast, Ethnolinguistics, Perceptual Maps

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DEDICATION

To *my beloved Mimi, Joan Landrum Robinson, for instilling in me a love for my culture and encouraging me to embrace my heritage.*

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CHAPTER 1. INTRODUCTION

1.1 Introduction

The purpose of this study is to investigate how Mississippi Gulf Coast Creoles (MGCCs) perceive language differences in their home area. The Mississippi Gulf Coast has a long history dating to the pre-colonial times of the Native Americans: the Biloxi (Tanêks), Pascagoula, Acolapissa and Capinan (Moctobi) tribes (Boudreaux, 1998). The first Europeans to settle the area were the French and Spanish, with the founding of the city of Biloxi in 1699. In accordance to the Adams-Onis Treaty, the Mississippi Gulf Coast officially became a part of the United States. With the migration of Americans and Europeans, English quickly became the dominant language. However, French was still spoken in smaller communities across the Coast. Although French is not as widely spoken today, cultural practices, such as religion and customs are still prevalent among the Mississippi Gulf Coast French.

Therefore, I pose important questions to investigate in my home area:

1. Do Mississippi Gulf Coast Creoles perceive language differences on the MS Gulf Coast?
2. Is there any social variation among perceptions?
3. How do these perceptions affect the groupings made by respondents?
4. Is Biloxi perceived as French?

To answer these questions, a pile-sort task (Tamasi, 2003) was carried out in which respondents were given stacks of cards with local communities written on them and instructed to stack together the regions where people "talk the same." Once the piles were

made, the fieldworker discussed their sortings with the respondents. The stacks were analyzed by means of a hierarchal agglomerative cluster analysis and non-parametric multidimensional scaling with k-means cluster analysis overlays to extract the perceived dialect areas.

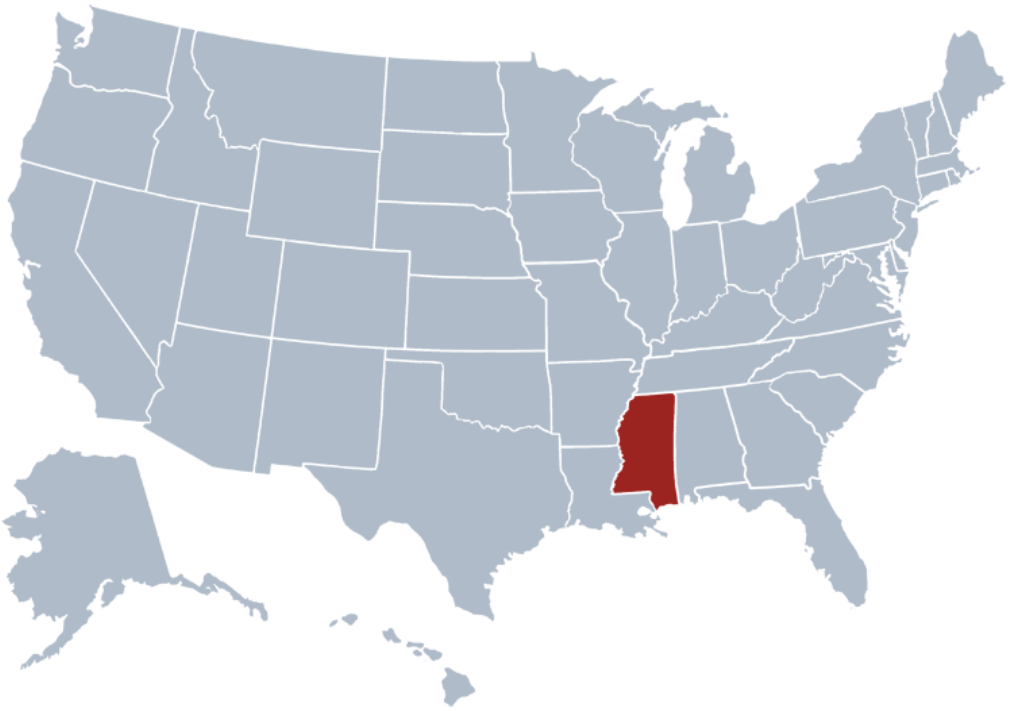
The groupings reveal that respondent strategies are based on geographical concerns (e.g. distance), linguistic facts, and related ethnic identity beliefs. These areas were also analyzed using qualitative data from the post-pile-sort discussion and revealed the respondent's attitudes, stances, and presupposed and implicated meanings that aided in the interpretation of their perceptions and attitudes with regard to local language ideology in the region. The results show that there are six perceived dialect areas on the Mississippi Gulf Coast. The Principal Component Analysis revealed that urban and rural is the biggest differentiation among dialect groups, followed by Frenchness and Southernness.

CHAPTER 2. THE MISSISSIPPI GULF COAST

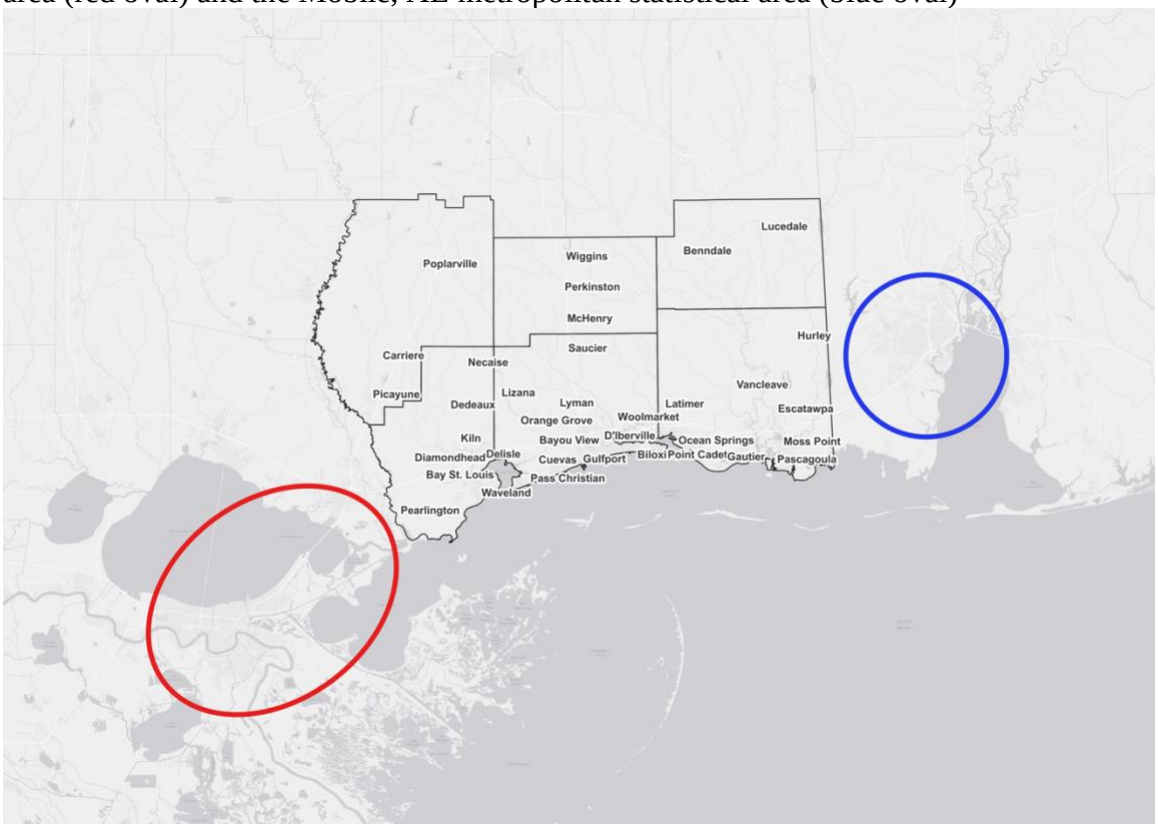
2.1 Demographics

The Mississippi Gulf Coast, generally referred to by locals as 'The Coast,' is the southern portion of the state of Mississippi (Map 2.1), a state in the Southeastern region of the United States bordering Alabama, Tennessee, Arkansas, and Louisiana. The Coast, outlined in Map 2.2, runs approximately eighty miles East to West and forty miles North to South, bordered by Alabama to the East and Louisiana to the West. Mobile, AL is the closest metropolitan area to the East, located only 30 miles from its city center to the Mississippi-Alabama state line, and New Orleans Louisiana is the closest to the West, located only 45 miles from its city center to the Mississippi-Louisiana state line. The region has an estimated population of around 500,000 people (United States Census Bureau, 2022). It is composed of six counties (Map 2.3), with approximately 70% of the population living in Harrison and Jackson Counties. Gulfport and Biloxi, both located in Harrison County, are the first and second largest cities on the Coast, respectively, and Pascagoula, located in Jackson County is the third largest. In general, the population is concentrated in the three coastal counties: Hancock, Harrison and Jackson.

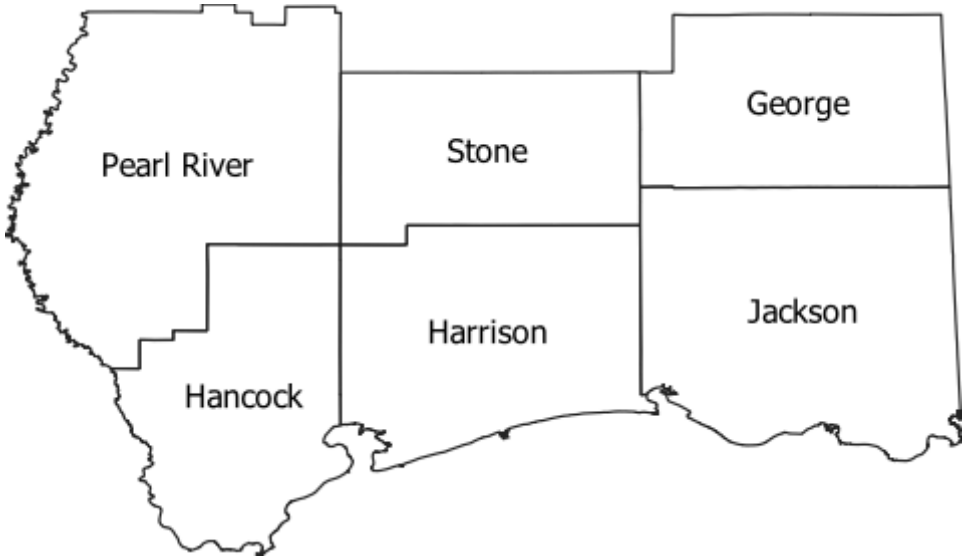
Map 2.1 Mississippi (red) within the United States



Map 2.2 Mississippi Gulf Coast in relation to New Orleans, LA metropolitan statistical area (red oval) and the Mobile, AL metropolitan statistical area (blue oval)



Map 2.3 The six coastal counties of Mississippi



2.2 History

The Coast has a rich history involving numerous transfers of power and immigration. Before the arrival of the Europeans, several Native American tribes inhabited the Coast, predominately the Biloxi and the Pascagoula (Gutierrez, 1987; Boudreaux, 1998). In 1699, French explorers arrived and established Biloxi, the first French settlement on the entire Gulf Coast. It served as the capital of French Louisiana from 1720-1723. In 1763, France ceded its territory east of the Mississippi River to the United Kingdom, creating British West Florida (Boudreaux, 2021). In 1776, Britain ceded the territory to Spain, which held claim to area until 1819 when the Adams-Onis Treaty was signed. After a short-lived anarchic Republic of West Florida in 1810, the United States laid claim to the Mississippi Gulf Coast and annexed it into the Mississippi Territory, which US officially admitted as a state in 1817, despite Spain's claim (Giardino & Guerin, 2016).

In 1817, the population of the Coast was estimated to be around 500 people, who were primarily the descendants of the original French settlers, Native Americans and freed slaves, and French remained the dominant language (Gutierrez, 1987; Boudreaux, 2021). Upon admission to the United States, two waves of immigrants came to the Coast. The first wave included people from New Orleans who moved in hopes of escaping yellow fever; many were wealthy and built large homes, and often brought enslaved people and established plantations. Steamboats made travel between Biloxi and New Orleans easy and accessible. The second wave included English speaking migrants from the United States, primarily of British descent. They moved to the Coast in hopes of building new businesses and communities, such as Handsboro, now a neighborhood of Gulfport. They also established plantations and brought more slaves into the region. Not all Coast blacks were slaves, however; some were free people who operated their own businesses. The area known as Bayou Bernard, also commonly referred to as the neighborhood of North Gulfport, was named after a free black man who lived and operated a metal business in the area (Gutierrez, 1987).

After the Civil War, railroads running from New Orleans to Mobile and Jackson to the Coast were built, allowing goods and people to travel quickly, easily and cheaply and more than ever before. Consequently, several industries flourished, and new waves of immigrants came to take advantage of the economic boom (Gutierrez, 1987). By 1904, Biloxi was the world's largest exporter of seafood by tonnage and was dubbed the Seafood Capital of the World (Boudreaux, 2021). The seafood industry brought in Slavic immigrants from the Dalmatian Coast in the 1880s, Cajun immigrants from south Louisiana in the early 1900s, and Vietnamese immigrants in the 1970s (Gutierrez, 1987;

Boudreaux, 2021). As a result of the railroads connecting the coast to the Piney Woods region to the north, the lumber industry grew as well, attracting workers from other lumber-producing regions, such as Appalachia. To ship the lumber on a large scale, a deep-water port was built at the conjunction of the two railroads, thus founding the city of Gulfport.

During the twentieth century, the US government was a key factor in bringing in new jobs and residents from different parts of the country. Pascagoula has become a boatbuilding center as government contracts with private companies were made to produce build military vessels. Biloxi is home to Keesler Air Force Base where the Hurricane Hunters – the nation's only hurricane research unit – are based. Gulfport is home to a Naval Construction Battalion Center, and Hancock County is home to Stennis Space Center, NASA's rocket engine testing facility (Gutierrez, 1987). In more recent history, Hurricane Katrina devastated the Coast, making landfall at Waveland in Hancock County displacing many residents and causing a migration towards more northern areas of the Coast. With its rich history of French colonization, American migration and industrialization, the MS Gulf Coast presents a unique mixing of people from different backgrounds.

CHAPTER 3. LITERATURE REVIEW

3.1 Language Ideology

There are numerous and diverse frameworks of language ideology in the field of sociolinguistics (Woolard and Schieffelin, 1994). In this paper, I use Irvine's definition of language ideology as a "cultural system of ideas about social and linguistic relationships" (Irvine, 1989: 255) Lippi-Green (2012: 73) situates language ideology within the United States, identifying ideologies as a mediating force between language use and social structures. In other words, ideologies mark whether one's identity is in-group or out-group (Bucholtz and Hall, 2004), and hierarchically position those identities within local markets of power and capital (Bourdieu, 1999).

3.2 Language and Place

In the past 50 years, the study of geography has shifted from a topographic, physical analysis of space to a human-centered understanding of place (Tuan, 1991; Britain, 2013; Cresswell, 2014). New concepts emerging from this shift in thinking about place include insideness, outsideness, and rootedness. Edward Relph (1976) describes the psychological phenomenon of place as one of warmth and belonging (insideness) or one of coldness and isolation (outsideness). In other words, two different individuals can have very different psychological connections to the same physical location.

3.3 Folk Linguistics

Folk linguistics is the study of the beliefs about, reactions to and comments on language by what 'real' people - non-linguists (Niedzielski and Preston, 2000). In other

words, it tries to extract what people think about language and how that influences or is influenced by other cultural beliefs. Preston (1999) establishes that folk linguistics should not only examine overt comments made by non-linguists, but should also include the subconscious beliefs behind the statements. When these beliefs are shared by a community, they become a language ideology (see above). In more recent studies, *language regard*, the individual beliefs about and affective responses to language details at any level and from any source (Preston, 2018), has come into prominence in folk linguistic studies as it encompasses the intersectionality of cognitive, sociolinguistic and anthropological points of view.

3.3.1 Methodologies in Folk Linguistics

In order to study this, Preston has developed a series of methodologies that elicit both conscious and subconscious ideas. Specifically, these methodologies concern perceptual dialectology. Perceptual dialectology (PD) is the variationists' interest in folk ideology. It concerns with what non-linguists have to say about language variation, its source, and its function in relation to a particular area (Preston, 1999; Evans et al, 2020). These five methodologies are the Draw-A-Map task, the Degree of Difference task, the Rating Task, the Dialect Identification Task, and the General Interview.

The Draw-A-Map task is the most popular methodology used in PD, since getting people to draw on a map can provide insight into how they see their world. It this task, respondents are given a blank map and are instructed to draw dialect boundaries "where they believe regional speech zones exist" (Preston, 1999: xxiv). They are then instructed to label each region with the name that they would usually use to describe or refer to it. In the map below (Figure 3.1), a participant clearly labels the different areas of Louisiana.

The northern part of the state is divided by an “imaginary line” and is characterized as English. Meanwhile, the southern portion of the state is divided into two areas: “our French” and “Creole.” The use of the possessive ‘our’ shows insideness showing a clear positive affinity for the perceptual region. Moreover, the descriptions of the “Creole” region provide insight into what her thoughts are of the region, but also the definition of “Creole,” which can be different for different people in different places (Dajko, 2018).

Figure 3.1 Perceptual Map of Louisiana (Dajko, 2018)

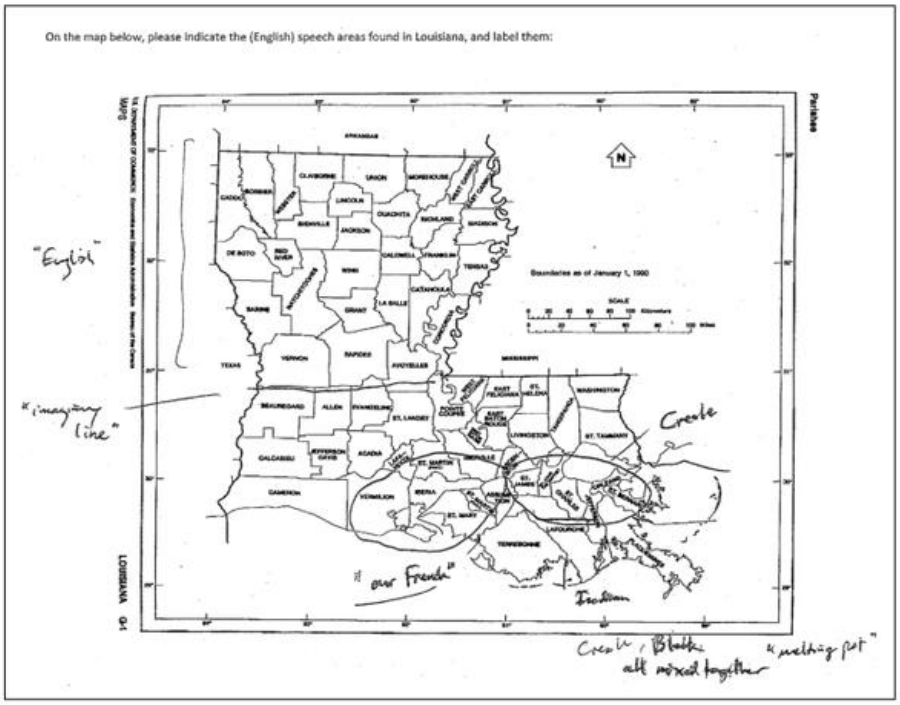


FIGURE 8.6. Participant maps showing references to French

The Degree of Difference task is a rating method which solicits respondents to rank various regions in relation to another region, usually their home region. This task may use a 1-4 scale where 1 is ‘same’ and 4 is ‘unintelligibly different from the perceived degree of dialect difference’ (Preston, 1997: 314). The Rating task is very similar to the

previously discussed. In this task, participants are asked to rate the variety by characteristics (such as 'pleasant,' 'correct'). Using this methodology on Louisvillians' perceptions of language variation in the South, Cramer (2018a) found that Cajun/Creole speech was the most different from the respondents' own variety. In terms of characteristics, Cajun/Creole speech was found to be among the lowest ranking varieties in correctness, pleasantness, standardness, formalness and educated. However, it was perceived to be the most beautiful variety, ranking in first. This supports Preston's findings that a variety can be perceived to be more pleasing, or in this case beautiful, although not correct (1997).

The Dialect Identification task asks respondents to locate regional voices by listening to an audio sample. In Preston's study (1997), the audio recordings were from male, well-educated, middle-aged speakers from different sites on a north-to-south line down the middle of the United States. They were presented to respondents in a randomized order and were instructed to place the voices where they belong on the map. The primary function of this task is to test the ability to accurately identify a speech variety and see if they fall within isogloss boundaries. The last task in this series is the General Interview. This is a is a survey method that seeks to debrief the respondents and obtain more information from the previously completed task. Additionally, it allows them to openly talk about their own linguistic beliefs that were not previously brought up. Although these are the most common methodologies used in PD, this list does not encompass all, which will be discussed below in the methodology chapter.

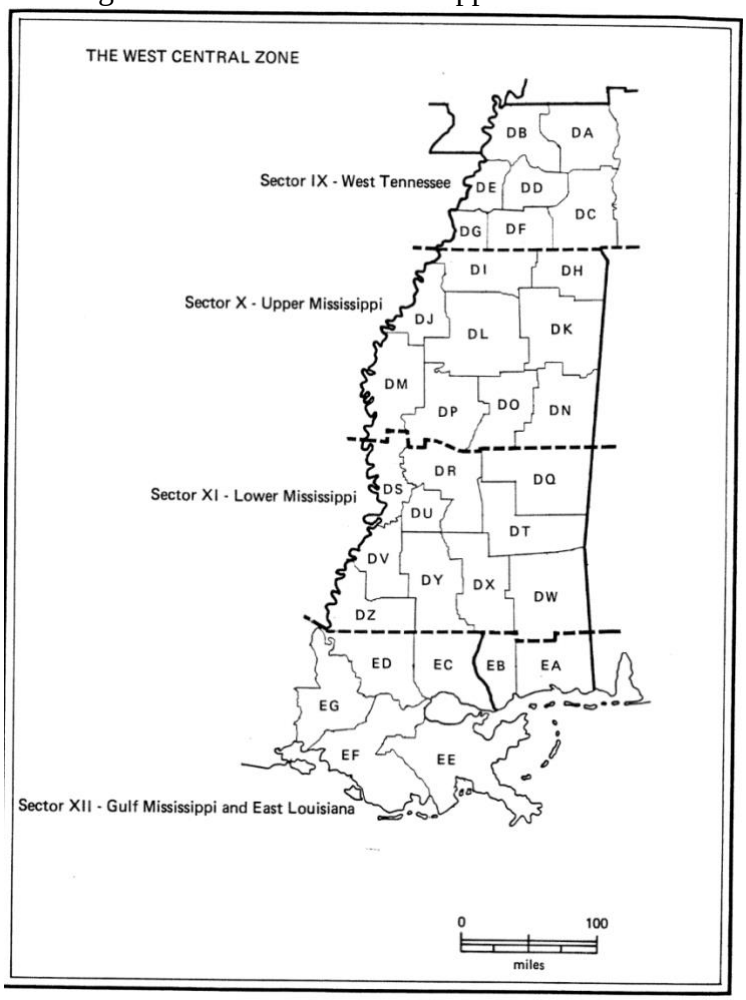
3.4 Language in Mississippi

3.4.1 Documentation Projects

In terms of linguistic research, Mississippi and especially the Mississippi Gulf Coast have been neglected. Although studies in neighboring Louisiana have been ongoing since the nineteenth century, a quick search of "Mississippi" in Linguistics and Language Behavior Abstracts (LLBA) leaves much to be desired. However, few documentation projects have been conducted in Mississippi. The Dictionary of Regional America English (DARE) interviewed ninety respondents from 1965-1970, of which only four were from two communities on the MS Gulf Coast (DARE, https://www.daredictionary.com/page/informants/). The Linguistic Atlas of the Gulf States (LAGS) interviewed one hundred and twenty-nine respondents from 1972-1980 of which sixteen of the respondents were from the MS Gulf Coast (Linguistic Atlas Project, 2022).

Although these documentation projects have been published for several decades, no studies have been published focusing on language variation in the state. However, there does seem to be a link between the MS Gulf Coast and Louisiana. In the working papers of LAGS, the MS Gulf Coast and Southeastern Louisiana were grouped together into Sector XII – Gulf Mississippi and East Louisiana (Figure 3.2). Since there is no explanation of the division of the Gulf States recorded, I hypothesize that the LAGS team noticed similarities between the regions of the two states.

Figure 3.2 Division of the West Central Zone from the Linguistic Atlas of the Gulf States (LAGS), including Sector XII - Gulf Mississippi and East Louisiana



3.4.2 Mississippi Gulf Coast French

Unlike the rest of the anglophone state of Mississippi, the MS Gulf Coast is home to a distinct variety of French called MS Gulf coast French. The history of the language mirrors the history of the state and shows the "colorful differences" between the Coast and the rest of Mississippi (Moreton, 1998). Since the colonization of the region by the French in 1699, French was the lingua franca among all European settlers, Native Americans, Haitian refugees and freed slaves (MGCCs). Upon admission to the United

States, English-speaking protestants moved into the area but the French speakers held onto their language, customs and Catholic religion. In 1920, Mississippi passed compulsory education laws where the language of government and education was English. French speakers were often ridiculed and in my own studies, I have found that students had to repeat grades because their English was not good enough and were punished by kneeling in rice if they were caught speaking their language. Naturally, this led to a decline in French-usage on the Coast and by the end of the 1960s, French ceased being the language of the community (Moreton, 2001)

CHAPTER 4. METHODOLOGY

4.1 Participants

This study is grounded in folk linguistics, specifically in perceptual dialectology, which explores beliefs that non-linguists have about language variation (Cramer, 2018a). In this case the non-linguists are Mississippi Gulf Coast Creoles (MGCCs), an ethnic group that I consider a subset of Louisiana Creoles. MGCCs are the European-African-Amerindian mixed descendants of the approximately 500 francophone speakers that lived on the Coast when it was annexed by the United States into the Mississippi Territory. The data in this paper comes from 24 MGCCs ranging in age from 18 years old to 86. Each respondent is given an anonymous identifier such as MC##, where MC is short for MGCC. A detailed list of informants and demographic questions is found in Appendix A & B.

It is also important to note that the term 'creole' is the term that I use here for this ethnic group, but not all my respondents may identify as such. Some regard themselves as solely French, Native American, or even English. For example, MC03 only identified as English even though we have looked at French archives together of recent ancestors. MC01 identified as German even though both of his parents were native MGCF speakers, and he identified them as Cajun. The desire to not identify as French or Creole stems from a complex ethnoracial history in which MGCCs' desire to assimilate to Anglo culture is stronger than their desire to hold on to their ethnic identity. This important aspect of local identity will be considered in interpreting the data collected here but not explored at length in this paper.

4.2 The Pile-Sort Task

Mental maps of dialect landscapes are "the most straightforward way of discovering what respondents believe about areas" (Niedzielski and Preston, 2000:46). In traditional mental map tasks, respondents are given a blank map of the area under investigation and are asked to draw boundaries around where they perceive people to speak differently and provide labels for the areas and the ways of speaking in them (Cramer, 2018a). In this study I adopt and adapt Tamasi's pile-sort task approach in which respondents are given a stack of cards with local communities printed on them and are instructed to sort the cards into piles where people speak similarly (2003:24-25). While sorting the communities, respondents were allowed to make as few or as many piles as they felt necessary and were encouraged to "think aloud" as they worked. This approach eliminates the spatial component of traditional map tasks and requires participants to rely only on their own beliefs about language in their decision making.

I chose this methodology as Gulfport physically separates Biloxi from other historically French communities, such as Pass Christian and Bay St. Louis. This methodology allows participants to group communities based on factors other than their geophysical location, which would otherwise not be likely if done with the Draw-A-Map task.

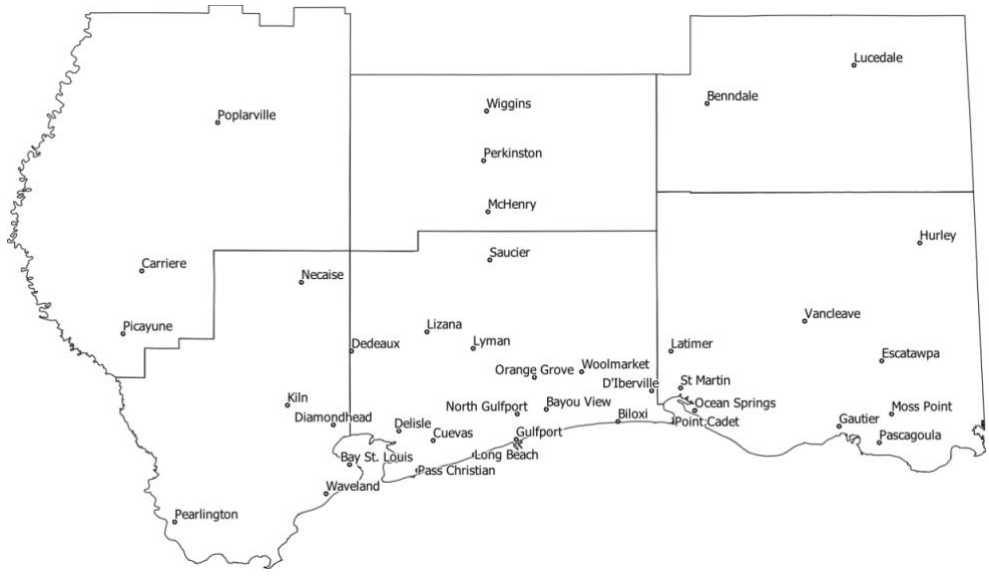
After the respondents had sorted their cards into piles, Tamasi had her participants describe the speech of each dialect region that they had created by using a second set of index cards that had a predetermined set of descriptive terms on them. I eliminated this task and instead adapted the "label" task from traditional mental map tasks by debriefing

each respondent on each of the piles they had created. This allowed the respondents to provide their own descriptive labels rather than creating an *emic* category myself.

4.3 The Communities

The communities for the pile-sort tasks were chosen based on size and their salience based on local cultural recognition. The communities consist of cities, census-designated places, and unincorporated communities. All cities were included, but not all census-designated places and unincorporated communities. To decide which communities to include and exclude, I surveyed friends in family in a pilot study. For example, I asked if Howison was a community and excluded it after determining that no one thought of it as separate community, regarding it as an area of Saucier. On the same basis, Biloxi and Gulfport were divided into neighborhoods. The neighborhoods included are the ones which respondents most often identified in response to the question "What neighborhoods are there in Gulfport [Biloxi]?"" In total, 39 communities were selected (Map 4.1). A table of all the communities can be found in Appendix C.

Map 4.1 The thirty-nine communities used in the pile-sort task



4.4 Consensus Analysis

Since this methodology elicits non-linguists' thoughts about language, I consider *language* to be a cultural domain. A "cultural domain" is a discrete topic that is familiar to those in a community or culture, such as diseases, animals, emotions, plants, tools, etc. Another aspect of a domain is that one's knowledge is learned. For example, we know social traits are often connected with language (such as being friendly or unfriendly), and they are not innate to language itself. These ideologies are both created and distributed by the community to form "cultural knowledge" (Tamasi 2000: 35)

Because the community creates cultural knowledge, they are the experts of that domain. However, there will always be differences between what people know about a particular domain. For example, one person may be able to identify all the news anchors on Fox Network, while another may only be able to identify a few. Therefore, it is important to elicit several ideas from respondents to see if there are any culturally consensual ideologies. In order to test one's degree of knowledge, Borgatti (1996a) created consensus analysis. It evaluates respondent responses and determines if there are: 1) a single cultural consensus (agreement among all respondents), 2) no consensus (large differences in knowledge), and 3) more than one subculture (separate patterns of knowledge among different groups).

To do this, I used the ANTHROPAC software program (Borgatti, 1996b) and its factor group loadings, in which the first factor consists of the additive combination of cases that explain the most variability among the informants and the second accounts for the variability in the first. It also outputs an eigenvalue, the sum of the squared loadings, for each factor. If the ratio of the first eigenvalue to the second is at least three to one,

then a high amount of variability is accounted for by the first factor, and a cultural consensus is revealed. ANTHROPAC also provides a "cultural answer key," which can be used to test the degree of cultural knowledge of each participant (competency score). The competency score can range from -1 to +1, with +1 aligning to the most positive competence and -1 aligning the least.

4.5 Clustering Analyses

To identify the perceived dialect areas, I performed two quantitative analyses in R: hierarchical agglomerative cluster analysis and k-means cluster analysis with multidimensional scaling. Hierarchical agglomerative cluster analysis is a connectivity model of clustering based on the fact that data points closer in the data space show more similarity. It treats the number of times any community X was placed in the in a pile with any other community Y, as a separate cluster. It then reiterates two steps: (1) identify the two clusters that are closest together, and (2) merge the two most similar clusters. This process continues until all clusters are merged, producing a visual output called a dendrogram. The distance of similarity was calculated based on the length of a straight line drawn from one cluster to another, also known as the Euclidean distance. To determine how distance is computed within the clusters, the linkage criteria selected was *Ward's method,* as it produced the higher agglomerative coefficient. *Ward's method* determines the clusters by reducing the sum of squared distances of each observation from the average observation in a cluster (Bock, 2021a). After the dendrogram is produced, the optimal number of clusters is calculated using the "silhouette" method (Boehmke, 2021a).

K-means cluster analysis is an alternative statistical method for grouping the communities into perceived dialect regions. It is a centroid model based on similarity derived from the closeness of a data point to its centroid. It starts with multidimensional scaling (MDS), a technique for visualizing the similarity between objects. The output is a two-dimensional scatterplot where each community is represented as an arbitrary point (Bock, 2021b). Using the Euclidean distance matrix as input, the k-means cluster algorithm partitions the data into sets of *k* groups, where *k* is the number of groups predetermined by the analyst. Each group (cluster) is represented by the mean of the points assigned to the cluster. After *k* is determined, the algorithm randomly selects communities to serve as the initial centers (centroids) for the clusters. The remaining communities are assigned to its closest centroid, and the mean values of all the data points within a cluster are calculated. This step is reiterated with the new mean values as the centroid and updated until the cluster assignments stop changing (Boehmke, 2021b).

Each method has its own advantages and disadvantages. Hierarchical agglomerative clustering is used to determine the number of clusters when they are unknown, and the dendrogram output makes it easier to visualize intra-cluster similarity. K-means clustering on the other hand requires a predetermined number of clusters. If *k* is unknown, *k* and the numbers of iterations may be adjusted until the results of the dendrogram are reproduced as closely as possible for comparison. Because K-means clustering can also be used if group membership is unknown (Kumar Das, 2020), hierarchical clustering was first used to determine the optimal number of clusters and which communities belonged to each cluster. Then k-means clustering can be used at each number of *k* until the optimal, to see underlying patterns in the data. As *k* increases,

the clusters that separate first are the most salient and agreed upon attributes by respondents. For example, if the 3 k-means analysis splits some cluster A from the 2 k-means analysis into some clusters C & D, and the second cluster B remains unchanged, the perceived difference between cluster C & D are more salient than the differences between the clusters derived from cluster B. If a community has variable categorization by respondents, this method can provide insight to which dialect area it belongs at each number of k and can be compared to the combinations offered in the dendrogram.

4.6 Principal Component Analysis

Principal Component Analysis (PCA) has long been used in linguistic research. Early use was in sociolinguistic variation (see Pols & Plomp, 1973; Tabata & Toshiyuki, 1973; Horvath & Sankoff, 1987) while more modern publications are in second language acquisition research and psycholinguistics (see Zhang et al., 2022; Tajeddin & Bagherkazemi, 2021). This methodology has been used in perceptual studies (see Karmi, 2021; Grivet et al. 2021; Mori 2020), but to my knowledge has not been used in any perceptual dialectology studies.

PCA is a method that is used to reduce the dimensionality of large data sets by transforming it from a large set of variables into a smaller while preserving as much data as possible. Principal components are new variables that consist of the combinations of initial variables that correlate with one another. The first step is to standardize the range of the variables so that they are comparable and larger ranges do not dominate the smaller ranges. This is done by calculating the z-score, subtracting the mean and dividing by the standard deviation for each value of each variable. Then a covariance matrix is computed

to see what relations among variables there are. Then the eigenvectors and eigenvalues are computed from the covariance matrix to determine the principal components. The eigenvectors are the directions of the axes where the most variance occurs, and the eigenvalue is the amount of variance carried in each Principal Component.

I use PCA to analyze the terms used to describe the communities. It will reduce the number of total terms, and group terms that correlate to each other. Each term will be giving a score within each principal component, ranging from -1 to 1. The higher the score, the more correlation it has with the principal component and other high-ranked terms. Each component will represent an *emic* category (Cramer, 2018b) and consist of like terms. For example, in a study describing drinks, one component consisting of the terms *hot, aromatic, bold* would be *coffee* while another component consisting of *cold, refreshing, bubbly* would be *soft drink.* Additionally, each community will be given a score for each component, the higher the score, the more correlation between the component and the community. For example, latte, americano and drip may score high in the *coffee* component while Pepsi, Dr. Pepper and Barq's scores high the *soft drink* component.

CHAPTER 5. RESULTS OF THE QUANTITATIVE ANALYSES

5.1 Consensus Analysis

To test the validity of this data, I conducted a consensus analysis to see if there is a single set of knowledge about language varieties among all respondents. I found that the largest eigenvalue is 12.303 and the second largest is 0.969, resulting in an eigenratio of 12.695 (see Table 5.1). As the eigenratio is more than 3:1, we can conclude that this group shares cultural knowledge, and eigenratios more than 10:1 suggest that the consensus is strong.

Table 5.1 Results of the Consensus Analysis

1st Eigenvalue	12.303
2nd Eigenvalue	0.969
EigenRatio	12.695
# of Negative Competencies	0

The scores from ANTHROPAC are shown in Table 5.2. It should be noted that with such a high eigenratio, the scores are relative, but low scores still indicate consensus among the respondents. The highest competency was 0.889 while the lowest was 0.308. The average competency score was 0.699 with a standard deviation of 0.15. No significant social variables were found in correlation with competency scores; however, there seems to be a trend— participants with higher competencies have created

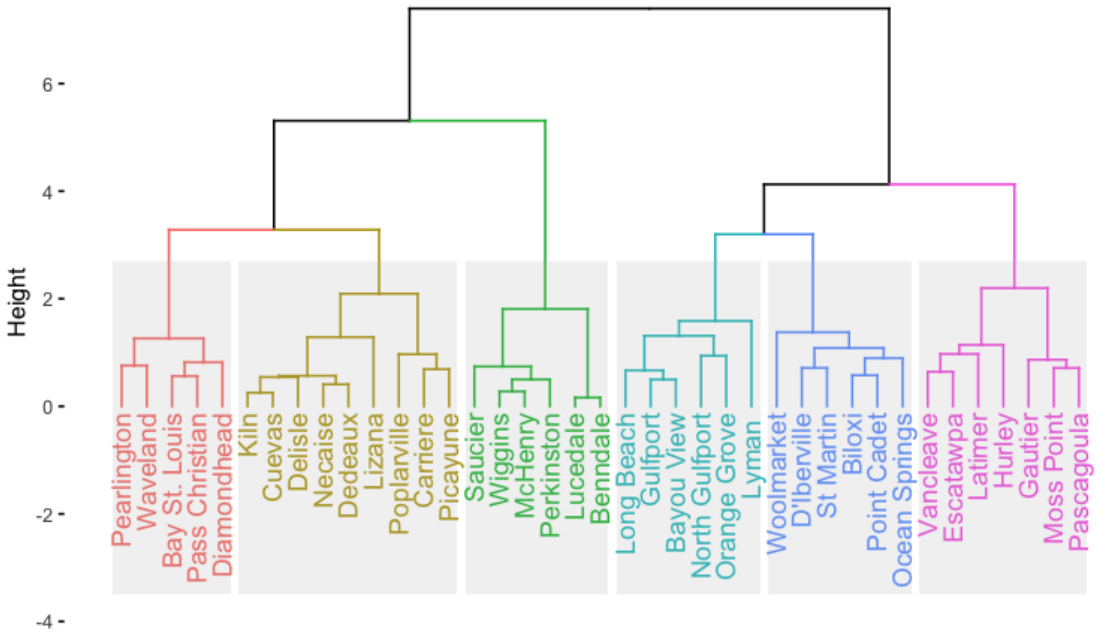
Table 5.2 Informant competency scores and # of groups

Informant	Competency	# of Groups
MC15	0.889	12
MC10	0.867	9
MC07	0.842	8
MC24	0.841	11
MC01	0.838	7
MC13	0.829	7
MC08	0.807	6
MC20	0.783	7
MC19	0.778	7
MC11	0.777	7
MC18	0.772	6
MC23	0.761	10
MC21	0.748	8
MC06	0.745	6
MC12	0.734	5
MC16	0.687	4
MC02	0.667	5
MC05	0.606	6
MC14	0.588	4
MC09	0.562	6
MC03	0.486	5
MC17	0.478	3
MC22	0.386	3
MC04	0.308	5
Average	.699	6.542
Std Dev	.158	2.303

5.2 Hierarchical Agglomerative Cluster Analysis

The results of the hierarchical agglomerative cluster analysis, shown in a dendrogram in Figure 5.1, display six optimal clusters, outlined by gray rectangles. Lower linkages indicate greater similarity.

Figure 5.1 Dendrogram from hierarchical agglomerative cluster analysis



The dendrogram results are shown in Map 5.1. Cluster 1 includes Pearlington, Waveland, Bay Saint Louis, Pass Christian, and Diamondhead, all cities in Hancock and western Harrison County except Pearlington. Pearlington is a census-designated area and may be clustered with the cities due to its location on the border with Louisiana and its close association with Slidell, LA. Cluster 2 includes Kiln, Cuevas, Delisle, Necaise, Dedeaux, Lizana, Poplarville, Carriere and Picayune, predominately rural communities, save Picayune, found in Hancock, Harrison, and Pearl River Counties. Picayune may be included in this cluster rather than Cluster 1 because it is located in Pearl River County, implying geographic associations are more salient than community size. Cluster 3

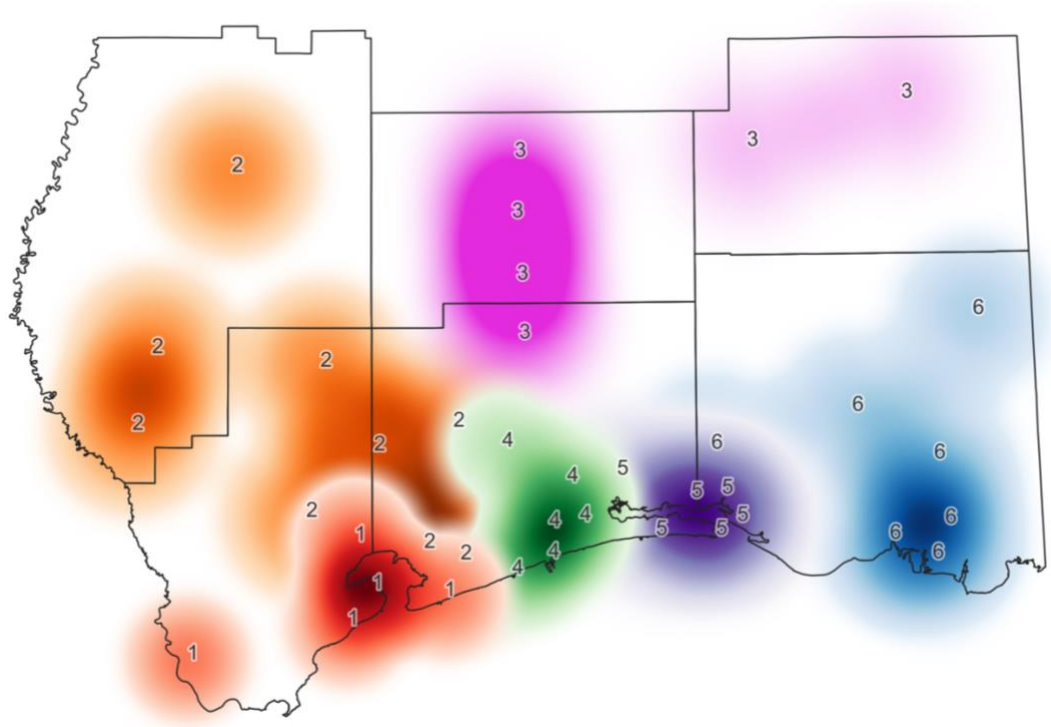
includes Saucier, Wiggins, McHenry, Lucedale and Benndale, all more rural communities found in Harrison, Stone, and George Counties. Cluster 4 includes Long Beach, Gulfport, Bayou View, Orange Grove and North Gulfport — all urban areas located in Harrison County. Cluster 5 includes Woolmarket, D'Iberville, Point Cadet, St. Martin, Biloxi and Ocean Springs, also urban areas, but located within Harrison and western Jackson County. Lastly, Cluster 6 includes Vancleave, Escatawpa, Latimer, Hurley, Gautier, Moss Point, and Pascagoula, all urban/suburban areas of Jackson County.

As the dendrogram branches move up the scale (showing less similarity), Clusters 1 and 2 and Clusters 4 and 5 join first, showing that the cities in Hancock County were more often paired with the rural locations in close proximity rather than with other urban areas. Pass Christian, the only Harrison County city in Cluster 1, is more often paired with the rural communities in close proximity, such as Delisle and Cuevas, and those that are farther away, such as Carriere or Poplarville; but it is not placed in the same pile with Long Beach (Cluster 4) often enough to appear within the same cluster, despite sharing administrative boundaries. The joining of Clusters 4 and 5 indicate that the urban areas of Harrison County, except Pass Christian, and western Jackson County are perceived to be closer than the other urban areas.

At an even higher level, Cluster 6 joins Clusters 4 and 5, indicating that the respondents perceived a majority of these urban areas to be related to each other, although still different enough to be separated at the optimal level. Next, Cluster 3 joins Clusters 1 and 2. Since Clusters 2 and 3 are predominately rural communities, it can be assumed that the branches join at this node because of their association with rurality. The

formation of the two larger clusters indicates that at the highest level, participants perceive a division between urbanity and other areas, but “rurality” cannot be used in the description of this dichotomy because Cluster 1 contains urban areas

Map 5.1 Clusters from hierarchical agglomerative cluster analysis

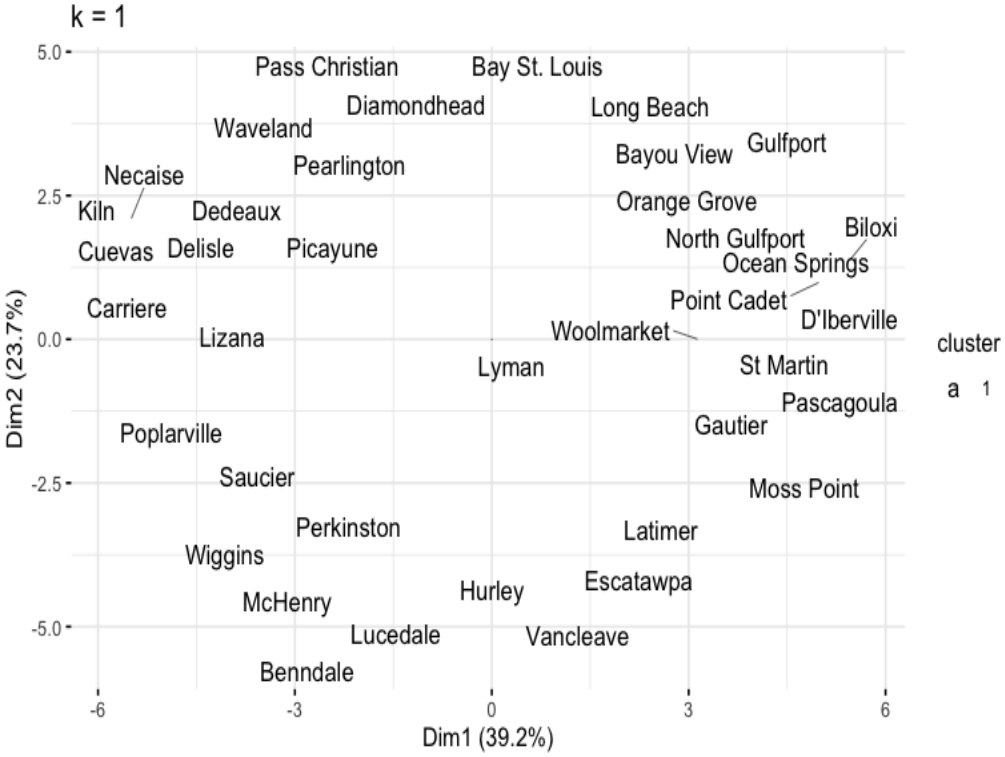


5.3 Multidimensional Scaling and K-means Cluster Analysis

Multidimensional scaling (MDS) is an alternative visual representation of the pattern of proximities among a set of objects. Figure 5.2 is the MDS plot of the similarity matrix made from the respondents’ groupings. Communities that were perceived to be very similar to each other are placed close together on the plot, and those that are perceived to be very different from each other appear farther away on the plot. In this case, the axes are meaningless and the orientation is arbitrary, meaning cardinal directions should not be taken into consideration when reading the plot.

Figure 5.2 shows that the physical location of the communities is not the principal realization in MDS, but rather the similarities in perceived dialectal differences. Poplarville is not located between Saucier and Lizana, but according to MDS, it falls between the two; Lizana is strongly clustered with communities found in Cluster 2 from above, and Saucier was grouped with Cluster 3, although Saucier appears to be more distant than the concentrated grouping of Perkinston, McHenry and Wiggins. This may suggest that both communities varied in associations among the participants. Pearlington falls between the concentration of Clusters 1 and 2, indicative of its association with Slidell, LA and the cities of Cluster 1 although it is a relatively small town. The last noticeable community that stands out in the plot is Lyman – slightly skewed towards Clusters 4 and 5, but for the most part in the middle of the plot.

Figure 5.2 *k* = 1 Multidimensional Scaling (MDS)



To better understand the levels of grouping, *k*-means analysis was applied to the MDS in order to group the communities in a range of two or more clusters and to examine ways in which the MDS and *k*-means may produce different groupings than the hierarchical clusters shown in Figure 5.1. In what follows *K*-clusters refer to those derived from *k* means analyses overlaid on the multidimensional plot of Figure 5.2 and *H*-clusters refer to those represented in the dendrogram in Figure 5.1

In the two K-cluster plot (Figure 5.3), the major difference in rural versus urban speech persists. However, H-Cluster 1 from the hierarchical clustering analysis is not grouped with other urban areas, suggesting that the *otherness* is strong enough to not group it with the other urban areas. As shown in the three K-cluster analysis of Figure 5.4, the rural cluster is then split, corresponding to H-Clusters 2 & 3, revealing that the distinction between the two rural areas may be more salient than any distinctions between the urban areas. It also suggests that H-Clusters 1 & 2 have something in common that is stronger than the urban/rural dichotomy. It should be noted, however, that Poplarville (H-Cluster 1) and Hurley (H-Cluster 6) are both included in the rural group, which suggests the idea that the urban/rural dichotomy is not at all weak.

The four K-cluster analysis (Figure 5.5) reveals that H-cluster 6 splits from H-Clusters 4 and 5. This indicates that the greatest perceptual division between the urban areas occurs between Ocean Springs and Gautier. Hurley switches to become part of K-Cluster 4 while Poplarville remains with K-Cluster 2. Based on informants' comments, this split may represent the divide between (old) Southern urban and non-Southern urban.

Figure 5.3 *k* = 2 Multidimensional Scaling (MDS)

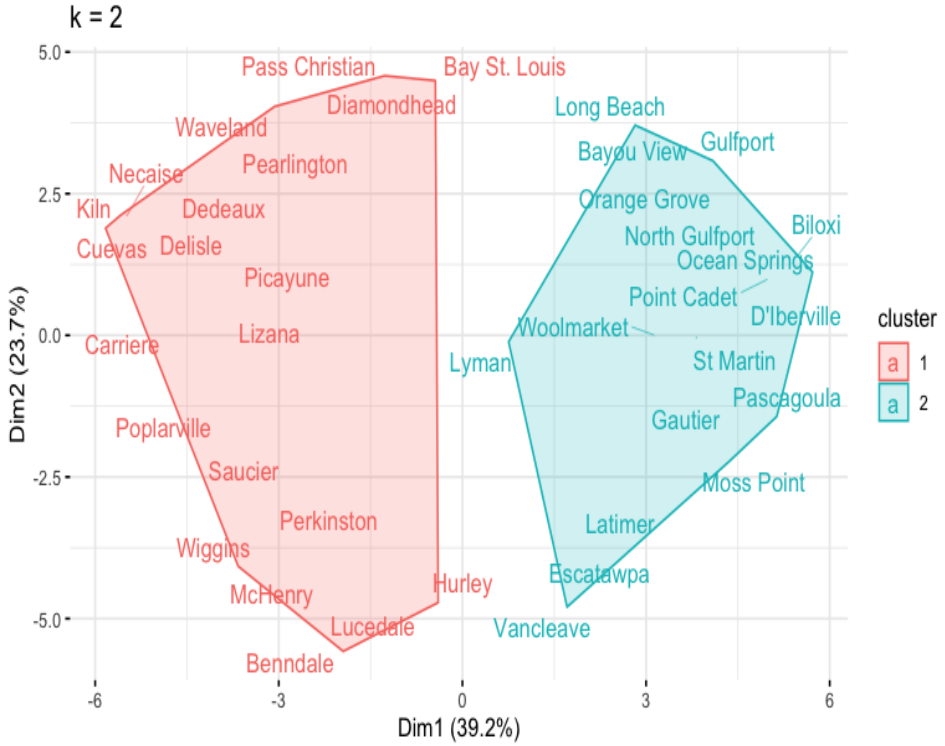


Figure 5.4 *k* = 3 Multidimensional Scaling (MDS)

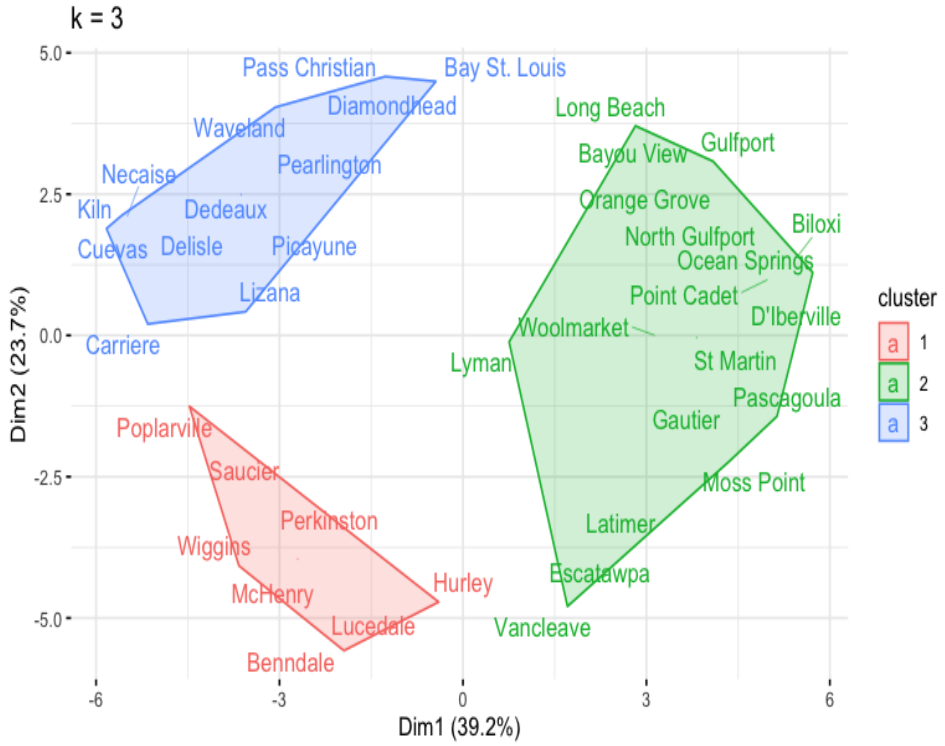
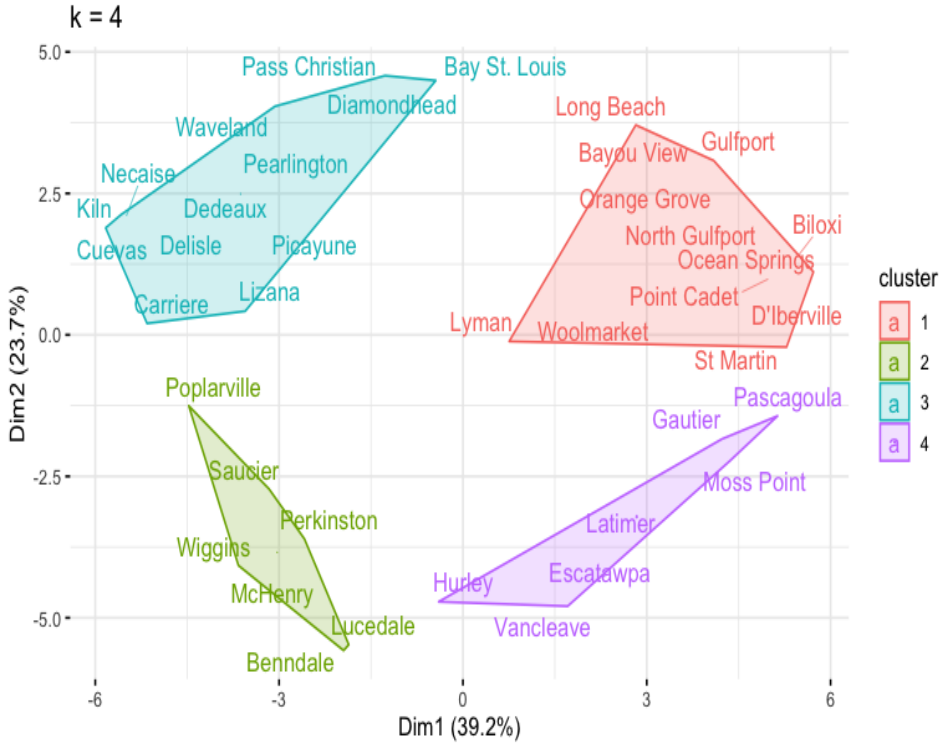


Figure 5.5 *k* = 4 Multidimensional Scaling (MDS)



The five K-cluster analysis (Figure 5.6) shows a divide between H-Clusters 1 & 2. This shows that the relation between these clusters is strong enough to keep them together until this point in the clustering. Poplarville rejoins with K-Cluster 3 (H-Cluster 2), which indicates that the cultural associations with H-Cluster 3 are prevalent, but the geographic associations are stronger. The optimal sixth level is shown in Figure 5.7, and the groupings are consistent with the dendrogram in Figure 5.1. In section 5.2, I concluded that the two largest divisions could not be divided into rural versus urban areas because H-cluster 1 contained urban areas. However, the k-means analysis provides more insight into how the region is divided. The urban/rural dichotomy appears to be the most common differentiation in perceptions, but there is some commonality strong enough between H-clusters 1 and 2 to disregard this dichotomy in the clustering approach, suggesting that this unifying perception is stronger than urbanity.

Figure 5.6 *k* = 5 Multidimensional Scaling (MDS)

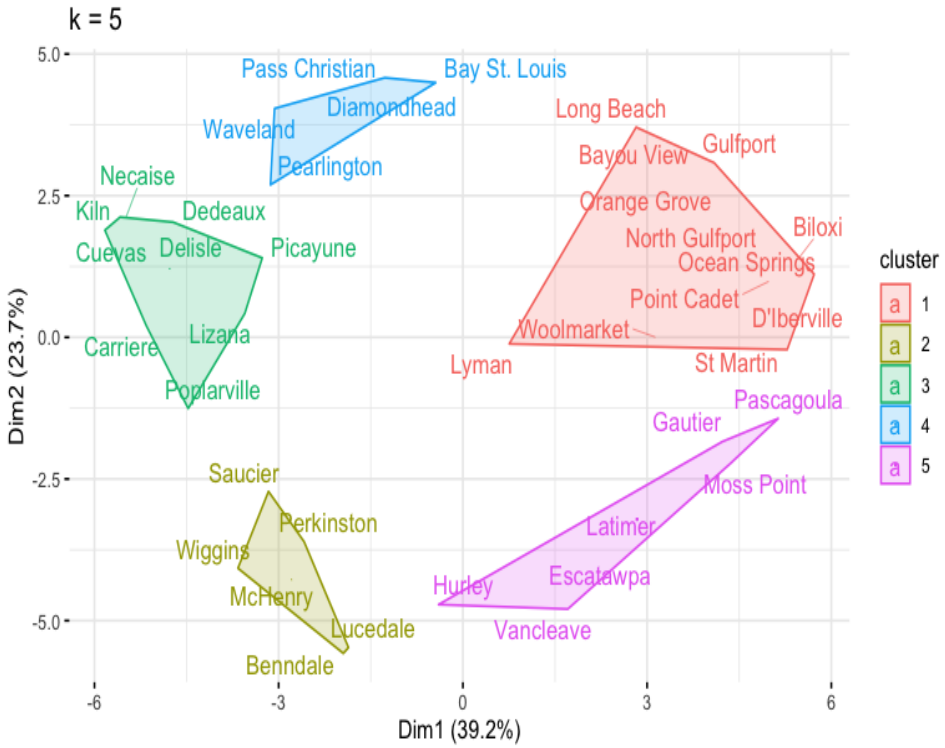
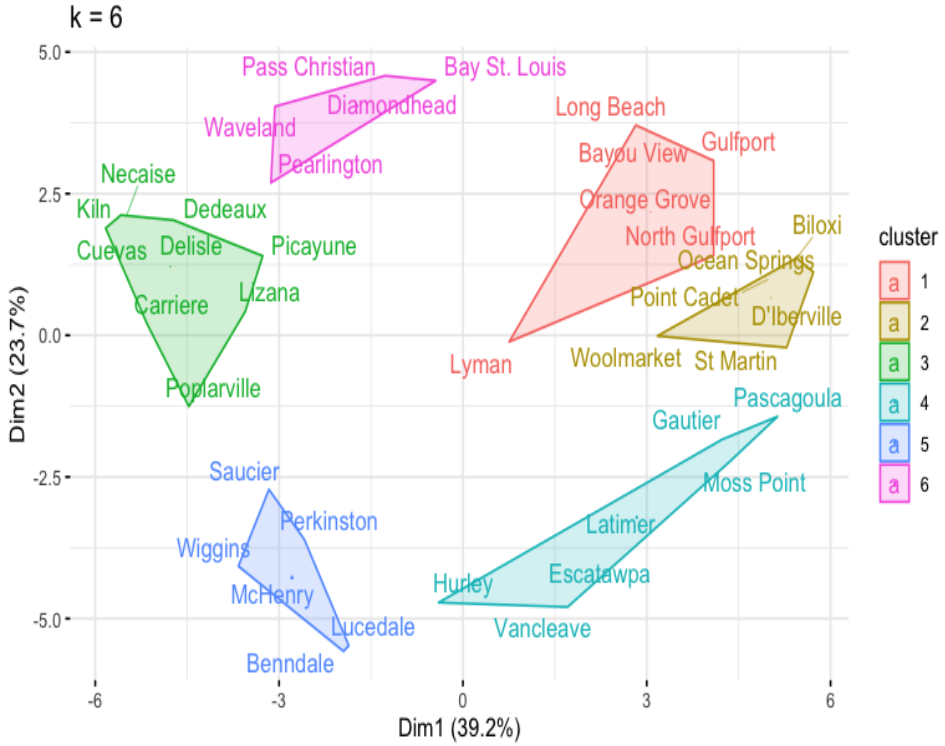


Figure 5.7 *k* = 6 Multidimensional Scaling (MDS)



5.4 Principal Component Analysis (PCA)

Among the interviews, I found twenty-seven different types of labels used to describe the groupings. Some of these terms include similar semantic items. For example, “African American” and “Black” are grouped together, as well are “normal” and “regular.” This organized list of descriptors can be found in Table 5.3 and a full list for each community can be found in Appendix D. The PCA found that five components counted for more than eighty percent of all variation. In the following subsections, I will present the findings for each.

Table 5.3 Labels used in the Principal Component Analysis

Descriptors		
Accent	French	Proper
Black	Ghetto	Redneck
Brogue	Immigrant	Rural
Cajun	Louisiana	Slow
Coast	Mobile	Southern
Country	New Orleans	Twang
Creole	Normal	Urban
Drawl	Northern	Wealthy
Educated	Polite	White

5.4.1 Rural vs Urban – Principal Component 1

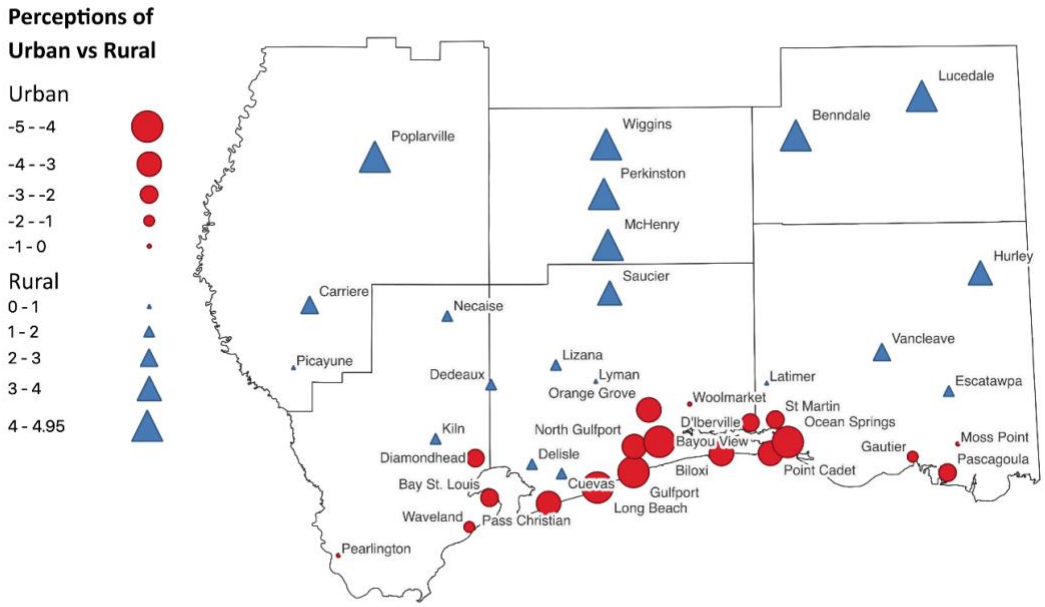
Accounting for 34% of all variation, Principal Component 1 (PC1) seems to describe a distinction between rural and urban areas (Table 5.4). The descriptors with the higher scores index rurality while those with the lower scores index urbanity. *Country* has

the highest score and *rural* the second highest, both clustering closely with others such as *redneck*, n*orthern*, *slow*, and *drawl*. *Urban*, on the other hand, has the lowest score and *Coast* only a slightly higher one, both clustering closely with *proper*, *wealthy* and *normal*. Map 5.2 shows the distribution of the scores among the communities. This matches with the population distribution on the Coast. The northernmost communities are rural while the coastline is urban, matching the range in descriptions from PC1.

Table 5.4 Principal Component 1 scores

Descriptor	**PC1**	**Descriptor**	**PC1**
Country	0.317	Educated	-0.068
Rural	0.304	Southern	-0.070
Redneck	0.293	Brogue	-0.075
Northern	0.289	Black	-0.084
Slow	0.260	Ghetto	-0.093
Drawl	0.228	Immigrant	-0.143
Twang	0.151	White	-0.169
Accent	0.080	French	-0.185
Mobile	0.042	Normal	-0.241
Polite	0.030	Wealthy	-0.256
Louisiana	-0.007	Proper	-0.267
Creole	-0.020	Coast	-0.290
Cajun	-0.029	Urban	-0.297
New Orleans	-0.057		

Map 5.2 Principal Component 1 - *Urbanity*



5.4.2 Frenchness – Principal Component 2

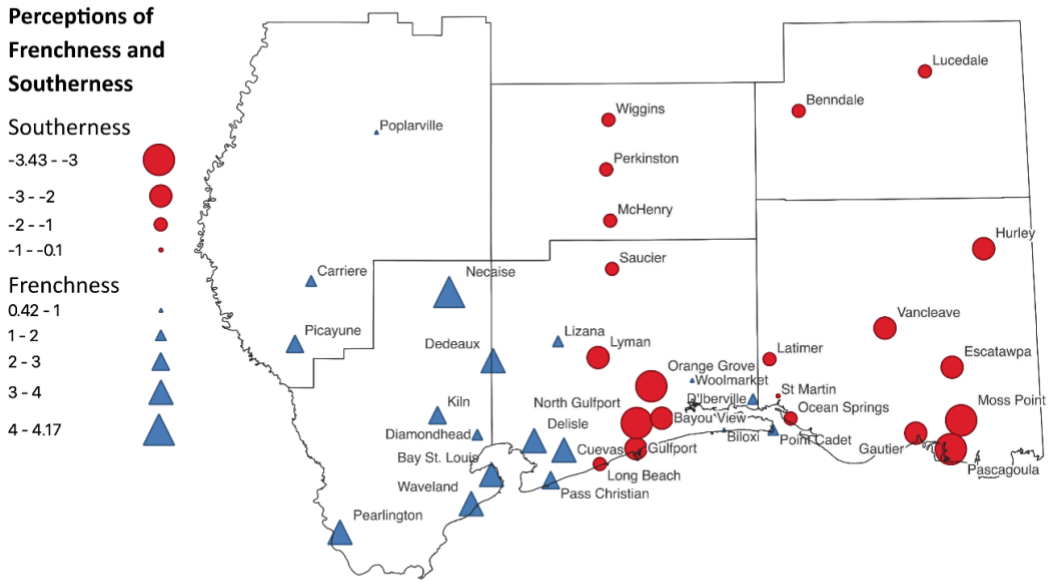
Accounting for 22.7% of all variation, "Frenchness" (PC2) indicates a continuum from Frenchness to Southernness. In Table 5.5, the terms with the higher scores are *Cajun*, *Louisiana*, *New Orleans*, *Brogue* and *Creole*, while the terms with the lower scores are *Southern*, *Ghetto*, *Mobile*, *Black* and *Slow*. *New Orleans* is located high on the scale while *Mobile* is located low, suggesting that the scale goes from west to east. Terms associated with Frenchness are found closer to Louisiana while those associated with Southerness are found closer to Alabama. In the middle of the scale, terms like *Educated*, *Coast*, *Proper* and *Urban* suggest that both Frenchness and Southerness are non-standard and the central part of the urban areas (i.e. Gulfport) are the most standard. Map 5.3 shows that in general communities with a positive score (indexing *Frenchness*)

are found on the western side while those with a negative score are clustered around the eastern side. The only exceptions are Biloxi and Gulfport. Biloxi retains a *Frenchness* character while Gulfport is unmistakably *Southern*.

Table 5.5 Principal Component 2 scores

Descriptor	**PC2**	**Descriptor**	**PC2**
Cajun	0.388	Coast	-0.042
Louisiana	0.362	Proper	-0.043
New Orleans	0.362	Urban	-0.060
Brogue	0.313	Northern	-0.074
Creole	0.291	White	-0.094
French	0.177	Drawl	-0.126
Twang	0.165	Normal	-0.166
Accent	0.118	Polite	-0.171
Educated	0.074	Slow	-0.180
Country	0.043	Black	-0.188
Redneck	0.004	Mobile	-0.204
Rural	-0.004	Ghetto	-0.214
Immigrant	-0.031	Southern	-0.271
Wealthy	-0.032		

Map 5.3 Principal Component 2 – *Frenchness*



5.4.3 Standardness – Principal Component 3

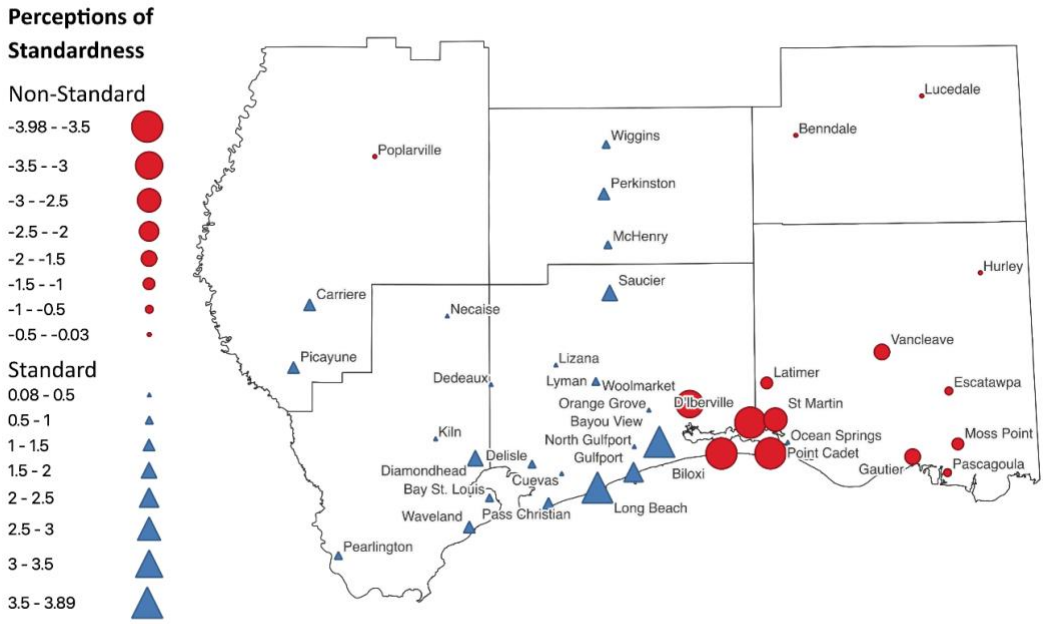
"Standardness" labels account for 12% of all the variation. The terms with the highest scores indicate an association between proper language and higher social class: *Educated*, *White*, *Normal*, *Proper* and *Wealthy*. *Louisiana*, *New Orleans* and *Cajun* all have positive numbers, however, which suggests that these Mississippi Creoles may look to New Orleans as an external standard rather than Mobile. On the other end, such terms as *Accent*, *Immigrant*, *French*, and *Drawl* which indicate that these are features associated with non-standard and non-English speech. In Map 5.4, the communities perceived to be the most standard are Bayou View, Long Beach and Gulfport, further indicating that, although not the most standard, Creoles tend to perceive their home area as more standard than other varieties. Communities surrounding Biloxi and close to the

border with Alabama, such as Gautier and Vancleave, are perceived to be the most non-standard, suggesting that the French-accented speech in Biloxi is perceived differently than the Louisiana-accented variety.

Table 5.6 Principal Component 3 scores

Descriptor	PC3	Descriptor	PC3
Educated	0.433	Brogue	-0.027
White	0.295	Ghetto	-0.032
Normal	0.217	Coast	-0.043
Proper	0.146	Polite	-0.044
Louisiana	0.143	Creole	-0.123
Wealthy	0.123	Twang	-0.130
Rural	0.122	Southern	-0.139
Northern	0.102	Urban	-0.140
New Orleans	0.092	Drawl	-0.152
Country	0.078	Mobile	-0.202
Slow	0.062	French	-0.338
Redneck	0.027	Immigrant	-0.388
Cajun	0.022	Accent	-0.413
Black	-0.021		

Map 5.4 Principal Component 3 - *Standardness*



5.4.4 Ethnicity/Race – Principal Component 4

Ethnicity/race accounts for 9.9% of all label variation. On the positive end of the PC4 are the terms associated with Black and Creole/Louisiana cultures while on the negative end are those associated with whiteness. *Black*, *Creole* and *Cajun* all have positive scores while *French*, *Redneck*, and *White* all have negative scores. Place seems to also indicate ethnicity and race; Louisiana, Mobile and New Orleans are all associated with terms describing Black and Creole speech, such as *Ghetto* and *Brogue*. The only place associated with whiteness is the idea of "Northernness," a connection with the upper portion of Mississippi. In sharp contrast there are terms indexing standardness that are associated with whiteness (see Sec 5.4.3). Map 5.5 indicates that communities

surrounding Pascagoula and close to Louisiana are indexed as non-white while most other communities are indexed as white. Among the communities close to Louisiana, Diamondhead falls within the white group aligning with commentary from the interviews, such that immigrants from other parts of the United States have moved into that area.

This shows that ethnicity can weigh in the perceptions of speech varieties. For example, North Gulfport is seen as heavily black yet is still considered part of the standard group. Although their speech has negative attributes, such as *ghetto*, this data suggests that that being black has less significance than the combined factors of being urban and Southern, aligning with H-Cluster 3. Moreover, it shows that ethnicity and race are recognized, but might not have enough influence in perceptions to separate the varieties.

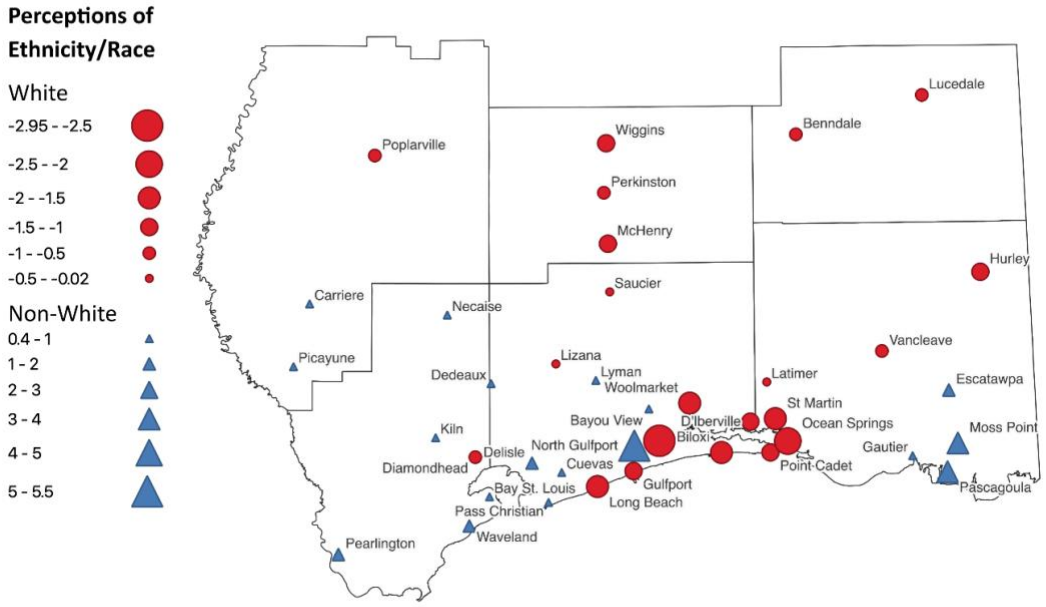
Table 5.7 Principal Component 4 scores

Descriptor	PC4	Descriptor	PC4
Black	0.465	Urban	-0.079
Ghetto	0.461	Southern	-0.079
Louisiana	0.150	Northern	-0.082
Mobile	0.148	Coast	-0.086
New Orleans	0.108	Redneck	-0.133
Creole	0.089	Twang	-0.138
Brogue	0.048	Accent	-0.189
Cajun	0.047	Educated	-0.195

Table 5.7, continued

Normal	0.035	Proper	-0.220
Rural	-0.036	Immigrant	-0.247
Country	-0.040	Drawl	-0.266
Polite	-0.060	White	-0.277
Slow	-0.065	Wealthy	-0.304
French	-0.074		

Map 5.5 Principal Component 4 - *Ethnicity/Race*



5.4.5 Pleasantness – Principal Component 5

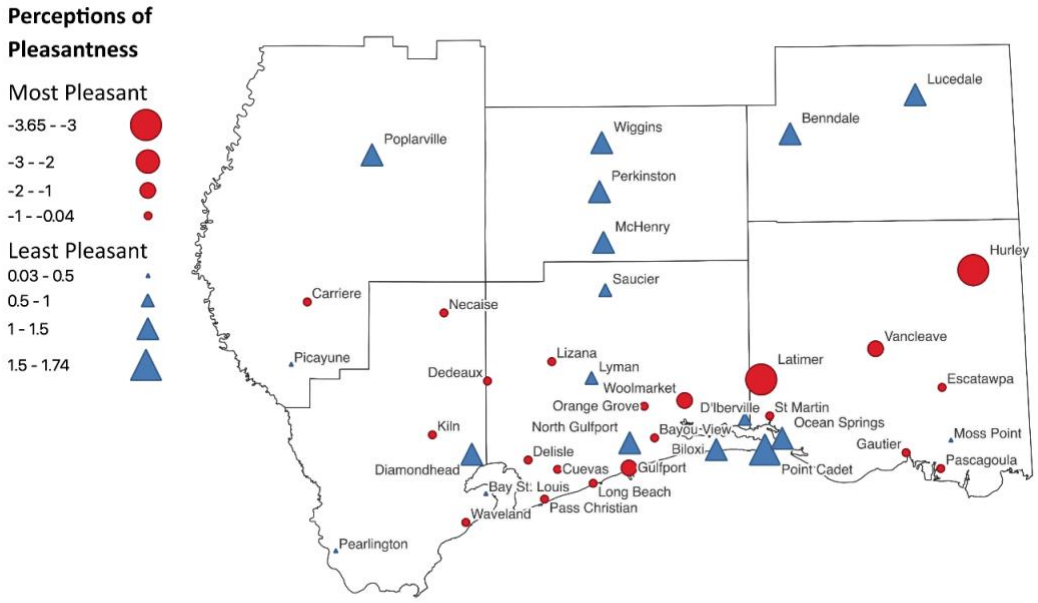
What might be called "pleasantness" accounts for 5.4% of the variation. *Polite*, *Twang* and *Southern* appear to be the most pleasant areas while *Accented*, *Northern* and *Slow* are perceived as non-pleasant. Louisiana-accented speech also seems to be

perceived as pleasant, which aligns with Preston's finding (2004) that many prejudiced-against speakers will find their own speech pleasant although not the most standard.

Table 5.8 Principal Component 5 Scores

Descriptor	PC5	Descriptor	PC5
Accent	0.257	Immigrant	0.028
Northern	0.229	Country	0.013
Slow	0.188	Redneck	-0.035
Urban	0.130	New Orleans	-0.061
Black	0.118	Cajun	-0.068
Proper	0.112	Louisiana	-0.098
Rural	0.103	Normal	-0.116
Brogue	0.102	Educated	-0.121
Ghetto	0.086	Creole	-0.165
Coast	0.063	Mobile	-0.263
French	0.062	Southern	-0.277
White	0.031	Twang	-0.413
Wealthy	0.030	Polite	-0.609
Drawl	0.030		

Map 5.6 Principal Component 5 - *Pleasantness*



5.5 Summary of Results

In sum, the quantitative results show that all respondents belong to the same culture and there is a cultural consensus. The cluster analyses showed that six optimal clusters were found among informants' responses. It showed that the urban/other divide was the most agreed upon difference by informants. The *otherness* proved to be Louisiana-accented varieties, whether urban or rural, and the rural variety. The PCA proved that the urban/rural dichotomy is the heaviest factor in classifying varieties by perceptions, followed by *Frenchness, Standardness, Ethnicity/Race and Pleasantness*.

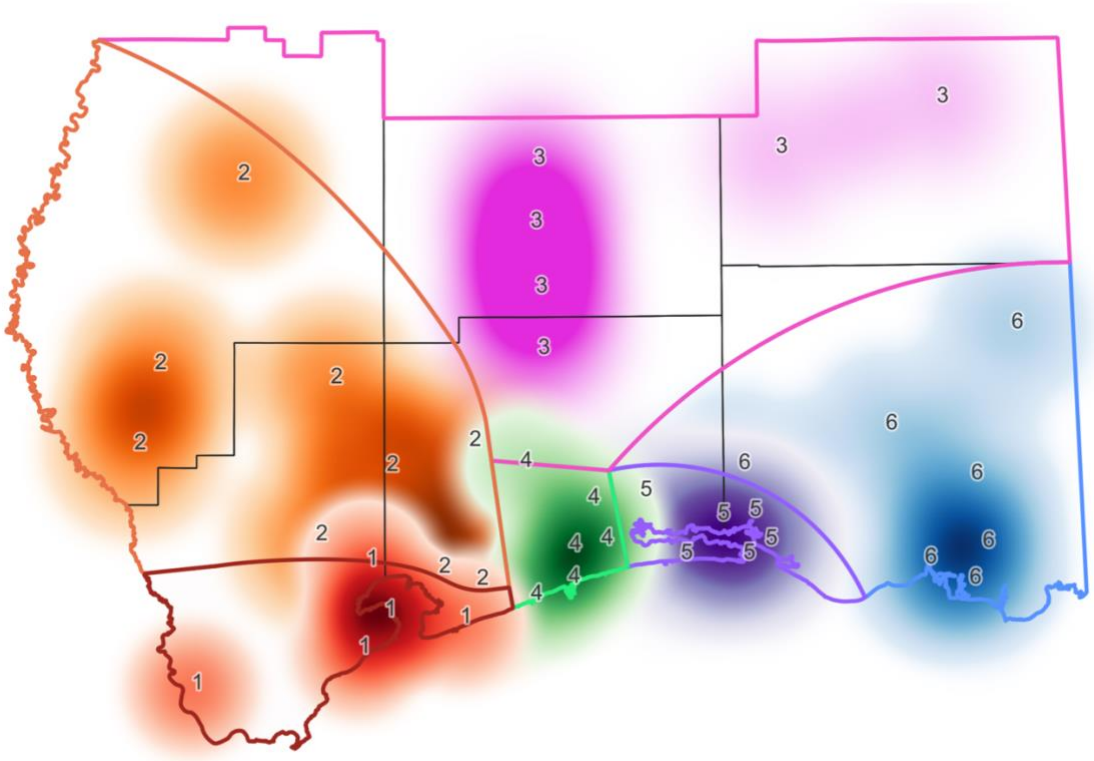
CHAPTER 6. DISCUSSION

6.1 Mapping Borders

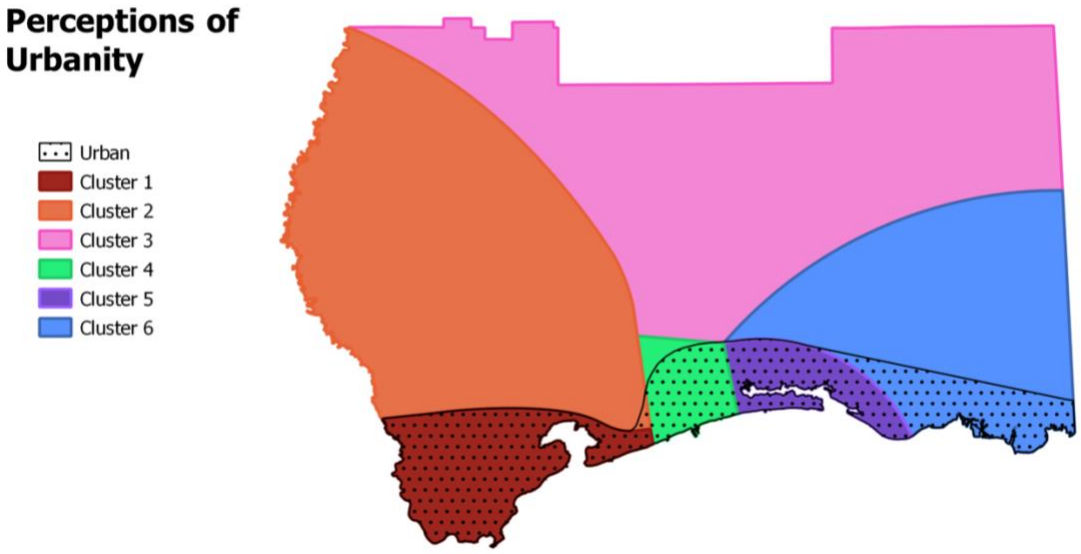
Through the consensus analysis, I concluded that the respondents share the same cultural knowledge. Not only did the eigenratio exceed the required 3:1 ratio to confirm shared knowledge, but it also exceed the 10:1 ratio indicating a tight-knit culture. Although there was no insight into social variation among the competency scores, the data has provided a plethora of insight into the perceptions of speech on the Mississippi Gulf Coast. The cluster analyses found six optimal clusters: four urban and two rural, and the principal component analysis found that five principal components accounted for 84% of all the variation in the data, agreeing with Burkette's description of a 80/20 power law in linguistics (2015), in which a few points of data account for 80% of all variation. Here rurality, Frenchness, standardness, ethnicity/race, and pleasantness account for most of the perceived variation in speech on the Coast.

Maps of the results from the cluster and principal component analysis allowed an even more intense look at the subdivisions of the groups identified in the pile sort and labels tasks. Map 6.1 represents the six perceived clusters, but the principal components analysis found three main factors : rurality, Frenchness and pleasantness. Rurality influences the borders between three of the urban groups and the two rural groups. However, it does not seem to play a role in Cluster 6 (see Map 6.2). Frenchness influences the border separating the two most western clusters (1 & 2), as well as that separating Cluster 5 from Clusters 4 & 6. (see Map 6.3). Pleasantness is crucial for the border separating out Cluster 6 from all the rest and is the only principal component that seems to affect the border between Clusters 3 & 6 (see Map 6.4).

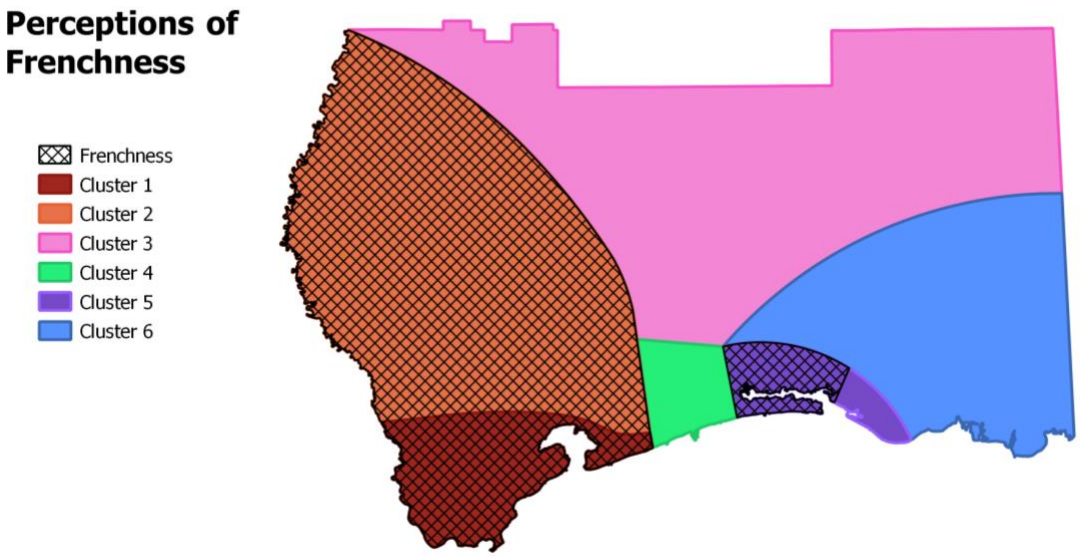
Map 6.1 Clusters with borders



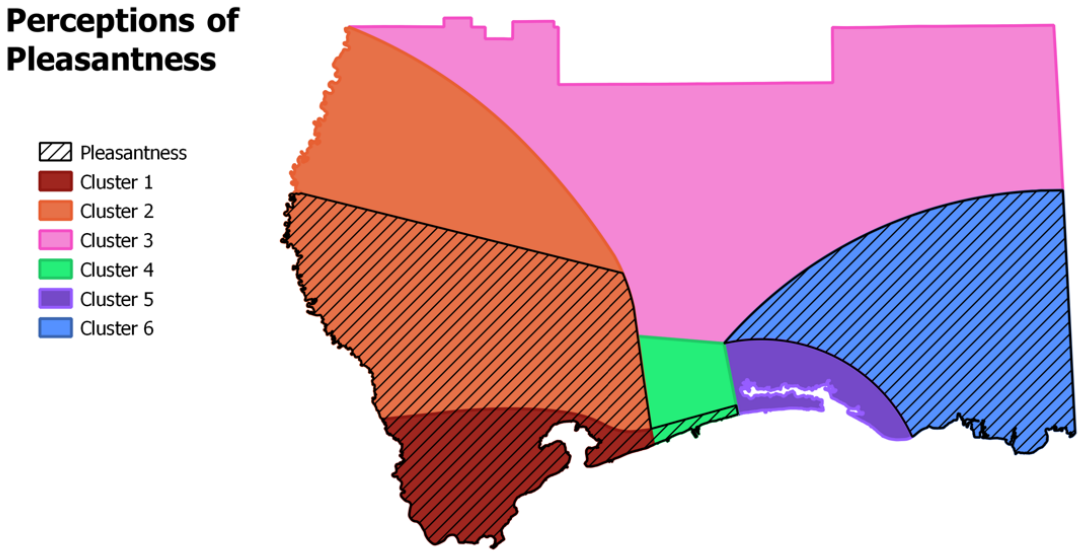
Map 6.2 Perceptions of Urbanity with borders



Map 6.3 Perceptions of Frenchness with borders



Map 6.4 Perceptions of Pleasantness with borders



6.2 Coastal Mississippi Englishes

In the following sections, each of the above main clusters will be further discussed and linked to the data provided in respondent interviews.

6.2.1 Louisiana-accented Englishes

Clusters 1 & 2 were grouped together as Louisiana-accented English in general, and respondents perceived the areas to have related accents, differentiated, however, by rurality. They were both perceived to be French, more standard, ethnically Creole/Cajun and pleasant. As this area consists of the last communities documented by Moreton (2001) to speak Mississippi Gulf Coast French (MGCF), a dialect of French heavily influenced by Louisiana Creole, this is no surprise.

Interestingly, respondents knew that the local language variety was similar to that of Southern Louisiana, but did not attribute it to the local French that had been spoken in the area. MC01 refers to the accent as being Cajun or French and distances himself from that group through the use of 'that,' but goes on to say that this is how he speaks since he is from the area (1). In terms of Preston's modes of folk linguistic awareness (1996:42), this again shows the independence of *accuracy and detail;* MC01 cannot provide detail about his own accent, so he describes Cajun English as a variety that he finds similar to his own. But he refers to his parents' native language as 'Cajun French' although both sides of his family had been in the area for several generations before the arrival of the Acadians in Louisiana.

(1) **MC01:** "A lot of them, you know, they was closer to the state line and Louisiana, so a lot of them had that accent, that Cajun and had more French to them I think. We talk more like that than up in that other direction."

MC12 not only describes the accent as Cajun but also says that the people are from Louisiana rather than Mississippi (2). His use of 'dual language' refers to his idea of Cajun French influence on English spoken in Louisiana. The association with 'Cajun'

English as opposed to French in Biloxi is evident throughout the responses. For example, MC13 says that there are a lot of Cajuns in the area and they speak Cajun (3). These examples relate the local variety to the stereotypical enregistered variety of Louisiana, even though Cajuns are from a rather long distance away.

(2) **MC12**: "You have a lot of people from Louisiana with a different accent […] Now that's where you'd have a dual language cause they're bringing the Cajun accent with them and we can understand what they're saying. They're not speaking Cajun, you know, French, they're speaking English but it's the way it's presented."

(3) **MC13:** "There are a lot of Cajuns out there. They speak Cajun."

6.2.1.1 Bay English

Cluster 1 is centered around the Bay of St Louis, known to locals as *The Bay.* It is differentiated from Cluster 2 by being an urban center. Of the three French-accented areas, Bay English is perceived to be the most standard, and respondents describe it as being 'proper.' Additionally, this 'proper' accent is more associated with the city of New Orleans rather than the Cajun or broad Louisiana variety. MC07 refers to the belief that people in this area are not from the area but are from Louisiana, and in this case New Orleans (4). She asserts that they are wealthy and have money, and associates this with their 'properness,' possibly indexing her sentiments of being an outsider.

(4) **MC07**: "A lot of people that I meet like have houses in New Orleans, you know what I mean? And some people from New Orleans live there and a lot of times when I go, it's like they have money. They're just like proper."

6.2.1.2 "Coonass" English

Although people were able to differentiate between clusters #1 and #2 and label each as Louisiana accented, respondents had more to say about the rural accent than the urban one. Various descriptions were given for this region, but common among them all is that this variety has a Louisiana/Cajun and 'country' influence. As seen from the numerous descriptions in section 4.2.1, respondents closely associated the area with Cajun English. While the urban areas are described as proper, the rural variety is described as being 'country.' MC07 who strongly differentiated between the two varieties describes the accent as being 'Louisiana' rather than 'New Orleans,' suggesting an association of Bay St Louis English with the largest urban area of Louisiana while Cluster 2 is associated with the rest of Louisiana (33). She then describes the accent as being 'country,' but having 'Louisiana roots,' which she uses to distinguish from her other 'country' group.

Several other respondents labeled this group as 'country' or even 'Southern,' but they were sure to distinguish it from the other 'country' or 'Southern' varieties on the Coast. MC17 suggests that they sound 'country' with a touch of New Orleans (5). If respondents were not able to describe the speech, they would describe the people, suggesting an association of group and language that is very common, as suggested in Irvine (2001) and elsewhere. In (6), MC06 associates them with a rural lifestyle. She implies that the people living in the area are culturally 'country,' with her associations of redneck mixed with Cajun as *coonasses*. This mixture apparently makes them not as bad as New Orleans people (MC06's prototype for all Louisianans) and lessens the derogative nature of the label *coonass*. Being a part of this region and culture, MC06 does not want to be associated with the negative stereotypes, but acknowledges the similarity.

(5) **MC17:** "They sound country with a touch of New Orleans."

(6) **MC06**: "A bunch of rednecks. They're sorta like coonasses too, but not as bad as New Orleans people. They like their guns, their whiskey, and horses."

6.2.2 Biloxi Brogue

Biloxi is the second largest city on the Coast, as well as the first city established by European colonizers in 1699. Although it shares an administrative border with Gulfport, MGCCs found the accent of Biloxi and its surrounding areas included in Cluster 5 to be distinct. Still perceived to be urban, this cluster was overwhelmingly perceived as being *different, mixed, and multicultural*. Although respondents have singled out this variety as the "Biloxi brogue," they did not associate any exact linguistic features with it, perhaps not an unusual fact even for identified varieties (Preston 1996:42), and descriptions of what makes the Biloxi brogue different from the perceived standard variety differ greatly.

Based on the data, Biloxi speech is seen as urban, French, unpleasant, white and non-standard. Unlike the Louisiana-accented Englishes, it appears to have lower prestige. Biloxi speech was also labeled more as French than anything else and had few Louisiana related characteristics. MC03 (7) distances Biloxi from her other urban group, which she labeled Louisiana-accented, implying that French influenced the Englishes spoken in each location differently.

(7) **MC03**: "It's different than the other group. You can hear the difference, and I can say 'Oh, they're from the Point [Cadet] or they're from the Bay [St. Louis]."

MC17 describes Biloxi's speech as a mixture of different accents, but one that still has a 'French New Orleans twist' (8). On the other hand, MC15 differentiates Biloxi's French influence from his recognition of an urban Louisiana-accented group (6).

(8) **MC17**: "They have a mix of different accents with still a French New Orleans twist."

6.2.3 Coastal Mississippi English

This region was found to be urban, Southern, non-French, prestigious, and mostly pleasant. In general, respondents did not have much to say about this area other than classifying it as normal or implying that it is the standard for the area. When asked about how her Gulfport cluster sounds, MC10 says "Regular, if there's such a thing as that," implying that she sees the area as non-accented English in relation to other areas on the Coast. The belief that this variety is the locally non-accented urban standard is seen in several interview responses. These comments show that the respondents do not perceive this area to have a strong accent, but, if they do, it has a slight tendency to be *country* or *Southern*. Comments like that of MC02, indicate that the accent itself is what is *normal* yet still marked. Gulfport's labeling as *normal* may come from its influence as the largest city on the Coast and a large middle-class population, but it may also come from the group of people that originally populated Gulfport in contrast with surrounding areas.

(9) **MC02**: "Um… I'm not sure. I think they have less of an accent but it's still Southern."

Since Gulfport was founded as city after becoming part of Mississippi and the US, many of the people who migrated to the city came from northern Mississippi or elsewhere in the United States. This history is supported in respondent beliefs. MC12 says, “As far as the slang language, Gulfport wouldn’t have that, you know, because they wasn’t never introduced to it.” In this case, MC12 uses “slang language” to refer to his native dialect in the Dedeaux Community, where his mother remains one of the last native Mississippi Gulf Coast French speakers. Additionally, MC15 describes Gulfport as being “Influenced by more urban, middle-class people that have been here for a fairly long time. But they’re not French. Not French.” His repetition of “not French” emphasizes the distancing between Gulfport and other major urban areas of the Coast such as Biloxi. In conclusion, this cluster — Coastal Mississippi English – is the variety identified most often as the standard.

6.2.4 Singing River English

The last urban dialect area from this study is located in the southeastern corner of the coast near the state line with Alabama. It is labeled urban and rural, Southern, non-standard, black and the most pleasant. Several respondents associated the people and speech from this area with ‘water.’ MC08 suggests that there is a mix between urban and rural, but overall they have a ‘fishing talk’ (10). This may suggest why rurality did not play a role in the separation of this area.

(10) **MC08:** “They have more of a city talk closer, to the water, but it gets country more inland. They have more of a fishing talk.”

It is interesting that this area is associated with water as opposed to the other coastal dialect areas. Bay St. Louis English is situated on the Bay of St. Louis; MS Coastal English is situated on the shores of the Mississippi Sound; Biloxi English is located around Biloxi Bay. Singing River English, however, is found at the mouth of the Pascagoula River, and one possible explanation for its label is due to the area's association with the Pascagoula Tribe. The river is nicknamed *The Singing River* due to a legend in which the Pascagoula sacrificed themselves by walking into the river singing, ultimately drowning, in order to avoid defeat at the hands of the rival Biloxi tribe.

MC02 identifies the area's speech as an intermediary between Coastal MS English and Country English (11), and relates this to their relation to the state line with Alabama. Whereas "Coonass" English and Country English were both labeled 'country' by respondents, Singing River English was overwhelmingly labeled as "Southern." MC07 describes the accent as Southern, citing Dolly Parton as a reference, and gives it positive attributes (12).

(11) **MC02**: "I think they're closer to the state line, so maybe theirs is a little more.. it's not coastal for them."

(12) **MC07:** "I think their accent is. It's cute; it's adorable, but it is so Southern, like so Southern. You don't see that often. Not like crazy country, but just Southern. Sweet Southern. Cute Dolly Parton Southern."

6.2.5 Country English of "The North"

The analysis found a distinct perceptual difference between the rural groups. It was perceived as rural, Southern, white, non-standard and unpleasant. Cluster 3 is separated from "Coonass" English at the 3 k-cluster level, immediately after the

urban/rural divide. As discussed above, “Coonass” English is perceived as being *country* with an association of a Louisiana descriptors. Cluster 3, on the other hand, is still perceived as being country but with a slow drawl (13-14).

(13) **MC12: “**They speak slower and more country-like.”

(14) **MC17:** “They have a slow draw.”

It is evident that this rural area does not have the same French influences previously discussed. MC11 also says that the other influences, referencing Louisiana and New Orleans, do not have much of an impact in this region (15) and adds that this is where the more traditional Southern accents are found. MC09 suggests that the accent is stereotypically associated with the Mississippi, but is not like the urban areas of the Coast (16). In general, the overwhelming perceptions suggest that some coastal people may have a Southern accent, adding to the idea that Coastal MS English has a slight tendency to be Southern-accented, but country English is perceived to be highly accented and even more difficult to understand.

(15) **MC11**: “The other influences aren’t as predominant. These are the dialects that are more traditional Southern accents.”

(16) **MC09:** “I rarely meet people with this thick of an accent. You’d think even living in [South] Mississippi you’d come across people with Southern accents, which you do, but never to the degree of people that typically live here.”

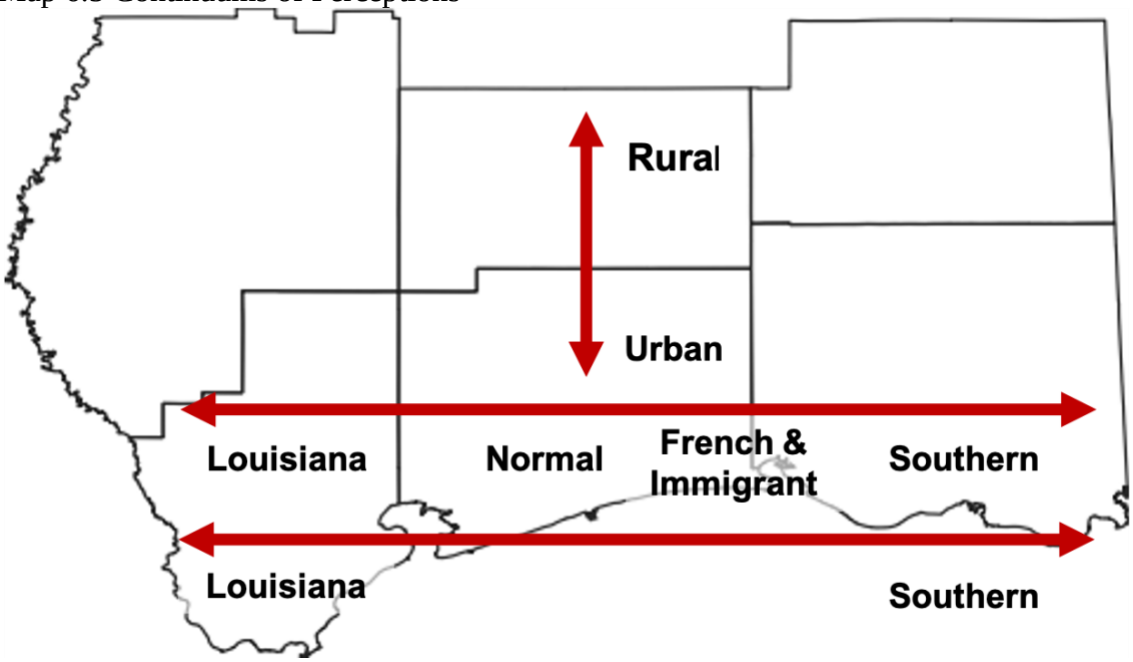
6.3 Concluding Discussions

In summary, respondents are most aware of the rural and urban dichotomy present on the Coast. Four urban groups and two rural groups were perceived, suggesting more

language variation in the urban areas. The most salient division in urban areas is between the East and the West, indicative of two ends of a spectrum: Southern and Louisiana-accented. Singing River English is associated with accents like Dolly Parton, and Bay English is associated with New Orleans Englishes. MS Coastal English is seen as being the standard unaccented speech, while Biloxi English is 'foreign' accented. On the other hand, the division between the two rural varieties proved to be even more salient, differing in their degree of Louisiana accent influence. "Coonass" English is associated with Cajun English, while Country English is associated with rural Southern American English.

In addition to the H-cluster perceptual map (Map 6.1), the quantitative analyses were combined and allowed mapping of perceptions of the Coast's perceived varieties on a continuum (Map 6.5). The North-South continuum provides the distinction between urban and rural accented speech. The East-West continuum provides the distinction between Louisiana-accentedness and Southerness. The two major urban areas fall directly in the middle of this continuum, where MS Coastal English has a slight tendency to be seen as Southern but most respondents did not perceive it so. Biloxi Brogue, while attributed to French and immigrant influences in the qualitative data, shows a stronger connection to MS Coastal English in the quantitative data. The middle of this continuum is where these polarized perceptions converge.

Map 6.5 Continuums of Perceptions



This pattern is also visible in the biplot of the PCA. Figure 6.1 shows both continuums as axes. The x-axis represents the urban and rural continuum, while the y-axis represents the Louisiana-accentedness continuum. Although the axes do not correlate with cardinal directions, geographical proximities are still present as the descriptors generally correspond to a geographic region. The East-West continuum is most accurately attested in the plot, showing that the association between Louisiana-accented speech in the western region of the Coast and Southern accented speech in the Eastern region is stronger than the geographic associations of the urban/rural continuum on the north/south dimension.

Figure 6.1 PCA biplot of descriptors

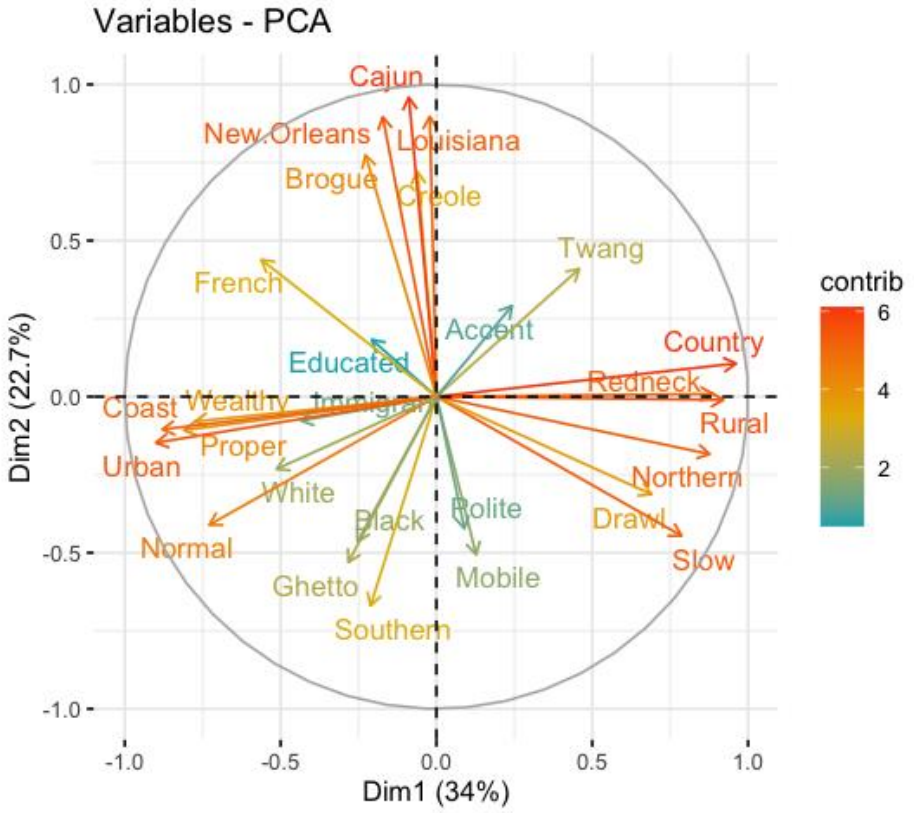
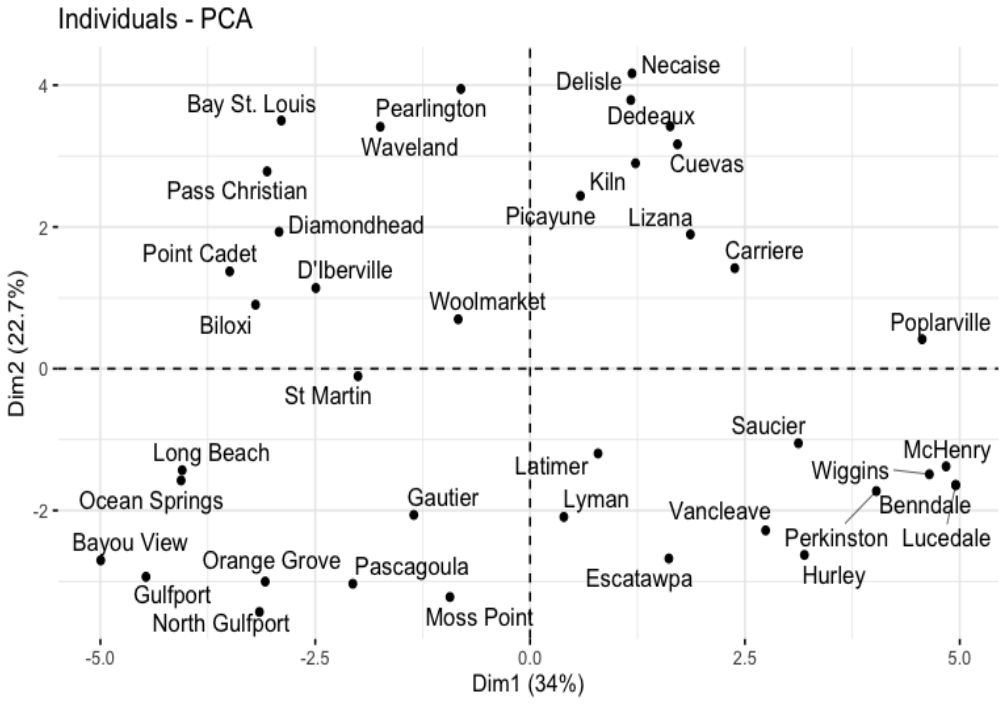
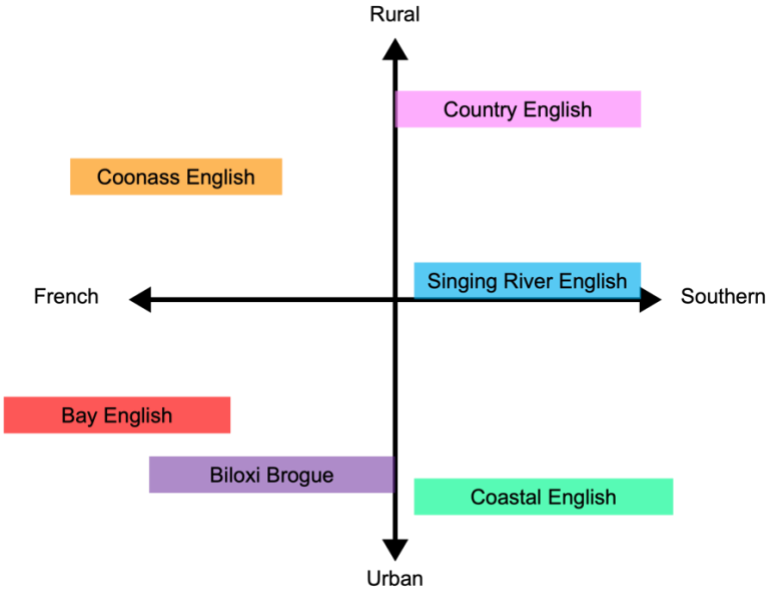


Figure 6.2 PCA biplot of communities



In conclusion, these factors (Figures 6.1 & 6.2) have been combined into a a two-dimensional conceptual map (Figure 6.3) of the proposed perceptual dialect areas of Mississippi Gulf Coast Creoles. This map combines the salience of the K-clusters with the descriptors from the PCA. By labeling the x-axis from French-influenced to Southern and the y-axis from urban to rural, the conceptual map allows a simpler visualization of relationships. The areas founded by the French and influenced by Louisiana immigrants among others are focused one dimension, but may associate with other varieties in the second dimension. Biloxi English, for example, is shown to be cognitively associated with Bay St Louis and Coonass English, due to its founding as a French settlement and later influence by Louisianans working in the seafood industry. At the same time, it is cognitively associated with other urban varieties, such as MS Coastal English and Singing River English, while "Coonass" English is associated with Country English. These findings suggest that although associations with language variety are closely connected with geography, they are also connected with ethnic and cultural domains, ones which incorporate linguistically salient ideologies of race/ethnicity, status, history, and contact.

Figure 6.3 Perceptual Cognitive Map of Dialects



CHAPTER 7. CONCLUSION

7.1 Research Questions

In conclusion, I would like to return to my research questions and answer them in short summaries.

7.1.1 Do Mississippi Gulf Coast Creoles perceive language differences on the MS Gulf Coast?

Yes. Not only did MGCCs perceive language differences on the Gulf Coast, they overwhelmingly agreed on what the differences are. The results show a total of six perceived dialect areas with five factors weighing the most in their perceptions: *Urbanity, Frenchness, Standardness, Ethnicity/Race and Pleasantness*.

7.1.2 2. Is there any social variation among perceptions?

No. There was no social variation found in the perceptions. Based on the consensus analysis, no one social factor correlated with competency scores.

7.1.3 3. How do these perceptions affect the groupings made by respondents?

Urbanity, Frenchness and *Pleasantness* seem to have the largest effects on the groupings made by respondents. They were the three factors that contributed the most to the division of borders, even though Pleasantness contributed the least to overall variation.

7.1.4 4. Is Biloxi perceived as French?

Yes. Not only is Biloxi still perceived as French, it is perceived as a different type of French than that of areas closer to the Louisiana-Mississippi border. It most definitely has its own perceptions distinguishing it from other large cities on the Coast.

7.2 Implications

This innovative methodology seemed to be fruitful in this investigation. The pile-sort method provides a different type of way of collecting conscious and subconscious beliefs from informants. It allows data to be process in numerous ways as show above. At the beginning, I used this methodology as I did not think informants would separate Biloxi from Gulfport because of physical disconnection. The methodology succeeded in this aspect. Additionally, this methodology elicited an enormous amount of qualitative data that will be analyzed in future studies.

This study opens a door to the study of language variation on the Mississippi Gulf Coast. It shows that there is a great amount of perceived variation in a rather small geographic area. From Southern drawls to Louisiana twangs, the Coast will be advantageous in the studies of linguistic crossroads, borders and language variation.

APPENDICES

APPENDIX A. PARTICIPANT QUESTIONNAIRE

1. Full Name:
2. Age:
3. Where were you born? (city and state):
4. If different from above, where did you grow up? (city and state?)
5. How long have you lived on the Mississippi Gulf Coast?
6. Where were your parents born? (city and state)
    i. Mother?:
    ii. Father?:
7. What is the highest level of education you have completed?
8. What groups do you identify with around here?

APPENDIX B. LIST OF INFORMANTS

Participant	Age	Gender	Hometown	Current Residence	Mother's hometown	Father's hometown	Education
MC01	64	M	Kiln	Lyman	Pass Christian	Rocky Hill	Associates
MC02	60	F	Saucier	Lyman	Pont-a-Celles, BG	Bond	Bachelors
MC03	61	F	Pascagoula/Lyman	Gulfport/Dedeaux	Lyman	Woolmarket	High School
MC04	54	F	Dedeaux	Dedeaux	Kiln	Fenton	Some College
MC05	20	F	Lyman	Lyman	Saucier	Lyman	Some College
MC06	56	F	Lyman	Saucier	Lyman	Woolmarket	Some College
MC07	25	F	Saucier	Lyman	Lizana	Gulfport	Bachelors
MC08	33	F	Saucier	Bayou View	Point Cadet	Saucier	High School
MC09	18	M	Lyman	Bayou View	Bayou View	Syracuse, NY	High School
MC10	64	F	Lyman	Lyman	Lyman	Woolmarket	Associates
MC11	53	M	Bayou View	Bayou View	Lyman	Delisle	Masters
MC12	62	M	Dedeaux	Dedeaux	Kiln	Fenton	Associates
MC13	85	F	Lyman	Bayou View	Lyman	Lyman	High School
MC14	24	F	Saucier	Wilmington, NC	Chalmette, LA	Pass Christian	Masters
MC15	58	M	Saucier	Saucier	Commerce, TN	D'Iberville	Bachelors
MC16	23	M	Diamondhead	Oxford	New Orleans, LA	D'Iberville	Masters
MC17	29	M	Saucier	Saucier	Lyman	Saucier	Bachelors
MC18	67	F	Point Cadet	Saucier	Point Cadet	Point Cadet	High School
MC19	61	F	Saucier	Perkinston	Commerce, TN	D'Iberville	Bachelors
MC20	86	F	Biloxi	Saucier	Biloxi	Biloxi	Masters
MC21	42	F	Gulfport	Gulfport	Gulfport	Biloxi	High School
MC22	36	F	Bayou View	Bayou View	Lyman	Dedeaux	Associates
MC23	43	F	Poplarville	Saucier	Poplarville	Poplarville	Masters
MC24	56	F	Lyman	Saucier	Lyman	Bayou View	Bachelors

APPENDIX C. LIST OF COMMUNITIES

Community	County	Type
Pearlington	Hancock	Census-designated place
Waveland	Hancock	City
Bay St. Louis	Hancock	City
Diamondhead	Hancock	City
Kiln	Hancock	Census-designated place
Necaise	Hancock	Unincorporated Community
Delisle	Harrison	Census-designated place
Cuevas	Harrison	Unincorporated Community
Dedeaux	Harrison	Unincorporated Community
Pass Christian	Harrison	City
Long Beach	Harrison	City
Gulfport	Harrison	City
North Gulfport	Harrison	City
Lyman	Harrison	Census-designated place
Orange Grove	Harrison	City
Bayou View	Harrison	City
Lizana	Harrison	Unincorporated Community
Saucier	Harrison	Census-designated place
Woolmarket	Harrison	Unincorporated Community
D'Iberville	Harrison	City

Community (cont)	County (cont)	Type (cont)
Biloxi	Harrison	City
Point Cadet	Harrison	City
St Martin	Jackson	City
Ocean Springs	Jackson	City
Vancleave	Jackson	Census-designated place
Latimer	Jackson	Census-designated place
Gautier	Jackson	City
Moss Point	Jackson	City
Pascagoula	Jackson	City
Hurley	Jackson	Census-designated place
Escatawpa	Jackson	Census-designated place
Lucedale	George	City
Benndale	George	Census-designated place
Poplarville	Pearl River	City
Carriere	Pearl River	Unincorporated Community
Picayune	Pearl River	City
Wiggins	Stone	City
Perkinston	Stone	Unincorporated Community
McHenry	Stone	Unincorporated Community

APPENDIX D. COMMUNITY DESCRIPTIONS

Community	Accent	Black	Brogue	Cajun	Coast	Country	Creole	Drawl	Educate
Pearlington	4		1	7	2	7	1		1
Waveland	2		1	6	3	7	1		1
Bay St. Louis	2		1	6	2	2	1		1
Diamondhead	3		1	5	2	4			1
Kiln	4		1	6	1	11	1	2	1
Delisle	3		1	6	1	12	2	1	1
Necaise	5		1	6	1	10	3	1	1
Cuevas	4		1	7	1	12	1	2	1
Dedeaux	5		1	7	1	10	2	2	1
Pass Christian	2		1	5	4	2	2		1
Long Beach				3	4	2		1	2
Gulfport		2			5	1		1	2
North Gulfport	1	12			5	2			
Lyman	1	2			1	8		1	1
Orange Grove		2			5	2		1	1
Bayou View	1				5	1		1	2
Lizana	4			5	1	10	2	2	1
Saucier	2			1	1	14		2	1
Woolmarket	7			3	3	5	1	3	1
D'Iberville	9			4	4	2	1	2	
Biloxi	8		1	4	5	2	1	2	
Point Cadet	8		1	3	4	1	1	2	
St Martin	5			2	5	3	1	2	
Ocean Springs	5			1	5	2	1	2	1
Vancleave	4			1		12		4	
Latimer	2			1	1	8	1	1	
Gautier	4	1		1	1	3	1	1	
Moss Point	3	6		1	1	2		1	
Pascagoula	3	5			3	2	1	1	
Hurley	3			1	1	11		4	1
Escatawpa	3	2				9	1	3	
Lucedale	6					15		3	
Benndale	6					15		3	
Wiggins	5					16		4	1
Perkinston	3					12		4	1
McHenry	4			1		15		4	1
Poplarville	6			3		14	1	4	
Carriere	4			4	1	11	1	1	1
Picayune	3		1	6		7	1	1	1

Community	French	Ghetto	Immigrant	Louisiana	Mobile	New Orleans	Normal	Northern	Polite
Pearlington	3			11		7	2	1	
Waveland	3			8		8	3		
Bay St. Louis	4			8		9	3		
Diamondhead	3		1	7		7	3	2	
Kiln	2			8		5	1	1	
Delisle	2			9		6	1	1	
Necaise	2			8		6	1	1	
Cuevas	2			8		5	1	1	
Dedeaux	2			8		5	1	1	
Pass Christian	3			6		8	4		1
Long Beach	1			2		1	6		1
Gulfport	1	1	1			1	8		1
North Gulfport	1	4		1		1	6		
Lyman	2	1	1			1	3	3	
Orange Grove	1	2	1			1	5		
Bayou View	1					1	7		1
Lizana	3			6		3	2	2	
Saucier						2	2	4	
Woolmarket	6		2	2	1	3	2		
D'Iberville	6		2	2		3	2		
Biloxi	6		2			2	3		
Point Cadet	6		2		1	3	2		
St Martin	4		2			2	1		1
Ocean Springs	2		1		1	1	3		
Vancleave	1		1		4	1	2	2	2
Latimer	1		1	1	2	3	2	1	4
Gautier	2	1	1	1	5	1	2	1	1
Moss Point	2	3			4	1	2	1	1
Pascagoula	2	2			4	1	5		1
Hurley					3		3	3	4
Escatawpa	1	1			5	1	3	2	1
Lucedale					2			5	1
Benndale					2			5	1
Wiggins						1	1	5	
Perkinston						1	2	5	
McHenry						1	1	5	
Poplarville				3		3		5	
Carriere				4		5	1	3	
Picayune	1			6		6	2	3	

Community	Proper	Redneck	Rural	Slow	Southern	Twang	Urban	Wealthy	White
Pearlington	1		4		3	2	3	2	
Waveland	2		2		3	2	4	2	
Bay St. Louis	3		1		3	2	9	4	
Diamondhead	4		1	1	3	1	7	5	1
Kiln		1	3	1	6	3	1		
Delisle		1	4	1	4	3	1		
Necaise		1	5	1	4	3	1		
Cuevas		2	4	1	5	3	1		
Dedeaux		2	6	1	5	2	1		
Pass Christian	4		1	1	4	2	7	4	
Long Beach	6		1	1	6	1	8	7	1
Gulfport	4			1	10	2	9	5	1
North Gulfport	1			1	6	1	8		
Lyman	1	1	6	2	10	1	4		
Orange Grove	2		1	1	13	1	8	2	
Bayou View	6			1	9	1	8	8	2
Lizana	1	2	8	1	7	3	1		
Saucier	1	2	9	3	7	2			
Woolmarket		1	2		11	4	7	1	
D'Iberville	2				7	3	11	2	
Biloxi	3			1	7	2	11	3	
Point Cadet	4				7	1	9	4	
St Martin	2	1			8	3	8	4	
Ocean Springs	5		1	1	8		11	8	1
Vancleave		2	3	3	10	3	1	1	
Latimer	1	1	4	2	8	3	4	1	
Gautier	3		1	2	9	1	7	3	
Moss Point	1		1	2	9	1	6		
Pascagoula	1		2	1	9		7	1	
Hurley		2	6	3	10	4	1	1	
Escatawpa	1		5	4	8	1	1		
Lucedale		2	9	6	3	2	1		
Benndale		2	9	6	3	2	1		
Wiggins		2	10	5	7	2	1		
Perkinston	1	2	9	5	7	2			
McHenry		3	9	5	7	2			
Poplarville		2	7	5	4	3	2		
Carriere		1	8	2	5	3	1		
Picayune	2	1	4	1	5	2	3	1	

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