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"DOES THIS MAKE SENSE?": THE EFFECT OF CONGRUENT GUISE IN REGIONAL ACCENT ON GRAMMATICAL ACCEPTABILITY JUDGMENTS

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THESIS

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

By

Nour Kayali

Lexington, Kentucky

Director: Dr. Kevin B. McGowan, Professor of Linguistics

Lexington, Kentucky

2023

ABSTRACT OF THESIS

"DOES THIS MAKE SENSE?": THE EFFECT OF CONGRUENT GUISE IN
REGIONAL ACCENT ON GRAMMATICAL ACCEPTABILITY JUDGMENTS

This study seeks to unite sociophonetic speech perception and syntax research by presenting participants with congruent or incongruent social expectations during a structural grammaticality judgement task. Participants completed a between-subjects matched guise survey with place-based grammatical structures spoken in either a congruent place-based, local accent or a nonlocal accent. Place-based structures are consistently rated more acceptable in the local accent than the nonlocal. These results suggest that judgment of grammaticality results from an interplay of sociocultural expectations with accent and sentence structure. Judgement of structural grammaticality is not independent of social expectation.

KEYWORDS: Syntax, Speech Perception, Grammaticality Judgment Task, Language &
Place.

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4/22/2023

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By
Nour Kayali

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DEDICATION

To Mama and Baba, who taught me to seek understanding and betterment of the world around me.

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This thesis, like many worthy endeavors, took a village.

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encouraging me to try new things and always having a cup of tea ready for me. Magnolia, thank you for making it a joy to come home. My day got better whenever you set your little paws on me. My dear friends, MK, Travis, Ethan, Sam Sam, Alex, Dante, Brianna, Anna Honeybee, Zoha, Paul, Matt, Zach, Evan, Abbey, Brent, Katy, Ash, Matthew, Erin, and Bronwyn, your friendships mean the world to me; I'm grateful for all your support.

Finally, I wish to thank the respondents of my study (who remain anonymous for confidentiality purposes).

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CHAPTER 1. INTRODUCTION

1.1   Background

Structural grammaticality is traditionally understood as intuitive, the unconscious result of an internal sense of linguistic order that functions independent of general cognitive abilities or even other aspects of language, such as semantics and sociolinguistics (Chomsky 1965). These theories are at the core of generativist models of grammar. In contrast, exemplar theories are non-generativist models that propose that experience shapes an individual's sense of structural grammaticality (Bod 2006) and that experience registers structure alongside other factors of language, such as semantic meaning or social associations (Hay & Bresnan 2006; Squires 2013). Exemplar theories root the nascent body of work on the syntax-phonetics interface, potentially because they offer— and necessitate— a neatly intralinguistically interwoven framework.

The present study seeks to unite sociophonetic speech perception and syntax research by considering the potential role of social expectations. Social expectations affect sociophonetic speech perception (Drager 2010; Sumner et al. 2014; McGowan 2015; McGowan & Babel 2020), though the extent to which they may interact with sentence structure is under-researched. There is evidence (Remirez 2019) of sentence structures indexing certain language varieties in similar ways as accent. Given this, accent and sentence structure may be matched for the same social association.

In this study, place is hypothesized as the unifying social association between the chosen syntactic structures and purported social information through a matched guise task. Place is established in sociolinguistic research as a social association that entails both conscious and subconscious language ideologies (e.g., Carmichael 2016; McGowan &

Babel 2020). This study focuses on Southern American English spoken in western Kentucky as the place-based variety— hereafter 'local'— for matched accent and target structures. The target grammatical structures considered are personal datives (i.e., "I got me a new car" rather than "I got myself a new car") and double modals (i.e., "I might could go with you" rather than "I might be able to go with you"), both of which are common in many varieties of Southern American English. In contrast to the local accent is a nonlocal accent largely unmarked for place; this acts as an incongruent guise with the targeted structures.

By considering auditory stimuli in congruent or incongruent conditions, the syntax-phonetics interface is examined in engagement with social associations.

1.2   Use of Terms in this Thesis

Certain terms are used in this paper that have variable meanings in linguistics. For the purposes of this paper, these terms have the following definitions.

An *accent* describes a group of cooccurring phonetic features that, when together, recall a social association. For example, a fronted [u] and merged [ɑ] and [ɔ] together recall Californian English.

When something is described as *congruent*, it meets the likely social expectations of its audience. For example, if someone sees a face they perceive as being Chinese, they would expect the voice from that face to speak in English with their idea of a Chinese accent (McGowan 2015).

Lastly, *place* may refer to geographic and/or social location. For example, Kentucky is a geographic location with agreed upon latitude and longitude. The American

South, although geographic in description, is not solely geographic in membership or associations.

1.3   Organization of this Thesis

This thesis is presented in seven chapters. The present chapter (Chapter 1) establishes the general backdrop for this work and what will be examined. In Chapter 2, I elaborate on the theoretical framework as related to exemplar models and studies of language and place as well as the methodological background of examining syntactic acceptability with auditory stimuli and research on the local structures used (personal datives and double modals). Chapter 3 posits the research questions examined in this study and predictions related to each. I present the methodology of the study in Chapter 4. Chapter 5 presents the results of the study, which Chapter 6 discusses in further detail. I conclude and consider limitations and future work in Chapter 7.

CHAPTER 2. THEORETICAL & METHODOLOGICAL CONSIDERATIONS

2.1   Introduction

The current work considers the intersection of multiple subfields of linguistics: sociophonetic speech perception, acceptability judgement tasks, language and place, and studies of variation (specifically on personal datives and double modals). This chapter presents the most relevant work in those subfields to situate the current study and support further discussion.

2.2   Exemplar theory

Exemplar theory is a family of usage-based frameworks across different linguistic subfields (Bod & Cochran 2007; Hay & Bresnan 2006). This section considers phonetic and syntactic exemplar theories and their potential unification as a theoretical framework. Phonetic exemplar theory has been discussed and considered in psychology, speech production, and speech perception (Hintzman 1984; Johnson 1997). Within phonetic exemplar models, lexical items are stored in an abstract, underlying form as they are experienced; this form includes phonetic detail as well as non-linguistic information, such as the speaker's identity and range of voice quality (Hawkins 2003). In these models, there is inherent "matching" of linguistic and social-indexical information based on past language experiences. For example, if one is exposed to two variant pronunciations of "cat"— [kʰæt] and [kʰæʔ]— and one hears the former more often from femme-identifying people and the latter from masc-identifying people, it is possible that those subcategories of "cat" will come to include both the phonetic details and the perceived gender of the common speaker of that variant (Docherty & Foulkes 2014). Phonological knowledge is highly individualized in this theory, since exemplars are built up from exposure and experience, which vary among even individuals in the same community (see Docherty & Foulkes 2014 for a detailed discussion).

More recent than its phonetic counterpart, syntactic exemplar theory posits that grammar is a product of stored "chunks" of previous language experiences (Bod & Cochran 2007). Chunks may vary in size, from words to whole sentences, and new expressions may be built by combining chunks analogically. As Bod (2006) highlights, exemplar-based syntax differs from the historic notions of Universal Grammar in generativist linguistics in

that it does not propose preexisting rules or understandings of structure— rather, "a statistical ensemble of language experiences" produces knowledge of language. To this point, because exemplar theory suggests that grammar is the product of experience, different exposures naturally lead to different grammars (Hay & Bresnan 2006).

Although developed independent of each other, phonetic and syntactic exemplar theories share common features. Both theories find that linguistic knowledge results from storage of episodic memories of language experiences. Because it is built on experience, one's linguistic knowledge is highly individualized and continually growing and changing; there is also the potential to store additional detail as part of an exemplar, such as social information or semantic meaning. The primary difference between the two is that phonetic exemplar models focus on classification while syntactic exemplar models focus on composition (Bod & Cochran 2007); by examining different aspects of language, however, there is a possibility of unifying the two, since they complement each other. Unification of these theories has been explored in language acquisition and use (see Bod & Cochran 2007 for more detail), as well as in research on the syntax-phonetics interface (Hay & Bresnan 2006; Squires 2013).

Studies rooted in exemplar theory have varied in the methodology used in examining the interaction of syntax and phonetics (see Hay & Bresnan 2006 for a corpus study; see Squires 2013 for an image-based forced-response task). The current study uses a previously underutilized methodology in speech perception: a syntactic acceptability survey.

2.3   Syntactic acceptability with auditory stimuli

Historically, acceptability judgment tasks have relied on text sentences; this practice has recently been scrutinized for its exclusionary features, such as requiring a standardized writing system (Sedarous & Namboodiripad 2020). The bleaching of stimulus presentation to solely written word— excluding presentation of a signing space or speech— also removes social information that may color linguistic processing. Since syntactic acceptability judgments are a tool to better understand structure, ignoring how these structures more commonly appear to language users— as signing or speech— has created a potential gap in the understanding of how language works.

Combining an acceptability judgment task with matched guise, Remirez (2019) examined implications of exemplar theory presented by Sumner et al. (2014). Auditory

stimuli for the judgment task varied by speaker accent, and stimulus sentences of variant-specific syntactic structures; acceptability and reaction time were measured.
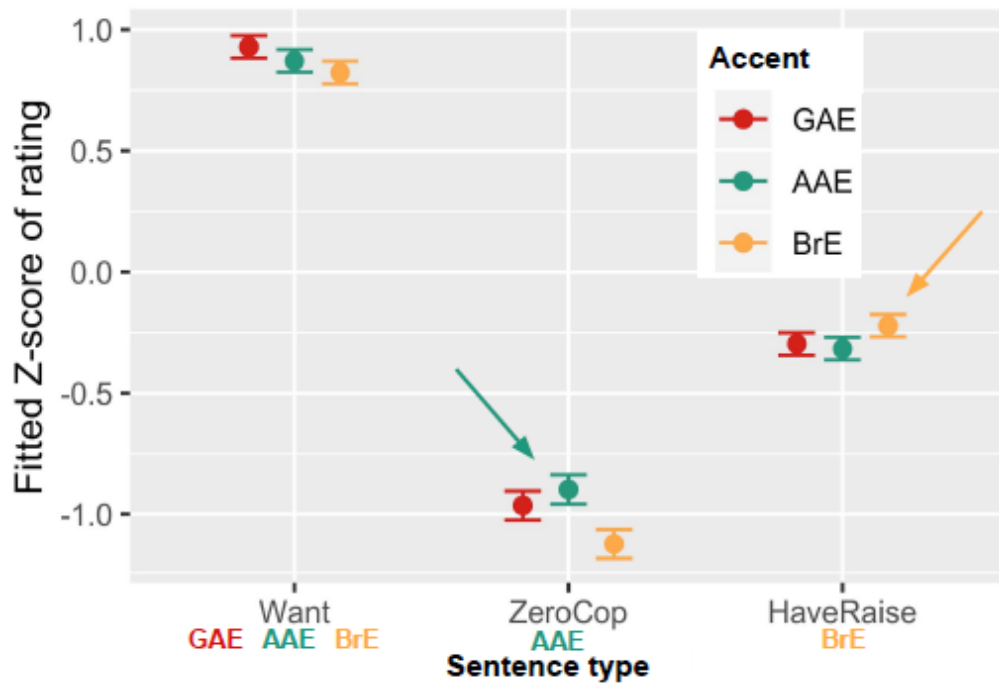
Figure 1: Predictions of mixed effect model in Remirez (2019)

Remirez's experiment focused on guises with established stereotypical social weighting in American culture, Southern Standard British English (BrE in Figure 1) and African American English (AAE in Figure 1) (see Sumner et al. 2014 for details). Figure 1 shows Remirez's predictions from a mixed effect model. When considering the African American English structure zero copula, ratings improved when heard in the African American English guise. Likewise, the Southern Standard British English structure "have"-raising improved when heard in the British English guise.

Results indicate both higher acceptability ratings and faster reaction time when hearing a socially congruent accent and structure. The current study expands on Remirez's findings by focusing on place-based guises familiar to the American South. Due to differences in delivery (online distribution), this study did not consider reaction time. A future iteration may add this dimension.

2.4   Language and place

Studies of language variation and change have long considered place an influencing factor. Early studies of dialectology and development of linguistic atlas projects acknowledged place as a potential influence on language (Kurath 1972). It is a more recent development in sociolinguistics to consider relationship to place and a speaker's sense of identity as factors as well (e.g., Labov 1963; McAndrew 1998; Carmichael 2017; Reed 2018). This study relies on congruent perceptions of a place-based variety from western Kentucky; therefore, the Kentucky context must be elaborated and agreed on.

Figure 2: Composite map of Louisvillian perceptions of dialect boundaries from Cramer (2018)

The effect of place on a speaker's language and identity is dynamic (Llamas 2007). In the case of Kentucky, Cramer's (2013) examination of language in Louisville, Kentucky highlights the fluidity and multidimensionality of identity construction through language. Participants from Louisville, Kentucky's largest city, style-shifted to present identities that are both Southern and non-Southern. This dynamic sense of identity appears in non-Louisvillian Kentuckians as well; Kentucky is part of the northern border of the typical American South. Due to this, Cramer et. al explained, "residents often feel conflicted about their regional affiliation. For some, Kentucky's Southernness is completely unchallenged;

for others, the lure of calling oneself "Midwestern" to avoid being subjected to the stereotypes associated with the South is too tempting" (2018:453). Despite this, "Southern" was the second most common keyword elicited by Kentuckian participants in a mental mapping task (Cramer et. al 2018).

Other common words elicited in that task variably indexed identities that were Southern or Appalachian, a salient geography-based and negatively-stereotyped identity located partially in Kentucky. The Appalachian Mountains run through the eastern half of the state, creating a clear geographic split. Whatever other lines they drew, participants generally distinguished eastern Kentucky— part of Appalachia— as different from the rest of the state. Cramer et. al (2018) suggest that Kentuckians acknowledge negative stereotypes of Southernness and use Appalachia as a scapegoat of those negative stereotypes; in other words, Kentucky has an acceptable kind of Southern (associated largely with western and central Kentucky) and a negative kind of Southern (associated largely with eastern Kentucky).

The current study focused on a western Kentucky variety as the local guise. Western Kentucky is indisputably not Appalachian and, in perceptual studies, appears in the middle of the linguistic hierarchy of Kentucky (Cramer et. al 2018). It is also recognizable in Lexington, Kentucky, where the study took place.

2.5   Southern structures: personal datives and double modals

This study examines two syntactic structures, personal datives and double modals. As the coming sections note, the analyses of both structures are contested. However, the consensus is that both personal datives and double modals are features of varieties of Southern American English.

2.5.1   Personal datives

Double object constructions (DOCs) in English are accepted in all varieties in a form like that seen in (1):

(1)   a. She$_i$ went into the store to get herself$_i$ a pair of shoes.

        b. And then you$_i$'d get yourself$_i$ a bowl of ice-water.

(as in Webelhuth & Dannenberg 2006)

In (1), the subject of each sentence is understood as the indirect object as well (herself and yourself), meaning the subject is the beneficiary or recipient of the direct object (a pair of shoes and a bowl of ice-water). An alternate DOC is available to speakers of Southern American and Appalachian Englishes, shown in (2):

(2) a. She$_i$ went into the store to get her$_i$ a pair of shoes.

b. And then you$_i$'d get you$_i$ a bowl of ice-water.

(as in Webelhuth & Dannenberg 2006)

Many varieties of English, including mainstream American, could interpret the subject and indirect object of (2a) as separate entities without marks for referent. (2b) is less ambiguous in that further context would be required to consider both the subject and indirect object separate entities. This type of DOC is referred to as personal datives (Conroy 2007).

Personal datives are attested in Southern American English and Appalachian English (Conroy 2007; Webelhuth & Dannenberg 2006). Webelhuth & Dannenberg (2006) suggest personal datives appear with verbs that have a "three-part relationship: agent, patient, and beneficiary", with the agent being the beneficiary as well. Personal datives may also be seen as an alternation to for-datives, as shown in (3) and (4):

(3) a. I$_i$ shouldn't a bought me$_i$ no furniture on time.

b. I$_i$ shouldn't have bought myself$_i$ any furniture on time.

c. I$_i$ shouldn't have bought any furniture on time for myself$_i$.

(4) a. I cut my finger.

b. *I cut my finger for myself.

c. *I cut me my finger.

d. I cut a piece of cake.

e. I cut a piece of cake for myself.

f. I cut myself a piece of cake.

g. I cut me a piece of cake.

(as in Webelhuth & Dannenberg 2006, edited)

(3a) and (3b) compare similarly to (1) and (2). (3c) presents an alternative that utilizes a preposition (for). (4) highlights the importance of its presence as a beneficiary. As (4b) is ungrammatical, (4c) is dubious at best– technically possible but missing a semantic beat. However, in (4d)-(4g), the agent I becomes the beneficiary (as the receiver of a piece of cake), so the inclusion of the for-dative in (4e) is acceptable. This extends further to (4f), the DOC with myself, and (4g), the personal dative version of (4f).

Webelhuth & Dannenberg (2006) expand on the differences between the personal dative– or the Southern DOC– and the All-American DOC, available in all varieties of English for verbs taking both direct and indirect objects (a [VP V NP1 NP2] structure, as in They sold me their house). They identify five grammatical properties that distinguish the personal dative from the All-American DOC, arguing these constraints of the personal dative support an analysis considering a Construction Grammar model (Fillmore, Kay, & O'Connor 1988) rather than a Principles and Parameters (Chomsky 1995). They ultimately posit the construction as an idiom, citing its "apparently unsystematic distribution of properties" (Conroy 2007). Conroy (2007) reanalyzes the personal dative as a reflexive. She distinguishes differences between the for-dative and personal dative, finding that the constructions differ enough that the personal dative is unlikely to be derived from the for-dative and more likely from the All-American DOC. This analysis finds personal datives to align with Reuland's (2001) theory of simplex anaphors.

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Studies on the personal dative focus on semantics (Bosse 2014; Hutchinson & Armstrong 2014) and, as discussed, implications for theories of syntax (also see Hutchinson & Armstrong 2014; Haddad 2011; Wood & Zanuttini 2018 for further discussions). However, beyond agreement that personal datives are a feature of Appalachian English and Southern American English, perceptions of the use of personal datives and their sociolinguistic distribution are unclear. This study considers the acceptability of personal datives in both speech and writing.

2.5.2   Double modals

All varieties of English allow for a single modal verb (e.g., might, could, should, can) in a tense phrase, as shown in (5):

(5)   a. I might make some sweet tea.

        b. I could make some sweet tea.

        c. You should eat before you go.   (as in Hasty 2011)

All sentences in (5) are structurally unremarkable and likely would be found grammatical in all varieties of American English. In the Southern United States and among speakers of African American English (AAE) however, constructions like those in (6) are possible:

(6)   a. You might could make some sweet tea.

        b. You might should eat before you go.   (as in Hasty 2011)

In both (6a) and (6b), two modals appear where in mainstream English only one would be acceptable, conflicting with more common analyses of English auxiliary verbs. Such structures are known as double modals, sometimes referred to as multiple modals (Fennell & Butter 1996).

Double modals are a syntactic feature in both Southern American English and AAE. Fennell & Butters (1996) note that in the South, both black and white speakers use double modals, and outside the South, it appears to be primarily used by AAE speakers. Fennell & Butters consider possible historical sources of the phenomena– ultimately suggesting that migration from Britain may have brought the structure over– and note the common ability in languages related to English to have multiple modals. German and Swedish as well as Old English allow multiple modals. Kemenade (1989) accounts for the change in modals' syntactic categorization (e.g., becoming auxiliary rather than main verbs) by considering it in combination with the loss of subjunctive morphology and shift in word order in English. Two modal patterns previously existed, but the loss of subjunctive led to epistemic modals assuming the role previously played by subjunctive markers (Fennell & Butters 1996). Kemenade's analysis offers an explanation for the differing behavior of modals amongst varieties of English. Fennell & Butters suggest that varieties with double modals "have inherited relics of the two-tier system of English but that each dialect is idiosyncratic in terms of exactly which modals are considered verbs and which are considered auxiliaries" (p. 284).

Though the syntactic treatment of double modals is debated– Fennell & Butters's analysis competes with others posited by Hasty (2012), Elsman & Dubinsky (2009), and Twiner (2019)– double modals are "relatively stable and unstigmatized in the speech of the South" (Fennell & Butters 1996). There is less literature on the social constraints associated with double modal usage, however. Hasty (2011) addresses the structure's resistance to traditional sociolinguistic analysis:

> Additionally, for the study of syntactic features like the double modal there
> is a problem in using the traditional concept of the sociolinguistic variable

as two or more alternative ways of saying the same thing (cf. Chambers and Trudgill 1998). As highlighted by Feagin (1979), we can only really be sure of when a double modal has occurred, not when it has not occurred. This is because the double modal has no clear form with which it alternates….Syntactic variables like the double modal, then, cannot be studied through traditional sociolinguistic methods of counting occurrences and non-occurrences, because it is often difficult or even impossible to be clear where they could have occurred but did not.   (p. 93)

This likely has contributed to the size of the current body of work on double modal usage. Hasty (2011) begins to fill this gap by examining social distributions in an oral acceptability judgment task. His study showed higher acceptance correlated with lack of higher education and being male, suggesting a low prestige evaluation of the structure. Age differences support this, with the Middle age group– a group "actively engaged in gathering cultural and linguistic capital"– showing the least acceptance (Hasty 2011). The Young group had the highest rate of acceptance, which Hasty examines further in later work (Hasty 2012). A more recent study considers pragmatic perceptions of double modals (Hasty 2015).

Hasty's explanation of challenges in examining double modals is not unique to a sociolinguistic analysis alone. Past researchers note difficulty in studying the structure as well, because as a syntactic phenomena, they "occur with very low frequency in real-life utterances, and they are quite difficult to elicit in sufficient quantities and in a reliable fashion" (Fennell & Butters 1996). More recently, Reed & Montgomery (2012) developed The Database of Multiple Modals (MultiMo). "The MultiMo website is devoted to the documentation and study of Multiple Modals (MMs) and features resources and opportunities for our understanding of them" (Reed & Montgomery 2012), including a database of examples from previous work (including but not limited to Fennell & Butters 1996 and Hasty 2012) and the ability for visitors to contribute examples or commentary on

the material currently published. This study sourced double modal sentences from MultiMo.

CHAPTER 3. RESEARCH QUESTIONS AND PREDICTIONS

3.1   Research Question 1: Effect of Guise

RQ1: What effect does matching guise and structure have on acceptability judgments? When structure and accent are congruent in social associations, is an utterance more acceptable? Conversely, when structure and accent are incongruent in social associations (or one of the two is unmarked), is an utterance less acceptable?

H1: I predicted that participants would find stimuli with target structures, which are both associated with Southern American English, more acceptable when heard in the local guise, matching listeners' expectations' of the coherence of structure and accent. Conversely, participants would find the target structures less acceptable when heard in the nonlocal guise due to the lack of aligned associations.

3.2   Research Question 2: Varying Acceptability of Variation

RQ2: How are different place-based structures affected by congruent and incongruent guises? In what ways are the effects of the matched guise on each structure similar? In what ways are the effects of the mismatched guise on each structure similar?

H2: I predicted that personal datives in both guises would be found more acceptable than double modals, due to my personal perception that there is greater usage of personal datives (compared to double modals) in popular culture. I predicted that acceptability of both structures (double modals and personal datives) would increase in the local guise and decrease in the nonlocal guise.

3.3   Research Question 3: Spoken vs. Written

RQ3: What effect does hearing place-based structures have compared to reading them? Compared to reading, what effect does presence of voice, and the accent of that voice, have on the rating?

H3: I predicted that hearing both place-based structures (double modals and personal datives) in the local voice would improve acceptability ratings, with the nonlocal voice producing either no change or a lower acceptability compared to the local.

3.4   Research Question 4: Effects on Post-Test

RQ4: In a reading post-test with place-based structures, what effect does having heard a matching accent have on acceptability judgements? What effect does having heard a mismatching accent have on acceptability judgements?

H4: I predicted that after hearing the local accent, acceptability ratings for reading place-based structures would improve, because participants would read stimuli in the post-test in the same voice they heard previously in the audio block and find the structure and accent congruent. Conversely, hearing the nonlocal voice would decrease acceptability.

CHAPTER 4. METHODOLOGY

4.1   Participants

A total of 88 University of Kentucky undergraduate students who have lived in Lexington at least six months participated in this experiment. This requirement worked as a proxy to establish participants had a baseline familiarity with Kentuckian varieties. Four of the 88 also participated in a follow-up interview about their relationship to Kentucky and thoughts on the acceptability task.

4.2   Stimuli

The sentence stimuli consisted of 67 sentences designed to test participants' grammaticality judgments under different accent conditions. 31 of these sentences are structurally unremarkable control sentences; the remaining 36 sentences are split between the two target structures: 16 double modal and 20 personal dative sentences. Sentences were either compiled from multiple resources or constructed for the experiment. Two native speakers of the local variety checked all sentences for naturalness. To ensure that social associations were primarily indexed by accent, I reviewed all sentences for words and topics that may be associated with stereotypical notions of Southernness, such as farming and firearms (see Preston 2018 for an indexical field of "Southerners").

All audio stimuli were produced by a single speaker. The speaker, a cis-gender white man natively from western Kentucky, is bidialectal in his home variety and a less-marked, nonlocal variety. The speaker reviewed sentences for naturalness prior to recording. The speaker then recorded all sentences in one guise before taking a break and recording in the other guise. Sentences were repeated three times. I selected from the three utterances the most natural-sounding version then extracted them using Praat (Boersma & Weenink 2023). The chosen single utterance became the stimulus for that respective guise and sentence. From these 67 sentences, I created three lists, each a unique, pseudo-random ordering of all stimuli.

Each list was split into three sections. The first and last sets of 24 stimuli, each consisting half of fillers, appear as text sentences; the middle set of 19 stimuli, twelve of which contain target structures, appears as audio. No sentence is repeated as text and audio, so participants only interact with each unique stimulus once.

4.3   Design
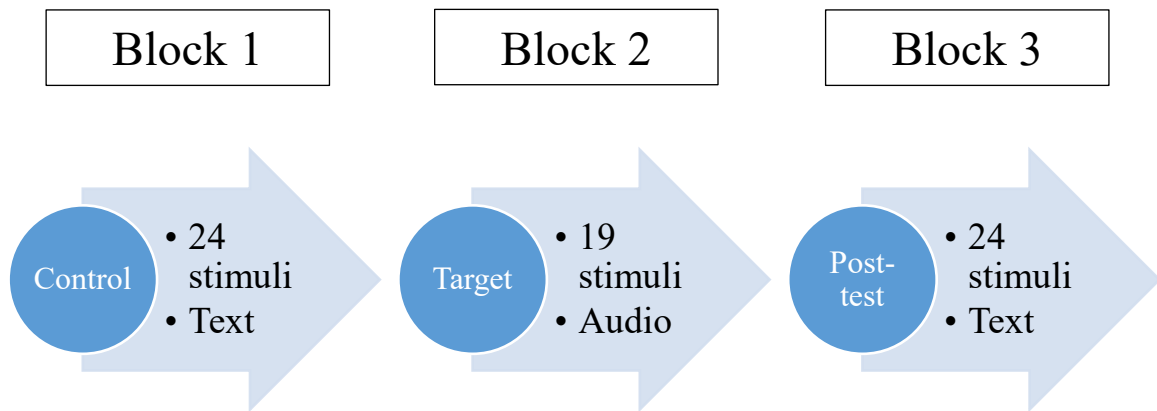
Figure 3: Survey flow

As shown in Figure 1, the survey consisted of three distinct blocks. All blocks presented a single stimulus at a time, required a response, and did not allow participants to return to previously answered questions. Within each block, Qualtrics survey software controlled random presentation of sentences to participants (Medeiros et. al. 2021:430). Block 1 presented 24 stimulus sentences as text; this block acted as a control, gathering participants' baseline intuitions with minimal social information called on outside their personal social presuppositions. Block 2 presented 19 stimulus sentences as audio. Participants could only hear the audio once, which was noted in the instructions, though they chose when to play each clip. Block 3 mirrored the first, presenting the last 24 stimulus sentences as text.

4.4   Procedure

Participants were randomly assigned to (1) one of the three lists and (2) one of the two guises. Qualtrics controlled group assignment and balanced distribution. Guise (local or nonlocal) only affected Block 2. The local and nonlocal groups differed by the accent heard in audio stimuli in Block 2. Randomization was handled by Qualtrics within blocks independent of guise.

Participants were randomly presented with one of the three lists and asked to rate each stimulus along a scale of 0 to 100. Only the end points of the scale were labeled in

order to give participants flexibility in the remainder of the scale (Jamieson 2020, p. 8). The rating 0 is labeled as "makes no sense" and 100 as "makes sense". These labels attempted to help participants view stimuli more descriptively and overcome socially enforced notions of grammaticality and associations of non-standardness with "incorrect" language. Participants' comments on how this scale affected judgments are considered further in the discussion.

Prior to Block 1, there were two practice blocks. The first practice was for sound settings. Instructions told participants to adjust sound settings so that a norming audio, which could be replayed, could be heard comfortably. They were also informed that following this block, all audio recordings would only play once. The practice audio thanked participants for their time and reiterated the written instructions. It was recorded by a different speaker than the stimuli. In contrast with the stimulus speaker, this speaker presents as female and non-Kentuckian. The second practice block introduced participants to the rating scale. They were given one filler sentence and a wholly ungrammatical sentence. Instructions stated to rate each sentence 0 if it made no sense and 100 if it makes perfect sense. Participants were told this same scale would be used throughout the survey. Following Block 3, participants completed a demographic survey and self-selected for optional interviews on the contents of the survey. Demographic information collected included age group, preferred pronouns, where they identify as being from, and whether they identified as having a place-based accent (and if so, what accent).

5.1   Average ratings by local/nonlocal group and block

For analysis of average ratings, responses are first organized by guise group, which dictated which accent– local or nonlocal– they heard in the audio block. As described in Section 3.4, guise group had no effect on either text block (Blocks 1 and 3) or the content of sentences heard.

Table 5.1 Average Ratings by Modality and Stimulus Type — Local and Nonlocal

	Filler		Personal dative		Double modal	
	local	nonlocal	local	nonlocal	local	nonlocal
Pre-text	97.9	95.7	73.5	70.7	48.1	43.6
Audio	91.4	94.2	79.3	56.3	65.2	46.1
Post-text	98.1	97.2	77.9	70.8	53.0	48.1

Table 1 presents averages of ratings, organized by modality (pre-text, audio, post-text), stimulus type (fil, pd, dm), and guise heard (local, nonlocal). In the local guise, fil and PD show little change across all three blocks; the largest gap in the fillers is less than eight points and in PD, less than six. DM, however, show more dramatic variation in average ratings by block. The Block 1 average at 48.1 is almost 20 points lower than the audio average of 65.2. The Block 3 average is 53.0– within five points of the pre-text rating but barely within 13 points of the audio.

Average ratings for the nonlocal group differ inconsistently from the local group. The Block 1 row notably does not vary strongly between local and nonlocal ratings; this suggests both groups had, on average, similar baseline intuitions when beginning the survey. Also like the local group, the average ratings of the filler vary little across the three blocks. There is a strong decline— about 14 points— between the PD in Block 1 and Block 2 in the nonlocal group, from 70.7 to 56.3. Despite this, Block 3 ratings are nearly identical to Block 1, with an average of 70.8. Ratings of DM vary slightly across the three blocks, rising by two to two-and-a-half points between each block.

5.1.1   Effect of listener: Kentuckian vs. non-Kentuckian

When asked where they identified as being from, 50 participants said Kentucky (Kentuckian or KY) and 38 identified as being from elsewhere (non-Kentuckian or non-

KY). Average ratings differed between Kentuckian respondents and non-Kentuckian respondents. Table 2 shows average ratings organized by modality, stimulus type, and guise, separated by participant identification as being Kentuckian (or not).

Table 5.2.1 Average Ratings by Modality and Stimulus Type — Kentuckian vs. Non-Kentuckian

	Filler		Personal dative		Double modal	
	KY	Non-KY	KY	Non-KY	KY	Non-KY
Pre-text	96.7	97.1	78.9	63.3	50.7	39.7
Audio-local	94.7	87.2	82.5	75.2	65.2	65.2
Audio-nonlocal	95.5	94.2	73.4	56.3	58.7	46.1
Post-text	97.1	98.4	78.2	69.7	54.2	46.1

These self-identified Kentuckian participants rate all but three circumstances more highly than their non-Kentuckian counterparts: Block 1 and Block 3's fillers are marginally lower, and DMs in the local audio were rated equally by both groups (to the nearest significant figure). However, in Block 1, Kentuckian participants consistently rate local structures higher than non-Kentuckian— differing in personal datives by almost 15 points and double modals by 11 points.

Ratings of local structures in both local and nonlocal audio (Block 2) are higher by Kentuckian participants. Although the nonlocal guise is less acceptable than the local, the nonlocal PDs are 9 points lesser than the local. The local guise improves the rating of PDs compared to the control from Block 1 by less than 4 points. The nonlocal guise, on the other hand, decreases the rating from the control by 5 points. The nonlocal DMs are less than 7 points different than local DMs. Compared to the control from Block 1, Kentuckian participants rate local DMs 15 points higher. Nonlocal DMs are also higher than the control, though only by 8 points.

Non-Kentuckian participants also rate nonlocal audio lower than local, their ratings show greater differences. Both nonlocal PDs and nonlocal DMs are approximately 19 points lower than their local counterparts. Compared to the control set in Block 1, local PDs are almost 12 points higher and nonlocal PDs lower by 7 points. Ratings of DMs increase across both local and nonlocal guises. Nonlocal DMs are about 6 points higher than the control. Local DMs compared to the control from Block 1 are almost 25 points higher— the largest difference between Block 1 control ratings and Block 2 ratings in

either guise. There is also a difference between non-Kentuckian participants' ratings of fillers absent from Kentuckians: fillers heard in the local voice rate almost 10 points lower than the fillers in Block 1 and 7 points lower than fillers in the nonlocal voice.

5.2   Statistical analysis

Using the *lme4* package in R (Bates et al. 2015; RStudio Team 2020), I performed two linear mixed effects analysis of the relationship between rating, voice, and stimulus type. I entered stimulus type, voice, and block (with interaction term) as fixed effects into the model. I had intercepts for participant and items, as well as by-subject and by-item random for the effect of stimulus type. Visual inspection of residual plots did not show any obvious deviations from homoscedasticity or normality. P-values were found by likelihood ratio tests of the full models with the effect in question (rating by voice and stimulus type) against the model without interactions of stimulus type, voice, and text blocks.

5.2.1   Pre-text vs. audio

I performed a linear mixed effects model comparing the pre-text (Block 1) and audio (Block 2) blocks, with interactions between stimulus type, voice, and block. I compared this model with a three-way interaction to a model with the same fixed effects (stimulus type, voice, and block) with all possible two-way interactions; the intercepts and random effects remained the same in both models. A Likelihood Ratio Test found the model with interactions more reliable, with lower AIC and BIC and a significant chi-squared value ($\chi^2 < 9.174e\text{-}08$). The following analysis considers the model with interactions.
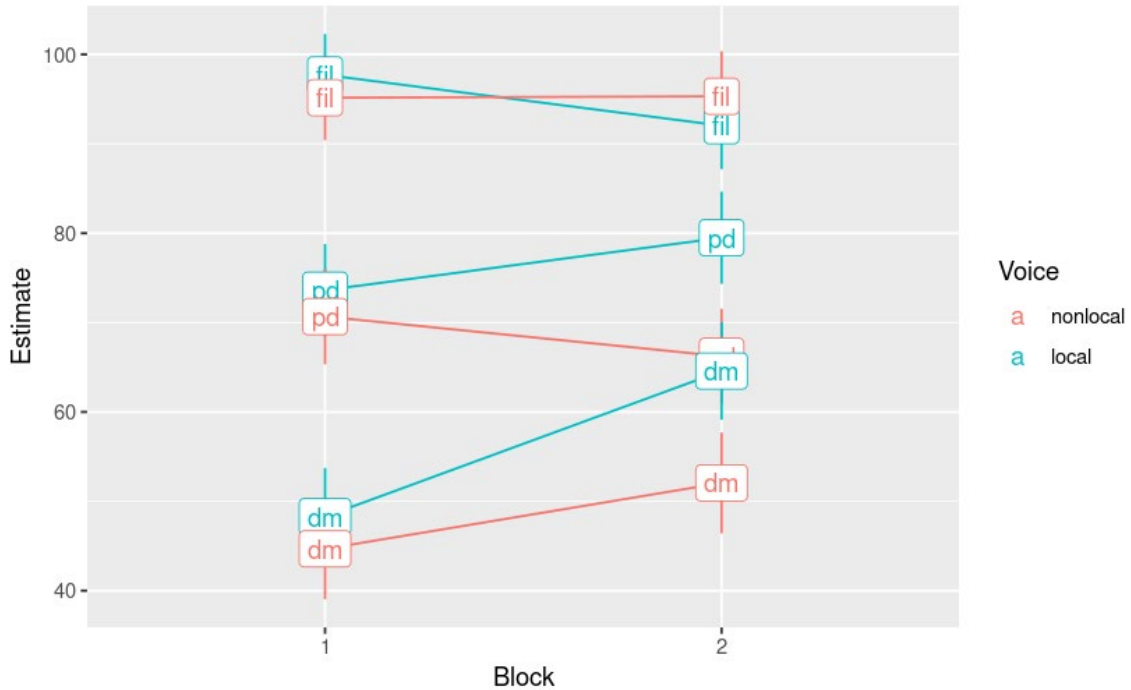
Figure 4: Predictions of the model for pre-text and audio, grouped by voice

Fillers rated by the nonlocal group in Block 1 act as the reference level in the model. Figure 4 presents the predictions, with each sentence type labelled (filler as "fil", personal dative as "pd", and double modal as "dm") and color assigned to voice. There is little difference between fillers in Block 1 and Block 2 for the nonlocal group (< 0.16) as well, suggesting fillers were indeed perceived as structurally unremarkable.

Fillers in Block 1 are slightly higher from the local group (2.6), though the reliability of this difference is questionable. Consideration of demographics between both groups reveals no systematic reason for this difference as well. Despite the higher ratings from the local group in Block 1 however, there is a drop in the estimate of fillers in Block 2 by 5.8. This difference is more reliable in a substantial way (t-value= 2.9), suggesting that the change in block (from text to audio) and voice contribute to the shift in rating.

Both personal datives and double modals in Block 1 received notably lower ratings from the nonlocal group. This supports that a change in stimulus type– from filler to a target structure– is reliably notable to participants and likely affects ratings. The decrease for double modals (-50.49) is twice that of personal datives (-24.50).

Changes in ratings vary more in Block 2 between both structures. The shift in hearing the personal dative in a nonlocal voice has a marginal effect on the estimate,

decreasing it by 4.59. The difference borders a reliable t-value (-1.969). The haziness of the effect of hearing the personal dative is absent when in the local voice (t-value= 5.094), increasing the estimated rating by 16.14. This indicates that– along with the structure— the change to audio (Block 1 to Block 2) and the voice (a local voice rather than a nonlocal) influence the rating. An effect of the change from text to audio with a nonlocal voice is possible, though less reliable than with a local voice.

The change in estimate for double modals in Block 1 is the singular largest shift (and produces the lowest value) in this data. In line with that, reactions to double modals appear unambiguous in Block 2. Even in the nonlocal voice, the estimate for a double modal reliably increases by 7.2; in the local voice, the change is doubled, increasing by 14.75. Both scenarios appear reliable in a substantial way (t-values > 2).

5.2.2   Pre-text vs. post-text

I performed a linear mixed effects model comparing the pre-text (Block 1) and post-text (Block 3) blocks, with interactions between stimulus type, voice, and block. I compared this model with a three-way interaction to a model with the same fixed effects (stimulus type, voice, and block) with all two-way interactions; the intercepts and random effects remained the same in both models. A Likelihood Ratio Test found the model with interactions varied only slightly from the model without in both AIC and BIC; the chi-squared value also did not reveal significant difference between the models ($\chi2 = 0.1575$). However, without the interaction, this model would be inconsistent with the data. The nature of this study interweaves stimulus type, voice, and block, so whether there are reliable differences caused by the changes in factors, that relationship must be accounted for to analyze the data in a consistent, reliable way. The following analysis considers the model with the three-way interaction.
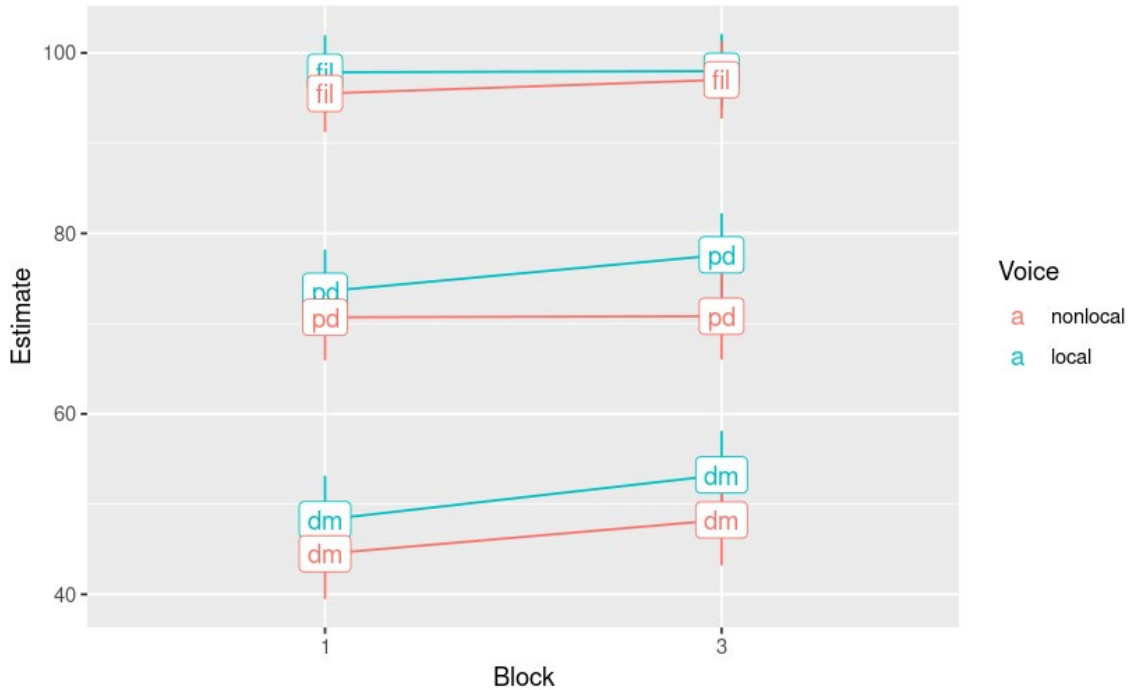
Figure 5: Predictions of the model for pre-text and post-text, grouped by voice

Figure 5 presents the predictions of the model comparing pre-text and post-text; sentence types are labelled as in Figure 4, with voice assigned to color. As in the model comparing Blocks 1 and 2 (shown in Figure 4), a reliable difference exists between the fillers rated in Block 1 by the nonlocal group and the target structures, supporting that the change in structure likely affects rating. Unlike the change from text to audio however, there are few reliable differences attributable to changes in voice, block, or stimulus type. Both local and nonlocal groups found double modals more acceptable in Block 3– after the audio block– but the increase is marginal and uncertain in its relation to a change in factors (nonlocal t-value = 1.029, local t-value = 0.860).

The effect of voice on readings of personal datives in Block 3 is more possible. The nonlocal group's estimated ratings of personal datives marginally drop in Block 3 (estimate = -1.40) with insubstantial reliability (t-value = -0.691). The local group however experiences an increase by 5.31– with a t-value of 1.903. Excluding the change in structures in Block 1, these are the highest estimated change and t-value in this model. There is possibly a lasting effect of local voice on perception of personal datives, though this consideration should be taken cautiously, considering the borderline reliability found in the model.

5.3 Distribution of ratings of personal datives
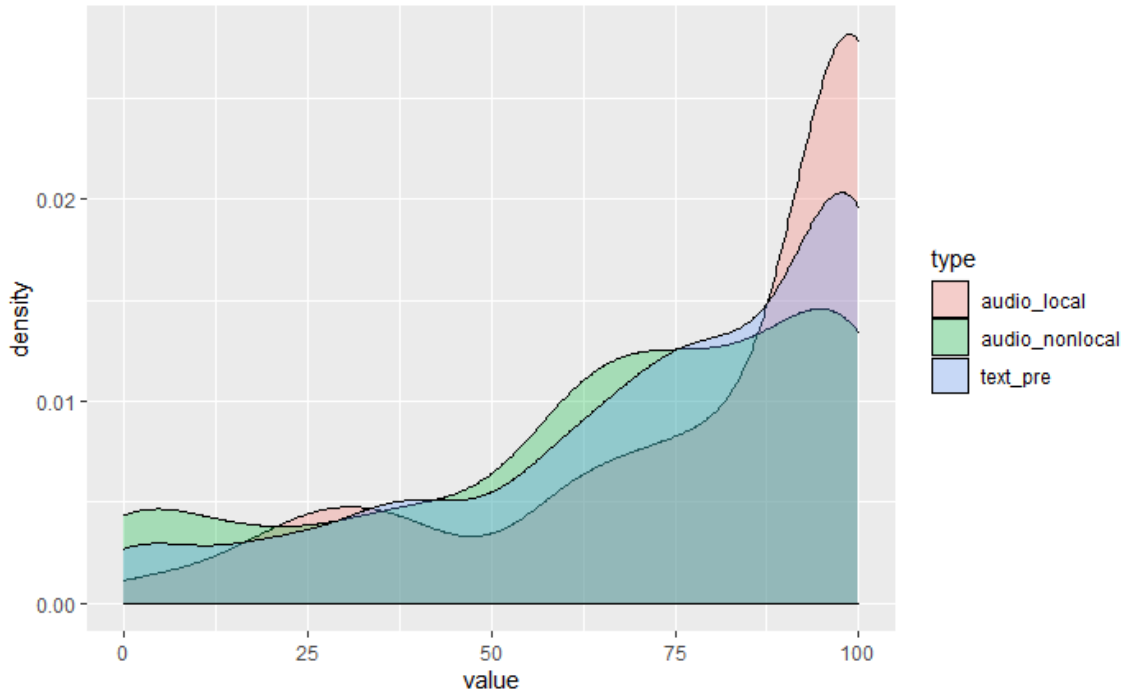
Figure 6: Distribution of ratings for personal datives

Ratings of both targets (PD and DM) varied heavily by modality. Figure 6 presents the distribution of ratings for PD across three stimulus types: the pretext block (Block 1), local audio, and nonlocal audio (the varieties of Block 2). All three types peak, with the highest distribution of ratings, at approximately 100; however, the height of each peak differs significantly. The local audio has the greatest density, just beyond 0.025. Following it is the pretext, with a density around 0.02. The nonlocal audio, although still peaking at 100, is more modest at 0.015– especially compared to its second densest area (0.01) at a rating of 60. This variation suggests that PD match less with a nonlocal accent than when read. This is corroborated by the almost identical average ratings of PD in both text blocks by participants in the nonlocal group (seen in Table 1).

5.4   Distribution of ratings of double modals
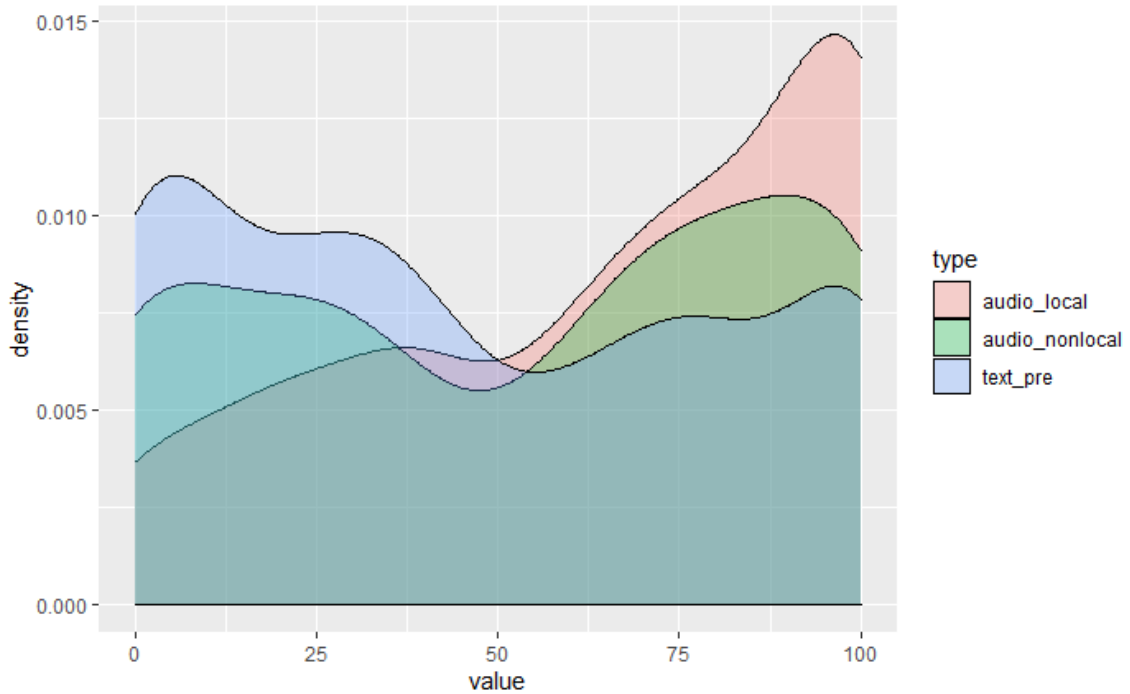
Figure 7: Distribution of ratings of double modals

The distribution of ratings for DM across the same three stimulus types are shown in Figure 5. Both local and nonlocal audio had the highest distribution of ratings at approximately 100, with the local at a density slightly higher than 0.015 and the nonlocal 0.01. Both waves also noticeably dip at a rating of 50– the midway point of the scale. This may suggest that hearing DM may be less likely to elicit a neutral judgment. The pretext also drops in density around a rating of 50– however, unlike both audio blocks, its peak is near the 0 rating. At approximately 0.0125, the most popular rating for DM in the pretext finds DM unacceptable. These points suggest that DM are less acceptable when written than heard, regardless of guise.

CHAPTER 6. DISCUSSION

6.1 Introduction

I posited four hypotheses (see Chapter 3 for the fully-stated hypotheses): overall, stimuli of target structures in the local guise would be rated more highly than stimuli in the nonlocal guise (H1) and, in the target structures, personal datives would be generally more acceptable than double modals, though both would have higher acceptability ratings in the local, matched guise (H2). The data supports H1 and H2. Neither hypothesis, however, considered the degree of difference in ratings relative to the control (Block 1) or the post-test (Block 3). Hearing place-based structures in a local voice improves acceptability ratings compared to the control, however the reaction to the structures differed in the nonlocal voice, with double modals as audio increasing and personal datives as audio decreasing in acceptability (H3). Ratings in the post-test differ insubstantially in relation to the voice heard in the audio block (H4). The possible exception to this are personal datives in the local group, which increased in acceptability in the post-test.

6.2 Quantitative summary

This study examined two structures of Southern American English, personal datives and double modals, compared across two modalities (text and audio) and, within audio, two guises (a socially congruent local and socially incongruent nonlocal). With respect to the control block (Block 1), both structures reveal differing baseline acceptability between the two, though trends between them differ greatly depending on modality and guise.

In Block 1, both local and nonlocal groups rated personal datives relatively acceptable on the scale (with 100 being the most positive possible evaluation). This is in contrast to Block 2: the local audio is rated on average 79.3– about six points higher than Block 1– but the nonlocal audio is rated on average 56.3– 14 points lower than Block 1 and 23 points lower than the local audio. The two groups came back together in the post-text block, though the nonlocal group's rating, at an average of 70.8, is still numerically lower than the local group's at 77.9. The local group's trend line peaks in the audio block, though the difference between each point is undramatic; the nonlocal group's trend line valleys in the audio block instead– rather dramatically, since the dip is over twenty points lower.

This data suggests the following:

     1.   Personal datives are comparably acceptable in written language and a matched accent.

     2.   When presented as spoken language, personal datives as a structure are considerably less acceptable when mismatching the accent of the speaker.

     3.   Exposure to mismatched spoken personal datives have negligible effects on acceptability ratings of subsequent read personal datives.

Figure 3 suggests that double modals are less acceptable when written than heard, regardless of guise. This does not mean that all auditory double modals are equally acceptable nor that text double modals are all lower in acceptability. In Block 1, the local group rated double modals on average a bit higher (48.1) than the nonlocal (43.6), though they are within 4.5 points of each other. Block 2 saw a steep change in ratings however: the local audio was rated at an average of 65.2, almost twenty points more acceptable than the nonlocal audio (46.1). The difference in average ratings diminishes in the post-text; the nonlocal group, at 48.1, is still lower in their ratings than the local (53.0). Both groups rate these double modals, however, almost five points higher on average than Block 1. The local group's ratings of double modals spike at the audio block whereas the nonlocal group steadily ascends with each block.

This data suggests the following:

     1.   Double modals are significantly more associated with spoken language than written.

     2.   When presented as spoken language, double modals as a structure are more acceptable when congruent with the accent of the speaker.

     3.   Exposure to spoken double modals may marginally increase acceptability of written double modals.

6.3   Analysis

Difference in syntactic structure is likely only a single factor that contributed to the different reactions to double modals and personal datives. To best understand the responses to both double modals and personal datives, the results of the mixed effects model presented in Figure 4 (Section 5.2.1) as well as average ratings presented in Table 5.1.1 (Section 5.1.1) must be considered. Table 5.1.1 includes a dimension that is not considered

in the mixed effects model, participants' self-identification as Kentuckian or not; as such, this data is not being presented as a variable that reliably affects results. It is rather being examined for supportive insight into possible differences in in-group (Kentuckian) and out-group (non-Kentuckian) perceptions.

Considering the possible non-Southern alternative to each structure– and even reactions to them in research– double modals are, on the surface, a more salient shift from mainstream English to an audience. This is clearest when participants read double modals rather than heard them; regardless of accent, there is a reliable improvement in acceptability for double modals when heard rather than read. Hasty (2011) predicted a negative reaction to reading double modals: "The entire process was conducted orally by myself, a native speaker of the local dialect, because a written survey could cause a register clash in investigating forms that are almost exclusively oral" (p. 93). Hasty's suggestion that it is a register clash that would affect reactions to written double modals is plausible and captures that writing is typically associated with "standard" language. Double modals may be unstigmatized in the South (as suggested by Fennell & Butters 1996), but they are likely not perceived as prestigious or wholly unmarked, as Hasty (2011) found that the group most likely concerned with cultural and linguistic capital (the Middle age group) gave lower acceptability ratings for double modals. Written text also promotes a certain level of metalinguistic awareness (Joseph 1987, p. 34-39). Spoken language is produced, perceived, and reacted to in quick succession; there is less time to dwell and analyze than with written language which continues to exist in a physical way after its production.

The metalinguistic awareness and association with standard language ideology present in writing are entangled. It is difficult to discern from the present results how much influence each factor has and how an acceptability rating may be influenced more by one than the other. However, it appears that participants recognized– by some factor or another– that double modals are not congruent with written language. The notable increase in acceptability when hearing a double modal in a local voice suggests that the feature is recognizably Southern– to Kentuckians and non-Kentuckians. The only match in average ratings between Kentuckians and non-Kentuckians is found in the local group's Block 2 ratings of double modals. It is possible that double modals have achieved the level of stereotype (Labov 1972), recognizable to both in-group and out-group.

Personal datives appear more covert in comparison. Although less acceptable than fillers, personal datives suffered less in acceptability ratings as text than double modals. Non-Kentuckian participants found personal datives in Block 1 less acceptable than Kentuckian participants (-15.6), but this difference in baseline acceptability is comparable to that found between the two groups and baseline acceptability of double modals (-11). This suggests that personal datives' lack of "standardness" may be more covert, since they are still moderately acceptable in writing. Personal datives heard in the nonlocal voice however are the only regional structure that suffered a loss of acceptability in Block 2. The statistical reliability of this change as it relates to voice, block, and structure is questionable (t-value = -1.969), but it appears a viable possibility.

The single largest difference between average ratings by Kentuckian participants and non-Kentuckian participants is in nonlocal personal datives in Block 2, with non-Kentuckian ratings approximately 17.1 points lower than Kentuckian. This drop signals markedness; however non-Kentuckian participants found reading personal datives, hearing them in a nonlocal accent had a level of dissonance. Kentuckian participants did not experience this dissonance on the same level, finding nonlocal personal datives on average less than ten points less acceptable than local personal datives. Across all participants, personal datives heard in the local voice in Block 2 experienced the most reliable increase related to voice, block, and structure (t-value = 5.094). This suggests that although covert in writing, personal datives are still experienced as Southern. Non-Southern usage of personal datives is incongruent. The awareness of personal datives is not yet at the level of stereotype; however, the out-group (non-Kentuckians) perceived the Southerness of personal datives more than the in-group. This may make personal datives more an indicator than marker (Labov 1972), since markers are salient to the in-group. It is unclear if personal datives are consciously salient to out-group members, though the shift in ratings based on voice suggests that there is at least a subconscious association of personal datives to Southerness.

6.4   Participant commentary

Immediately following the acceptability task, participants had the opportunity to comment freely on the task, stimuli, or general survey.

Some comments point to stimuli having a reasonable degree of naturalness. For example:

(1) a. Some audio I feel I had less issues understanding what was being said and more of an issue not being sure if I was actually hearing the whole audio. They made sense, but I couldn't tell if I heard it right.

b. A lot of the sentences I have heard people say before. Even if it didn't make sense.

(1a)'s feeling of sensing a disconnect due to a perceived lack of context suggests that the utterances could pass as having greater context, therefore being relatively natural. (1b) further confirms a sense of naturalness in the stimuli, though rather than discussing the auditory experience, they point to the content of the stimuli.

The comment on the legibility of the audio is unconcerning. The difference between experiencing uncertainty of "actually hearing" in the acceptability task and in real life is that the task did not allow audio to be replayed; in a live interaction with another person, one may ask for repetition or clarification. It is worth noting that unlike a conversation, all stimuli were single utterances— with no distinct social or contextual relationship drawn to anything else.

One participant noted the effect of the rating scale.

(2) A lot of the sentences I rated high even though I knew they were not grammatically correct because they still made sense.

This response highlights the popular definition of grammaticality and its ties to prescriptive ideologies as well as the significance (and consequences) of how an acceptability scale is labelled. (2) distinguishes "grammatically correct" from "[makes] sense" in a way that suggests that the target features— features of Southern American English, a stigmatized variety (Preston, 1996, 2018; Cramer, 2013)— would be at an immediate disadvantage if participants had been asked to rate 'grammaticality' or 'correctness'.

Studies in perceptual dialectology suggest a view of 'grammatical correctness' that corroborates the decision not to elicit conscious notions of grammar, since those ideas would likely reflect language ideologies— not linguistic intuitions (Cramer et al. 2018). Language ideologies affect speech perception (Lindemann 2002; McGowan 2016).

Although ideology and identity play a significant role in this study (see Section 3.4), understanding the role of social associations on the syntax-phonetics interface requires that the language ideologies activated in the judgment task be only those that function on a subconscious level— those that may be stored as a grouping in an exemplar. The effect of subconscious language ideologies unites phonetics and syntax.

CHAPTER 7. LOOKING FORWARD

7.1   Conclusions

This study revisits the broader question of the independence of structure from other aspects of language. Considered here through the lens of exemplar theories, the results of this study may also be considered by other frameworks and incorporated there to help produce more robust models of how language works. Within the exemplar framework, this study joins Remirez (2019) in supporting a unified exemplar model, as proposed by Bod & Cochran (2007) and previous work on the syntax-phonetics interface (Hay & Bresnan 2006; Squires 2013). The higher ratings seen when accent and structure are congruent— compared to when they are incongruent— suggest that, to some extent, sentence structure and phonetic detail are connected in perception.

Beyond supporting a unified exemplar model, this study tests the robustness of unification of linguistic features by social associations by expanding what a social association functionally may be. Remirez (2019) takes prestige as the unifying social association; here, place is considered— and appears to be consistent. Because exemplar models store episodic traces of language experiences, multiple details of different language producers may also be stored, so social associations stored are not limited to a single dimension such as prestige or place.

The differing ratings by modalities (written text versus audio) also posit the possibility of different grammars for written and spoken language. The degree of separation of these grammars— and the role of ideology in their existence and possible differences— is unclear but offers room for expansion in the future.

Judgment of structural grammaticality is not independent of social expectation. In this study, place was considered the unifying social association between two socially-indexed syntactic structures and purported social information through a matched guise task. The main goal of this study was to investigate the relationship between sociophonetic speech perception and syntax. Judgments of grammaticality of placed-based structures improved when heard in a congruent place-based accent; intuitions of personal datives and double modals differed, with grammaticality of personal datives lessening when heard in an incongruent accent but double modals improving in grammaticality when heard rather

than read regardless of accent. These results suggest that judgment of grammaticality results from an interplay of sociocultural expectations with accent and sentence structure. The results presented here are inconsistent with theories of syntax which require the theoretical separation of structure from general cognitive abilities and other aspects of language.

7.2   Limitations & Future Work

Although this study succeeds in expanding the body of work on the syntax-phonetics interface and consideration of sociolinguistic elements in grammar, room remains for improvement. Participants identified their home locales but did not share how much a sense of regional identity (e.g., "Southern", "Midwestern") they feel. Their alignment to place may factor into their judgments of place-based structures. In methodological design, all filler sentences presented were grammatical; this may have led participants to compare both local structures to a perceived (and unintended) higher baseline acceptability.

Further research may consider the bearing of sociolinguistic elements on syntax as well as how interwoven different aspects of language, such as syntax and phonetics, need to be to function. A future experiment may add a third accent, one fully incongruent with the local structures– for example, a Michigander saying stimuli with double modals and personal datives. Alternatively or in conjunction, eliciting grammaticality judgments with an eye tracker or other technology that considers cues of intuition may shed further light on grammaticality. The current study also produced a wealth of data that could be further explored with more advanced statistics.

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