

**The Role of Successive Bilingualism in Dialect Variation:
The Case of AAVE**

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*Master's Thesis
Linguistics: The Study of the Language Faculty
UiL-OTS - Utrecht University*

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August 2011

Acknowledgments

First of all, I wish to thank Bill Philip for supervising this thesis as well as my internship. Thank you for believing in me, for pushing me forward and guiding me through this ‘long and winding road’. Thank you for your encouragements, feedbacks, patience and understanding. I would like to acknowledge Mana Kobuchi-Philip as well for the valuable data from Japanese.

I am also indebted to Eric Reuland for agreeing to be my second reader on such short notice and for his insightful comments and suggestions.

I owe the quality of my data to a number of people. Dr Allison Burkette, thank you for helping me with the design of my experimental materials and for your sound advice during my internship as well as during the completion of my thesis. I also wish to acknowledge Velsie Pate, Charles Washington and Brian Carter who, along with Dr Burkette, kindly allowed me to record their voices for the purpose of this study. Finally, special mention needs to go to the 120 informants who were patient and brave enough to sit through testing sessions in the Mississippi summer heat.

I must also credit Dr Donald Dyer for sparking my interest in linguistics in the spring of 2004 and for our many pleasant conversations. Sadly, the fate of your study carrel key remains a mystery.

I am particularly grateful to Maarten Zwiers for his unconditional love and support throughout this journey. Thank you for always giving me the strength and motivation to carry on and for standing by me every step of the way.

And last but not least, I wish to give thanks
to Reinier van Oorsouw for bringing so much love and positivity into my life.

to my best childhood friend, Odile Morès, for taking such great care of me when we were little. I know it hasn't always been easy to put up with your little sister.

to Luca Ducceschi and Sebastian Bican for their wonderful friendship, sound linguistic advice and for making our home such a happy place to live.

to my best friends through thick and thin: Faustine Fourdinier, Ioanna Svana, Charles Washington and Arno van den Bos.

and to Anastasia Mizgir, Caroline Roy, David Saulnier, Jarka Krizovenska, Jeffrey van den Dungen, Jurjen Boekraad, Lique Liu, Liz Black, Louis-Marie Bloyet, Marko Hladnik, Martina Motzo, Mircea Pitigoi, Nathan de la Paz, Nicolas Danel, Rune Berge, Soledad Ordoñez, Stevo Bonco, Tabaré Arroyo Currás, Tim Schoof, Thomas Miloradovic and Vasilis Boucharas, for the moral support and the much needed distractions.

Contents

1. Introduction	5
2. Aspectual- <i>Be</i> and the Null Copula in AAVE	5
2.1. Characterizing Aspectual- <i>Be</i> and the Null Copula	5
2.2. The Semantics of Aspectual- <i>Be</i> and the Null Copula	9
2.2.1. Episodic vs. Generic Sentences	9
2.2.2. Formal Representation of Episodic Sentences	11
2.2.3. Formal Representation of Generic Sentences	12
3. Building the Hypotheses	22
3.1. The Study of Individual Variation	22
3.1.1. Core vs. Peripheral Variation	22
3.1.2. Variation and AAVE	25
3.2. The ‘Non-Standard Internal Inconsistency’ Hypothesis	26
3.3. The ‘Idiolect Family’ Hypothesis	27
3.4. The ‘Successive Bilingualism’ Hypothesis	30
3.4.1. The Critical Period for Language Acquisition	30
3.4.2. Predictions	32
4. Methodology	35
4.1. Preliminary Considerations	35
4.2. Experimental Design	36
4.2.1. Test Conditions and Predictions	36
4.2.2. Anticipating Performance Error	46
4.3. Participants	49
4.4. Testing Procedure	51
5. Results	52
5.1. Stalking the Native Speakers	52
5.2. Significance of the Results	58
6. Discussion	59
6.1. Discarding Alternative Explanations	59
6.2. Rejecting the ‘Non-Standard Internal Inconsistency’ Hypothesis	61
6.3. Variation in AAVE and the ‘Idiolect Family’ Hypothesis	63
6.4. A Case for the ‘Successive Bilingualism’ Hypothesis	65
7. Conclusion	68
8. References	69
9. Appendix	75
9.1. Experimental Materials	75
9.1.1. Questionnaire A	75

9.1.2. Questionnaire B	82
9.1.3. Questionnaire C	89
9.2. Random Distribution of the Experimental Items	96
9.3. Random Distribution of the Auditory Stimulus	98
9.4. Consent Form	100
9.5. Raw Data	101
9.6. Results of ANOVA on all Five Groups of Speakers	138
9.7. Results of ANOVA on the Four Groups of AAVE Speakers	138
9.8. Results of ANOVA on Age Groups	139
9.9. Results of ANOVA on Questionnaire Types	139
9.10. Results of ANOVA on Groups (P_{AB^+}, P_{NC^+}), (P_{AB^+}, P_{NC^-}) and (P_{AB^-}, P_{NC^+})	140

*“ To understand the world,
you must first understand a place like Mississippi. ”*
- William Faulkner -

1. Introduction

A traditional assumption, widespread among linguists and non-linguists alike, is that non-standard dialects are subject to much more individual variation than standard varieties. This thesis is concerned with a non-standard dialect of American English called the African-American Vernacular of English (henceforth, AAVE) and investigates the amount of individual variation in this particular variety. The following discussion is based on the findings of a theoretical study on the use of two grammatical properties, aspectual-*Be* and the null copula, by speakers of AAVE in the state of Mississippi and demonstrates how successive bilingualism can explain the high degree of individual variation typically found in non-standard linguistic varieties.

The outline of this thesis is as follows. Chapters 2 and 3 provide the theoretical background necessary to understand the context of this particular study. Chapter 2 briefly introduces the dialect under investigation and offers a detailed analysis of aspectual-*Be* and null copula constructions within the framework of model-theoretic semantics. Chapter 3 focuses on the issue of language variation and also discusses generativist perspectives on language acquisition. Particular emphasis is put on the sociolinguistic debate regarding individual variation in non-standard dialects and on the implications of postulating a critical period for language acquisition. It is also in chapter 3 that the main hypotheses and predictions of the present study are formulated. Here, it is proposed that, given the existence of a critical period for language acquisition, our data should reveal three clearly distinguishable groups of AAVE speakers - native speakers, non-native speakers and non-AAVE speakers – each showing distinct performance in a grammaticality judgment task. Chapter 4 lays out the methodology behind this research project, explaining for instance how participants were selected or what guided the choice of the experimental tool. Particular attention is paid to the way materials were carefully designed and administered so as to reduce the interference of external factors and improve the quality of the collected data. Chapter 5 then describes the analysis of the data and the statistical significance of the experimental results. Finally, in chapter 6, these findings are summarized and discussed in light of the original predictions. It is demonstrated that native speakers of AAVE do indeed perform in a way that differs significantly from the performance of non-native speakers and that it is because non-native speakers make up the majority of AAVE speakers that so much individual variation is found in this non-standard dialect. Finally, it is hoped that this thesis may shed some light on the workings of language variation, bring additional support to existing theories of language acquisition and also make a contribution to the field of sociolinguistics.

2. Aspectual-*Be* and the Null Copula in AAVE

2.1. Characterizing Aspectual-*Be* and the Null Copula

The African-American Vernacular of English is one of the many non-standard varieties of English spoken in the United States and it is by far the most stigmatized. This is reflected in the many labels the dialect has been given over the years, from the

most degrading “Negro Dialect” or “Non-standard Negro English” to “Ebonics”, “Black English” and the more recent and politically correct “African-American English”. This shift in terminology over time corresponds to contemporaneous shifts in attitudes towards the black population that have occurred over the past 50 years or so. AAVE is indeed typically defined as the language of working-class Black America. The majority of its native speakers are Black Americans of a certain socioeconomic class. It is important to note, however, that not all African-Americans speak AAVE and, to a lesser extent, the variety is also spoken by members of other ethnic groups (Dillard (1972), Bhatia (2004)). Although AAVE is generally seen as the linguistic result of a diaspora, the origins of the dialect are not completely understood. In the literature on AAVE, there are two main schools of thought about the origins of the dialect. On the one hand, the “Anglicist Hypothesis”, usually held by American dialectologists, states that the AAVE spoken today results from the transmission through generations of the English learned by the slaves as a second language and therefore presents only superficial differences with other varieties of English and very few traces of its African ancestry (Kurath (1949), McDavid and McDavid (1951)). On the other hand, creolists maintain that AAVE is an English-based creole which, “regardless of its surface resemblances with other dialects of English”, has more of a “creole-based underlying structure” (Bailey (1965))¹.

No matter how divided the field is as regards accounting for the origins of the dialect, what is becoming generally recognized is the fact that AAVE is a rule-governed and fully expressive linguistic system. Contemporary synchronic studies, beginning with Labov et al (1968) and Wolfram (1969), have identified a number of features which set the dialect apart from other varieties of English, thereby challenging the popular folklore about the nature of AAVE. For the sake of this paper, we will only focus on its aspectual system, but distinctive features have been found at all levels of the dialect. Some of the most salient and best documented linguistic characteristics of AAVE include, for example, the reduction of final consonant clusters, whereby words like *wasp* and *hand* become [was] and [hæn], the use of metathesized forms such as [aks] for *ask* or the absence of the third person singular ‘s’ in the present tense (Green (2002), among others). The two phenomena under investigation in this study are the use of aspectual-*Be* and the deletion of the auxiliary or copula *be* (referred to, in this paper, only as copula for convenience), which are claimed to be core grammatical features of AAVE. According to the literature, native speakers of the dialect make a primary aspectual distinction between habitual and non-habitual aspects. While Standard English only grammaticalizes habituality in the past tense, with the semi-auxiliary *used to* or the marked use of *would*, AAVE can do so in the past, present or future, by means of the aspectual marker *be*, i.e. the invariant form of *be*² followed by the main verb in *-ing*, a noun phrase, an adjective, adverb or prepositional phrase, as illustrated in (1)³. All of these sentences are perfectly grammatical in AAVE with a habitual interpretation (Labov (1972), Fasold (1972), Green (1993), among others). Labov (1972), for instance, describes the property in question as follows: [aspectual-*Be*] “indicates habitual behavior: durative or iterative depending on the nature of the action”. Similarly, Fasold (1972)

¹ Other supporters of this view include Dillard (1972), Stewart (1967) and Rickford (1998).

² Note that, although *be* seems to be the most common form, its inflected variant *bes* can also be used occasionally (Green (2002)).

³ All examples of AAVE in this section are taken from Green (2000, 2002).

notes that aspectual-*Be* “is only used in iterative contexts to refer to states or events which are periodically discontinued or resumed”. For example, the meaning of (1.b) can be paraphrased as something like ‘every time I leave for work, it is usually the case that Bruce starts to run or that his running is in progress then’, and (1.d) means that, ‘for whatever reason, your phone bill is generally high in certain months’.

- 1.a. *Every time people asked her about her age, she be telling them she eight.*
‘Every time people asked her about her age, she would usually tell them that she was eight’.
- b. *Bruce be running when I leave for work.*
‘Whenever I leave for work, Bruce is usually running/usually begins to run’.
- c. *It be knives in here. It be ice picks in here.*
‘There are/were usually knives in here. There are/were usually ice picks in here’.
- d. *Your phone bill be high, don’t it?*
‘Your phone bill is usually high, isn’t it?’
- e. *My first month there, I be in my office by 7.30.*
‘During my first month there, I usually was in my office by 7.30’.

In order to properly capture the function of this aspectual marker *be*, Green (2000) proposes to distinguish it from another construction commonly found in the dialect, namely the AAVE simple present. Consider, for example, the sentences below.

- 2.a. *Mary smoke cigarettes*⁴.
 - b. *Mary be smoking cigarettes.*
- 3.a. *The printer print 100 pages per minute.*
 - b. *The printer be printing 100 pages per minute.*

According to Green (2000), although similar in form, the two types of constructions presented above receive distinct interpretations. Examples (2.a) and (3.a), the simple present constructions, correspond to the Standard English sentences ‘Mary smokes cigarettes’ and ‘The printer prints 100 pages per minute’ and also exhibit the same properties as their mainstream counterparts. (2.a) can mean either (i) that ‘Mary habitually smokes cigarettes’ or (ii) that ‘Mary is disposed to smoke cigarettes because she is a cigarette-smoker’. In other words, the AAVE simple present examples in (2.a) and (3.a) are ambiguous between a strictly habitual (universal) reading and a dispositional (existential) reading. In contrast, according to Green (2000), the aspectual-*Be* examples in (2.b) and (3.b) can only have habitual readings; (2.b) can only mean that ‘Mary has the habit of smoking cigarettes’ and (3.b) can only mean that ‘the printer usually prints 100 pages per minute’. According to Green (2000), AAVE sentences containing aspectual-*Be* constructions “obligatory refer to a generalization with respect to

⁴ Note that verbs are generally not overtly marked for person or number in AAVE.

a process or a state which occurs or holds on particular occasions” (Green (1993)). As a consequence, the sentence in (3.b) cannot have the dispositional/existential reading that ‘the printer has the capacity of printing 100 pages per minute’; instead, it is a statement about the actual printing activity which implies that the printer actually does what it has the capacity of doing. Thus, while AAVE simple present constructions are ambiguous between a strict habitual and a dispositional reading, aspectual-*Be* constructions are not; they can only mean that the particular events or states necessarily happen on some occasions.

As for the other distinctive use of *be* in AAVE, it consists of the deletion of the auxiliaries or copulas *is* and *are* in contexts where speakers of other varieties would tend to contract them. As in the case of aspectual-*Be*, this auxiliary/copula deletion manifests itself in many possible environments, i.e. before words of any grammatical class⁵, as exemplified below.

4.a. *Bruce* ∅ *eating, ain't he?*

‘Bruce is eating, isn’t he?’

b. *Richard* ∅ *a nuisance.*

‘Richard is a nuisance’.

c. *Richard* ∅ *nice.*

‘Richard is nice’.

d. *The student* ∅ *in the classroom*

‘The student is in the classroom’.

The example in (4.a), *Bruce eating, ain't he?*, is equivalent in meaning to the Standard English sentence *Bruce is eating, isn't he?*, in which *is* is fully expressed. The speaker uttering sentence (4.a) is therefore most likely inquiring whether Bruce is ‘in the process of eating at the time of speech’, but he could also be asking if Bruce ‘eats enough, or better, these days’, thus talking about Bruce’s eating habits instead of its current activity. Example (4.a) can then receive either a progressive or a habitual interpretation⁶. The same goes for sentence (4.d). That is, (4.d) can mean either (i) that ‘the student is in the classroom now as we speak’ or (ii) that ‘the student is in the classroom these days’. As for (4.b) and (4.c), given the nature of their predicates, these examples can better be interpreted in terms of permanent or habitual characteristics rather than ongoing states⁷. In sum, according to the previous research, AAVE differs notably from Standard English in that it is a dialect which grammatically encodes habituality through the use of the aspectual marker *be* and which allows for complete deletion of the

⁵ Note that after the first person personal pronoun *I* and the third person neuter *it*, the deletion of *am* and *is* is not possible (Green (2002)).

⁶ As in Standard English, sentences of this type often need a frequency adverb like *these days* in order for the habitual reading to become salient.

⁷ Just as Standard English *Richard is nice* only has a very marked imperfective reading (‘Richard is being nice now’), similarly, (4.b) and (4.c) are much more readily interpreted habitually, i.e. as an attribution of a permanent property.

auxiliaries/copulas *is* and *are* in environments where they are generally only contracted in Standard English, i.e. mostly in sentences which express ongoing events or states, and essential properties. Moreover, aspectual-*Be* contrasts with the AAVE simple present in that it forces a strict habitual reading and does not allow for dispositional interpretations. The next section proposes a formal analysis of aspectual-*Be* and null copula constructions within the framework of model-theoretic semantics.

2.2. The Semantics of Aspectual-*Be* and the Null Copula

2.2.1. Episodic vs. Generic Sentences

The purpose of this section is to give formal semantic representations of AAVE sentences of the type given in (5) and (6), containing null copula or aspectual-*Be* constructions⁸.

5.a. *John ∅ running.*

‘John is running’.

b. *He ∅ on the phone.*

‘He is on the phone’.

c. *They ∅ good people.*

‘They are good people’.

6.a. *John be running to work every morning.*

‘John usually runs to work every morning’.

b. *Bruce be crying when the teacher call his mother.*

‘Bruce usually cries when the teacher calls his mother’.

c. *They be the losers.*

‘They usually are the losers’.

As discussed in the previous section, the examples in (5) are all equivalent to the Standard English sentences where the auxiliary/copula *be* is fully expressed or contracted. In other words, in their unmarked interpretations, (5.a) and (5.b) refer to events in progress at the time of speech, while (5.c) refers to a permanent property. However, each of the sentences in (5) can also, in principle, have another reading; they are ambiguous since they can also receive a habitual interpretation. In contrast, the sentences in (6) can only express habituality. This aspectual distinction between null copula and aspectual-*Be* constructions roughly corresponds to the contrast between so-called episodic vs. generic sentences. Episodic sentences report isolated facts or temporary properties of individuals (Krika et al (1995)). The following Standard English

⁸ These examples are taken from the experimental materials of the study presented below in chapter 4.

sentences are said to be episodic since they refer to a specific smoking event and a temporary location, respectively⁹.

- 7.a. *John is smoking a cigar.*
- b. *The lion is in his cage.*

Generic sentences, on the other hand, contrast with episodic ones in that they abstract away from particular events. They generalize over repeated events or over properties of individuals. Some examples of Standard English generic sentences are provided in (8) and (9) below. Krifka et al. (1995) distinguish between two major subclasses of generic sentences, depending on the type of generalization they express, i.e. whether they generalize over situations or individuals.

- 8.a. *A lion weighs more than 200 lbs.*
 - b. *The lion has a mane.*
 - c. *Italians know French.*
 - d. *John is intelligent.*
-
- 9.a. *This lion roars when it smells food.*
 - b. *John smokes a cigar after dinner.*
 - c. *His friends walk to school every morning.*
 - d. *My brother usually drinks whiskey.*

The first type of sentential generics, illustrated in (8), refer to characteristic properties of individuals. Example (8.c), for instance, asserts that it is typical for Italians to have some knowledge of the French language, without referring to any specific events of Italians speaking French, although such a large number of events would have to have occurred for (8.c) to be taken as true. Likewise, (8.d) reports a permanent property of John's, i.e. it does not refer to an accidental attribute, nor does it really generalize over a series of situations in which John demonstrates his intelligence; John can indeed be intelligent without ever showing it. In sum, all of the sentences in (8) express generalizations over essential properties of individuals and combine mostly with stative predicates or copular constructions. Using Krifka et al. (1995)'s terminology, we will call sentences of this type 'lexical generic sentences'. As for the sentences in (9), they do not generalize over individuals but "over patterns of events as a component of their meaning" (Krifka et al. (1995)). Example (9.b), for instance, points to a habit of John's, which is to smoke a cigar after dinner. The same applies to (9.c), which is a generalization over numerous instances of friends walking to school. Since these sentences express normative statements about repeated events, their verbal predicates are usually dynamic, i.e. derived from episodic predicates. This second type of sentential generics are traditionally called 'habitual generic sentences'. Given this classification, it is now possible to formally categorize the AAVE sentences provided in (5) and (6). The null copula examples in (5.a) and (5.b) describe an isolated running event and a temporary state, respectively; they therefore qualify as episodic sentences. As for the aspectual-*Be* constructions, in (6), they all describe habitual occurrences of eventualities.

⁹ The Standard English examples in this section are taken from Krifka et al. (1995).

The generalization each one expresses is tied to the entire sentence and abstracts away from specific repeated situations; for this reason, they are habitual generic sentences. Finally, turning to example (5.c), this sentence contains a null copula indicating an essential characteristic, it generalizes over a group of individuals and should thus be labeled as a lexical generic sentence.

Having reviewed the semantic distinction between episodic and generic sentences and shown how this contrast relates to the grammatical features of AAVE with which this paper is concerned, we will now present a formal semantic analysis of the null copula and aspectual-*Be* constructions in AAVE.

2.2.2. Formal Representation of Episodic Sentences

Episodic sentences describe particular events or accidental properties of individuals; since they do not refer to long-lasting properties, episodic sentences are typically dynamic. Generic sentences, on the other hand, never report a specific event but rather describe permanent properties or generalizations over repeated situations. Although their predicates may be derived from episodic predicates, in the case of habitual generics, the resultant sentence is always stative (Dowty (1979) and Dahl (1975)).

This stative/non-stative contrast between generic and episodic sentences is crucial to the development of an adequate theory of episodic and generic sentences. Carlson (1977) proposes an analysis which accounts for this distinction. He suggests differentiating between two basic types of entities: individuals versus stages. Individuals include ordinary objects referring to specific entities (*John, my dog*) and kinds, which abstract away from concrete objects and refer instead to classes of entities (*Italians, mammals*)¹⁰. Stages, on the other hand, stand for spatio-temporal slices of individuals (*John-after-dinner-last-night, my dog-this-morning*). Kinds are realized by objects, while stages are instantiations of individuals in space and time. Carlson uses a realization function *R* to represent the relations holding between these types of entities. *R* is a function from ordered pairs to truth-values so that *R*(Max, dog), for instance, means that Max belongs to the kind ‘dog’ and *R*(s, John) expresses that *s* is a stage of the individual ‘John’. According to Carlson, this ontological distinction can be extended to the level of verbal predicates, which he classifies into two primary categories, individual-level versus stage-level predicates, depending on the type of entity they apply to. Individual-level predicates, like *know French, have four legs* or *be intelligent* for example, are predicated of objects or kinds, i.e. of individuals¹¹. They are stative and express permanent properties. Stage-level predicates, on the other hand, do not apply directly to individuals but to stages of those individuals. Predicates such as *is walking to school, is smoking* or *is tired* attribute transitory or accidental properties to individuals and therefore belong to the category of stage-level predicates.

As outlined above, one characteristic of episodic sentences is that they are dynamic. In other words, their predicates must have stage-level properties. Stage-level

¹⁰ By abstracting away from particular objects, noun phrases referring to kinds are generic. The concept of genericity is indeed not restricted to the sentence-level but subsumes two distinct phenomena: sentential and nominal genericity.

¹¹ Carlson also distinguishes a subcategory of individual-level predicates, namely kind-level predicates, which only apply to kinds and include forms like *be extinct* or *be invented*, for instance.

predicates apply to stages, i.e. to spatio-temporal realizations of individuals. Thus, Carlson proposes the following logical structure for episodic sentences.

- 10.a. *John is smoking.*
 b. $\exists y^s [R(y^s, \text{John}) \wedge \text{Smoke}(y^s)]$
- 11.a. *Paul is tired.*
 b. $\exists y^s [R(y^s, \text{Paul}) \wedge \text{Tired}(y^s)]$

Both of the sentences above are episodic; they report a smoking event and a temporary property of Paul's, respectively. The formalization in (10.b) can be read as 'there is a stage of the individual John which is a smoking stage'. Similarly, (11.b) states that 'there is a stage of Paul in which he is tired'. This analysis can easily be applied to the episodic null copula sentences of AAVE introduced in the previous section, yielding the following representations.

- 12.a. *John \emptyset running.*
 b. $\exists y^s [R(y^s, \text{John}) \wedge \text{Run}(y^s)]$
- 13.a. *He \emptyset on the phone.*
 b. $\exists y^s [R(y^s, \text{He}) \wedge \text{On-the-phone}(y^s)]$

These two AAVE sentences refer to a particular running event and a temporary state. They are therefore episodic and their predicates must have stage-level properties, i.e. they must apply to realizations of the individuals *John* and *he* respectively. This is rendered in the formalizations (12.b) and (13.b) which state that 'there is a stage of John in which he is running' and that 's is a stage in which he is on the phone'. In the next section, we will extend this analysis to null copula and aspectual-*Be* sentences of generic interpretation.

2.2.3. Formal Representation of Generic Sentences

Given that generic sentences are stative, their predicates must display individual-level properties. Individual-level predicates apply directly to objects or kinds. Thus, the analysis adopted above allows us to derive semantic representations for generic sentences directly, i.e. without using a realization function *R* relating stages to individuals.

- 14.a. *Mary is intelligent.*
 b. $\text{Intelligent}(\text{Mary})$
- 15.a. *Peter owns a house.*
 b. $\exists x[\text{House}(x) \wedge \text{Own}(\text{Peter}, x)]$

In (14.a) and (15.a) above, *is intelligent* and *owns a house* express properties of Mary and Peter, not of one of their realizations. This is illustrated formally in (14.b) and (15.b), where each predicate is applied directly to its corresponding individual. Such an analysis accounts for generic AAVE sentences like the one in (5.c).

- 16.a. *They* \emptyset *good people*.
 b. Good-people(They)

These formal representations of meaning help clarify the characteristic semantic features of AAVE. However, they only apply to one type of sentential generics, namely lexical generic sentences, whose predicates are inherently stative, i.e. of individual-level nature. Habitual generic sentences differ from lexical generic sentences in that they express generalizations over multiple events. They contain episodic verbs. Yet, like all generic sentences, habituais are also stative. Carlson suggests that the individual-level predicates of habitual generics are derived from stage-level predicates by means of a (morphologically unrealized) generalization operator, which he calls G.

- 17.a. *John walks to school*.
 b. G(Walk-to-school)(John)

- 18.a. *Paul drinks whiskey*.
 b. G(Drink-whiskey)(Paul)

The Standard English examples above demonstrate that this generic operator has scope over the entire sentence and takes predicates that denote stages to map them into predicates applying to individuals. The semantics of the AAVE habitual generics in (6), repeated below, can now be derived in a similar way.

- 19.a. *John be running to work every morning*.
 b. G(Run-to-work-every-morning)(John)

- 20.a. *Bruce be crying when the teacher call his mother*.
 b. G(Cry-when-the-teacher-call-his-mother)(Bruce)

- 21.a. *They be the losers*.
 b. G(The-losers)(They)

The precise semantics of G is difficult to define. Generic sentences vary indeed significantly in their truth-conditions, i.e. in the number of event realizations which are necessary and sufficient for the generalization to hold. Consider, for instance, the generic sentences in (22) below.

- 22.a. *Dogs have four legs*.
 b. *Birds fly*.
 c. *Spaniards eat blood sausage*.
 d. *John smokes a cigar after dinner*.
 e. *Mary drinks whiskey*.
 f. *The printer prints 100 pages per minute*.

At first glance, it seems possible to interpret these examples as universally quantified sentences. (22.a) would be identical to stating that ‘all dogs have four legs’

and (22.d), for example, would mean that ‘John always smokes a cigar after dinner’. But in reality, there exist dogs that do not have four legs and dinners after which John does not smoke a cigar. Therefore, generic sentences differ from universally quantified sentences in that they allow for exceptions. Generic statements can also be made about objects that never have or never will exist, as in *Unicorns love chocolate chip cookies* for instance. Generic sentences express norms, which always have a few exceptions. The type of generalizations found in generic sentences are only instances of quasi-universal quantification; the rules they express apply ‘under normal conditions’ and can thus be broken. If generic statements tolerate exceptions, it is difficult to define the point at which a property becomes essential or an event habitual. All of the sentences in (22) make generalizations, but the degree of the restriction placed on each of those generalizations varies greatly from one example to the other. While the property of having four legs is true of practically every dog (22.a), eating blood sausage is probably typical of only some Spaniards (22.c). Similarly, for example (22.e) to be true, Mary does not need to drink whiskey every time the circumstances allow it and surely, one or two whiskey drinking events do not form a regularity, but having drunk whiskey on a few occasions should suffice for it to be considered a habit of Mary’s. Example (22.f) stands at the other end of this spectrum by necessitating no actualization of the printing events; the statement can indeed be valid even if the printer has never actually been used. Therefore, what these examples demonstrate is that our interpretation of generic sentences depends highly on contextual information and on our own understanding of the world; the difficult task for semantic theories of genericity is to reconcile our intuitions about such sentences with coherent formal representations. Carlson (1977) proposes the following as a first attempt at a formulation of the semantics of the generic operator:

23. G-Rule: Whenever $G(\alpha)(\beta)$ holds, it is believed that there are several times t and realizations y of β , $R(y, \beta)$, such that $\alpha(y)$ holds at t .

Applying this rule to the logical representation given in (17.b), we obtain the following interpretation: ‘It is true that John generally walks to school if he has walked to school on several occasions’. Similarly, (18.b) says that ‘Paul generally drinks whiskey’ holds if ‘drinking whiskey’ is a property of several of Paul’s stages. Although this analysis provides an appealing account of the contrast between episodic and generic sentences, positing a monadic predicate operator responsible for the non-accidental interpretation of generic sentences is problematic for a number of reasons. Carlson himself (in Carlson (1989)) notes that some generic sentences are ambiguous between two interpretations.

24.a. *Typhoons arise in this part of the Pacific.*

- b. ‘All typhoons generally originate in this part of the Pacific’.
- c. ‘This part of the Pacific is generally battered by typhoons’.

25.a. *A guard stands in front of the queen’s palace.*

- b. ‘Guards in general stand in front of the queen’s palace’.
- c. ‘There is usually a guard standing in front of the queen’s palace’.

Both of the generic examples above can be understood in two different ways. On the one hand, (24.a) could mean that ‘it is typical for typhoons in general to arise in this part of the Pacific’. But the more salient reading of (24.a) says that ‘it is typical for this part of the Pacific to see the emergence of typhoons’. Likewise, (25.a) can receive two interpretations, paraphrased in (25.b) and (25.c) respectively; it either means that ‘it is a characteristic of guards in general to stand in front of the queen’s palace’, or, preferably, that ‘the queen’s palace is such that there usually is a guard standing in front of it’. The first readings, in (24.b) and (25.b), can easily be accounted for within Carlson’s monadic theory. A sentence like *Typhoons arise in this part of the Pacific* would indeed be given the following semantic representation, in which the subject is interpreted universally.

26. G(Arise-in-this-part-of-the-Pacific)(Typhoons)

Although plausible, such universal readings are often pragmatically odd. The most natural way of interpreting sentences of this type is to give their subjects an existential reading, as in (24.c) and (25.c). Carlson’s monadic theory, however, fails to account for such interpretations. Another problem of the monadic analysis presented above resides in the fuzziness of the semantics attributed to the generic operator. Claiming that a generalization holds after ‘several’ realizations of an event is a rather vague statement. Therefore, these critical observations indicate the need to revise Carlson’s original theory so as to accommodate all possible interpretations of generic sentences and arrive at a more refined semantics of the operator responsible for generalization.

Carlson (1989) suggests adopting a relational analysis. This new approach preserves the idea that generic sentences are derived from non-generic ones, but offers to treat the underlying episodic sentences as consisting of two parts, two intensional elements, which are then connected by some generalization operator to obtain the desired generic reading. Depending on the way these sentence constituents are related to each other, a generic proposition may receive different interpretations. Carlson’s relational account is inspired by previous semantic theories. Lewis (1975) was the first to introduce such a dyadic operator in order to treat sentences containing adverbs of quantification. According to him, adverbs like *always* or *sometimes* should be analyzed as sentential operators taking as their arguments open propositions with one or more free variables. In Lewis (1975), a sentence like *Mary always blames John*, for instance, would then be given the following tripartite representation.

27.a. *Mary always blames John.*

b. Always (Mary(x) \wedge John(y); Blame(x,y))

Following Lewis (1975)’s proposal, Heim (1982) provided an account of generic sentences with indefinite generic noun phrases in which she presented indefinites as variables bound by a quantifier. Heim (1982) claims that the quantificational force of these sentences should be attributed to a sentential operator rather than to the indefinite noun phrases themselves. This operator is often phonologically unrealized but behaves just like Lewis (1975)’s overt quantificational adverbs; it has sentential scope and is dyadic since its function is to relate two propositions and bind the free variables

contained within them. A dyadic theory of generic sentences therefore requires tripartite logical structures of the following format: [GEN, X, S], where GEN stands for the generic operator, X for the restrictive clause and S for the matrix, or nuclear scope¹². An adequate semantic representation should also indicate which variables are to be bound by the unselective quantifier GEN in each of those clauses. The general form of GEN is given in (28) below¹³.

28. GEN[$x_1 \dots, x_i; y_1 \dots, y_j$](Restrictor[$x_1 \dots, x_i$]; Matrix[$\{x_1\}, \dots, \{x_i\}, y_1 \dots, y_j$]), where $x_1 \dots, x_i$ are the variables to be bound by GEN and $y_1 \dots, y_j$ are the variables to be bound existentially with scope just in the matrix. The notation $\phi[\dots x_m \dots]$ is a formula where x_m occurs free, and $\phi[\dots \{x_m\} \dots]$ is a formula where x_m possibly occurs free.

Applying a relational analysis to the ambiguous generic sentence in (24), for instance, yields the following logical representations.

29.a. *Typhoons arise in this part of the Pacific.*

b. GEN[x](Typhoons(x); $\exists y$ [This-part-of-the-Pacific(y) \wedge Arise(x, y)])

c. GEN[y](This-part-of-the-Pacific(y); $\exists x$ [Typhoons(x) \wedge Arise(x, y)])

The formal structure in (29.b) corresponds to the universal interpretation and can be read as ‘if something is a typhoon, then it arises in this part of the Pacific’. GEN binds the variable x , *typhoons*, and the variable y is existentially bound in the matrix clause, therefore *this part of the Pacific* is in focus. (29.c), on the other hand, says that ‘in this part of the Pacific, it is typical for some typhoons to arise there’. Here, GEN binds *this part of the Pacific* in the restrictor while the focus is placed on the subject, *typhoons*, which is to be understood existentially in the matrix. Thus, this quantificational account of generic sentences posits a focus-sensitive dyadic operator relating sentence constituents so as to yield the appropriate generic interpretations. The advantage of such a relational analysis is that it enables us to account for both universal and existential readings of subjects in a straightforward and elegant manner, using a single operator.

We will follow Krifka et al. (1995), who propose to spell out the semantics of GEN in terms of a non-monotonic inference rule¹⁴. In formal logic, a system is said to have monotonic properties if it remains unchanged, even after the addition of new formulae. Non-monotonic systems, however, possess “a formal mechanism for retracting a previous conclusion when given new evidence” (Krifka et al. (1995)). In other words, a statement is true by default, i.e. because of lack of knowledge to the contrary. According to the non-monotonic inference rule, a sentence like *Birds fly* means that ‘if something is a bird and we have no positive evidence that it cannot fly, then we can conclude that it does fly’; the statement is assumed to hold for all birds, unless specific information is provided otherwise. Similarly, under this analysis, the formal semantics of *A lion is a ferocious beast* would say that ‘if x is a lion, and nothing tells us that x is not ferocious,

¹² Note that we call the new dyadic generic operator GEN so as to differentiate it from the monadic operator G of the previous theory.

¹³ This formula is taken from Krifka et al. (1995).

¹⁴ Several scholars have discussed the semantics of generic sentences from a similar perspective, including Carlson (1987), Reiter (1980), Kleiber (1988) or Asher and Morreau (1991).

then x is ferocious’. However, if at a later point we learn that x is not in the extension of *ferocious beast*, then our previous assumption would have to be withdrawn. Such default reasoning is crucial to the analysis of generic sentences, which are characterized by their tolerance towards exceptions, i.e. they cannot be falsified by the existence of a single counterexample. Positing a generic operator that has the semantics of a default quantifier allows for an elegant formalization of generic sentences without having to enumerate all of the exceptions not conforming to the generalization.

The analysis above introduced a new dyadic operator which has the logical form of a phonologically null quantificational adverb. The semantics of lexical generic sentences, which have inherently individual-level predicates applying directly to objects or kinds, can be derived in a straightforward manner using this new analysis. As illustrated below, the formal representations of Standard English lexical generics such as (30.a) and (31.a) show that GEN only binds the variables x and y which are applied to individuals, namely ‘Peter’, ‘Susan’ and ‘a car’. The same analysis can account for AAVE lexical generics, as exemplified in (32), where GEN simply binds the variable x , referring to ‘they’.

30.a. *Peter is intelligent.*

b. $\text{GEN}[x](\text{Peter}(x); \text{Intelligent}(x))$

31.a. *Susan owns a car.*

b. $\text{GEN}[x](\text{Susan}(x); \exists y[\text{Car}(y) \wedge \text{Own}(x,y)])$

c. $\text{GEN}[y](\text{Car}(y); \exists x[\text{Susan}(x) \wedge \text{Own}(x,y)])$

32.a. *They \emptyset good people*

b. $\text{GEN}[x](\text{They}(x); \text{Good-people}(x))$

While lexical generic sentences quantify over objects or kinds, habitual generics quantify over situations, which are reminiscent of the stages in Carlson (1977)’s original theory. An adequate representation of generic sentences should reflect this fundamental distinction. One solution, proposed by Krifka and Gerstner-Link (1993), is to introduce a situation variable s which can be bound by the generic operator. A Standard English habitual generic sentence like the one in (33.a) would then receive the following semantic representation.

33.a. *John smokes.*

b. $\text{GEN}[x;s](\text{John}(x) \wedge \text{Normal-Smoking-Situation}(s) \wedge \text{In}(x,s); \text{Smoke}(x,s))^{15}$

Here, the generic operator binds the variable x which applies to ‘John’ but it also binds the situation variable s which refers to normal smoking situations for John. Thus, the sentence *John smokes* can be read as ‘typically, if x is John and s is a situation which is normal for him with respect to smoking and John is in this situation, then we can conclude that John will smoke’. In other words, unless provided with information

¹⁵ What is meant by ‘Normal-Smoking-Situation’ here are actually the situations which, for John, are not abnormal with respect to smoking.

forcing us to think otherwise, we can assume that John will smoke in *s*. Here, the normal situations in which John smokes remain unspecified; they must be derived pragmatically, i.e. by inference. In order to make up for the lack of an overt restrictor, the representation in (33.b) can also be simplified to (34), where *C* stands for a context function which restricts the quantification to contextually appropriate situations.

34. $\text{GEN}[x;s](\text{John}(x) \wedge C(s) \wedge \text{In}(x,s); \text{Smoke}(x,s))$

The restriction on the domain of quantification can also be provided explicitly, by means of *when*-clauses or other temporal adverbials (*every morning, before school, weekly...*), as in (35.a). Here, the temporal prepositional phrase serves to overtly specify the situations in which John usually engages in smoking; (35.b) means that ‘if John is in an after-dinner situation, he usually smokes then’.

35.a. *John smokes after dinner.*

b. $\text{GEN}[x;s](\text{John}(x) \wedge \text{After-dinner}(s) \wedge \text{In}(x,s); \text{Smoke}(x,s))$

Now turning to the AAVE habitual generics introduced in (6) and repeated below, we obtain the following logical structures. In (36.b) and (37.b), *GEN* binds the variable *x*, referring to ‘John’ and to ‘Bruce’ as well as the variable *s*, which explicitly restricts the running and crying events to ‘every morning’ and to situations in which ‘the teacher calls Bruce’s mother’. In (38.b), the situations in which ‘they lose’ remain unspecified; the context function *C* indicates that these losing events are restricted to contextually appropriate situations which must be derived pragmatically.

36.a. *John be running to work every morning.*

b. $\text{GEN}[x;s](\text{John}(x) \wedge \text{Every-morning}(s) \wedge \text{In}(x,s); \text{Run-to-work}(x,s))$

37.a. *Bruce be crying when the teacher call his mother.*

b. $\text{GEN}[x;s](\text{Bruce}(x) \wedge \text{Call-his-mother}(\text{The-teacher}, s) \wedge \text{In}(x,s); \text{Cry}(x,s))$

38.a. *They be the losers.*

$\text{GEN}[x;s](\text{They}(x) \wedge C(s) \wedge \text{In}(x,s); \text{The-losers}(x,s))$

The situation variable found in the representations of habitual generic sentences comes from the fact that their predicates are derived from episodic ones. Davidson (1967) was the first to introduce such an event variable, but he suggested that this extra spatio-temporal variable was part of the argument structure representation of all predicates, i.e. that predicates like *love* and *kicked* should both be thought of as three-place predicates. Based on the work of Davidson (1967), Kratzer (1995) later argued that individual-level and stage-level predicates actually differ in their argument structure and that only stage-level predicates have an extra argument position for events and spatio-temporal locations, which can be bound by quantificational adverbs¹⁶. One of her

¹⁶ The distribution of this event argument remains a matter of controversy within theoretical semantics. While Kratzer (1995) argues for a distinction in the arity of individual-level vs. stage-

arguments for postulating the presence of an event variable in the logical representation of stage-level predicates but not individual-level ones resides in the fact that stage-level predicates like *is dancing* can easily be modified by temporal and spatial expressions (*in the street, this evening...*) while individual-level predicates (*is a dancer*) cannot. Kratzer (1995) also notes that this distinction cannot be “made in the lexicon of a language once and for all” since some predicates may be used as either stage-level or individual-level predicates depending on the context. Consider the following examples in (39) and (40). In (39.a), the individual-level predicate appears in its unmarked usage, i.e. as denoting a essential characteristic of John’s. (40.b), however, shows that this same individual-level predicate can easily be coerced into denoting a stage-level property. The same applies to (39.c), where *be nice* is to be interpreted accidentally. Thus, these examples demonstrate that, in a certain marked usage, individual-level predicates can systematically be transformed into stage-level predicates.

39. a. A: *John is very intelligent.* (individual-level)
 b. B: *That’s right. Unlike you!*
 c. A: *Hey! Be nice!* (stage-level)

- 40.a. A: *I have a test tomorrow.*
 b. B: *Well, be intelligent for a change, get a good night’s sleep!* (stage-level)

Diesing (1988) provides a syntactic argument for the claim that only stage-level predicates take an additional event argument. She observes that, in German, the subjects of constructions like the ones below can behave very differently with respect to quantifier-splitting.

41. *Lehrer haben uns viele geholfen.*
 ‘teachers have us many helped’
 Many teachers helped us.
42. * *Lehrer wissen das viele.*
 ‘Teachers know that many’
 Many teachers know that.

In (41), the noun *Lehrer* can easily be extracted out of the quantificational phrase *viele Lehrer*, i.e. move to the sentence initial position and leave its quantifier behind, but splitting the quantified subject in (42) results in an ungrammatical sentence. Diesing (1988) claims that, in (41), it is possible to extract the noun *Lehrer* out of the quantifier phrase *viele Lehrer* because the predicate already has an external event argument in the specifier position of the tense phrase; the subject, *viele Lehrer*, is then base-generated

level predicates as regards the presence of an event argument, another school of thought, the Neo-Davidsonians (Higginbotham (1985, 2000), Parsons (1990, 2000), among others), claim that event arguments are characteristic of all verbal predicates and that this event argument is their only argument, the relationship between events and their participants being accounted for by the use of thematic roles.

within the verb phrase and moved to the specifier position of the tense phrase where it can bind its trace. In (42), however, the predicate does not have this external event argument so the subject must be base-generated in the specifier position of the tense phrase; quantifier split is not permitted since the moved constituent has no trace to bind in the verb phrase. Given that (41) and (42) contain a stage-level and an individual-level predicate respectively, these extraction facts from German allow us to claim that individual-level predicates lack the external event argument present in the structure of stage-level predicates.

We have shown here how the new dyadic generic operator GEN can be used to represent both lexical and habitual generic sentences, but another advantage of the present analysis is that it enables us to account for the different readings of habitual generic sentences like the ones in (43.a) and (44.a).

- 43.a. *Mary eats cheese.*
 b. Mary eats cheese regularly.
 c. Mary does not object to eating cheese.

- 44.a. *This car goes 200 kph.*
 b. This car regularly goes 200 kph.
 c. This car is able to go 200 kph.

Both of these examples qualify as habitual generic sentences; they are stative in the sense that they abstract away from particular events, and their predicates are derived from episodic ones. Dahl (1975) and Lawler (1973), among others, noted that sentences of this type can receive two distinct interpretations. (43.a) can either mean (i) that ‘Mary regularly eats cheese’ (43.b) or (ii) that ‘it is possible for Mary to eat cheese’, i.e. that ‘Mary is not lactose intolerant’ (43.c). Similarly, the example in (44.a) can either indicate (i) that ‘this car regularly goes 200 kph’ (44.b), or (ii) that it simply has the capacity of doing so (44.c). The (b) readings represent the proper habitual interpretations, generalizing over the repeated occurrence of events, while the readings in (c) correspond to the so-called dispositional or capacity interpretations, which do not require the actualization of the events described by the predicate. Lawler (1973) and many others (including Rimell (2004) and Scheiner (2002)) claim that these different readings necessitate the postulation of distinct generic operators; however, our analysis can accommodate both interpretations by simply varying the way in which the sentential constituents are distributed into the matrix and the restrictor of each semantic representation. The semantic derivations of *Mary eats cheese* are provided in (45.b) and (45.c), as an illustration.

- 45.a. *Mary eats cheese.*
 b. $\text{GEN}[x;s](\text{Mary}(x) \wedge C(s) \wedge \text{In}(x,s); \exists y[\text{Cheese}(y) \wedge \text{Eat}(x,y,s)])$
 c. $\text{GEN}[x;y;s](\text{Mary}(x) \wedge \text{Cheese}(y) \wedge C(s) \wedge \text{In}(x,s) \wedge \text{In}(y,s); \text{Eat}(x,y,s))$

The representation in (45.b), i.e. the so-called ‘universal reading’, says that ‘if Mary is in a situation which is appropriate for her with respect to eating cheese, then generally there is some cheese that she is eating’; in other words, ‘Mary has a habit of

eating cheese in such situations’. (45.c), on the other hand, corresponds to the so-called ‘existential reading’ and should be read as follows: ‘if Mary is in a situation where cheese is available, then she will be able to eat cheese then’, i.e. ‘she is disposed to eating cheese in such situations because she is not lactose intolerant’. In other words, the crucial difference between (45.b) and (45.c) is that reading (45.c) can be true even if Mary has never had the opportunity to eat cheese whereas reading (45.b) can be true only if Mary has an established history or record of cheese-eating. As mentioned in section 2.1, AAVE sentences in the simple present also show this ambiguity between dispositional and habitual readings and it is precisely this property of AAVE simple present sentences that distinguishes them from aspectual-*Be* constructions, whose interpretation can only be strictly habitual. The dyadic analysis presented above can render this contrast simply by allowing two possible derivations of simple present constructions but only one type of derivation, namely the one yielding a universal or strictly habitual reading, in the case of aspectual-*Be* constructions. This is illustrated in (46) and (47) below.

46.a. *Mary smoke cigarettes.*

b. $\text{GEN}[x;s](\text{Mary}(x) \wedge C(s) \wedge \text{In}(x,s); \exists y[\text{Cigarettes}(y) \wedge \text{Smoke}(x,y,s)])$

c. $\text{GEN}[x;y;s](\text{Mary}(x) \wedge \text{Cigarettes}(y) \wedge C(s) \wedge \text{In}(x,s) \wedge \text{In}(y,s); \text{Smoke}(x,y,s))$

47.a. *Mary be smoking cigarettes.*

b. $\text{GEN}[x;s](\text{Mary}(x) \wedge C(s) \wedge \text{In}(x,s); \exists y[\text{Cigarettes}(y) \wedge \text{Smoke}(x,y,s)])$

In this chapter, we have provided a formal account of aspectual-*Be* and null copula constructions in AAVE based on the treatment of episodic and generic sentences in the formal semantics literature. According to previous research on this dialect, AAVE sentences containing the null copula are comparable to Standard English constructions where the auxiliaries and copulas *is* and *are* can be contracted; they therefore typically refer to ongoing events or essential properties. The null copula constructions receiving a progressive reading were equated to episodic sentences and their semantics was derived using a realization function *R* relating stages to individuals. The other type of null copula sentences, indicating essential properties and generalizing over individuals, were categorized as lexical generics, and aspectual-*Be* constructions, which have been claimed to mark the habitual occurrence of an event or state, were characterized as habitual generics. We opted for a relational analysis of these generic sentences with a dyadic operator that has the semantics of a default quantifier, takes sentential scope and binds variables in the restrictor and the matrix clause of the derived semantic representations. In order to account for the distinction between lexical and habitual generics, we introduced in the logical structure of habitual generics a situation variable *s* also bound by the dyadic operator. This relates to the circumstances that the predicates of habitual generics are derived from stage-level predicates, which possess an external argument for events and spatio-temporal locations. In the next chapter, we will proceed to the formulation of our main hypotheses and predictions for the present study, based on a review of the literature on dialect variation and language acquisition.

3. Building the Hypotheses

3.1. The Study of Individual Variation

3.1.1. Core vs. Peripheral Variation

The primary goal of this thesis is to determine whether the two properties introduced in the previous chapter, namely aspectual-*Be* and the null copula, are part of the grammatical competence of AAVE speakers in the state of Mississippi and to measure the amount of individual variation in this particular sample. Variation is everywhere in natural language. It manifests itself across regions, social groups, among speakers of the same variety and even within the speech of each individual. Dialectologists, starting with Kurath (1949) and Kurath and McDavid (1961), for example, have long been concerned with regional variation, i.e. with describing the linguistic features corresponding to specific geographical areas. The systematic distinctions in language use between members of different socioeconomic classes have also been extensively investigated within the field of sociolinguistics since the 1960s (Labov (1966)). However, the literature on idiolectal variation, i.e. on the linguistic variation across speakers of the same dialect and within the grammar of these individuals, is more rare and is mainly devoted to peripheral linguistic features or to situations of language change. Henry (2005), for instance, discusses the variability across individual speakers of English in relation to the syntactic phenomenon of subject-verb agreement in sentences with expletive-*there*. However, this aspect of English syntax, which is well known for allowing a considerable amount of variation among native speakers, is related to a common performance error and is not a core feature of Standard English grammar¹⁷. Similarly, another study, by Toivonen (2007), points to instances of idiolectal microvariation within the verb morphology of Inari Saami, an endangered dialect spoken in Northern Finland. But inter- and intraspeaker variation is a commonly observed and probably inevitable effect of language decay or weakening (Dorian (1994), Cook (1989)). For this reason, most of the work on microvariation at the level of the individual speaker only discusses cases of so-called ‘free variation’, where native speakers are free to choose between two or more linguistic alternants.

This paper, however, is concerned with individual variation among speakers of a non-standard dialect in their use of core grammatical features which set AAVE apart from other varieties of English. A distinction must indeed be made between variation which pertains to the core of grammar and variation which occurs at its periphery. Lexical or phonological differences between language varieties are a commonplace phenomenon. For example, Standard American English and Standard British English (Received Pronunciation) can be distinguished by their rhotic vs. non-rhotic pronunciation of the phoneme /r/. Similarly, dragonflies may be called ‘darning needles’ in New England, ‘mosquito hawks’ and ‘snake doctors’ in the Southern United States or ‘spindles’ in New Jersey. Although interesting in their own right, these instances of peripheral variation do not concern essential properties of the grammar.

¹⁷ Consider the following examples:

(i) There are lots of cars in the parking lot. (standard)

(ii) There’s lots of cars in the parking lot. (non-standard)

For speakers of Standard English, the non-standard variant, in (ii), is in fact a minor performance error. In other words, not everyone who produces such sentences speaks the non-standard dialect; sometimes, it is just that the standard dialect speaker is making a mistake.

Aspectual categories such as habituality or the progressive, on the other hand, constitute universal concepts. They are part of the fundamental components of language, i.e. part of what is considered the core grammar (Chomsky (1981), (1986)). Variation can be found at this level as well, between languages or closely related dialects. Consider the following examples from Japanese¹⁸.

1. Standard Japanese

Densha ga kite iru.
 train Nominative come Aspect
 ‘The train is coming/has come.’

2. Hakata

a. *Densha ga kiyoo.*
 train Nominative come-Progressive
 ‘The train is coming’.

b. *Densha ga kitoo.*
 train Nominative come-Perfect
 ‘The train has come’.

In Standard Japanese (1), the same aspectual marker, namely *iru*, can convey either the progressive or the perfect. The sentence in (1) can mean either that (i) ‘the train is coming’ or that (ii) ‘the train has come’. In other words, Standard Japanese does not distinguish grammatically between these two aspectual categories. The examples in (2), however, show that in Hakata, a non-standard dialect of Japanese spoken in Kyushu, different verb forms are used, namely *kiyoo* and *kitoo*, to mark the progressive and the perfect, respectively. Therefore, unlike the standard dialect, Hakata grammaticalizes the contrast between the two aspectual categories. Assuming that such grammatical properties are universal and predetermined by an innate faculty, macro- and microvariation of this type is highly relevant to generative linguistics theory since it must be constrained by the nature of possible grammars.

The contrast between peripheral vs. core variation can be further illustrated by means of the following examples.

3. ‘John is a hospital patient/attends school’ (non-referential)

Standard British English	Standard American English
<i>John is in hospital.</i>	* <i>John is in hospital.</i>
* <i>John is in the hospital.</i>	<i>John is in the hospital.</i>
<i>John is in school.</i>	<i>John is in school.</i>

¹⁸ This data was obtained via personal communication with Mana Kobuchi-Philip.

4. ‘John has the habit of walking to school every morning’ (habitual)

Standard American English	AAVE
* <i>John be walking to school every morning.</i> * <i>John walk to school every morning.</i> <i>John walks to school every morning.</i>	<i>John be walking to school every morning.</i> <i>John walk to school every morning.</i> * <i>John walks to school every morning.</i>

The table in (3) shows that in Standard British English (SBE), in order to indicate that ‘John is a hospital patient’ or that ‘John attends school’ (non-referential readings), the definite determiner *the* cannot be used. In Standard American English (SAE), however, non-referential readings can be obtained with the definite determiner, as in *John is in the hospital*. Moreover, although *John is in hospital* is ungrammatical in SAE, the grammaticality of *John is in school*, meaning that ‘John attends school’, indicates that it is also possible, in SAE, to express non-referentiality without using the definite determiner *the*, in some cases. Assuming that ‘hospital’ is a noun phrase (NP) and ‘the hospital’ is a determiner phrase (DP), we can deduct from the data in (3) that in SBE, non-referential expressions can only be realized with NPs whereas a SAE speaker has the option between using an NP or a DP depending on the context, an optionality which we assume to be arbitrary, i.e. of lexical nature. Thus, SBE *John is in hospital* and SAE *John is in the hospital* are semantically equivalent but the crucial observation here is that they are not necessarily syntactically different. The fact that *John is in the hospital* and *John is in school* can both receive a non-referential interpretation in SAE suggests that this is not an instance of core variation since the overt realization of the D-node may simply be accidental, i.e. it has no consequences on the semantic interpretation.

The data provided in table (4) shows the contrast between SAE and AAVE in the way the two varieties mark the habitual aspect. In SAE, in order to indicate that ‘John has the habit of walking to school every morning’ (habitual reading), one must use the simple present, where the verb is marked for tense, as in *John walks to school every morning*. In AAVE, however, habituality can only be expressed by means of the aspectual marker *be*, as in *John be walking to school every morning*’ or the simple present, where the verb is not marked for tense, as in *John walk to school every morning*. We assume here that SAE ‘*John walks to school every morning*’ signals the existence of a tense phrase (TP) in the syntactic structure. Moreover, we have seen that AAVE allows for the use of aspectual-*Be* or simple present forms like *John walk* to convey habituality. However, a sentence like *John walks to school every morning* is ungrammatical in AAVE. Assuming that tense phrases precede aspectual and finite phrases in syntactic structures (Cinque (1999))¹⁹, we can deduct that although SAE *John walks to school every morning*, AAVE *John be walking to school every morning* and AAVE *John walk to school every morning* are all semantically equivalent, there is a syntactic difference between the two varieties as regards their marking of the habitual aspect. The syntactic structure includes a TP in SAE but not in AAVE. SAE realizes the tense phrase, as indicated by the ‘s’ on *walks*, but AAVE only realizes the aspectual and finite phrases, with zero morphology and aspectual-*Be*, respectively. Contrary to the case of peripheral variation discussed in (3), there is no optionality here; the tense node is never realized in

¹⁹ Cinque (1999) argues that the ordering of functional heads in the TP is, at least, [TP[AspP [FinP]]].

AAVE. In other words, the syntactic variation found between SAE and AAVE with respect to the marking of habituality is always systematic. The type of variation with which this thesis is concerned is therefore an instance of core variation.

3.1.2. Variation and AAVE

Turning now to the dialect under investigation in this study, the sociolinguistics literature on AAVE has largely screened out the issue of regional or individual variation in descriptions of the variety. As Wolfram (2007) puts it, sociolinguists, “in the process of disputing some of the unwarranted popular misconceptions about the nature of AAVE, have unwittingly created another myth, which has now become a deeply entrenched assumption and suggests that AAVE displays a kind of structural homogeneity immune to regionality”. The early descriptive studies of the dialect carried out in urban areas as far apart as New York City (Labov et al (1968)), Detroit (Wolfram (1969)) or Los Angeles (Legum et al (1971)) revealed that a common set of distinctive AAVE features were shared by those geographically disparate African-American communities. This led linguists to the conclusion that, unlike other non-standard dialects of American English, AAVE was a uniform ethnic variety defying regional boundaries. However, a number of studies have pointed to areas of variability among speakers of AAVE. For example, the extension of investigations beyond the northern urban contexts into small, rural AAVE speaking communities in the southern states has revealed a great deal of regional variation. A comparison of studies carried out within North Carolina indicates varying frequencies of postvocalic *r*-lessness, for instance, and different patterns of third person singular *s* verbal inflection among AAVE speakers from one county to another (Wolfram (2003), D’Andrea (2005), Carpenter (2004), Mallinson and Wolfram (2002), Childs and Mallinson (2004)). In an earlier study, Houston (1975) notes the absence of aspectual-*Be* in the speech of some African-American children from Northern Florida and suggests that this particular common-core feature may in fact be “characteristic of only certain dialects of AAVE, of which, the variety spoken in the southeastern states is not one”. The existence of regional variables in AAVE could also be a natural consequence of its convergence with other non-standard dialects spoken in the same geographical area, whereby distinctive traits of those adjacent varieties may have been accommodated into the language of AAVE speakers in those particular regions. Green (2002) is one of the few linguists who mentions this possibility. She claims that “there are regional differences that will distinguish varieties of AAVE spoken in the United States. For example, although speakers of AAVE in Louisiana and Texas use very similar syntactic patterns, their vowel systems may differ. Moreover, speakers of AAVE in Pennsylvania are not likely to share some of the patterns that the Louisiana and Texas speakers share with other speakers of southern regions”.

Another widespread but questionable assumption in the AAVE literature is that the dialect is not spoken by middle-class African-Americans but only by members of the lower working-class. This idea of a social stratification of AAVE use within the African-American community stems from the fact that the early pioneering investigations of the dialect were conducted on working-class African-Americans in northern urban ghettos, using middle-class African-Americans as control subjects. However, “the middle-class speakers included in these northern samples were often isolated individuals living apart from their ethnic community” (Linnes (1998)). A study on middle-class African-

Americans in Houston, Texas revealed a considerable amount of AAVE variants in their speech repertoire as well as some variation in use compared to the working-class African-American speakers usually surveyed in previous studies (Linnes (1998)). Thus, there is evidence of variation within AAVE on the basis of social stratification. Finally, even single speaker variation within the grammar of AAVE has been attested in the published literature. Terry (2010) notes an important variability in grammaticality judgments of preverbal *done* sentences modified by definite past-time adverbials among native speakers of AAVE.

Although it is true that some studies have acknowledged the existence of variation among speakers of the variety, more attention has generally been paid to the systematic description of core linguistic features of AAVE rather than to the issue of regional or individual variation. Despite the general awareness that variation is an inherent part of language, theoretical linguists have indeed often minimized its importance and dismissed it as being “tangential to the description of structural patterning and irrelevant to the study of linguistic competence” (Wolfram (2006)). Focused on formulating generalizations and describing abstract language systems, theoretical linguistics has understandably been more concerned with the language of the group rather than the language of the individual. However, if the task of linguistic theories is to “account for the possible internal grammars of speakers and to determine the initial and steady states of the language faculty in the mind of individuals” (Henry (2005)), the study of variation at the level of the individual speaker should also occupy a central place in theoretical linguistics research.

3.2. The ‘Non-Standard Internal Inconsistency’ Hypothesis

For the reasons outlined above, documented cases of individual variation on common-core grammatical features among speakers of a non-standard variety are very difficult to find. The focus has indeed largely been on describing properties of dialects as more or less homogeneous systems, or on discussing instances of peripheral variation with no effect on the core grammar. One study by Hazen and Fluharty (2004) on Appalachian English, a non-standard regional dialect spoken in the United States, is particularly relevant to the present investigation. The authors found that nearly a quarter of the phonological and grammatical features claimed to be the most prevalent linguistic characteristics of that vernacular were, in fact, not used at all by the Appalachian English speakers in their sample. They note that “the majority of these alleged core features [...] were used only by the most vernacular speakers”, while the rest of their participants showed considerable individual variation. Although such documented cases are rare, they constitute evidence that even defining features of a non-standard dialect may be subject to tremendous individual variation. It is thus reasonable to expect some degree of individual variation within our sample of AAVE speakers as well, regarding their use of aspectual-*Be* and the null copula, and this variation should be adequately accounted for.

A common assumption, among linguists and non-linguists alike, is that non-standard dialects display much more individual variation than standard dialects. However, the arguments underlying this claim are not entirely clear. It is typically believed that the fact that the grammatical rules of standard dialects, unlike those of non-standard varieties, are generally taught explicitly to their speakers creates a stronger cohesiveness in standard linguistic systems and restricts the possibility of inter- and intra-

speaker variation. In other words, this view suggests a qualitative difference between standard dialects, which show little or no internal grammatical variation across speakers as regards core grammatical features, and non-standard varieties, which do show such internal variation. This analysis makes the claim that, because internal grammatical inconsistency is typical of all non-standard dialects, there will naturally be grammatical variation within the mind of individual native speakers of AAVE, independent of interference from the standard language and even for core grammatical features of the dialect. In other words, what this hypothesis says is that it is normal to find a great deal of individual variation when investigating non-standard varieties because there is no such thing as a pure native speaker of a non-standard dialect who would always follow the same basic rules even when it comes to defining grammatical properties. We will call this hypothesis the ‘non-standard internal inconsistency’ (NSII) hypothesis.

Although it has been reported in the literature that individual speakers sometimes have an optional grammatical rule, such that they have two variants of a given form (Henry (2005)), these cases generally only concern peripheral features of a dialect. It seems improbable that native speakers could display such optionality when it comes to core grammatical properties of a dialect, regardless of whether this dialect is standard or not. The literature presented above suggests that it is possible for a non-standard dialect like AAVE to show some degree of individual variation, even with respect to common-core features such as aspectual-*Be* and the null copula. However, claiming qualitative differences between standard and non-standard dialects in terms of internal grammatical variation does not seem to properly account for the observed variation. The proposition that native speakers of a standard dialect show uniformity across individuals because the standard dialect is taught in schools is simply untenable given what is known about first language acquisition. Children are not taught their native language in school. Regardless of whether this language is standard or not, children learn it on their own with no help from teachers or parents. The explicit instruction of standard grammatical rules only occurs at a later stage. More importantly, core grammar includes mainly constraints, such as the subadjacency condition or Principle B for instance, which cannot be learned by demonstration. Thus, we propose that there is no such variation or optionality within the grammatical competence of individual native speakers of AAVE regarding core grammatical properties differentiating the dialect from other varieties, but that it may be possible to explain the individual variation observed when considering a sample of AAVE speakers by taking a closer look at the possible internal composition of speech communities in general.

3.3. The ‘Idiolect Family’ Hypothesis

As mentioned in section 3.1.2., most of the literature on AAVE suggests that speakers of the dialect all share a set of core grammatical features, including aspectual-*Be* and the null copula, therefore screening out the possibility of variation with respect to these properties. However, Hazen and Fluharty (2004)’s study on Appalachian English shows that speakers of a non-standard dialect can display variation in their use of the grammatical features which define that language variety. In order to account for this variation, the authors suggest that “given the difficulties of construing a unified Appalachian English, scholars should move towards the concept of Appalachian Englishes”. Thus, it is proposed here that any given dialect be viewed as a collection of

idiolects rather than standing as a monolithic whole. Consider dialect X to be a non-standard variety, dialect Y to be its mainstream counterpart and P₁, P₂ and P₃ to be core grammatical properties differentiating X from Y. An ideal native speaker of dialect X should possess all three properties (P₁, P₂ and P₃) in their internal grammar (X₀). What we claim here is that not all speakers of dialect X will fall into this category. Some of them may have internalized only two properties out of three (P₁ and P₂, P₁ and P₃ or P₂ and P₃), or even only one of these properties (P₁, P₂ or P₃), therefore forming several groups of dialect X speakers (X₁, X₂, X₃, X₄, X₅ and X₆), which are then the locus of the variation. In other words, this ‘idiolect family’ (IF) hypothesis postulates that dialects, standard or non-standard, actually consist of a collection of subdialects, which include a certain degree of variation. Additionally, assuming a normal distribution within the speech community, each subgroup should contain a more or less even proportion of speakers. Table (5) illustrates the possible idiolects of dialect X, as predicted by the IF hypothesis.

5.

X ₀	X ₁	X ₂	X ₃	X ₄	X ₅	X ₆	Y
P ₁ +	P ₁ +	P ₁ +	P ₁ -	P ₁ +	P ₁ -	P ₁ -	P ₁ -
P ₂ +	P ₂ +	P ₂ -	P ₂ +	P ₂ -	P ₂ +	P ₂ -	P ₂ -
P ₃ +	P ₃ -	P ₃ +	P ₃ +	P ₃ -	P ₃ -	P ₃ +	P ₃ -
15%	15%	15%	15%	15%	15%	15%	

In the present study, we are concerned with one non-standard dialect, i.e. AAVE, and with two of the grammatical properties which differentiate it from the standard, i.e. aspectual-*Be* and the null copula. We will label the property ‘aspectual-*Be*’ and the property ‘null copula’ as P_{AB} and P_{NC}, respectively. According to the literature on AAVE, all speakers of the dialect should have both property P_{AB} and property P_{NC} as part of their grammatical competence. This is illustrated in table (6) below. Note that our sample of participants includes white speakers and that not all African-Americans speak AAVE; therefore, we predict that at least some proportion of our sample, roughly 25%, will have neither property.

6.

AAVE	Standard
P _{AB} +	P _{AB} -
P _{NC} +	P _{NC} -
75%	25%

This view, however, leaves no room for individual variation. The IF hypothesis, on the other hand, predicts that this group of speakers possessing both of the properties under investigation represents only one of the three possible subgroups of AAVE

speakers in our sample, the other two categories corresponding to speakers having internalized only property P_{AB} or only property P_{NC} , respectively. Moreover, assuming a normal distribution in our sample, there is no particular reason why any of these idiolects should count a greater number of speakers. These predictions are summarized in table (7). Here again, for the reasons given above, a proportion of the sample is expected to have neither property (Standard).

7.

AAVE			Standard
AAVE ₁	AAVE ₂	AAVE ₃	
$P_{AB} +$ $P_{NC} +$	$P_{AB} +$ $P_{NC} -$	$P_{AB} -$ $P_{NC} +$	$P_{AB} -$ $P_{NC} -$
25%	25%	25%	25%

Therefore, the IF hypothesis predicts that individual variation with respect to core grammatical features is to be found when considering a sample of AAVE speakers because there exist several variants of AAVE in which core features of the dialect may or may not have been fully internalized by its speakers. That is to say, individual variation is an inherent property of dialects in general.

At least two arguments motivate such a claim. First of all, if individual variation is observed within a sample of AAVE speakers, then the linguistic input those speakers received during acquisition is likely to have been equally variable. Growing up in such a non-homogeneous community, where several variants of AAVE as well as more standard forms of (Southern) American English coexist, the speakers from our sample may not necessarily have been exposed to the properties under investigation in a consistent manner, preventing them from fully assimilating all of the features associated with these two core properties. Although somewhat of a circular statement, the claim that the observed individual variation must be at least partially due to the variable nature of the input itself has further implications. If variation is available in the input, one might expect AAVE learners to pick and choose, consciously or not, which properties to assimilate in their internal grammars and which properties to discard during acquisition. In other words, the existence of several variants of AAVE in the ambient environment gives the learner the opportunity to ignore part of the input, i.e. to select only one type of input for internalization at the expense of another type. It is this interaction of different choices which can give rise to distinct subdialects of AAVE and therefore to individual variation across speakers from our sample for instance. We will call this the ‘individual choice’ hypothesis. There is indeed evidence in the published literature that language acquisition can be a selective process. Krashen (1982), for instance, argues that success in second language acquisition can be directly related to a number of affective variables or attitudinal factors like motivation, self-confidence and anxiety. His ‘affective filter’ hypothesis posits that the strength or level of a learner’s affective filter will determine their ultimate competence. According to him, factors such as lack of motivation, self-doubt or, in our case, negative attitudes towards the target language, function as filters between the speaker and the listener, preventing efficient processing of the input. In

other words, “those whose attitudes are not optimal for language acquisition will tend to seek less input [...] and even if they understand the message, the input will not reach the part of the brain responsible for language acquisition” (Krashen (1982)). Thus, it could be the case that similar emotional filters also cause AAVE learners to select some of the input and block the rest. The problem with applying the ‘affective filter’ hypothesis to our data, however, is that this act of picking and choosing fragments of input seems to be typical of late learners only, who have a more conscious knowledge of the target language. First language acquisition, on the other hand, is mostly a subconscious process and young children do not appear to have this ability to listen to one input and ignore another. For example, a child who is exposed to two language varieties from birth or soon after typically reaches the linguistic competence of a native speaker in both systems (Meisel (2004)). If selection occurred during first language acquisition, one would expect these speakers to be more fluent in one of the two varieties or to lack some essential properties of those linguistic systems. Meisel claims that “simultaneous acquisition of two or more languages can be qualified as an instance of multiple first language acquisition”, in the sense that “the development of each of the bilingual’s languages leads to the same kind of grammatical competence as in the respective monolingual children”. Thus, the existence of these so-called ‘balanced bilinguals’ suggests that filtering through linguistic input is not typical of early language learners. Although there may be such a thing as several predictable variants of one dialect, the IF hypothesis might not capture the entire range of individual variation among AAVE speakers from our sample. In the next section, we propose another hypothesis based on theories of language acquisition.

3.4. The ‘Successive Bilingualism’ Hypothesis

3.4.1. The Critical Period for Language Acquisition

The idea behind the ‘successive bilingualism’ (SB) hypothesis is that people typically show different levels of proficiency in a dialect depending on the age at which they learned the variety. We approach this study of individual variation in AAVE from a generative perspective and adopt the idea that language is not simply learned from the environment, i.e. acquired by means of general-learning mechanisms of induction and generalization only, or by merely listening to and imitating the speech of adults²⁰. Instead, it is assumed here that the language faculty is part of our biological endowment and that we attain full mastery of our native language because we are guided by some innate linguistic knowledge. This nativist view on language acquisition was first put forth by Noam Chomsky in the 1960s (Chomsky (1965)) in order to account for the fact that children, despite the complexity of natural languages and the limited amount of linguistic input available to them, are able to perfectly master their native language within the first few years of their lives. Children indeed acquire languages rapidly, effortlessly, without the need for explicit instruction and through exposure to linguistic input (i.e. positive evidence) only, since negative evidence (explicit or indirect correction) is rare and is not known to improve linguistic performance in any way (Brown et al. (1973), Bowerman (1988), Marcus (1993)). Children are able to generate an infinite number of

²⁰ The view according to which language is acquired using learning mechanisms that are part of the general cognitive learning apparatus has been advocated by Skinner (1957), Tomasello (2003) and Bates et al (1988), for example.

sentences from finite input, including sentences they have never possibly heard before, and they also know which sentences are acceptable and which are not in their ambient language. Empirical studies on first language acquisition have also shown that the mistakes children make are not random. Such observations are what led linguists to conclude that language acquisition must require some innate linguistic knowledge. As Chomsky (1965) puts it,

“A consideration of the character of the grammar that is acquired, the degenerate quality and narrowly limited extent of the available data, the striking uniformity of the resulting grammars, and their independence of intelligence, motivation and emotional state, over wide ranges of variation, leave little hope that much of the structure of language can be learned by an organism initially uninformed as to its general character”.

Chomsky ((1965), (1981)) offered one way to characterize this linguistic predisposition by postulating a set of universal constraints, known as Universal Grammar, and a parameter-setting model as the mental apparatus responsible for restricting the child’s hypothesis space, i.e. for reducing the search space amongst the infinite number of logically possible grammars capable of accounting for the ambient linguistic input.

Although there is strong evidence in favor of innate linguistic mechanisms enabling successful first language acquisition, it is unclear whether this genetic apparatus is still available to the second language learner. Adults are indeed known to acquire languages less rapidly and less easily than children (Bley-Vroman (1990)). They usually need explicit instruction and in many cases never reach the performance level of native speakers. If the previously assumed innate linguistic mechanisms were equally available to adults, we would actually expect them to outperform children in their acquisition of language since they could also make use of their more developed cognitive skills. Yet, this is not the case. Thus, we will assume here that our ability to learn a language is biologically linked to age, i.e. that it fades away as we grow older. This idea of a critical period for language acquisition was first introduced by the neurologists Penfield and Roberts (1959) and later popularized by Lenneberg (1967) and Johnson and Newport (1989), for instance. A critical period refers to a time window after which development becomes more and more difficult and perfect mastery of a given task can never be fully reached. There is no real consensus in the literature as to the actual duration of this sensitive period; some claim that it ends when the child is as young as 4 or 5 years old (Ruben (1997)) while others set its boundary around the time of puberty (Lenneberg (1967)). Most of the evidence for such a critical period in language acquisition comes from studies on feral and deaf children. Curtiss (1977), for instance, discusses the case of Genie, a young girl brought up in confinement and barely exposed to any form of language until the age of 13, who, even after seven years of specific linguistic rehabilitation, still showed a severe lack of linguistic competence. Newport and Supalla (1987) investigated the acquisition of American Sign Language by deaf children, comparing their performance with the age at which they were first exposed to the variety, and showed a linear decline in performance with increasing age of exposure. This deterioration of our linguistic competence with age has been attributed to neurological changes taking place in the brain during the first few years of life. Lenneberg (1967)

accounts for the critical period in terms of a diminution of cerebral plasticity and a specialization for language processing in the left hemisphere. Brain-imaging studies on early and late bilinguals (Kim et al (1997), Wattendorf et al (2001)) have revealed differences in spatial representations of native vs. second languages in the cortex of late bilinguals, as opposed to early bilinguals. The subjects having been exposed to two languages during infancy, i.e. the early bilinguals, showed a single activation site for both languages within the Broca area. However, in the case of the late bilinguals, having acquired their second language in early adulthood, activation for each language was observed in two separate regions of the Broca area. Such findings indicate that different parts of the brain must be involved in first vs. second language acquisition, resulting in varying levels of ultimate attainment between first and second language learners.

In this section, we have argued that there is a fundamental difference between first and second language acquisition. We assume, following nativist theories, that the successful and effortless acquisition of language early in life is facilitated by innate linguistic knowledge and that the generally poorer performance of second language learners can be explained by the existence of a biologically determined critical period after which the innate linguistic learning mechanisms are no longer fully accessible. The lower degrees of proficiency found among second language speakers can additionally be accounted for in terms of interference from the native language. Unlike infants, for which the initial state of language acquisition consists of a ‘blank state’, i.e. of this genetically provided learning apparatus still unaffected by any linguistic input, children or adults learning a second language after the critical period indeed come with an already fully established internal grammar corresponding to their native language. In other words, their interlanguage initial state must be at least partially based on the principles and parameters of their mother tongue and affect their resultant linguistic competence in the second language. Besides the possible transfer effects from a native language and the increasingly reduced ability with age to retrieve the innate linguistic learning mechanisms guiding first language acquisition, many other factors can of course also hinder the later acquisition of a second language, including a general decline in cognitive abilities (for older learners), a limited amount of exposure to the target language, along with social and emotional factors such as negative mainstream and individual attitudes towards the given variety or a plain lack of motivation. As summarized in (Bley-Vromann (1990)), “second language acquisition differs in degree of success, in the character and uniformity of the resultant systems, in its susceptibility to factors such as motivation, and in the previous state of the organism; the learner already has knowledge of one language and a powerful system of general abstract problem-solving skills”. The theoretical assumptions outlined in this section are crucial to the formulation of our predictions for the present study on individual variation among speakers of AAVE.

3.4.2. Predictions

This thesis investigates the individual variation among speakers of the same non-standard dialect, namely AAVE, regarding their use of the core grammatical features aspectual-*Be* and the null copula. Earlier in this chapter, we saw that, although the literature on AAVE has generally favored the primacy of ethnicity over regionality, largely ignoring the issue of individual variation and simply describing the variety as structurally uniform from coast to coast, some studies on other non-standard dialects of

American English have shown that individual variation can be found among speakers of those varieties, even on common-core grammatical features. Moreover, in section 3.4.1., we adopted the view that the steady state grammars of native speakers differ significantly from those of second language learners because of our fully established knowledge of a first language and because our innate ability to analyze linguistic input decreases with age. Applying these theoretical assumptions to the present study, it can be hypothesized that our sample of participants will consist of three types of speakers: native, non-native and non-AAVE speakers. First of all, given that our sample contains both black and white participants and that not all African-Americans speak the variety, it is reasonable to predict that a proportion of our subjects will not be familiar with the dialect at all. This group should include the participants who have never, or just minimally, been exposed to AAVE and therefore do not speak the dialect at all and clearly reject the target constructions. Then, assuming that an innate language acquisition device (LAD) guarantees full mastery of a language within the first few years of life provided that the child is presented with adequate linguistic input, we also predict that a significant number of participants will form a group of true native speakers of AAVE. This group should include the subjects who have been exposed to AAVE from birth, or at least before the end of the critical period, and have somehow maintained their exposure to the dialect throughout adulthood. These participants should then have attained full mastery of the variety and show no variation in their use of core grammatical AAVE constructions. In other words, they should all possess both of the properties under investigation, i.e. agree that aspectual-*Be* and null copula constructions can receive strict habitual interpretations and episodic or lexical generic readings, respectively.

Finally, the rest of the participants should fall into an intermediate category of non-native speakers, showing the typical behavior of second language learners or late bilinguals. Assuming that full command of a language acquired after the critical period is rarely achieved, i.e. that the age of onset of acquisition is a crucial factor in ultimate performance, the subjects who have only been exposed to AAVE at a later age or have received insufficient input from the dialect should indeed perform significantly worse than the participants from the native speakers group because they will not have fully mastered grammatical features such as aspectual-*Be* and the null copula. This group of non-native speakers should primarily be made up of those white respondents who acquired Southern American English at home, but then came into contact with AAVE at school around the age of 4, and after a few years of being second language learners of the dialect as children, eventually became successive bilinguals of Southern American English and AAVE. As shown in the previous section, the significant difference in linguistic competence between native and non-native speakers can be accounted for in neurological terms. A language acquired at a later age does not seem to be processed in the same area of the brain as a language acquired before the end of the critical period; different cerebral mechanisms must then be involved when the successive bilinguals of this intermediate group use AAVE, as opposed to their native dialect. Moreover, the influence of their native language, i.e. the fact that the initial state of acquisition of AAVE for those successive bilinguals was based on their prior knowledge of Southern American English, may also explain their lower grammatical competence in AAVE. We anticipate that the participants making up this non-native speakers group will display varying levels of fluency depending on the age at which they first started acquiring

AAVE and on the amount of exposure to the dialect they have received from their environment. For example, for some of the individuals included in this group, the grammatical features under investigation will have actually become part of their internal grammar, in which case their performance should be essentially consistent and almost match that of any true native speaker of AAVE. But in most cases, these features will not have been fully internalized; although these second language or successive bilingual AAVE speakers may follow most of the same rules as native speakers, they will do so inconsistently. Moreover, as typical non-native speakers, their use of aspectual-*Be* and the null copula may often exclusively serve idiomatic purposes, so some of the participants falling into this intermediate group might have “unnatural” rules, i.e. they might overgeneralize the use of aspectual-*Be* and the null copula to contexts that would seem inappropriate to a native speaker. In sum, this third category of participants is expected to include a wide range of speakers, some displaying near-native fluency and others performing very poorly on their use of aspectual-*Be* and the null copula.

In light of the theoretical assumptions outlined in the previous sections, it has been hypothesized here that our sample of participants should naturally divide itself into three clearly distinguishable categories of speakers: native AAVE speakers who have acquired the dialect from birth and all show full command of the aspectual-*Be* and null copula properties, non-native speakers who have acquired the dialect after the critical period and therefore show much more individual variation or weaker grammatical competence with respect to these core grammatical properties of AAVE, and of course, there should also be a number of participants who do not identify with the dialect at all. The crucial claim here is that our hypothesis predicts a clear difference in performance between native and non-native speakers, namely that native speakers will show uniformity in their judgments of aspectual-*Be* and null copula constructions while non-native speakers will display much more inconsistency or individual variation in their responses, as typical second language learners whose grammar of the target language is not as firmly assimilated. The predictions of this SB hypothesis are illustrated in the table below.

8.

Native AAVE	Non-Native	Non-AAVE
P _{AB} + P _{NC} +	P _{AB} +/- P _{NC} +/-	P _{AB} - P _{NC} -
25%	50%	25%

We further propose that it is precisely this high degree of variability among non-native speakers which can explain why so much individual variation is typically found in studies of non-standard dialects. Contrary to the NSII hypothesis mentioned above, this new SB hypothesis claims that there is no grammatical variation or optionality of rules in the mind of native speakers of non-standard dialects and that the observed individual variation can be explained by the fact that the majority of non-standard dialect speakers are in fact successive bilinguals whose internal grammars are not as consistent as those of native speakers. We will now continue our discussion with a detailed description of the

methodological practices adhered to in the present study, including the preliminary practical considerations, the design of the experimental materials, the selection of our sample and the actual collection of our data.

4. Methodology

4.1. Preliminary Considerations

This study compares the grammaticality judgments of speakers of AAVE on constructions containing core grammatical features of this dialect, namely aspectual-*Be* and the null copula. When investigating a non-standard dialect like AAVE, one must bear in mind a number of external factors that can have a negative influence on the outcome of the study. First of all, in addition to their native dialect, speakers of non-standard varieties will also have extensive knowledge of the standard language. There are indeed many contexts in which using the non-standard dialect would be considered inappropriate or create a barrier for communication. Typical examples of such situations include educational and employment settings or conversations with outsiders, i.e. with people who do not speak the variety. The participants in our study are therefore expected to be essentially bilingual in AAVE and Standard (Southern) American English. Like speakers of other non-standard varieties, and like bilinguals who speak two or more different languages, AAVE speakers must have the ability to code-switch between their native dialect and a more standard form of English depending on the social setting. While AAVE may be spoken at home or among friends, for instance, a good level of grammatical competence in Standard English is required to communicate in the classroom, the workplace setting or any other formal situation. Ray (2009) notes that this “code-switching skill can even be advantageous for blacks”, i.e. that “it holds benefits in relation to the way success is often measured in institutional and professional settings”. Hopper and Williams (1973), found that AAVE speakers using Standard English during employment interviews increased their chances of obtaining executive and supervisory positions. Similarly, Garner and Rubin (1986) and Fuller (1993) discuss cases of African-American lawyers using code-switching in the courtroom as a strategy to negotiate their relationship with the jurors. Thus, the overall linguistic performance of individuals who speak AAVE “includes a certain amount of inherent variability, which can be adjusted in one direction or another to mark social and stylistic distinctions and to establish the relationship between interlocutors” (Rickford (1999)). Each speaker of the dialect occupies a different position on the continuum between AAVE and Standard American English and can switch back and forth between the two varieties even within a short conversation (Labov (1972), DeBose (1992)). This code-switching factor is an intrinsic problem for dialect research in general; one can never isolate the target dialect completely since all dialects or registers are present in the mind of the individual speaker. If both vernacular and mainstream variants coexist in the linguistic repertoire of AAVE speakers, this implies that the individual variation observed in the present study might be partially due to conscious or unconscious code-switching and retroactive transfer from the standard dialect. In other words, interference from the standard dialect may significantly affect our measurement of the variety, making it appear that speakers differ wildly in their obedience of grammatical aspects of the dialect when it is actually just an artifact of the experimental tool.

Another potentially confounding factor to consider in the study of non-standard dialects concerns the way in which these varieties are perceived in mainstream society. As mentioned in section 2.1, AAVE is one of the most controversial and highly stigmatized dialects of American English. Popular belief holds that the speech of African-Americans is nothing more than an unworthy approximation of Standard English. Such prejudices about the linguistic integrity of AAVE stem from widespread and long-standing negative attitudes towards the African-American community. “The language of socially subordinate groups is indeed often interpreted as linguistically inadequate and deficient by comparison with the language of their socially dominant counterparts” (Lippi-Green (1997)). Negative perceptions towards a non-standard variety can make describing the linguistic competence of its speakers a very challenging task. If the respondents are aware of the lack of prestige of their dialect and feel that they are being tested on their linguistic abilities, chances are indeed high that they will not dare to admit that they use the features under investigation. Instead, they may provide biased grammaticality judgments, based on what they think is more socially desirable, or what they think the experimenter wants to hear. Finally, the quality of the collected data in studies on non-standard ethnic varieties can also vary depending on the person carrying out the investigation. Agerton and Moran (1995), for instance, demonstrate that the language samples from some southern AAVE-speaking children contained many more AAVE features when elicited by examiners who themselves spoke the dialect. Therefore, the outcome of the present study may also depend on the participants’ attitudes towards the ethnic and linguistic background of the investigator. It has been established here that factors such as code-switching, negative perceptions and dialect of the investigator must be considered when investigating the grammatical competence of speakers of a non-standard variety. The next section discusses how the experimental materials were designed so as to reduce the interference of such confounding factors with the outcome of our study.

4.2. Experimental Design

4.2.1. Test Conditions and Predictions

The present study was designed in the form of a questionnaire. Although recording spontaneous speech is the most ideal way to access the natural linguistic behavior of non-standard dialect speakers, adopting such a method here would require enormous amounts of data to establish how the specific target constructions are used and it would not offer the possibility of finding out about ungrammatical readings. Questionnaires give less flexibility to the respondents than single subject interviews, but they were the most convenient way to collect a lot of data in the very small amount of time available to conduct this study. The fact that only adult speakers are targeted here makes it possible to use such an experimental tool.

The goal of this investigation is to obtain grammaticality judgments from AAVE speakers on constructions containing aspectual-*Be* and the null copula. The only task required of them was indeed to decide – by circling the appropriate answer (“I could say this’ vs. ‘I would never say this’) – whether they could have made the same choice of words to convey the same meaning as in the provided underlined sentence, given the same context. The construction of our questionnaire items was guided by the empirical

claims from the published AAVE literature²¹. The semantics of aspectual-*Be* and null copula constructions was discussed at length in chapter 2. It was basically claimed that sentences with aspectual-*Be* are equivalent in meaning to habitual generics and that the null copula can be associated with episodic and lexical generic readings. Moreover, a distinction was made between aspectual-*Be* and simple present constructions in AAVE. According to Green (2000), the use of the simple present makes a sentence ambiguous between a dispositional and a habitual reading while aspectual-*Be* forces a strict habitual interpretation. The paradigm of the present tense in AAVE is reproduced below as an illustration. In (1.a), i.e. the null copula construction, the smoking event is taken to hold at the time of speech (episodic reading). (1.b) and (1.c), i.e. the simple present and aspectual-*Be* constructions, both contrast with (1.a) in the sense that they abstract away from particular events. But (1.b) also differs from (1.c); *Mary smoke* can either mean that ‘Mary has the habit of smoking on some particular occasions’ (habitual reading) or that ‘she does not object to smoking because she has smoked on some occasions without implying that smoking is a habit of hers’ (dispositional reading). On the other hand, *Mary be smoking* necessitates that the smoking event be actualized on a regular basis (habitual reading).

- 1.a. *Mary ∅ smoking.*
- b. *Mary smoke.*
- c. *Mary be smoking.*

A starting point in the design of our questionnaires was to test this basic three-way distinction. We therefore constructed 10 types of sentences, each of them corresponding to a different possible sentence-meaning combination for the three constructions and three readings discussed above (simple present, aspectual-*Be* and null auxiliary constructions and habitual, dispositional and progressive interpretations). Three of the actual test items are provided below as an illustration. According to the published literature, the example in (2.a), where the simple present is used to convey a dispositional reading, should be judged grammatical by native speakers of AAVE. On the other hand, (2.b) and (2.c) should be rejected by native speakers since it has been claimed that aspectual-*Be* and null copula constructions do not allow for dispositional interpretations. Including all possible sentence-meaning combinations indeed implies that many test items will elicit negative responses from native AAVE speakers, therefore enabling us to find out about both grammatical and ungrammatical readings²².

2.a. Simple Present Construction / Dispositional Reading:

-> *My dad got me a new car. Nobody’s ever drove it but that car go 120 miles per hour.*

²¹ Although much research has been conducted on the use of *be* in AAVE, we chose to build our questionnaires based on the work of Green ((2000), (2002)) who offers the most recent and comprehensive descriptive analysis of the AAVE grammatical system. Note that her claims do not conflict with the ones from earlier studies (Labov (1972), Fasold and Wolfram (1970), Fasold (1972), among others).

²² This particular aspect of our design will be illustrated later on in this chapter, when we present a more detailed discussion of our predictions.

b. Aspectual-*Be* Construction / Dispositional Reading

-> *My dad got me a new car. Nobody's ever drove it but that car be going 120 miles per hour.*

c. Null Auxiliary Construction / Dispositional Reading

-> *My dad got me a new car. Nobody's ever drove it but that car going 120 miles per hour.*

Another claim made by Green, which has important theoretical implications, is that the aspectual-*Be* marker can precede dynamic as well as stative verbs. We therefore also incorporated, for each construction (simple present, aspectual-*be* and null auxiliary), one test item containing a stative predicate. These can be found in (3), where (3.a) and (3.b) are predicted to be grammatical in AAVE but (3.c) is not.

3.a. Simple Present / Stative predicate:

-> A: *I don't get the question.*

B: *Ask Lucy! She know the answer.*

b. Aspectual-*Be* / Stative predicate:

-> A: *I don't get the question.*

B: *Ask Lucy! She be knowing the answer.*

c. Null Auxiliary / Stative predicate:

-> A: *I don't get the question.*

B: *Ask Lucy! She knowing the answer.*

Finally, Green offers one more way to differentiate between aspectual-*Be* and the null auxiliary in AAVE. She notes that adding a temporal adverbial clause reveals additional differences between the two constructions. Take, for example, the sentences in (4).

4.a. *Bruce be crying when the teacher call his mother.*

'It is usually the case that Bruce is already crying when the teacher calls his mother'.

or 'It is usually the case that Bruce starts to cry when the teacher calls his mother'.

b. *Bruce crying when the teacher call his mother.*

'Bruce's crying is already in progress when the teacher calls his mother'.

5.a. Simple Present / Onset Reading:

-> *Bill's allergic to cats. He sneeze when my cat sit on his lap.*

b. Aspectual-*Be* / Onset Reading

-> *Bill's allergic to cats. He be sneezing when my cat sit on his lap.*

c. Null Auxiliary / Onset Reading

-> *Bill's allergic to cats. He sneezing when my cat sit on his lap.*

According to Green, (4.a) is ambiguous between two readings, one in which 'Bruce is generally already crying when the teacher calls his mother' and another in which 'Bruce generally starts to cry when the teacher calls his mother', while (4.b) can only yield the former reading. In other words, "the eventuality in aspectual-*Be* constructions can be interpreted as already being in progress before the time indicated by the *when*-clause (progressive reading) and it can also be interpreted as starting after the time indicated by the adverbial (onset reading). On the other hand, the eventuality in null auxiliary constructions can only be interpreted as already being in progress before the time indicated by the *when*-clause (progressive reading)" (Green (2000)). Based on these claims, we incorporated six additional test items containing simple present, aspectual-*Be* or null auxiliary constructions followed by temporal adverbial clauses and introduced so as to yield progressive and onset readings. Some examples of these conditions can be found in (5). Here, (5.a) and (5.b) are predicted to be grammatical in AAVE while (5.c) is not.

The claims discussed so far concern the use of the null auxiliary and aspectual-*Be* before verbal predicates. However, as mentioned in section 2.1, both of these constructions can also precede nouns, adjectives, adverbs or prepositions. Green offers a comparison of the two following sentences.

6.a. *John ∅ the choir director.*

'John is the choir director'.

b. *John be the choir director.*

'John usually directs the choir'.

She states that (6.a) is equivalent in meaning to the Standard English sentence 'John is the choir director'; it simply means that John has the property of being a choir director (lexical generic reading) and therefore can be true if John has not had the opportunity to direct the choir yet, if he has done it only once so far, as well as if he directs the choir regularly. Green contrasts this sentence with the one in (6.b) which, according to her, can "only be used in the context in which John directs the choir on different occasions" (Green (2000)). Therefore, although not discussed at length in the literature, a clear distinction is made between the use of the null copula and aspectual-*Be* before non-verbal predicates. While the null copula can indicate the essential characteristic of an individual or a temporary property depending on the nature of the predicate, aspectual-*Be* can only mark habituality. In order to get a more complete description of the use of aspectual-*Be* and the null auxiliary/copula in AAVE, we chose to test our participants on this type of constructions as well. We then built a total of 18 conditions, including three types of verbal predicates - noun, adjective and prepositional phrases – and referring to habitual, essential or temporary properties of individuals. A few of these test items are provided in (7) as an example. Here, (7.b) and (7.d) are predicted to be grammatical in AAVE but (7.a) and (7.c) are not.

7.a. Aspectual-*Be* + DP / Essential property

-> *Lee just got a job for the new football team. He ain't started yet but he be the new coach.*

b. Null Copula + DP / Essential property

-> *Lee just got a job for the new football team. He ain't started yet but he the new coach.*

c. Aspectual-*Be* + PP / Essential property

-> *When I told Maria she had to leave a tip for the waitress, she couldn't believe it. She be from Europe.*

d. Null Copula + PP / Essential property

-> *When I told Maria she had to leave a tip for the waitress, she couldn't believe it. She from Europe.*

As with verbal predicates, the interpretation of aspectual-*Be* and the null copula before nouns, adjectives and prepositional phrases was also tested in sentences containing temporal adverbial clauses by means of 12 additional items encompassing all possible combinations of the non-verbal predicates and the onset/progressive readings for both aspectual-*Be* and the null copula. The examples in (8) represent two of these test conditions. According to the literature, both of these sentences should be judged grammatical by native speakers of AAVE.

8.a. Aspectual-*be* + PP / Progressive Reading

-> *My parents live on the coast in Florida. They really scared of hurricanes but they be in a safe place every time a hurricane comes.*

b. Null Copula + PP / Progressive Reading

-> *My parents live on the coast in Florida. They really scared of hurricanes but they in a safe place every time a hurricane comes.*

Finally, the last observation made by Green about the use of aspectual-*Be* and the null copula concerns the interpretation of sentences like the ones in (9), here referring to bicycles²³.

9.a. *Some of them be big and some of them be small.*

'It is usually the case that some of them are big and some of them are small'

b. *Some of them big and some of them small.*

'Some of them are big and some of them are small.'

The predicates *big* and *small* refer to permanent properties; bicycles do not regularly change sizes. However, aspectual-*Be* is claimed to indicate the habitual

²³ These so-called 'bicycle sentences' were originally discussed in Fasold (1972)

occurrence of an event or state. Green claims that, in this case, the habitual reading is to be attributed to the subject of the sentence instead of the event in the predicate. Then (9.a) would mean that “although any given bicycle is always the same size, one encounters different bicycles at different points in time and these will be of varying sizes” (Fasold (1972)); ‘it is usually the case that some of the bicycles we encounter are big and others are small’. Therefore, a sentence like (9.a), with aspectual-*Be*, should get a habitual reading, while (9.b), with the null copula, should be equivalent to the Standard English sentence ‘some of them are big and some of them are small’ and receive either a progressive or a habitual interpretation. We then designed 4 final test conditions in order to test the performance of our participants on this type of sentences as well. Two of these items are provided below. Here again, both (10.a) and (10.b) are predicted to be grammatical for native speakers of AAVE.

10.a. Aspectual-*be* / Habitual Reading

-> *You never know what to expect when you get a present. Some of them be nice and some of them be really bad.*

b. Null Copula / Habitual Reading

-> *You never know what to expect when you get a present. Some of them nice and some of them really bad.*

The experimental items were constructed using different types of predicates: stative verbs (*love, cost...*), durative verbs (*play, eat, run...*), punctual verbs (*sneeze, get up...*), mental verbs (*know, think...*), simple noun phrases with or without article (*the waiter, a fool, friends...*), more complex noun phrases (*the happiest person ever, the one hiding, the one who pick up the phone...*), various adjectival and adverbial phrases referring to sizes, colors, feelings, nationalities for instance (*big, red, scared, American...*), and prepositional phrases indicating location or movement (*in a safe place, out of the classroom...*), describing some activity or state of mind (*on the phone, in a bad mood...*). We used such a wide variety of verbal and non-verbal predicates in order to ensure that the observed readings apply universally. In sum, our study included a total of 53 experimental conditions of one trial each. All of these sentence types are summarized in the tables below, along with our predictions. The ‘+’ symbols indicate that a native speaker is expected to accept the given reading and the opposite holds for the ‘-’ signs.

11. Summary of Experimental Conditions and Predictions

a. AAVE Simple Present

Label	Form-Meaning Pairing	Example Test Item	Predicted AAVE Judgment
PRES+H	Simple Present → Habitual Reading	<i>John’s in good shape. <u>He run to work every morning.</u></i>	+
PRES+C	Simple Present → Dispositional Reading	<i>I just got a new printer. <u>It ain’t been used yet but that printer print 100 pages per</u></i>	+

		<i>minute.</i>	
PRES-P	Simple Present → \Progressive Reading	<i>I can't hear what you saying right now. <u>Everybody try to talk to me.</u></i>	-
PRES+S	Simple Present + Stative Verb	<i>- I don't get the question! - Ask Lucy! <u>She know the answer.</u></i>	+
PREST-P	Simple Present + <i>when</i> -clause → Progressive Reading	<i>I always feel like I'm bothering Lisa. <u>She cook when I call her.</u></i>	-
PREST+O	Simple Present + <i>when</i> -clause → Onset Reading	<i>Bruce always scared to get grounded. That's why <u>he cry when the teacher call his mother.</u></i>	+

b. Aspectual-*Be* before verbal predicate

Label	Form-Meaning Pairing	Example Test Item	Predicted AAVE Judgment
BING+H	Aspectual- <i>Be</i> + <i>V-ing</i> → Habitual Reading	<i>John's in good shape. <u>He be running to work every morning.</u></i>	+
BING-C	Aspectual- <i>Be</i> + <i>V-ing</i> → Dispositional Reading	<i>I just got a new printer. It ain't been used yet but <u>that printer be printing 100 pages per minute.</u></i>	-
BING-P	Aspectual- <i>Be</i> + <i>V-ing</i> → Progressive Reading	<i>I can't hear what you saying right now. <u>Everybody be trying to talk to me.</u></i>	-
BING+S	Aspectual- <i>Be</i> + Stative <i>V-ing</i>	<i>- I don't get the question! - Ask Lucy! <u>She be knowing the answer.</u></i>	+
BINGT+P	Aspectual- <i>Be</i> + <i>V-ing</i> + <i>when</i> -clause → Progressive Reading	<i>I always feel like I'm bothering Lisa. <u>She be cooking when I call her.</u></i>	+
BINGT+O	Aspectual- <i>Be</i> + <i>V-ing</i> + <i>when</i> -clause → Onset Reading	<i>Bruce always scared to get grounded. That's why <u>he be crying when the teacher call his mother.</u></i>	+

c. Null Copula before verbal predicate

Label	Form-Meaning Pairing	Example Test Item	Predicted AAVE Judgment
∅ING+H	Null Auxiliary +V-ing → Habitual Reading	- How come y'all so fit? - <u>We ∅ going to the gym.</u>	+
∅ING +Adv+H	Null Auxiliary +V-ing → Habitual Reading	<u>John's in good shape. He ∅ running to work every morning.</u>	+
∅ING-C	Null Auxiliary +V-ing → Dispositional Reading	<u>I just got a new printer. It ain't been used yet but that printer ∅ printing 100 pages per minute.</u>	-
∅ING+P	Null Auxiliary +V-ing → Progressive Reading	<u>I can't hear what you saying right now. Everybody ∅ trying to talk to me.</u>	+
∅ING-S	Null Auxiliary + Stative V-ing	- I don't get the question! - Ask Lucy! <u>She ∅ knowing the answer.</u>	-
∅INGT+P	Null Auxiliary +V-ing + when-clause → Progressive Reading	<u>I always feel like I'm bothering Lisa. She ∅ cooking when I call her.</u>	+
∅INGT-O	Null Auxiliary +V-ing + when-clause → Onset Reading	<u>Bruce always scared to get grounded. That's why he ∅ crying when the teacher call his mother.</u>	-

d. Aspectual-Be before non-verbal predicate

Label	Form-Meaning Pairing	Example Test Item	Predicted AAVE Judgment
BDP+H	Aspectual-Be + DP → Habitual Reading	<u>They always mad when we play that game with them because they be the losers.</u>	+
BAP+H	Aspectual-Be + AP → Habitual Reading	<u>Those roads ain't no good to drive on when it been raining for a couple of days. They be all muddy.</u>	+
BPP+H	Aspectual-Be + PP → Habitual Reading	<u>A: Where John at on Saturday nights? B: He be at home.</u>	+
BDP-E	Aspectual-Be + DP →	<u>I know they ain't always been</u>	-

	Essential Reading	<i>nice to you but <u>they be good people.</u></i>	
BAP-E	Aspectual-Be + AP → Essential Reading	<i>I be partying all night and still going strong the next day but Bob can't. <u>He be old.</u></i>	-
BPP-E	Aspectual-Be + PP → Essential Reading	<i>When I told Maria she had to leave a tip for the waitress, she couldn't believe it. <u>She be from Europe.</u></i>	-
BDP-T	Aspectual-Be + DP → Temporary Reading	<i>Brian's always more quiet than the other kids but today, <u>he be a fool.</u></i>	-
BAP-T	Aspectual-Be + AP → Temporary Reading	<i>John just won the lottery: <u>he be happy.</u></i>	-
BPP-T	Aspectual-Be + PP → Temporary Reading	<i>- Why's Rob not here right now? - <u>He be on the phone.</u></i>	-
B-PS	Aspectual-Be + Stative Non-Verbal Predicate → Progressive Reading	<i>- I thought those cars only came in black. - No, look! <u>Some of them be blue and some of them even be red.</u></i>	-
B+HS	Aspectual-Be + Stative Non-Verbal Predicate → Habitual Reading	<i>You never know what to expect when you get a present. <u>Some of them be nice and some of them be really bad.</u></i>	+
BDPT+P	Aspectual-Be + DP + when-clause → Progressive Reading	<i>John and Angela be fighting all the time. John keep telling me Angela be the one starting it but <u>he be the one pulling her hair when I catch them.</u></i>	+
BAPT+P	Aspectual-Be + AP + when-clause → Progressive Reading	<i>Everybody say she dye her hair different colors all the time but <u>her hair be black every time I see her.</u></i>	+
BPPT+P	Aspectual-Be + PP + when-clause → Progressive Reading	<i>Kate really hate her job. <u>She be in a bad mood when I see her after work.</u></i>	+
BDPT+O	Aspectual-Be + DP + when-clause → Onset Reading	<i>John don't like talking on the phone but his wife, Jenny, she don't mind it at all. <u>She be the one who pick up the phone when I call.</u></i>	+
BAPT+O	Aspectual-Be + AP + when-clause → Onset Reading	<i>Peter's little sister's always crying but <u>she be quiet when I turn on the TV.</u></i>	+

BPPT+O	Aspectual-Be + PP + <i>when</i> -clause → Onset Reading	<i>Charles really don't like school. <u>He be out of the classroom as soon as the bell go off.</u></i>	+
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e. Null Copula before non-verbal predicate

Label	Form-Meaning Pairing	Example Test Item	Predicted AAVE Judgment
∅DP+H	Null Copula + DP → Habitual Reading	<i>They always mad when we play that game with them because <u>they ∅ the losers.</u></i>	+
∅AP+H	Null Copula + AP → Habitual Reading	<i>Those roads ain't no good to drive on when it been raining for a couple of days. <u>They ∅ all muddy.</u></i>	+
∅PP+H	Null Copula + PP → Habitual Reading	<i>A: Where John at on Saturday nights? B: <u>He ∅ at home.</u></i>	+
∅DP+E	Null Copula + DP → Essential Reading	<i>I know they ain't always been nice to you but <u>they ∅ good people.</u></i>	+
∅AP+E	Null Copula + AP → Essential Reading	<i>I be partying all night and still going strong the next day but Bob can't. <u>He ∅ old.</u></i>	+
∅PP+E	Null Copula + PP → Essential Reading	<i>When I told Maria she had to leave a tip for the waitress, she couldn't believe it. <u>She ∅ from Europe.</u></i>	+
∅DP+T	Null Copula + DP → Temporary Reading	<i>Brian's always more quiet than the other kids but today, <u>he ∅ a fool.</u></i>	+
∅AP+T	Null Copula + AP → Temporary Reading	<i>John just won the lottery: <u>he ∅ happy.</u></i>	+
∅PP+T	Null Copula + PP → Temporary Reading	<i>- Why's Rob not here right now? - <u>He ∅ on the phone.</u></i>	+
∅+PS	Null Copula + Stative Non-Verbal Predicate → Progressive Reading	<i>- I thought those cars only came in black. - No, look! <u>Some of them ∅ blue and some of them even ∅ red.</u></i>	+

∅+HS	Null Copula + Stative Non-Verbal Predicate → Habitual Reading	<i>You never know what to expect when you get a present. <u>Some of them ∅ nice and some of them ∅ really bad.</u></i>	+
∅DPT+P	Null Copula + DP + <i>when</i> -clause → Progressive Reading	<i>John and Angela be fighting all the time. John keep telling me Angela be the one starting it but <u>he ∅ the one pulling her hair when I catch them.</u></i>	+
∅APT+P	Null Copula + AP + <i>when</i> -clause → Progressive Reading	<i>Everybody say she dye her hair different colors all the time but <u>her hair ∅ black every time I see her.</u></i>	+
∅PPT+P	Null Copula + PP + <i>when</i> -clause → Progressive Reading	<i>Kate really hate her job. <u>She ∅ in a bad mood when I see her after work.</u></i>	+
∅DPT-O	Null Copula + DP + <i>when</i> -clause → Onset Reading	<i>John don't like talking on the phone but his wife, Jenny, she don't mind it at all. <u>She ∅ the one who pick up the phone when I call.</u></i>	-
∅APT-O	Null Copula + AP + <i>when</i> -clause → Onset Reading	<i>Peter's little sister's always crying but <u>she ∅ quiet when I turn on the TV.</u></i>	-
∅PPT-O	Null Copula + PP + <i>when</i> -clause → Onset Reading	<i>Charles really don't like school. <u>He ∅ out of the classroom as soon as the bell go off.</u></i>	-

4.2.2. Anticipating Performance Error

As discussed in 4.1, many confounding factors can come into play when investigating non-standard language varieties, threatening the internal validity of these studies. In this section, we discuss the measures taken to reduce the effects of such factors on the quality of our own data from AAVE. First, the materials introduced above show that much effort was put into varying the lexicon, contexts and types of predicates from one test item to another so that the overall results could not be due to the fact that participants disliked a particular sentence or vocabulary item. Moreover, for each of the 53 experimental conditions, three different trials were constructed, varying in terms of contexts and choice of predicates, and the total number of items was divided up into three questionnaires²⁴. This way, each participant could be tested on every single condition while none of them would be presented with the same context twice; this would allow us to collect a greater array of data and make more legitimate generalizations. The items in (12) represent an example of three trials of the same condition, here aimed to test the

²⁴ All of the experimental materials can be found below in the appendix (9.1)

habitual reading of aspectual-*Be*. Given that each questionnaire already contained 53 items, it was preferable not to include any fillers so as to keep the surveys fairly short and avoid any fatigue effect on the part of the participants. Within each questionnaire, all test items were also pseudo-randomly distributed so that the subjects could not identify the pattern of the experimental design and be cued towards any particular answers²⁵.

12.a. *John's in good shape. He be running to work every morning.*

b. *Jim's a heavy smoker. He be smoking about 2 packs a day.*

c. *Jackie love to eat fruit but she only eat one kind of fruit for a while before she eat another kind. These days, she be loving to eat apples.*

One important confounding factor mentioned in 4.1 is the fact that both vernacular and standard linguistic systems coexist in the mind of AAVE speakers. For this reason, their grammaticality judgments may be partially influenced by their knowledge of the standard dialect. In order to reduce the undesirable effects of such code-switching, each target construction was not presented in isolation but introduced by a short context in non-standard English. Besides guiding the participants towards the desired semantic interpretations, these contexts were meant to create an informal setting in order to prepare the informants for the upcoming AAVE constructions and obtain more natural responses as to which forms are grammatical and which are not in the AAVE dialect. Designing such contexts involved omitting the third person singular *-s* in the simple present (*Jackie love, she only eat...*), using contractions (*ain't, gotta...*), double negations (*ain't got no money...*) and informal vocabulary typical of spoken language (*y'all...*). A few examples of experimental conditions with their preceding contexts are provided below.

13.a. *Right before his next paycheck, John ain't got no money to buy lunch. He be hungry then.*

b. A: *How d'y'all get to work in the morning?*

B: *We be taking the bus to the station and walking from there.*

c. *I be partying all nite and still going strong the next day but Bob, he can't. He old.*

d. *My dad got me a new car. Nobody's ever drove it but that car be going 120 miles per hour.*

It is possible that this aspect of our experimental design may constitute a source of performance error. Consider for instance the test item in (13.d), which is predicted to elicit a negative response. The context here contains information, i.e. *nobody's ever drove it*, which is crucial to the semantic interpretation of the following aspectual-*Be*

²⁵ Tables showing the random ordering of the experimental items for each questionnaire are provided in the appendix (9.2).

construction, i.e. *that car be going 120 miles per hour*. If, for some reason, a participant skips over this piece of sentential information and never adds it to their discourse representation, they may not realize that the following aspectual-*Be* construction does not fit the intended dispositional reading. Therefore, their grammaticality judgments may not always be representative of their actual use of the targeted AAVE constructions if the provided contextual information has not been processed as intended. However, the necessity to reduce the confounding effects of code-switching outweighs this potential risk. The use of contextual information guiding participants towards the desired interpretation is all the more crucial in that it enables us to eliminate another important confound. Without any context introducing our target sentences, participants would have to imagine one themselves before judging each test item. Our measurements would then reflect our subjects' power of imagination rather than their actual grammatical knowledge of AAVE, since individuals would probably vary in the degree to which they successfully imagine the appropriate context. Finally, these contexts were designed in such a way that they always referred to simple situations any participant from our sample could relate to, varying the types of events or states they described and avoiding any complex vocabulary items or predicate structures.

Besides the inherent variability found in the linguistic repertoire of AAVE speakers, another challenge in the study of non-standard language varieties resides in the fact that respondents are usually aware of the stigma attached to their dialect. For this reason, they might not always be able to separate authentic grammaticality from social valuation. From fear of being judged as using 'bad English', some participants may indeed feel pressured to reject the target constructions and deny that they in fact use them on a regular basis. In order to avoid the interfering effect of such negative perceptions on our data, no mention of AAVE was made anywhere in the questionnaires or during the testing sessions. Our research was instead presented as a study on dialect variation, and more precisely on the use of colloquial English in the Southern United States, without making any reference to a particular ethnic group.

Finally, although our participants were presented with a written version of the questionnaires, each test item was also provided to them orally. Non-standard dialects are indeed rarely encountered in the written form. Using an auditory stimulus therefore creates a more natural setting, hence reducing the likelihood of code-switching. The experimental items were recorded using the voices of four speakers from Mississippi: a 34-year-old white female and 25-year-old white male, both self-proclaimed native speakers of Southern American English, and a 38-year-old African-American female and 25-year-old African-American male, who both identified themselves as native speakers of AAVE. It has been suggested in the published literature that the ethnicity of a speaker can sometimes be identified on the basis of their speech alone (Shuy et al. (1969))²⁶. Thus, if our experimental items had been recorded using the voices of the African-American speakers only, participants might have been cued about the focus of our investigation and let their potentially negative attitudes towards AAVE influence their responses. For this reason, our auditory stimulus contained both African-American and European-American voices and these were distributed at random within the three

²⁶ In a study carried out in Detroit, Shuy et al. (1969) found that regardless of their respective age, race, sex and socioeconomic status, their informants accurately identified Black speakers from tape-recorded speech samples 80% of the time.

questionnaires²⁷. Another advantage of presenting our questionnaires orally is that it forces the subjects to respond quickly without monitoring their performance. In other words, it enables us to pace the experimental task and therefore obtain more accurate data, since the participants' responses are based mostly on unconscious processes. Of course, presenting our subjects with both written and auditory input also inevitably creates an artificial setting, a cross-modal situation which could itself lead to some performance error. But, given the objectives of our study, it was necessary to use written questionnaires in order to make sure that the right construction was being targeted, i.e. that the participants knew they were expected to judge the grammaticality of the underlined sentences only. Moreover, this potential weakness in our experimental design seems minimal compared to the many benefits of an auditory presentation of the questionnaires.

In section 4.1, one last factor was claimed to potentially confound the outcome of a study on non-standard dialects, namely the choice of the investigator. In the case of the present study, the questionnaires were administered by one single examiner, who was a non-native speaker of English. It has been shown that AAVE speakers are more likely to cooperate and use features of their native dialect in the presence of investigators who share their ethnic and linguistic background. However, we estimate that having a non-native speaker of English conduct this particular study, as opposed to a speaker of Southern American English for instance, might actually be more beneficial in the sense that participants are less likely to be biased towards Standard or Southern American English, therefore once again reducing the effects of code-switching. Finally, this section has shown that many significant measures - including the use of extra contextual information or auditory stimuli for instance - were taken in our experimental design in order to minimize the potential influence of confounding variables such as code-switching, negative attitudes towards AAVE and its speakers, or the ethnic and linguistic background of the investigator.

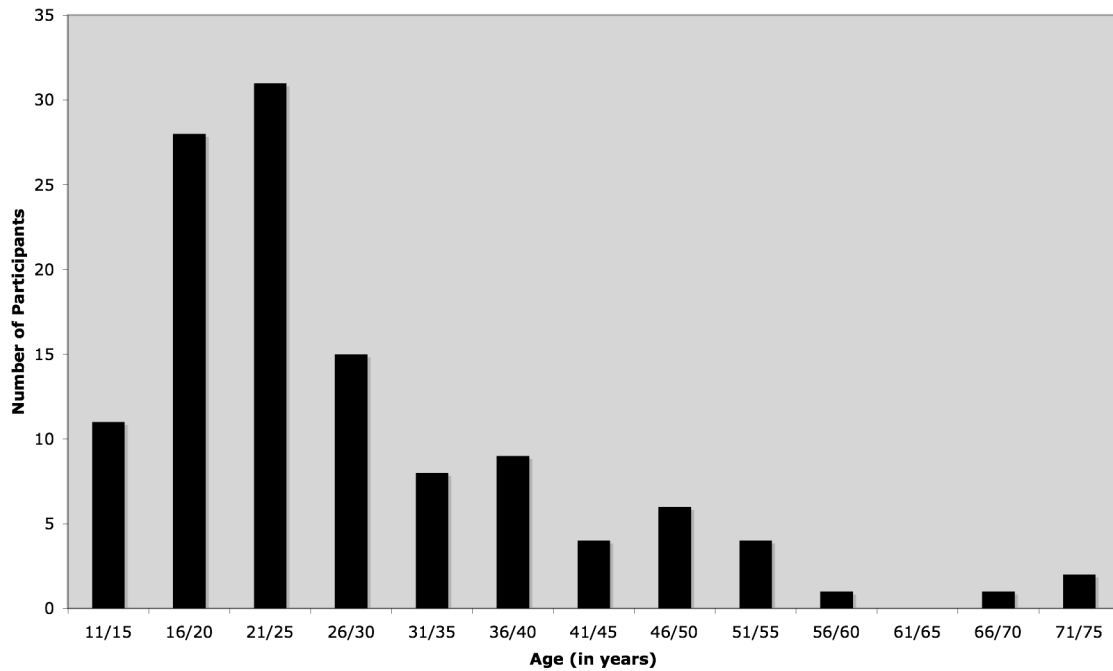
4.3. Participants

The data for this study was collected from a total of 120 participants. The sample was counterbalanced for gender and ethnicity²⁸ so as to eliminate the potential confounding effects of such factors on our findings; out of the 60 women, 30 were white and 30 were black, and out of the 60 men, 29 were white and 31 were black. The testing took place in Oxford, Mississippi, a university town, so the majority of people available for testing were in their early twenties, but on the whole, the age of our subjects ranged from 13 to 74 years old. The histogram in (14) below shows a more detailed distribution of the participants according to their age.

²⁷ This random distribution of the recorded voices is illustrated in the appendix (9.3).

²⁸ Because of the long history of racial discrimination in the United States, ethnic groups can generally be defined on the basis of skin color. Therefore, what is meant here by 'ethnicity' is actually 'racially defined ethnic groups'.

14. Age Distribution of the Participants



Nearly all of the participants, i.e. 90%, were from Mississippi, and the majority of them had grown up in Oxford or even smaller towns of the surrounding area, including the Mississippi Delta. The other informants, i.e. the remaining 10%, although not native of Mississippi, all came from the Deep South²⁹, with the exception of a few cases from southern states such as Florida, Texas or Arkansas. Our participants were not explicitly asked to indicate their socio-economic background for fear of potentially offending them and affecting the outcome of the study. However, a closer look at the subjects' respective occupations, when information on this was available, reveals a socially diverse sample. More than half of the informants (about 60%) were high-school or college students. The remaining 40% included people practicing various professions, from blue-collar workers (janitors, construction workers or cafeteria staff) to more highly educated people (business managers, university professors, researchers, ...). It is also important to note that, except for three individuals³⁰, all participants were monolingual speakers of English. A summary of the attributes of our sample can be found in table (15).

²⁹ The term 'Deep South' is used here to label the region of the United States comprising the states of Mississippi, Alabama, Louisiana, Georgia and South Carolina.

³⁰ These three participants were also fluent second language speakers of Swedish, Mandarin Chinese and German respectively. However, they claimed to have always lived in Mississippi and considered English to be their dominant language. We therefore chose to include them in this study as well.

15. Descriptive Statistics of the Sample

Total # of Subjects	Male	Female	Black	White	Mean Age	Age Range	Natives of Mississippi	Students	Socioeconomic Class *		Monolingual L1 English Speakers
									Lower	Upper/Middle	
120	60	60	61	59	27;6	13-74	110	78	38	33	117

* Note that the categories 'Students' and 'Socioeconomic Class' are not mutually exclusive.

The only category of English speakers who were excluded from this study were non-native speakers of English and non-Southerners. Linguists were also not included since they might have been too knowledgeable of relevant sociolinguistic or semantic theory to provide unbiased responses. In sum, as the statistics presented above show, our sample consists of participants of different genders, ages, ethnicities and socio-economic backgrounds, a diversity which is fairly representative of the overall population of AAVE speakers.

4.4. Testing Procedure

Given that the testing was carried by one single experimenter, five weeks in total were needed to collect all the data. The testing took place at different locations in and around Oxford, Mississippi, from the campus grounds to cafes, restaurants and other businesses in town. Most of the participants were approached on the street, in between classes or during their lunch break, and a few of them were tested in their own home. The intention was to make the subjects as comfortable as possible by testing them in familiar settings where it is usual for them to speak English informally. Getting people to take part in this study was a rather easy task; most subjects were very positive about participating and did not see the experiment as an intrusion of their privacy. Only five people declined to participate, presumably because they were intimidated by the mistaken belief that they might be judged on their mastery of Standard English. The subjects were tested in one-on-one sessions or in groups of two to six people depending on the circumstances.

Before completing the questionnaires, the participants were briefly told the purpose of the investigation. In order to avoid negative reactions and to minimize the risk of creating biased judgments, the experiment was presented as a survey of colloquial English usage in the Southern United States rather than as a descriptive study of AAVE. On the first page of each questionnaire, the participants were provided with the following instructions:

'Standard' English, i.e. the English spoken on the news or taught in schools, differs in many respects from the informal or colloquial English used at home or among friends. This questionnaire is part of a study on dialect variation in the South of the United States. We wish to investigate how different forms of 'Be' are used in dialects of the South in informal settings.

For each question below, you are provided with a context leading to an underlined sentence. Each context is expressed in a common dialect of the South and each underlined sentence is considered acceptable in at least one of those dialects. However, it may not be the way YOU would say it in YOUR OWN DIALECT. During the experiment, you will hear each underlined sentence and its preceding context. Please indicate if the underlined sentence is something you could say or would never say in the

given context by circling the appropriate answer. Note that you may hear each sentence up to 3 times.

!!! REMEMBER: **this is NOT an English grammar test!** Please focus on the English you use in informal settings (at home or with your friends). Keep in mind that we are not interested in what people tell you is ‘correct’, but rather in what you actually do say in relaxed informal settings!

It was therefore made clear that the experiment was not a ‘grammar test’ but simply a survey designed to investigate the way in which they used English in informal settings. The participants were then asked to give some basic information about their personal background, i.e. to indicate their age, gender, place of origin, linguistic background and whether or not they considered their own dialect to be different from the English spoken on national TV broadcasts. The participants also signed a consent form guaranteeing the confidentiality of their responses and they were informed of their right to withdraw from the experiment at any time without consequences³¹. In order to familiarize the respondents with the task that would be required of them, the experimenter would then show the example in (16) below. Emphasis was put on the fact that they had to give sincere responses and focus on casual speech only. There was no further interaction between participants and experimenter during the completion of the questionnaires so as not to influence the results.

16. A: *Are you still eating?*

B: No. *I been done ate* (I finished eating a while ago)

I could say this

I would never say this

-> If, when speaking to a friend informally, you might possibly say *I been done ate*, meaning the same thing as ‘I finished eating a while ago’, then circle I could say this. Otherwise, circle I would never say this.

A test session would typically last from 15 to 20 minutes, considering the fact that the subjects were allowed to hear each stimulus sentence up to three times if necessary, i.e. in case of noisy surroundings for instance. Immediately following each session, the experimental data was recorded in tables showing the subjects’ responses to each test item along with their background information. Positive responses, i.e. if the subjects circled ‘I could say this’, were coded as 1. Otherwise, i.e. if the subjects had circled ‘I would never say this’, 0 was used³².

5. Results

5.1. Stalking the Native Speakers

All three hypotheses formulated in chapter 3, i.e. the NSII, IF and SB hypotheses, make predictions as to the grammatical competence of our participants with respect to the properties ‘aspectual-*Be*’ and ‘null copula’. The first step in the analysis of our data was then to determine which criteria participants would have to meet in order to be considered as having internalized these properties. For that purpose, we selected the nine most basic and unambiguous claims from the published literature regarding the use of aspectual-*Be*

³¹ The actual consent form can be found in the appendix (9.4).

³² Tables containing all the raw data are provided in the appendix (9.5).

and the null copula. Central to the characterization of these grammatical features is the three-way distinction between the null copula, aspectual-*Be* and the simple present in AAVE. As discussed at length in chapter 2, simple present constructions are ambiguous between habitual and dispositional interpretations. Aspectual-*Be* has been distinguished from the simple present by the fact that it can only yield habitual readings, and the null copula contrasts with both aspectual-*Be* and the simple present because it allows for progressive interpretations. Any native speaker of AAVE should make this basic distinction. Therefore, our criteria for native speaker group membership included two experimental conditions in which aspectual-*Be* was used to indicate habituality (BING+H, BDP+H), one in which the null copula marked the progressive aspect (\emptyset ING+P) and an ungrammatical condition where aspectual-*Be* blocked the dispositional interpretation (BING-C). Another basic distinction between aspectual-*Be* and the null copula is that one allows onset readings with temporal adverbial clauses while the other does not. Two experimental items illustrating this contrast were therefore included as part of the criteria to identify AAVE native speakers (BINGT+O and \emptyset INGT-O). Finally, one alleged property of the null copula is that it can be used to indicate temporary or essential characteristics of individuals. Constructions containing aspectual-*Be* with non-verbal predicates, however, cannot refer to essential properties. Thus, three last experimental items were incorporated in our list of criteria: two grammatical conditions in which the null copula is used to indicate temporary and essential properties respectively (\emptyset PP+T and \emptyset DP+E), and one ungrammatical item where aspectual-*Be* cannot allow the predicate to be interpreted as an essential characteristic (BDP-E). In sum, these nine test conditions, listed in (1) below, included five items involving aspectual-*Be* (three of which designed to elicit a judgment of grammaticality or acceptability (+) and the other two designed to elicit a judgment of ungrammaticality or unacceptability (-)) and four items involving the null copula (three items predicted to be grammatical and one predicted to be ungrammatical).

1.a. Aspectual-*Be* Criteria

Label	Form-Meaning Pairing	Example Test Item	Predicted AAVE Judgment
BING+H	Aspectual- <i>Be</i> + V- <i>ing</i> → Habitual Reading	<i>John's in good shape. <u>He be running to work every morning.</u></i>	+
BDP+H	Aspectual- <i>Be</i> + DP → Habitual Reading	<i>They always mad when we play that game with them because <u>they be the losers.</u></i>	+
BINGT+O	Aspectual- <i>Be</i> + V- <i>ing</i> + <i>when</i> -clause → Onset Reading	<i>Bruce always scared to get grounded. That's why <u>he be crying when the teacher call his mother.</u></i>	+
BING-C	Aspectual- <i>Be</i> + V- <i>ing</i> → Dispositional Reading	<i>I just got a new printer. It ain't been used yet but <u>that printer be printing 100 pages per minute.</u></i>	-

BDP-E	Aspectual- <i>Be</i> + DP → Essential Reading	<i>I know they ain't always been nice to you but <u>they</u> <u>be good people.</u></i>	-
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b. Null Copula Criteria

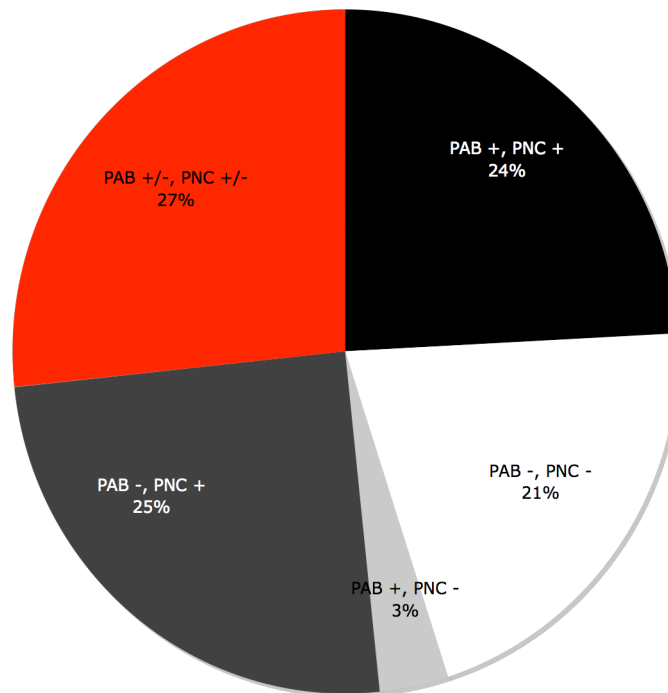
Label	Form-Meaning Pairing	Example Test Item	Predicted AAVE Judgment
∅ING+P	Null Auxiliary +V- <i>ing</i> → Progressive Reading	<i>I can't hear what you saying right now. <u>Everybody ∅ trying to talk to me.</u></i>	+
∅DP+E	Null Copula + DP → Essential Reading	<i>I know they ain't always been nice to you but <u>they ∅</u> <u>good people.</u></i>	+
∅PP+T	Null Copula + PP → Temporary Reading	<i>- Why's Rob not here right now? <u>- He ∅ on the phone.</u></i>	+
∅INGT-O	Null Copula +V- <i>ing</i> + <i>when</i> -clause → Onset Reading	<i>Bruce always scared to get grounded. That's why <u>he</u> <u>∅ crying when the teacher</u> <u>call his mother.</u></i>	-

The participants' performance on those particular conditions was then used to determine whether or not aspectual-*Be* and the null copula were part of their grammatical competence. Ideally, a native speaker should judge all of these nine conditions correctly, i.e. accept the six items claimed to be grammatical in AAVE and reject the three items claimed to be ungrammatical in AAVE. However, using such a strict criterion to categorize our participants proved problematic for a number of reasons. Every measurement tool has its inaccuracies so there is bound to be some experimental noise due to performance error. Moreover, part of the results might be due to the fact that some participants disliked the vocabulary or types of predicates used in our test items rather than being due to the semantic unacceptability of these experimental conditions. It is also possible that the extra contextual information introducing the target AAVE constructions and the cross-modal effect of using both written and auditory stimuli may have misled the respondents and caused some performance error. Finally, although many measures were taken to control at best, or at least minimize the effects of code-switching and negative perceptions towards AAVE and its speakers, it is likely that such confounding variables still interfered slightly with the quality of our data. Because some degree of performance error is to be expected here, it was necessary to loosen our criteria and allow the participants to make some incorrect judgments.

In order to be considered as having the property 'aspectual-*Be*', a participant would have to correctly judge a majority of the items involving aspectual-*Be*, i.e. at least three conditions out of five, but these correct judgments should include at least two of the aspectual-*Be* items predicted to be grammatical in AAVE. Participants correctly rejecting both ungrammatical aspectual-*Be* items and only correctly accepting one of the

grammatical conditions with aspectual-*Be* would indeed seem to have property ‘aspectual-*Be*’ since they would have made a majority of correct judgments. However, this could also mean that they rejected four conditions out of five, as would a non-speaker of the dialect. The fact that they accepted one grammatical item could simply be accidental, i.e. part of the expected performance error. Therefore, in order to avoid such miscategorizations, it was necessary that participants be considered to have the property ‘aspectual-*Be*’ only if they made a majority of correct judgments, two of which involving grammatical aspectual-*Be* conditions. On the other hand, participants would be classified as lacking the property ‘aspectual-*Be*’ if they incorrectly judged a majority of the items involving aspectual-*Be*, i.e. at least three conditions out of five. As for the property ‘null copula’, it does not present the ambiguities found with aspectual-*Be*. Thus, the participants making at least three correct judgments out of four on null copula conditions would be seen as having the property ‘null copula’ while the ones incorrectly judging at least three null copula items out of four would be considered to lack this property. Implementing this method of analysis on our data to determine our participants’ grammatical competence with respect to each property yielded the following results.

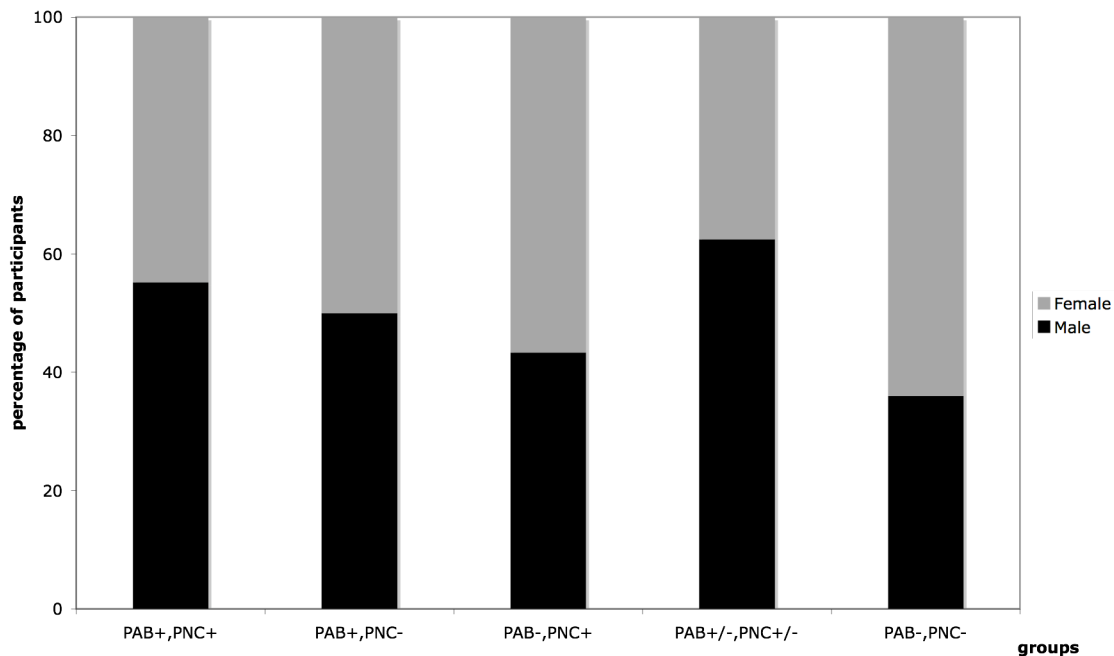
2. Distribution of Participants with respect to their grammatical competence on properties ‘aspectual-*Be*’ and ‘null copula’



What this graph shows is that, according to our analysis, nearly a quarter of the participants from our sample qualified as having both of the properties under investigation while 21% seem to have neither property, i.e. do not identify with the dialect at all. Moreover, another quarter of our sample met the criteria for the ‘null copula’ property but seem to lack aspectual-*Be* and only 3% have the property ‘aspectual-*Be*’ but lack the null copula. Finally, the remaining 27% could not be classified in any of the previous groups because they showed inconsistency for either one of the two properties or both.

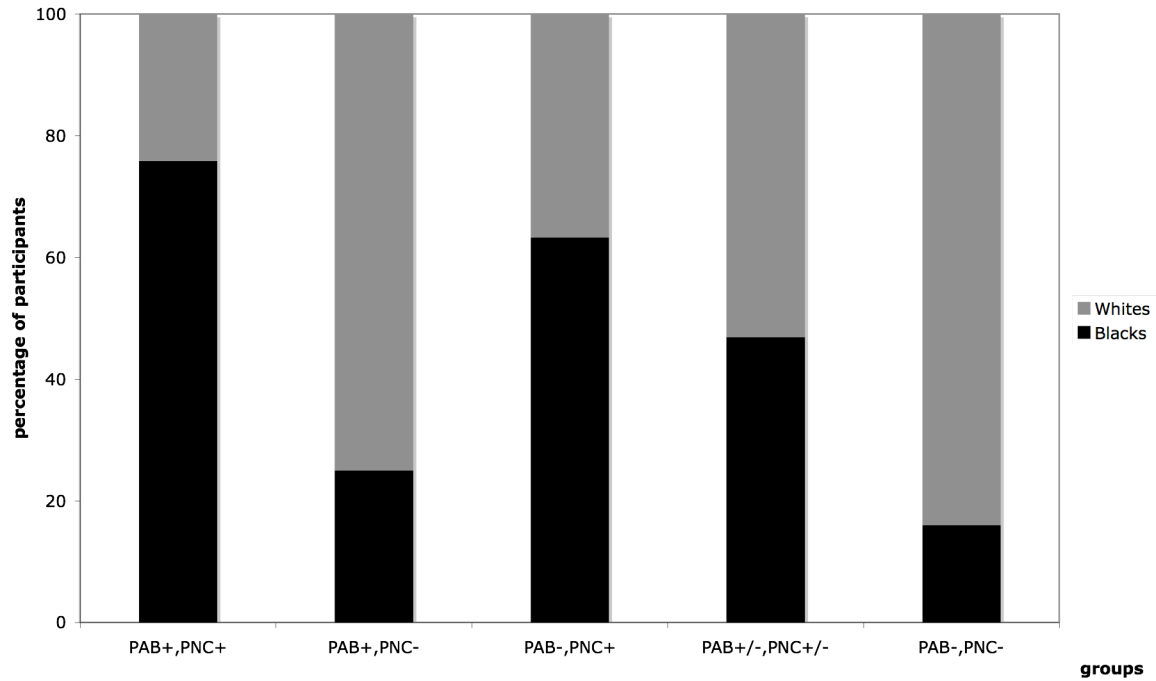
A closer look at the composition of these groups indicates that they each include participants of various ages and of both genders and ethnicities. The graph provided in (3) shows a more or less even distribution between male and female respondents within each group.

3. Gender Distribution of Participants within each Group



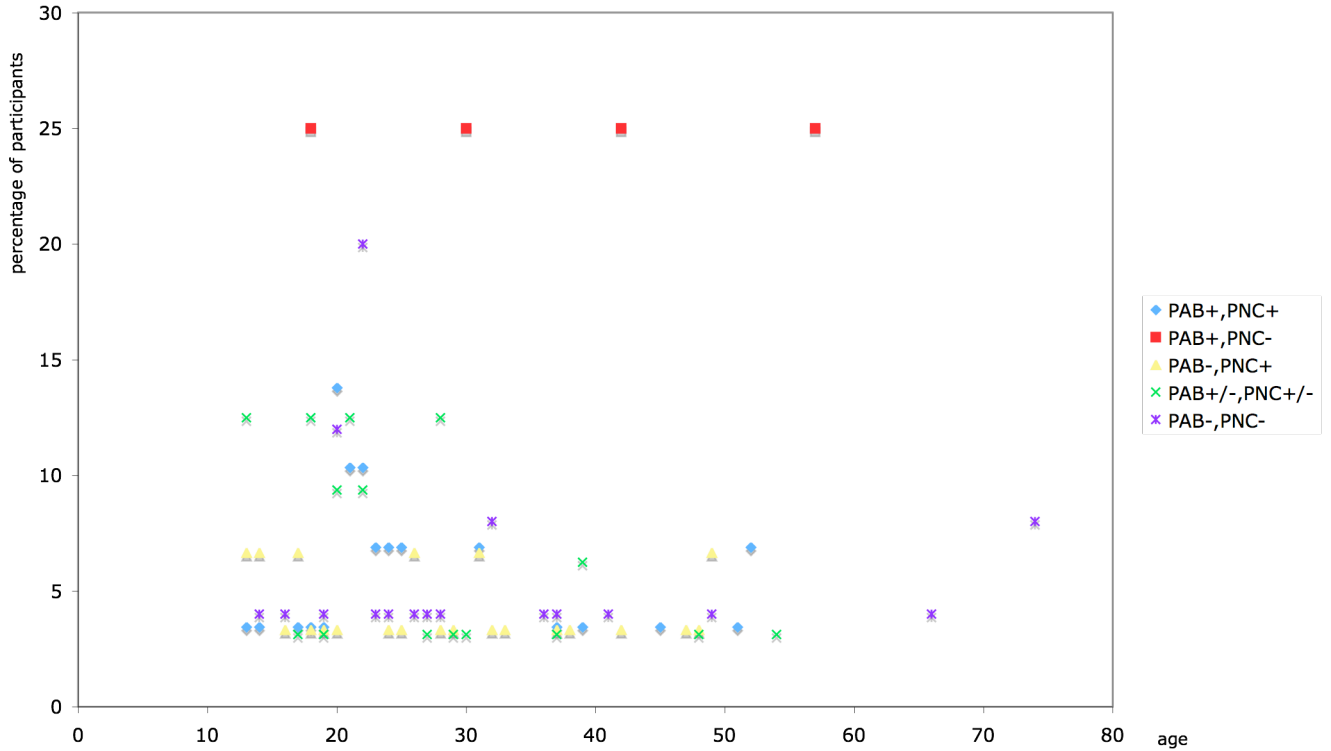
The chart in (4) presents the ethnic composition of each group. We see an important decrease in the percentage of black participants from the group of pure native speakers of AAVE (the participants having both property ‘aspectual-*Be*’ and property ‘null copula’) to the group of non-AAVE speakers (the participants having neither property). Note that the category of participants having aspectual-*Be* but lacking the null copula seems to have an exceptionally high percentage of white respondents but, we assume that this discrepancy is actually due to the fact that this group only counts four speakers.

4. Ethnic Distribution of Participants within each Group



Finally, the scatter plot below illustrates the distribution of ages for each group of speakers, showing that, in all five categories, the participants range from adolescents to older adults

5. Age Distribution of Participants within each Group



5.2. Significance of the Results

The analysis presented above reveals the existence of five categories of speakers among our participants. As expected, a substantial proportion of our sample, namely 21%, did not identify with AAVE at all since they rejected a majority, if not all, of the nine basic experimental sentences containing aspectual-*Be* and the null copula. The remaining participants were classified into four groups corresponding to four different types of AAVE speakers depending on whether they have internalized both property ‘aspectual-*Be*’ and property ‘null copula’ (P_{AB+} and P_{NC+}) or only one of the two properties (P_{AB+} and P_{NC-} , or P_{AB-} and P_{NC+}). The fourth group consists of the speakers whose grammatical competence with respect to aspectual-*Be* and the null copula could not be determined due to the inconsistency of their responses. Thus, using the nine criteria introduced in (1) enabled us to identify four different categories of AAVE speakers, but there still remains to determine whether the distinction between these groups is also significant when considering our experimental items as a whole. To this purpose, we calculated the percentages of correct judgments from each speaker on the 53 test conditions with respect to our original predictions. These scores are reported in table (6).

6. Individual Performance of Participants and Group Means

	P _{AB+} , P _{NC+}	P _{AB+} , P _{NC-}	P _{AB-} , P _{NC+}	P _{AB+/-} , P _{NC+/-}	P _{AB-} , P _{NC-}
Percentages of Correct Judgments	47.2, 41.5, 54.7, 58.5, 66.0, 69.8, 67.9, 60.4, 64.1, 66, 58.5, 67.9, 66, 64.1, 64.1, 56.6, 66, 67.9, 64.1, 69.8, 62.3, 71.7, 69.8, 67.9, 58.5, 58.5, 71.7, 64.1	54.7, 60.4, 49.1, 47.2	52.8, 50.9, 67.9, 56.6, 52.8, 39.6, 56.6, 71.7, 62.3, 54.7, 67.9, 71.7, 71.7, 52.8, 50.9, 54.7, 50.9, 64.1, 64.1, 50.9, 58.4, 79.2, 58.5, 50.9, 62.3, 73.6, 58.5, 52.8, 45.3, 60.4	50.9, 30.2, 45.3, 54.7, 60.4, 60.4, 58.5, 60.4, 45.3, 37.7, 45.3, 60.4, 41.5, 69.8, 66, 37.7, 43.4, 47.2, 67.9, 66, 47.2, 41.5, 45.3, 62.3, 62.3, 50.9, 43.4, 41.5, 71.7, 62.3, 58.5, 64.1	37.7, 32.1, 35.8, 47.2, 54.7, 41.5, 37.7, 32.1, 32.1, 34, 35.8, 37.7, 32.1, 35.8, 34, 34, 32.1, 34, 32.1, 34, 43.4, 34, 32.1, 34, 35.8
Group Means	62.96	52.85	58.85	53.12	36.23

The significance of the difference in performance between these five groups was then measured by running a one-way analysis of variance on the statistics presented in table (6). This ANOVA yielded a P-value of $p \leq 0.0000$ (4.0279E-20), which is largely inferior to 0.05³³. Therefore, the difference in performance between the five groups is statistically significant; it cannot be attributed to chance. We also ran a one-way analysis of variance on the four groups of AAVE speakers only, i.e. excluding the ‘P_{AB-}, P_{NC-}’ group. The obtained P-value ($p=0.0006$) indicates that there is a qualitative difference between our speakers of AAVE regarding their grammatical knowledge of aspectual-*Be* and the null copula³⁴. The implications of such findings for the three hypotheses formulated in chapter 3 are discussed in the next section.

6. Discussion

6.1. Discarding Alternative Explanations

The data presented above reveals a tremendous amount of individual variation within our sample. Although the literature on AAVE suggests that all native speakers of the dialect should share core grammatical properties such as aspectual-*Be* and the null copula, only 24% of our participants actually qualified as having both properties as part of their grammatical competence. More than a third of our respondents appeared to have internalized only one of the two properties while lacking the other, and nearly a quarter of the participants could not even be classified because they showed too much inconsistency in their grammaticality judgments of aspectual-*Be* and null copula constructions. These results are illustrated again in table (1) below.

³³ The output of this analysis of variance can be found in the appendix (9.6).

³⁴ The results of this ANOVA are provided in the appendix (9.7)

1.

AAVE speakers				Non-AAVE Speakers
P_{AB^+} P_{NC^+}	P_{AB^+} P_{NC^-}	P_{AB^-} P_{NC^+}	$P_{AB^{+/-}}$ $P_{NC^{+/-}}$	P_{AB^-} P_{NC^-}
24%	3%	25%	27%	21%

This high degree of variation found across AAVE speakers from our sample may seem surprising at first. AAVE has indeed long been claimed to stand out vis-à-vis other non-standard varieties of English spoken in the United States by being remarkably immune to variation. As mentioned in 3.1.2., previous research on the dialect has often made note of its unusual structural homogeneity. It is therefore surprising to find so much individual variation within our data, all the more so that we are concerned here with non-peripheral grammatical features, i.e. with core semantic properties setting the dialect apart from other varieties. One does not typically expect speakers to show disagreement on the grammatical rules which define their dialect. Moreover, our study was conducted in Mississippi, a state which holds a high concentration of African-Americans³⁵ and currently ranks as the poorest state in the nation³⁶. The town of Oxford is situated in the Black Belt - a region extending from western Mississippi to the states of Alabama and Georgia – and at the edge of the Mississippi Delta, whose demographics include over 60% African-Americans (Kundert (2009)). Given the town’s proximity to the Delta, the state’s history rooted in plantation life and slavery and the traditional definition of AAVE as the language of working-class Black America, one would actually expect a large proportion of our subjects to qualify as native speakers of the dialect having assimilated both aspectual-*Be* and null copula properties in their internal grammar.

In light of the discussion above, one must find a way to account for the unexpected lack of agreement and the high degree of individual variation found among the AAVE speakers participating in our study. As in any experimental study, confounding variables such as gender or age effects may constitute possible sources of explanation. The percentage of correct judgments from male vs. female participants was calculated for each of the 53 experimental conditions. A two-tailed t-test was then run on those two series, showing no significant gender effect ($p = 0.657$). Therefore, we can safely conclude that the respective gender of our participants did not affect the outcome of our data. Similarly, we divided our participants into four age groups: teenagers (ages 13 to 17), young adults (ages 18 to 25), older adults (ages 26 to 49) and elderly people (age 50 or more). After calculating each age group’s average score of correct responses

³⁵ African-Americans currently make more than 37% of the state’s total population. United States Census Bureau, State and County QuickFacts. <http://quickfacts.census.gov/qfd/states/28000.html> (accessed September 10, 2009).

³⁶ United States Census Bureau, “Personal Income per Capita in Current Dollars, 2007”, <http://www.census.gov/statab/ranks/rank29.html> (accessed September 10, 2009).

for every experimental condition, the significance of the difference between each group was checked by conducting an analysis of variance (one-way ANOVA). The obtained P-value ($p=0.2118$) indicates no significant difference between the age groups³⁷. Therefore, the overall individual variation found in our data cannot be accounted for in terms of age effects either.

Another attribute of our experimental design is that three trial items were constructed for each of our experimental conditions. Although using those three tokens improves the quality of our study by allowing participants to be tested on all conditions without being presented with the same context twice, this particular aspect of our design could also conversely create a source of variation because each questionnaire may have a significantly different effect on our respondents. We therefore compared the average scores of correct judgments on the 53 experimental conditions for each questionnaire. From this one-way analysis of variance ($p=0.9625$), we can infer that our participants did not perform significantly different from one questionnaire to another³⁸.

Finally, one could claim that the lack of agreement between our speakers signals a case of regional variation, whereby the rules presented in the literature regarding the use of aspectual-*Be* and the null copula would not apply to the particular dialect of AAVE spoken in the state of Mississippi or that these rules may be optional for this population of speakers, hence the inconsistencies in their responses. However, many studies have reported similar uses of these two grammatical features by AAVE speakers from Mississippi (Wolfram (1974), Bailey and Maynor (1985)). Therefore, it cannot be the case that the basic rules used as criteria to identify native speakers in our study are not representative of the AAVE spoken in this particular region of the United States. In this section, many possible explanations for the lack of consistency in judgments within our sample of participants were eliminated by means of reliable statistical tests. We will now turn to another hypothesis, the NSII hypothesis formulated in section 3.2., which assumes a qualitative difference between standard and non-standard dialects in terms of internal variation.

6.2. Rejecting the ‘Non-Standard Internal Inconsistency’ Hypothesis

The NSII hypothesis claims that non-standard dialects differ from standard varieties in terms of internal variation. According to this view, the internal grammars of native speakers of non-standard dialects are inconsistent; there is no uniformity or agreement in the mind of individual speakers even when it comes to core grammatical features differentiating their dialect from other varieties. The NSII hypothesis therefore makes the following predictions regarding the present study. Apart from the small proportion of respondents who will not relate to the dialect at all (roughly 25%), all participants should fall into one single group of speakers whose grammatical knowledge of aspectual-*Be* and the null copula is not consistent.

³⁷ The tables reporting the results of this analysis of variance can be found in the appendix (9.8).

³⁸ The results of this ANOVA on questionnaire types are provided in the appendix (9.9).

2.

AAVE Speakers	Non-AAVE Speakers
$P_{AB+/-}$ $P_{NC+/-}$	P_{AB-} P_{NC-}
75%	25%

The data analysis carried out in chapter 5 showed that a reasonable number of speakers have indeed nothing to do with the dialect at all because they rejected most, if not all of our test conditions. This group of non-AAVE speakers contains slightly more female than male participants (64% vs. 36%) but their ages range evenly from 14 to 74 years-old (cf. chart in (5), section 5.1.), which indicates that membership to this group is not determined by age. Although the use of AAVE is not restricted to the African-American community, European-Americans are not usually expected to speak the variety. This explains why the majority of our participants categorized here as non-AAVE speakers were indeed white (84% vs. 16%). Such a category of speakers, however, is to be expected regardless of the hypothesis, since our sampling method included both white and black participants and that AAVE is not spoken by all African-Americans. We assume that this group must be made up of those respondents who have only minimally been exposed to AAVE, or not at all, and therefore never use any feature of that dialect. It is of course possible that some of the respondents included in this group actually are speakers of AAVE who, informed that they were being tested on their use of informal English and knowing that their dialect is so highly stigmatized, chose to automatically reject all experimental items. Given that our analysis was solely based on those questionnaire responses, such participants may have been mistaken for non-AAVE speakers.

The crucial prediction of the NSII hypothesis, however, is that studies on non-standard dialects should always be faced with the impossibility of identifying a group of native speakers whose performance is consistent regarding core properties of their dialect. Yet, our investigation on AAVE has done just that. Despite the many challenges involved in studies on highly stigmatized non-standard dialects, i.e. even with the inevitable interference from confounding factors such as code-switching or negative perceptions, the analysis presented above yielded a well-defined group of native speakers (24%) showing uniformity in their grammaticality judgments of the core AAVE features under investigation here, i.e. having internalized both property ‘aspectual-*Be*’ and property ‘null copula’. The majority of the participants who ended up in this category were black (76%), a finding which is compatible with the general definition of AAVE as an ethnic variety spoken mostly by African-Americans. Both genders were equally represented in this group (55% males vs. 45% females) and the chart in (5), (section 5.1.), shows that the ages of those participants ranged from 13 to 52 years old. This indicates that the use of AAVE is not restricted to younger generations only. The consistency in grammaticality judgments found across this group of participants is evidence that there is

such a thing as a native speaker of AAVE whose internal grammar is consistent and does not show optionality with respect to semantic properties that set AAVE apart from other dialects. This finding constitutes an excellent counterargument to the claim that non-standard varieties lack the complete agreement between native speakers about what is grammatical and what is not in their dialect. Our results show that the NSII hypothesis should be rejected; the individual variation commonly found in studies on non-standard dialects cannot be due to internal grammatical inconsistencies in the mind of native speakers; it cannot be explained in terms of qualitative differences in internal variation between standard and non-standard dialects. We will now evaluate our experimental results against the predictions of the IF hypothesis.

6.3. Variation in AAVE and the ‘Idiolect Family’ Hypothesis

The idea behind the IF hypothesis is that dialect labels are somewhat of a generalization and that any language variety actually consists of several idiolects containing some degree of variation. This hypothesis therefore suggests that a dialect like AAVE may not be as systematic or homogeneous as the literature claims it to be. Although some speakers of AAVE may possess all of the core properties defining that variety, it is not necessarily the case that all native speakers do. Some may have internalized only a few of these properties while lacking others, yielding many different types of speakers or variants of AAVE, and it is the combination of all of these optional idiolects which altogether defines the AAVE speech community. The predictions of the IF hypothesis for our study are summarized again in (3). Note that the same proportion of participants is attributed to each group because there is, in theory, no reason to think otherwise, but the hypothesis does not claim that it is necessarily the case.

3.

AAVE			Standard
P_{AB+}	P_{AB+}	P_{AB-}	P_{AB-}
P_{NC+}	P_{NC-}	P_{NC+}	P_{NC-}
25%	25%	25%	25%

As mentioned in the previous section, our data analysis confirmed the existence of a significant group of non-AAVE speakers having no grammatical knowledge of aspectual-*Be* and the null copula. We also observed that nearly a quarter of our respondents showed full command of both properties, a finding which is in accord with the present hypothesis. Moreover, we were able to classify half of the remaining participants into two groups corresponding to the two other subdialects of AAVE predicted by the IF hypothesis. In order to measure the significance of the difference in performance between the three groups of AAVE speakers ((P_{AB+}, P_{NC+}) , (P_{AB+}, P_{NC-}) and (P_{AB-}, P_{NC+})), we conducted a one-way analysis of variance, which yielded a P-value of 0.0282, so we can conclude that there is a qualitative difference between these three groups of AAVE speakers³⁹. Thus, there seems to be such a thing as variants of the same

³⁹ The results of this ANOVA can be found in the appendix (9.10).

dialect within a speech community, which are determined by the grammatical competence of its native speakers with respect to common-core properties.

A closer look at the two idiolects whose speakers seem to lack one of the two AAVE properties, however, reveals a great disparity in size between the two groups. While 25% of our participants proved to have internalized the null copula property but not aspectual-*Be* (P_{AB^-}, P_{NC^+}), only 3% of our sample fell into the category of speakers possessing aspectual-*Be* but lacking the null copula (P_{AB^+}, P_{NC^-}). This suggests that there may be an implicational relationship between the two properties, in the sense that a speaker whose grammatical competence includes aspectual-*Be* must also have internalized the null copula property, but the opposite does not hold. There may however be another explanation for the discrepancy between the two groups. Although aspectual-*Be* is unique to AAVE, the null copula has been found in other non-standard varieties of American English like Southern white vernacular speech, which is widely spoken in the region where our data was collected. It is important to note, however, that even though copula absence is characteristic of both dialects, studies have shown that there are quantitative as well as qualitative differences in the use of this particular feature from one variety to the other (Wolfram (1971), Wolfram (1974)). The null copula seems to “occur more frequently in AAVE and in a wider range of linguistic environments” (Rickford (1999)). For example, speakers of Southern American English in the state of Mississippi seem to favor *are*-deletion over *is*-deletion, while AAVE speakers in the same area fully contract both (Wolfram (1971)). Nevertheless, the fact that the null copula is also found in other varieties of English whereas aspectual-*Be* is not implies that most of the participants who qualified as having the null copula property but lacking aspectual-*Be* might simply be Southern American English speakers rather than AAVE speakers. Further research and extra biographical information about these participants would be necessary to determine whether this is really the case.

In sum, the IF hypothesis appears to make some correct predictions. However, part of our experimental results remain unaccounted for. Over one quarter of our participants could not be classified in any of the categories of speakers predicted by the IF hypothesis because their grammaticality judgments did not meet the criteria for having or lacking either one of both of the two properties under investigation. Thus, at first sight, it may appear that the microvariation on the use of aspectual-*Be* and the null copula which is observed in our sample can be attributed to the existence of different variants of AAVE in which these core properties may or may not have been fully integrated into the internal grammar of native speakers. However, we have seen that one of the idiolects of AAVE predicted by the present hypothesis is practically inexistent (P_{AB^+}, P_{NC^-}), another is likely to be primarily made up of Southern American English speakers rather than AAVE speakers (P_{AB^-}, P_{NC^+}), and one group of participants, i.e. 27%, still remains unaccounted for. Therefore, although the predictions of the IF hypothesis may be partially borne out, the hypothesis definitely does not seem to encompass the entire range of individual variation in our study. In the next section, we demonstrate how theories of language acquisition can provide an explanation for the variation observed when considering a sample of AAVE speakers.

6.4. A Case for the ‘Successive Bilingualism’ Hypothesis

In section 3.4.1., we adopted a nativist perspective and embraced the idea that we are genetically predisposed to acquire language. This ‘innateness’ hypothesis claims that languages acquired from birth, or at least during the first few years of life, can be fully mastered because we are then guided by an innate language acquisition device helping us parse the incoming input and restricting our hypothesis space so as to arrive at the appropriate grammar. Additionally, we assumed that this ability to learn a language is biologically linked to age. In other words, we adopted the view which claims the existence of a critical period after which this genetic apparatus is no longer fully available to the language learner, so native speaker fluency can almost never be reached. This linear decline in performance with age was attributed to neurological changes taking place in the brain during the first few years of life, causing languages to be processed in distinct areas of the brain depending on the age of exposure to the variety. We then formulated the SB hypothesis, which is directly derived from these theoretical assumptions and predicts that our sample of participants should contain three clearly distinguishable types of speakers: non-AAVE speakers who had no consequential exposure to the dialect and therefore do not possess any core properties of AAVE in their internal grammar (P_{AB-} , P_{NC-}), native AAVE speakers who were exposed to the dialect from birth and therefore have fully internalized both of the properties under investigation as part of their grammatical competence (P_{AB+} , P_{NC+}), and finally non-native speakers who were exposed to AAVE either later on in life - around or after the critical period – or received insufficient input from the dialect and therefore show optionality or a lack of consistency in their use of aspectual-*Be* and the null copula, as is typical of any late language learner or successive bilingual ($P_{AB+/-}$, $P_{NC+/-}$). The predictions of the SB hypothesis are repeated in (4) below.

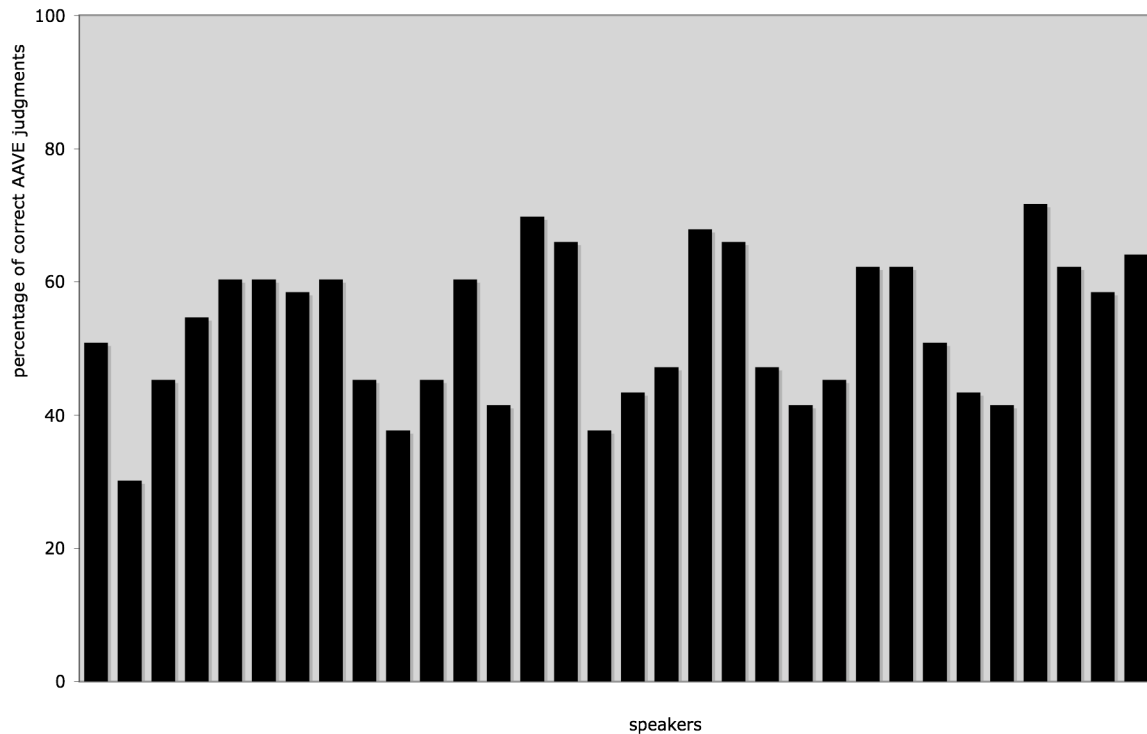
4.

Native AAVE	Non-Native	Non-AAVE
P_{AB+} P_{NC+}	$P_{AB+/-}$ $P_{NC+/-}$	P_{AB-} P_{NC-}
25%	50%	25%

As discussed at length in the previous sections, our data analysis did reveal the existence of a significant group of non-AAVE speakers who did not show any familiarity with the dialect at all, i.e. any knowledge of aspectual-*Be* or the null copula. We also found a considerable amount of pure native speakers having attained full mastery of the dialect and internalized both properties as part of their grammatical competence. Additionally, more than a quarter of participants (27%) proved to be inconsistent in their grammaticality judgments of aspectual-*Be* and null copula constructions, therefore falling in the category of non-native speakers which is predicted by the SB hypothesis but could not be accounted for by the IF hypothesis. This group of inconsistent speakers includes slightly more male than female respondents (62% vs. 38%). Ethnicities seem to be more or less evenly distributed within the group, which counts 47% of African-Americans and 53% of European-Americans, and these respondents range from teenagers to older adults

(13 to 54 years old). Their performance on the 53 experimental conditions shows a highly level of variability across speakers, as illustrated in the graph below.

5. Differences in Performance within the Group of Inconsistent Speakers



The overall poorer performance of these participants can easily be accounted for by the SB hypothesis, as a direct consequence of the critical period. If we assume that age of onset of acquisition is a crucial factor in determining ultimate attainment, these subjects must have only been exposed to AAVE later on in life or the input they received from the dialect was not sufficient for them to fully acquire all core grammatical properties of AAVE. Additionally, their acquisition of the variety may have been further hindered by their extensive knowledge of their native dialect. Their linguistic competence in AAVE could indeed be poorer because their initial state of acquisition of AAVE corresponded to their fully established internal grammar of (Southern) American English rather than a pure ‘blank slate’, not yet adjusted to a particular language. Moreover, the varying levels of fluency observed across speakers of this category must be relative to their age of onset of acquisition and their amount of exposure to the dialect. For example, some of these respondents may have acquired Southern American English at home but still came in contact with AAVE early in life, having therefore become successive bilinguals of Southern American English and AAVE. These participants should then be the ones showing near-native grammatical competence because features such as aspectual-*Be* and the null copula have almost been fully internalized. On the other hand, the speakers showing the most inconsistencies, i.e. the poorest levels of performance, must have started acquiring AAVE at an even later age or received very minimal input from the dialect, having therefore only gained a superficial knowledge of

core AAVE properties. Some of these speakers may actually base their grammaticality judgments on their own uninformed idiomatic use of aspectual-*Be* and the null copula rather than any actual knowledge of what is grammatical and what is not in the dialect. Ideally, one would need additional biographical information on the background of these speakers in order to verify these conjectures. However, such crucial information is often not available because it would be rather difficult for speakers to remember the exact age at which they were first exposed to AAVE. Moreover, this information would not be entirely reliable since speakers often have mistaken beliefs about their own linguistic history. Besides, as discussed in the previous chapter, the fact that our study investigates properties of AAVE could not be mentioned anywhere in the questionnaires or alluded to during testing sessions since it could otherwise lead to biased responses from our participants. Therefore, directly inquiring about our speakers' linguistic background was simply out of the question. In any case, even without the biographical information to back up our findings, it is clear that each participant from this category shows some degree of inconsistency typical of second language speakers or successive bilinguals whose grammar of the target language is not as firmly assimilated as that of a native speaker.

Thus, all types of speakers predicted by the SB hypothesis are indeed identifiable in our sample. Two groups of participants, however, i.e. the speakers having internalized only one of the two properties under investigation but lacking the other ((P_{AB^+} , P_{NC^-}) and (P_{AB^-} , P_{NC^+})), still remain unaccounted for by the present approach. Yet, it was demonstrated in the previous section, that one of these groups (P_{AB^+} , P_{NC^-}) is practically inexistent since it counts only four participants and that the other group (P_{AB^-} , P_{NC^+}) is likely to represent speakers of Southern American English rather than true speakers of AAVE. Thus, the very existence of these groups as idiolects of AAVE is highly questionable; we propose that they can best be accommodated within our SB hypothesis as instances of non-native performance. The difference in performance between native speakers (P_{AB^+} , P_{NC^+}) and the entire group of non-native speakers, i.e. (P_{AB^+} , P_{NC^-}) and (P_{AB^-} , P_{NC^+}) but also ($P_{AB^{+/-}}$, $P_{NC^{+/-}}$), was measured by means of a two-tailed t-test. The obtained P-value ($p=0.0001$) indicates that this difference is statistically significant. In other words, the two groups of AAVE speakers identified by our SB hypothesis do indeed display significantly different performance with respect to core grammatical features of AAVE. This constitutes additional evidence for the fact that the speakers possessing only one of the two properties, i.e. (P_{AB^+} , P_{NC^-}) or (P_{AB^-} , P_{NC^+}), are most likely to be non-native speakers of AAVE rather than speakers of native AAVE idiolects.

In sum, the present hypothesis seems to offer the most satisfactory account of the observed individual variation which is supported by existing theories of language acquisition and does not necessitate postulating inconsistencies in the mind of native speakers or dubious subvarieties of AAVE. It correctly predicts the clear-cut contrast between the uniformity of native speakers and the inconsistency of later learners. Moreover, this category of non-native speakers, which is the locus of variation, constitutes the majority of our participants, namely 55%. Thus, we propose that it is precisely because non-native speakers or successive bilinguals make up such a large proportion of non-standard dialect speakers that high levels of individual variation are commonly found when investigating such varieties.

7. Conclusion

This thesis has been concerned with a non-standard dialect of American English, known as AAVE, and it has investigated the use of two alleged distinctive grammatical properties of this variety, namely aspectual-*Be* and the null copula, by speakers of AAVE in the state of Mississippi. Our data revealed a considerable amount of individual variation within our sample of participants. A common view in sociolinguistics circles, labeled here as the ‘non-standard internal inconsistency’ hypothesis, holds that non-standard dialects typically show much more internal variation than their standard counterparts because the internal grammars of their native speakers are intrinsically inconsistent. According to this hypothesis, the individual variation found in our sample should be attributed to a lack of uniformity in the mind of native speakers of AAVE regarding their use of aspectual-*Be* and the null copula. However, despite the inherent variability in the speech of individuals using AAVE between their dialect and the standard, the analysis of our data enabled us to identify a well-defined group of native speakers showing no such optionality or disagreement in their grammaticality judgments of the target constructions, i.e. having fully internalized both of the properties under investigation. Thus, we rejected the ‘non-standard internal inconsistency’ hypothesis. Another view, the ‘idiolect family’ hypothesis, holds that AAVE as a dialect label misconstrues the nature of the variety and that the variation observed when considering a sample of AAVE speakers must reside in the fact that the dialect actually is a collection of idiolects whose speakers may have some core AAVE properties as part of their grammatical competence but lack others. Although the analysis of our data revealed a number of speakers meeting these criteria, it was demonstrated that one of those groups only counted a handful of participants and that the other group might simply be made up of Southern American English speakers. Thus, we argued instead in favor of the ‘successive bilingual’ hypothesis, which proposes to account for the observed individual variation in the context of language acquisition theories. The fact that successful first language acquisition is enabled by some innate linguistic mechanisms which are no longer fully available to the second language learner after a certain critical period can explain the qualitative difference in performance between the native and non-native speakers from our sample. Because they have acquired AAVE from birth, native speakers fully master core grammatical properties of the dialect such as aspectual-*Be* and the null copula, hence the uniformity of their responses. The group of non-native speakers, on the other hand, must be made up of the participants who have only been exposed to AAVE at a later age or have received insufficient input from the dialect, and therefore display varying levels of grammatical competence with respect to these two properties. The majority of our participants ended up in this intermediate category of non-native speakers, so we propose that it is this uneven distribution of speakers which is responsible for the overall individual variation observed in our sample. This preponderance of pseudo-native speakers or successive bilinguals may be a property of non-standard dialects in general causing them to seem less well-defined than standard varieties. At last, this thesis has shed some light on the potential sources of individual variation in language by linking them to theories of language acquisition, therefore bringing further evidence in favor of the innateness and critical period hypotheses and enhancing our understanding of the human language faculty.

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9. Appendix

9.1. Experimental Materials

9.1.1. Questionnaire A

DIALECT VARIATION AND THE DIFFERENT USES OF 'BE' IN THE SOUTHERN UNITED STATES

Note to the Participants:

Your participation in this project is voluntary and will remain anonymous. Your answers will only be used for the purpose of our study.

Instructions:

'Standard' English, i.e. the English spoken on the news or taught in schools, differs in many respects from the informal or colloquial English used at home or among friends. This questionnaire is part of a study on dialect variation in the South of the United States. We wish to investigate how different forms of 'Be' are used in dialects of the South in informal settings.

For each question below, you are provided with a context leading to an underlined sentence. Each context is expressed in a common dialect of the South and each underlined sentence is considered acceptable in at least one of those dialects. However, it may not be the way YOU would say it in YOUR OWN DIALECT. During the experiment, you will hear each underlined sentence and its preceding context. Please indicate if the underlined sentence is something you could say or would never say in the given context by circling the appropriate answer. Note that you may hear each sentence up to 3 times.

!!! REMEMBER: **this is NOT an English grammar test!** Please focus on the English you use in informal settings (at home or with your friends). Keep in mind that we are not interested in what people tell you is 'correct', but rather in what you actually do say in relaxed informal settings!

Background Information:

. Age: _____

. Gender: Male Female

. What do you say when people ask you: 'Where are you from'?

Hometown/Home state/Home region: _____

. When at home or with your friends, do you feel that you speak a dialect of English which is different from the English spoken on national TV programs?

Yes No

. Do you consider yourself bilingual? If yes, indicate which other language you speak.

Yes, _____ No

Example:

A: *Are you still eating?*

B: No. *I been done ate* (I finished eating a while ago)

I could say this I would never say this

-> If, when speaking to a friend informally, you might possibly say *I been done ate*, meaning the same thing as 'I finished eating a while ago', then circle I could say this. Otherwise, circle I would never say this.

Questionnaire:

1. *John's in good shape. He run to work every morning.*

I could say this I would never say this

2. *My dad got me a new car. Nobody's ever drove it but it going 120 miles per hour.*

I could say this I would never say this

3. *I can't hear what you saying right now. Everybody be trying to talk to me.*

I could say this I would never say this

4. *I always feel like I'm bothering Lisa. She cook when I call her.*

I could say this I would never say this

5. *Bill's allergic to cats. He sneezing when my cat sit on his lap.*

I could say this I would never say this

6. *My sister can't stand it when I tell scary stories. She scared.*

I could say this I would never say this

7. *Leroy just got a job for the new football team. He ain't started yet but he the new coach.*

I could say this I would never say this

8. *When I told Maria she had to leave a tip for the waitress, she couldn't believe it. She from Europe.*

I could say this I would never say this

9. *You never know what to expect when you visit a new house. Some of them big and some of them small.*

I could say this I would never say this

10. *John just won the lottery; he happy.*

I could say this I would never say this

11. *Ryan's been working at that place forever. Some nights, he's got to cook and some other nights, he's got to wait tables. He the waiter every time I go there.*

I could say this I would never say this

12. *Kate really hate her job. She in a bad mood when I see her after work.*

I could say this I would never say this

13. *Peter's little sister's always crying but she quiet when I turn on the TV.*

I could say this I would never say this

14. A: *What's a typical Sunday morning for John?*

B: *He getting up, taking a shower, eating breakfast and going to church.*

I could say this

I would never say this

15. A: *What's Charles doing right now?*

B: *He study for his exam.*

I could say this

I would never say this

16. *That band can't even write their own songs but she be thinking they the best band in town.*

I could say this

I would never say this

17. *Bruce's always scared to get grounded. That's why he be crying when the teacher call his mother.*

I could say this

I would never say this

18. A: *Where John at on Saturday nights?*

B: *He at home.*

I could say this

I would never say this

19. *I ain't never heard him speak English but I know for sure he be American.*

I could say this

I would never say this

20. *You never know what to expect when you get a present. Some of them be nice and some of them be really bad.*

I could say this

I would never say this

21. A: *Why's Rob not here right now?*

B: *He on the phone.*

I could say this

I would never say this

22. *Everybody say she dye her hair different colors all the time but her hair be black every time I see her.*

I could say this

I would never say this

23. *Will love animals. He be excited when we get to the zoo.*

I could say this I would never say this

24. *I just got a new printer. I ain't been used yet, but it print 100 pages per minute.*

I could say this I would never say this

25. *I always buy a lot of flowers when I go to the market. They costing something like a quarter a piece there.*

I could say this I would never say this

26. *John Wayne always play the same role. He a macho man.*

I could say this I would never say this

27. *I know they ain't always been nice to you but they be good people.*

I could say this I would never say this

28. A: *I thought those cars only came in black.*

B: *No, look! Some of them be blue and some of them even be red.*

I could say this I would never say this

29. *I want to go for dinner with John and Melissa but I just called them and they be at work.*

I could say this I would never say this

30. *My neighbor's old. He never leave his house, so he's also really lonely. But he the happiest person ever when I go visit him.*

I could say this I would never say this

31. *Jim's a heavy smoker. He smoking about 2 packs a day.*

I could say this I would never say this

32. *John just sit on the couch all day and play videogames. He playing videogames when I come home from work.*

I could say this I would never say this

33. *Right before his next paycheck, John ain't got no money to buy lunch. He be hungry then.*

I could say this I would never say this

34. *Susie's in a store, looking for a present for her niece. But there's so many dolls on the shelf, she can't decide which one to pick. Some of them big and some of them small.*

I could say this I would never say this

35. *John and Angela be fighting all the time. John keep telling me Angela be the one starting it but he be the one pulling her hair when I catch them.*

I could say this I would never say this

36. *Charles really don't like school. He out of the classroom as soon as the bell go off.*

I could say this I would never say this

37. *A: I don't get the question!*

B: Ask Lucy! She know the answer.

I could say this I would never say this

38. *It ain't cheap to go to school here when you from out of state. So the students here, they be from Mississippi.*

I could say this I would never say this

39. *Brian's always more quiet than the other kids but today, he be a fool.*

I could say this I would never say this

40. *Chris and Alison been living in San Francisco for years. They be the guides when people go visit them.*

I could say this I would never say this

41. *Bob's a really good student. He be doing his homework when I come into his room.*

I could say this I would never say this

42. *I don't wanna walk to their place. They be on the other side of town.*

I could say this I would never say this

43. *My parents live on the coast in Florida. They really scared of hurricanes but they be in a safe place every time a hurricane comes.*

I could say this I would never say this

44. *Betty like to clean the house everyday but she hate doing it when I'm around. She clean when I leave for work.*

I could say this I would never say this

45. *Rachael'd be helping us but she be busy.*

I could say this I would never say this

46. A: *Why Mary's got her jacket on? It's hot in here.*
B: *She going to the store.*

I could say this I would never say this

47. *Every time I go visit Mary, she busy.*

I could say this I would never say this

48. *I be partying all night and still going strong the next day but Bob can't. He old.*

I could say this I would never say this

49. *There's gonna be a new restaurant on the square. It ain't gonna open till summer but they be serving Asian food there.*

I could say this I would never say this

50. *Chris never sleep in. He be the first one up.*

I could say this I would never say this

51. *Becky don't know how to swim. She be in trouble when she fall in the water.*

I could say this I would never say this

52. *Kate be mad at other people when they don't tell the truth, but this time, she the liar.*

I could say this I would never say this

53. *Jacky love to eat fruit but she only eat one kind of fruit for a while before she eat another kind. These days, she be loving to eat apples.*

I could say this

I would never say this

Thank you for your participation!

9.1.2. Questionnaire B

<p style="text-align: center;">DIALECT VARIATION AND THE DIFFERENT USES OF ‘BE’ IN THE SOUTHERN UNITED STATES</p>
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Note to the Participants:

Your participation in this project is voluntary and will remain anonymous. Your answers will only be used for the purpose of our study.

Instructions:

‘Standard’ English, i.e. the English spoken on the news or taught in schools, differs in many respects from the informal or colloquial English used at home or among friends. This questionnaire is part of a study on dialect variation in the South of the United States. We wish to investigate how different forms of ‘Be’ are used in dialects of the South in informal settings.

For each question below, you are provided with a context leading to an underlined sentence. Each context is expressed in a common dialect of the South and each underlined sentence is considered acceptable in at least one of those dialects. However, it may not be the way YOU would say it in YOUR OWN DIALECT. During the experiment, you will hear each underlined sentence and its preceding context. Please indicate if the underlined sentence is something you could say or would never say in the given context by circling the appropriate answer. Note that you may hear each sentence up to 3 times.

!!! REMEMBER: **this is NOT an English grammar test!** Please focus on the English you use in informal settings (at home or with your friends). Keep in mind that we are not interested in what people tell you is ‘correct’, but rather in what you actually do say in relaxed informal settings!

Background Information:

. Age: _____

. Gender: Male Female

. What do you say when people ask you: ‘Where are you from’?

Hometown/Home state/Home region: _____

. When at home or with your friends, do you feel that you speak a dialect of English which is different from the English spoken on national TV programs?

Yes No

. Do you consider yourself bilingual? If yes, indicate which other language you speak.

Yes, _____ No

Example:

A: *Are you still eating?*

B: No. *I been done ate* (I finished eating a while ago)

I could say this I would never say this

-> If, when speaking to a friend informally, you might possibly say *I been done ate*, meaning the same thing as ‘I finished eating a while ago’, then circle I could say this. Otherwise, circle I would never say this.

Questionnaire:

1. *Jim’s a heavy smoker. He smoke about 2 packs a day.*

I could say this I would never say this

2. *There’s gonna be a new restaurant on the square. It ain’t gonna open till summer but they serving Asian food there.*

I could say this I would never say this

3. *I always buy a lot of flowers when I go to the market. They cost something like a quarter a piece there.*

I could say this I would never say this

4. *I always feel like I'm bothering Lisa. She be cooking when I call her.*

I could say this I would never say this

5. *They always mad when we play that game with them because they be the losers.*

I could say this I would never say this

6. *I know they ain't always been nice to you but they good people.*

I could say this I would never say this

7. *I like his shoes but not hers. They be in a different color.*

I could say this I would never say this

8. *Brian's always more quiet than the other kids but today, he a fool.*

I could say this I would never say this

9. *My brother used to be real big but he be on a diet now.*

I could say this I would never say this

10. *My parents live on the coast in Florida. They really scared of hurricanes but they in a safe place every time a hurricane comes.*

I could say this I would never say this

11. *His parents let him do whatever he wants but they be mad when he get bad grades.*

I could say this I would never say this

12. *John's in good shape. He be running to work every morning.*

I could say this I would never say this

13. A: *What's Charles doing right now?*

B: *He be studying for his exam.*

I could say this I would never say this

14. *Bill's allergic to cats. He sneeze when my cat sit on his lap.*

I could say this I would never say this

15. *Those roads ain't no good to drive on when it been raining for a couple days. They be all muddy.*

I could say this I would never say this

16. *I knew she was gonna graduate. She be really smart.*

I could say this I would never say this

17. *Every day, she be wearing a different dress. Some of them be long and some of them be short.*

I could say this I would never say this

18. *John and Angela be fighting all the time. John keep telling me Angela be the one starting it but he the one pulling her hair when I catch them.*

I could say this I would never say this

19. *Chris and Alison been living in San Francisco for years. They the guides when people go visit them.*

I could say this I would never say this

20. A: *How come y'all so fit?*
B: *We going to the gym.*

I could say this I would never say this

21. *I can't hear what you saying right now. Everybody trying to talk to me.*

I could say this I would never say this

22. *Bruce's always scared to get grounded. That's why he crying when the teacher call his mother.*

I could say this I would never say this

23. *Don't try and call him on Sundays. He be with his family all day.*

I could say this I would never say this

24. *This year, there's students from all over the place in our school. Some of them be French and some of them even be Chinese.*

I could say this I would never say this

25. *I want to go for dinner with John and Melissa but I just called them and they at work.*

I could say this I would never say this

26. *John don't like talking on the phone but his wife, Jenny, she don't mind it at all. She be the one who pick up the phone when I call.*

I could say this I would never say this

27. *My dad got me a new car. Nobody's ever drove it but that car go 120 miles per hour.*

I could say this I would never say this

28. *John just sit on the couch all day and play videogames. He play videogames when I come home from work.*

I could say this I would never say this

29. *It ain't cheap to go to school here when you from out of state. So the students here, they from Mississippi.*

I could say this I would never say this

30. *You never know what to expect when you get a present. Some of them nice and some of them really bad.*

I could say this I would never say this

31. *Everybody say she dye her hair different colors all the time but her hair black every time I see her.*

I could say this I would never say this

32. *Jimmy's a big fan of the Ole Miss football team. He be down every time they lose a game.*

I could say this I would never say this

33. A: *I don't get the question!*

B: *Ask Lucy! She be knowing the answer.*

I could say this

I would never say this

34. *She ain't gotta work: she be the president's wife.*

I could say this

I would never say this

35. *Rachael'd be helping us but she busy.*

I could say this

I would never say this

36. *Will love animals. He excited when we get to the zoo.*

I could say this

I would never say this

37. *That band can't even write their own songs but she thinking they the best band in town.*

I could say this

I would never say this

38. *I ain't never heard him speak English but I know for sure he American.*

I could say this

I would never say this

39. *Megan say she don't like going to parties cause she never know anybody there but actually, when she go, she be friends with everybody there.*

I could say this

I would never say this

40. *I just got a new printer. It ain't been used yet, but that printer be printing 100 pages per minute.*

I could say this

I would never say this

41. *Right before his next paycheck, John ain't got no money to buy lunch. He hungry then.*

I could say this

I would never say this

42. *I still haven't been to a concert here. Every time I go to buy a ticket, they be sold out.*

I could say this

I would never say this

43. *Bob's a really good student. He doing his homework when I come into his room.*

I could say this I would never say this

44. A: *What's Jim and Heather doing?*

B: *They playing hide and seek. Heather be the one hiding.*

I could say this I would never say this

45. A: *Why Mary's got her jacket on? It's hot in here.*

B: *She go to the store.*

I could say this I would never say this

46. A: *How's Ben feeling right now?*

B: *Not good. He be sick.*

I could say this I would never say this

47. *Chris never sleep in. He the first one up.*

I could say this I would never say this

48. *Jacky love to eat fruit but she only eat one kind of fruit for a while before she eat another kind. These days, she loving to eat apples.*

I could say this I would never say this

49. *Becky don't know how to swim. She in trouble when she fall in the water.*

I could say this I would never say this

50. *Usually, I buy my coffee at the cafeteria. The coffee machines be out of order when I want to use them.*

I could say this I would never say this

51. *I don't wanna walk to their place. They on the other side of town.*

I could say this I would never say this

52. A: *I thought those cars only came in black.*

B: *No, look! Some of them blue and some of them even red.*

I could say this I would never say this

53. *Betty like to clean the house everyday but she hate doing it when I'm around. She be cleaning when I leave for work.*

I could say this

I would never say this

Thank you for your participation!

9.1.3. Questionnaire C

<p style="text-align: center;">DIALECT VARIATION AND THE DIFFERENT USES OF 'BE' IN THE SOUTHERN UNITED STATES</p>
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Note to the Participants:

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Instructions:

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For each question below, you are provided with a context leading to an underlined sentence. Each context is expressed in a common dialect of the South and each underlined sentence is considered acceptable in at least one of those dialects. However, it may not be the way YOU would say it in YOUR OWN DIALECT. During the experiment, you will hear each underlined sentence and its preceding context. Please indicate if the underlined sentence is something you could say or would never say in the given context by circling the appropriate answer. Note that you may hear each sentence up to 3 times.

!!! REMEMBER: **this is NOT an English grammar test!** Please focus on the English you use in informal settings (at home or with your friends). Keep in mind that we are not interested in what people tell you is 'correct', but rather in what you actually do say in relaxed informal settings!

Background Information:

. Age: _____

. Gender: Male Female

. What do you say when people ask you: ‘Where are you from’?

Hometown/Home state/Home region: _____

. When at home or with your friends, do you feel that you speak a dialect of English which is different from the English spoken on national TV programs?

Yes No

. Do you consider yourself bilingual? If yes, indicate which other language you speak.

Yes, _____

No

Example:

A: *Are you still eating?*

B: No. *I been done ate* (I finished eating a while ago)

I could say this

I would never say this

-> If, when speaking to a friend informally, you might possibly say *I been done ate*, meaning the same thing as ‘I finished eating a while ago’, then circle I could say this. Otherwise, circle I would never say this.

Questionnaire:

1. Charles really don’t like school. *He be out of the classroom as soon as the bell go off.*

I could say this

I would never say this

2. John don’t like talking on the phone but his wife, Jenny, she don’t mind it at all. *She the one who pick up the phone when I call.*

I could say this

I would never say this

3. Ryan’s been working at that place forever. Some nights, he’s got to cook and some other nights, he’s got to wait tables. *He be the waiter every time I go there.*

I could say this

I would never say this

4. A: *How's Ben feeling right now?*
B: *Not good. He sick.*

I could say this I would never say this

5. *Susie's in a store, looking for a present for her niece. But there's so many dolls on the shelf, she can't decide which one to pick. Some of them be big and some of them be small.*

I could say this I would never say this

6. *I knew she was gonna graduate. She really smart.*

I could say this I would never say this

7. *My sister can't stand it when I tell scary stories. She be scared.*

I could say this I would never say this

8. *Betty like to clean the house everyday but she hate doing it when I'm around. She cleaning when I leave for work.*

I could say this I would never say this

9. *I always buy a lot of flowers when I go to the market. They be costing something like a quarter a piece there.*

I could say this I would never say this

10. *I can't hear what you saying right now. Everybody try to talk to me.*

I could say this I would never say this

11. *John's in good shape. He running to work every morning.*

I could say this I would never say this

12. *His parents let him do whatever he wants but they mad when he get bad grades.*

I could say this I would never say this

13. *I still haven't been to a concert here. Every time I go to buy a ticket, they sold out.*

I could say this I would never say this

14. *Kate be mad at other people when they don't tell the truth, but this time, she be the liar.*

I could say this I would never say this

15. *When I told Maria she had to leave a tip for the waitress, she couldn't believe it. She be from Europe.*

I could say this I would never say this

16. A: *Where John at on Saturday nights?*

B: *He be at home.*

I could say this I would never say this

17. *Bill's allergic to cats. He be sneezing when my cat sit on his lap.*

I could say this I would never say this

18. A: *I don't get the question!*

B: *Ask Lucy! She knowing the answer.*

I could say this I would never say this

19. *I just got a new printer. It ain't been used yet, but that printer printing 100 pages per minute.*

I could say this I would never say this

20. *Jimmy's a big fan of the Ole Miss football team. He down every time they lose a game.*

I could say this I would never say this

21. *Every time I go visit Mary, she be busy.*

I could say this I would never say this

22. A: *What's Jim and Heather doing?*

B: *They playing hide and seek. Heather the one hiding.*

I could say this I would never say this

23. *I be partying all night and still going strong the next day but Bob can't. He be old.*

I could say this I would never say this

24. *John Wayne always play the same role. He be a macho man.*

I could say this I would never say this

25. *Bob's a really good student. He do his homework when I come into his room.*

I could say this I would never say this

26. *There's gonna be a new restaurant on the square. It ain't gonna open till summer but they serve Asian food there.*

I could say this I would never say this

27. *My neighbor's old. He never leave his house, so he's also really lonely. But he be the happiest person ever when I go visit him.*

I could say this I would never say this

28. *My brother used to be real big but he on a diet now.*

I could say this I would never say this

29. *I like his shoes but not hers. They in a different color.*

I could say this I would never say this

30. *They always mad when we play that game with them because they the losers.*

I could say this I would never say this

31. A: *Why Mary's got her jacket on? It's hot in here.*

B: *She be going to the store.*

I could say this I would never say this

32. *Jacky love to eat fruit but she only eat one kind of fruit for a while before she eat another kind. These days, she love to eat apples.*

I could say this I would never say this

33. A: *Why's Rob not here right now?*

B: *He be on the phone.*

I could say this

I would never say this

34. *Lee just got a job for the new football team. He ain't started yet but he be the new coach.*

I could say this

I would never say this

35. *John just sit on the couch all day and play videogames. He be playing videogames when I come home from work.*

I could say this

I would never say this

36. *Jim's a heavy smoker. He be smoking about 2 packs a day.*

I could say this

I would never say this

37. *Megan say she don't like going to parties cause she never know anybody there but actually, when she go, she friends with everybody there.*

I could say this

I would never say this

38. *She ain't gotta work: she the president's wife.*

I could say this

I would never say this

39. *That band can't even write their own songs but she think they the best band in town.*

I could say this

I would never say this

40. *Peter's little sister's always crying but she be quiet when I turn on the TV.*

I could say this

I would never say this

41. *Every day, she be wearing a different dress. Some of them long and some of them short.*

I could say this

I would never say this

42. *I always feel like I'm bothering Lisa. She cooking when I call her.*

I could say this

I would never say this

43. Usually, I buy my coffee at the cafeteria. The coffee machines out of order when I want to use them.

I could say this I would never say this

44. Those roads ain't no good to drive on when it been raining for a couple days. They all muddy.

I could say this I would never say this

45. Kate really hate her job. She be in a bad mood when I see her after work.

I could say this I would never say this

46. Bruce's always scared to get grounded. That's why he cry when the teacher call his mother.

I could say this I would never say this

47. John just won the lottery; he be happy.

I could say this I would never say this

48. My dad got me a new car. Nobody's ever drove it but that car be going 120 miles per hour.

I could say this I would never say this

49. Don't try and call him on Sundays. He with his family all day.

I could say this I would never say this

50. A: What's Charles doing right now?

B: He studying for his exam.

I could say this I would never say this

51. You never know what to expect when you visit a new house. Some of them be big and some of them be small.

I could say this I would never say this

52. *This year, there's students from all over the place in our school. Some of them French and some of them even Chinese.*

I could say this

I would never say this

53. A: *How d'y'all get to work in the morning?*

B: *We taking the bus to the station and walking from there.*

I could say this

I would never say this

Thank you for your participation!

9.2. Random Distribution of the Experimental Items

The three following tables show the random ordering of the 53 experimental conditions within each questionnaire. The labels used in these tables are explained below.

PRES = simple present

BING = aspectual Be + V-*ing*

ØING = null copula + V-*ing*

BDP/BAP/BPP = aspectual Be + DP/AP/PP

ØDP/ØAP/ØPP = null copula + DP/AP/PP

H = habitual reading

C = capacity reading

P = progressive reading

S = stative predicate

T = temporal clause or temporary property reading

O = onset reading

E = permanent property reading

+ = predicted to be grammatical in AAVE

- = predicted to be ungrammatical in AAVE

Questionnaire A:

Question #	Reading	Question #	Reading	Question #	Reading
A1	PRES+H	A19	BAP-E	A37	PRES+S
A2	ØING-C	A20	B+HS	A38	BPP+H
A3	BING-P	A21	ØPP-T	A39	BDP+T
A4	PREST-P	A22	BAPT+P	A40	BDPT+O
A5	ØINGT-O	A23	BAPT+O	A41	BINGT+P
A6	ØAP+H	A24	PRES+C	A42	BPP-E
A7	ØDP+E	A25	ØING-S	A43	BPPT+P
A8	ØPP+E	A26	ØDP+H	A44	PREST+O
A9	Ø+HS	A27	BDP-E	A45	BAP+T
A10	ØAP-T	A28	B-PS	A46	ØING+P
A11	ØDPT+P	A29	BPP+T	A47	ØAPT+P
A12	ØPPT+P	A30	ØDPT-O	A48	ØAP+E
A13	ØAPT-O	A31	ØINGAdv+H	A49	BING-C
A14	ØING+H	A32	ØINGT+P	A50	BDP+H
A15	PRES-P	A33	BAP+H	A51	BPPT+O
A16	BING+S	A34	Ø+PS	A52	ØDP-T
A17	BINGT+O	A35	BDPT+P	A53	BING+H
A18	ØPP+H	A36	ØPPT-O		

Questionnaire B:

Question #	Reading	Question #	Reading	Question #	Reading
B1	PRES+H	B19	ØDPT-O	B37	ØING-S
B2	ØING-C	B20	ØING+H	B38	ØAP+E
B3	PRES+S	B21	ØING+P	B39	BDPT+P
B4	BINGT+P	B22	ØINGT-O	B40	BING-C
B5	BDP+H	B23	BPP+H	B41	ØAP+H
B6	ØDP+E	B24	B-PS	B42	BAPT+P
B7	BPP-E	B25	ØPP-T	B43	ØINGT+P
B8	ØDP-T	B26	BDPT+O	B44	BDP+T
B9	BPP+T	B27	PRES+C	B45	PRES-P
B10	ØPPT+P	B28	PREST-P	B46	BAP+T
B11	BAPT+O	B29	ØPP+H	B47	ØDP+H
B12	BING+H	B30	Ø+HS	B48	ØINGAdv+H
B13	BING-P	B31	ØAPT+P	B49	ØPPT-O
B14	PREST+O	B32	BPPT+O	B50	BPPT+P
B15	BAP+H	B33	BING+S	B51	ØPP+E
B16	BAP-E	B34	BDP-E	B52	Ø+PS
B17	B+HS	B35	ØAP-T	B53	BINGT+O
B18	ØDPT+P	B36	ØAPT-O		

Questionnaire C:

Question #	Reading	Question #	Reading	Question #	Reading
C1	BPPT+O	C19	ØING-C	C37	ØDPT+P
C2	ØDPT-O	C20	ØPPT-O	C38	ØDP+E
C3	BDPT+P	C21	BAPT+P	C39	PRES+S
C4	ØAP-T	C22	ØDP-T	C40	BAPT+O
C5	B-PS	C23	BAP-E	C41	Ø+HS
C6	ØAP+E	C24	BDP+H	C42	ØINGT+P
C7	BAP+H	C25	PREST-P	C43	ØPPT+P
C8	ØINGT-O	C26	PRES+C	C44	ØAP+H
C9	BING+S	C27	BDPT+O	C45	BPPT+P
C10	PRES-P	C28	ØPP-T	C46	PREST+O
C11	ØINGAdv+H	C29	ØPP+E	C47	BAP+T
C12	ØAPT-O	C30	ØDP+H	C48	BING-C
C13	ØAPT+P	C31	BING-P	C49	ØPP+H
C14	BDP+T	C32	PRES+H	C50	ØING+P
C15	BPP-E	C33	BPP+T	C51	B+HS
C16	BPP+H	C34	BDP-E	C52	Ø+PS
C17	BINGT+O	C35	BINGT+P	C53	ØING+H
C18	ØING-S	C36	BING+H		

9.3. Random Distribution of the Auditory Stimulus

WM = voice of the White Southern male

WF = voice of the White Southern female

BM = voice of the African-American male

BF = Voice of the African-American female

Questionnaire A:

Question #	Voice	Question #	Voice	Question #	Voice
A1	WF	A19	BM	A37	WF
A2	BM	A20	BF	A38	BM
A3	BF	A21	WF	A39	BF
A4	WM	A22	BF	A40	WM
A5	WF	A23	WM	A41	WF
A6	WM	A24	BM	A42	WM
A7	BM	A25	WF	A43	BM
A8	BF	A26	BM	A44	BF
A9	WF	A27	BF	A45	WF
A10	BF	A28	WM	A46	BF
A11	WM	A29	WF	A47	WM
A12	BM	A30	WM	A48	BM
A13	WF	A31	BM	A49	WF
A14	BM	A32	BF	A50	BM
A15	BF	A33	WF	A51	BF
A16	WM	A34	BF	A52	WM
A17	WF	A35	WM	A53	WF
A18	WM	A36	BM		

Questionnaire B:

Question #	Voice	Question #	Voice	Question #	Voice
B1	WM	B19	BM	B37	WM
B2	BM	B20	WF	B38	BM
B3	BF	B21	BM	B39	BF
B4	WF	B22	BF	B40	WF
B5	BF	B23	WM	B41	BF
B6	WM	B24	WF	B42	WM
B7	BM	B25	WM	B43	BM
B8	WF	B26	BM	B44	WF
B9	BM	B27	BF	B45	BM
B10	BF	B28	WF	B46	BF
B11	WM	B29	BF	B47	WM
B12	WF	B30	WM	B48	WF
B13	WM	B31	BM	B49	WM
B14	BM	B32	WF	B50	BM
B15	BF	B33	BM	B51	BF
B16	WF	B34	BF	B52	WF
B17	BF	B35	WM	B53	BF
B18	WM	B36	WF		

Questionnaire C:

Question #	Voice	Question #	Voice	Question #	Voice
C1	WM	C19	WF	C37	WM
C2	BM	C20	WM	C38	BM
C3	WF	C21	BM	C39	WF
C4	BM	C22	BF	C40	BM
C5	BF	C23	WF	C41	BF
C6	WM	C24	BF	C42	WM
C7	WF	C25	WM	C43	WF
C8	WM	C26	BM	C44	WM
C9	BM	C27	WF	C45	BM
C10	BF	C28	BM	C46	BF
C11	WF	C29	BF	C47	WF
C12	BF	C30	WM	C48	BF
C13	WM	C31	WF	C49	WM
C14	BM	C32	WM	C50	BM
C15	WF	C33	BM	C51	WF
C16	BM	C34	BF	C52	BM
C17	BF	C35	WF	C53	BF
C18	WM	C36	BF		

9.4. Consent Form

Consent Form

Dialect Variation and the Different Uses of Be in the Southern US

You are invited to take part in a research study on dialects of the Southern United States. We ask that you read this form and ask any questions you may have before agreeing to be in this study.

Background Information: The purpose of this study is to determine how different forms of *Be* are used in dialects of the Southern United States. In this study, you will be required to listen to sentences and fill out a questionnaire. We guarantee that your participation will remain anonymous. The session will last approximately 15 minutes and you may withdraw from the study at any point if you so desire. Other than the opportunity to participate in scientific research, you are not being offered any compensation for your participation.

Confidentiality: The records of this study will be kept private. In any sort of report that we might publish, we will not include any information that will make it possible to

identify a subject. Research records will be stored securely and only researchers will have access to them.

Voluntary Nature of the Study: Participation in this study is voluntary. If you decide to participate, you are free not to answer any question or to withdraw at any time without any consequences.

Contact and Questions: You may ask any questions you have now to the investigator. If you have questions later or would like to be informed of the outcome of this study, feel free to contact Anne Morès at annemores@hotmail.com or (662) 202-2463.

Statement of Consent: I have read the above information and I consent to participate in this study.

Signature: _____ Date: _____

Signature of Parent or Guardian: _____ Date: _____
(If minors are involved)

Signature of Investigator: _____ Date: _____

Participants will receive a copy of this form

9.5. Raw Data

Questionnaire A:

Subject #	B/W	Age	M/F	From	PRES +H
					A1
1	W	48	M	Corinth, MS	0
2	W	30	M	Corinth, MS	1
3	B	21	M	Holly Sprgs, MS	0
4	B	20	M	Holly Sprgs, MS	0
5	W	25	M	Ackerman, MS	0
6	W	22	F	Senatobia, MS	0
7	B	49	F	Oxford, MS	0
8	B	21	M	Hattiesburg, MS	1
9	B	21	M	Natchez, MS	1
10	B	22	M	GA	0
11	B	19	F	MS	1
12	B	21	M	Greenville, MS	1
13	W	20	F	Greenville, MS	0
14	B	18	F	Houston, TX	1
15	W	21	F	Oxford, MS	0
16	W	49	F	Oxford, MS	0
17	B	25	M	Batesville, MS	0
18	W	24	M	Greenville, MS	1
19	W	49	M	Oxford, MS	0
20	W	42	M	Oxford, MS	1
21	B	14	F	Batesville, MS	1
22	B	14	F	Batesville, MS	1
23	W	24	M	Senatobia, MS	0
24	W	23	M	MS	0
25	B	20	F	Madison, MS	0
26	B	37	M	Marshall Cnty, MS	0
27	B	36	F	Senatobia, MS	1
28	B	19	F	Oxford, MS	0
29	W	13	F	Grenada, MS	1
30	W	13	F	Grenada, MS	0
31	B	13	M	Oxford, MS	1
32	B	13	F	Grenada, MS	1
33	B	14	M	Grenada, MS	1
34	B	13	M	Grenada, MS	1
35	W	32	F	MS	0
36	W	41	F	Oxford, MS	0
37	W	31	F	Batesville, MS	1
38	W	31	F	KY/MS	0
39	W	37	M	Ripley, MS	1
40	W	17	F	Ocean Sprgs, MS	1

Subject #	ØING +H	ØINGAdv +H	BING+H	PRES +C	ØING-C
	A14	A31	A53	A24	A2
1	0	1	1	0	0
2	1	0	0	1	0
3	0	1	0	1	0
4	0	1	0	1	0
5	0	0	0	1	0
6	0	0	0	0	0
7	1	1	1	1	0
8	0	0	0	1	0
9	0	0	1	0	0
10	1	1	1	1	0
11	0	1	0	0	0
12	0	0	0	1	0
13	0	0	0	0	0
14	0	0	0	1	0
15	0	1		0	0
16	0	0	0	0	0
17	1	0	1	1	0
18	0	1	1	1	0
19	0	0	0	0	0
20	1	1	0	0	0
21	1	0	0	1	0
22	1	1	1	1	0
23	0	0	0	0	0
24	1	0	0	1	0
25	0	0	0	1	0
26	0	0	0	0	0
27	1	0	0	1	1
28	1	1	0	0	1
29	1	1	1	0	0
30	0	1	1	1	1
31	1	1	1	1	0
32	0	0	0	0	0
33	1	0	0	0	1
34	0	1	0	1	0
35	0	0	0	0	0
36	0	0	0	0	0
37	1	1	1	0	1
38	0	1	1	0	1
39	1	1	0	1	0
40	0	0	0	0	0

Subject #	BING-C	PRES-P	ØING+P	BING-P	PRES+S
	A49	A15	A46	A3	A37
1	1	0	1	0	1
2	1	0	0	0	1
3	1	1	1	1	1
4	1	1	1	1	1
5	0	0	1	0	1
6	0	0	0	0	0
7	1	0	1	0	1
8	0	0	1	1	1
9	1	0	1	1	1
10	1	1	1	1	0
11	1	0	1	1	1
12	0	1	1	0	1
13	0	0	0	0	0
14	0	0	1	0	1
15		0		1	
16	0	0	0	0	0
17	1	1	1	0	1
18	0	0	1	1	1
19	0	0	1	0	1
20	1	0	0	0	1
21	1	0	1	1	1
22	1	1	1	0	1
23	0	0	0	0	0
24	0	0	0	0	0
25	1	0	1	0	1
26	1	0	0	1	1
27	1	0	0	1	1
28	1	1	0	1	1
29	0	0	0	1	1
30	1	1	1	0	1
31	1	1	1	1	1
32	0	0	1	0	1
33	0	0	0	1	1
34	1	0	0	0	1
35	0	0	0	0	0
36	0	0	0	0	0
37	1	1	1	1	1
38	0	0	1	0	1
39	0	1	1	0	1
40	1	0	1	1	1

Subject #	ØING-S	BING+S	PREST-P	ØINGT+P	BINGT+P
	A25	A16	A4	A32	A41
1	0	0	0	1	0
2	0	0	1	1	0
3	1	1	0	0	1
4	1	1	0	0	1
5	0	0	0	0	0
6	0	0	0	0	0
7	0	1	0	0	1
8	1	1	0	0	0
9	1	1	0	0	0
10	0	1	0	0	1
11	0	1	0	0	0
12	0	0	0	1	1
13	0	0	0	0	0
14	0	0	0	0	0
15	1	0	0	0	
16	0	0	0	0	0
17	1	1	0	1	0
18	0	1	0	1	1
19	0	0	0	0	0
20	1	1	0	0	1
21	0	1	0	1	1
22	1	0	1	1	1
23	1	0	0	1	0
24	0	0	0	0	0
25	0	1	0	0	1
26	1	1	0	0	1
27	0	1	0	1	0
28	0	1	0	1	1
29	0	0	0	1	1
30	0	0	0	1	0
31	1	1	0	1	1
32	0	0	0	0	0
33	1	0	1	0	1
34	0	1	1	0	0
35	0	0	0	0	0
36	0	0	0	0	0
37	0	1	1	1	0
38	0	1	0	1	0
39	1	0	0	1	0
40	0	1	0	1	1

Subject #	PREST+O	ØINGT-O	BINGT+O	ØDP+H	BDP+H
	A44	A5	A17	A26	A50
1	0	0	0	0	0
2	1	1	1	0	1
3	0	0	1	0	1
4	1	0	1	0	1
5	0	0	0	1	0
6	0	0	0	0	0
7	1	0	0	1	1
8	1	1	0	0	0
9	0	0	1	0	1
10	1	0	1	0	1
11	0	0	1	1	1
12	0	0	0	1	0
13	0	0	1	0	0
14	1	0	0	1	0
15		0	0	0	
16	0	0	0	0	0
17	1	0	0	0	1
18	1	0	1	1	0
19	1	0	0	1	0
20	1	1	1	0	1
21	1	0	1	1	1
22	1	1	1	1	1
23	0	0	0	1	0
24	0	0	0	1	0
25	0	0	1	0	1
26	0	0	1	0	0
27	0	0	1	1	0
28	0	1	0	1	1
29	0	0	0	1	0
30	1	1	0	1	0
31	1	1	1	1	1
32	0	0	1	0	1
33	1	0	0	1	0
34	0	0	1	0	1
35	0	0	0	0	0
36	0	0	0	0	0
37	1	1	1	1	1
38	0	0	1	1	1
39	1	0	0	1	0
40	1	0	1	0	1

Subject #	∅AP+H	BAP+H	∅PP+H	BPP+H	∅DP+E
	A6	A33	A18	A38	A7
1	1	0	0	1	1
2	1	0	0	0	0
3	1	0	1	0	1
4	0	0	0	0	1
5	1	0	1	0	1
6	1	0	0	0	0
7	1	0	1	1	1
8	1	1	0	1	0
9	1	0	1	0	1
10	1	1	1	1	1
11	1	1	1	1	1
12	1	0	1	0	1
13	0	0	0	0	0
14	1	0	1	1	1
15	1	1	1		1
16	0	0	0	0	0
17	1	0	0	0	1
18	1	1	1	0	1
19	1	0	0	0	1
20	1	0	1	1	0
21	1	1	1	1	1
22	1	1	1	1	1
23	0	0	1	0	0
24	0	0	1	0	0
25	1	0	1	0	1
26	1	0	1	1	1
27	1	0	0	0	0
28	1	1	1	1	1
29	1	1	1	0	1
30	1	0	1	0	1
31	0	1	1	1	1
32	1	1	1	0	0
33	1	1	1	0	0
34	1	1	0	1	1
35	0	0	0	0	0
36	0	0	0	0	0
37	1	1	1	1	1
38	1	1	0	1	0
39	1	0	1	0	1
40	1	1	1	0	1

Subject #	BDP-E	∅AP+E	BAP-E	∅PP+E	BPP-E
	A27	A48	A19	A8	A42
1	1	0	0	0	1
2	0	0	0	1	1
3	0	0	0	1	1
4	0	0	0	1	1
5	0	0	0	0	0
6	0	0	0	0	0
7	1	1	0	1	0
8	0	1	0	0	0
9	1	1	0	1	0
10	0	1	0	0	1
11	0	1	0	1	0
12	0	0	0	1	0
13	0	0	1	0	0
14	0	0	0	1	1
15	1		0	1	
16	0	0	0	0	0
17	0	1	0	1	1
18	1	1	0	1	1
19	0	1	0	1	0
20	0	1	1	1	1
21	1	1	1	1	1
22	0	1	1	1	0
23	0	0	0	0	0
24	0	0	0	1	0
25	0	1	0	0	0
26	1	1	0	1	1
27	0	0	0	0	0
28	1	1	1	1	1
29	0	0	0	0	1
30	0	1	0	0	1
31	0	0	1	1	1
32	0	1	0	1	0
33	0	0	1	0	1
34	1	0	0	1	0
35	0	0	0	0	0
36	0	0	0	0	0
37	1	1	1	1	1
38	0	1	1	0	0
39	0	1	0	1	0
40	0	1	0	1	1

Subject #	Ø+PS	B-PS	Ø+HS	B+HS	ØDP-T
	A34	A28	A9	A20	A52
1	1	0	1	1	1
2	1	0	1	1	1
3	0	0	1	0	1
4	0	0	1	0	0
5	1	0	1	0	0
6	1	0	1	0	0
7	1	1	1	0	1
8	0	0	0	0	1
9	1	0	0	0	1
10	0	0	0	0	0
11	1	0	0	1	0
12	0	0	1	0	1
13	0	0	0	0	0
14	0	0	0	0	1
15	1	0	0	0	
16	0	0	0	0	0
17	1	1	1	0	1
18	1	0	0	0	1
19	0	0	1	0	1
20	1	1	1	1	1
21	1	1	0	1	1
22	1	0	0	0	1
23	0	0	1	0	1
24	1	0	0	0	1
25	0	0	0	0	0
26	0	1	0	1	0
27	1	1	1	0	0
28	0	1	0	1	0
29	1	0	1	1	0
30	1	1	0	0	1
31	1	1	1	0	1
32	0	0	0	1	0
33	0	0	1	0	1
34	1	0	1	0	0
35	1	0	1	0	0
36	0	0	0	0	0
37	1	1	1	1	1
38	0	0	1	0	0
39	1	0	1	0	1
40	1	0	0	1	1

Subject #	BDP+T	∅AP-T	BAP+T	∅PP-T	BPP+T
	A39	A10	A45	A21	A29
1	1	1	0	0	0
2	0	1	1	1	1
3	0	0	1	0	1
4	1	0	1	0	1
5	0	0	0	1	0
6	0	0	0	0	0
7	1	1	0	1	1
8	1	1	1	1	0
9	1	1	1	1	0
10	0	0	1	1	1
11	1	1	1	1	0
12	0	1	1	1	0
13	1	0	0	0	0
14	0	1	0	1	0
15		1		1	0
16	0	0	0	0	0
17	0	1	1	1	0
18	0	0	0	1	1
19	0	1	0	1	0
20	1	0	0	1	1
21	1	1	1	1	1
22	1	1	1	1	0
23	0	0	0	0	0
24	0	1	0	0	0
25	0	0	0	1	0
26	1	1	1	0	1
27	0	1	1	0	0
28	1	1	1	1	0
29	0	1	1	0	0
30	0	1	1	0	0
31	0	0	1	1	1
32	0	1	0	0	0
33	1	1	1	0	1
34	0	0	0	0	0
35	0	0	0	0	0
36	0	0	0	0	0
37	1	1	1	1	1
38	1	1	1	0	1
39	0	0	0	1	0
40	0	1	1	1	0

Subject #	∅DPT+P	BDPT+P	∅APT+P	BAPT+P	∅PPT+P
	A11	A35	A47	A22	A12
1	0	0	1	0	1
2	1	1	0	0	1
3	1	0	1	1	0
4	1	0	0	1	1
5	0	0	0	0	0
6	0	0	0	0	0
7	0	1	1	0	1
8	1	0	1	1	1
9	0	0	1	1	0
10	1	0	0	1	0
11	0	1	1	1	0
12	0	0	1	0	1
13	0	0	0	0	0
14	0	0	0	0	1
15	0	1		1	1
16	0	0	0	0	0
17	1	1	1	0	1
18	1	0	1	1	1
19	0	0	1	1	1
20	1	1	1	0	1
21	1	1	1	1	1
22	1	1	1	0	0
23	0	0	0	0	0
24	0	0	0	0	1
25	0	1	1	0	1
26	1	1	0	1	0
27	1	1	1	1	1
28	0	1	1	1	1
29	1	0	1	0	1
30	1	0	1	0	1
31	0	1	1	0	1
32	0	1	0	0	0
33	0	0	0	0	1
34	0	1	0	1	0
35	0	0	0	0	0
36	0	0	0	0	0
37	1	1	1	1	1
38	0	1	0	1	1
39	1	0	1	0	1
40	0	1	1	1	0

Subject #	BPPT+P	ØDPT-O	BDPT+O	ØAPT-O	BAPT+O
	A43	A30	A40	A13	A23
1	0	0	1	0	0
2	1	1	0	1	1
3	0	1	0	1	1
4	0	1	0	1	1
5	0	0	0	0	0
6	0	0	0	0	0
7	1	1	0	1	1
8	0	1	0	0	0
9	0	0	0	0	1
10	0	1	0	0	1
11	1	1	0	0	1
12	0	1	0	1	0
13	0	0	0	0	0
14	0	1	0	1	0
15		0		1	0
16	0	0	0	0	0
17	1	1	0	0	0
18	0	0	0	0	0
19	0	1	0	0	0
20	1	1	1	1	0
21	1	1	1	1	1
22	1	1	1	1	1
23	0	0	0	0	0
24	0	1	0	0	0
25	1	0	0	0	0
26	1	0	1	1	0
27	0	1	1	1	0
28	1	1	0	1	1
29	0	0	1	0	1
30	1	0	1	0	1
31	1	0	1	1	1
32	1	0	0	0	0
33	0	0	0	0	1
34	1	1	0	0	1
35	0	0	0	0	1
36	0	0	0	0	0
37	1	1	1	1	1
38	0	0	0	0	0
39	0	1	0	1	0
40	1	1	1	1	1

Subject #	ØPPT-O	BPPT+O
	A36	A51
1	1	0
2	1	0
3	1	0
4	1	0
5	0	0
6	0	0
7	1	0
8	1	0
9	1	0
10	0	1
11	1	0
12	0	0
13	0	0
14	1	0
15	0	
16	0	0
17	1	0
18	1	0
19	1	0
20	1	1
21	1	1
22	1	0
23	0	0
24	0	0
25	1	1
26	0	0
27	0	1
28	0	1
29	1	0
30	0	1
31	1	0
32	0	0
33	0	0
34	0	1
35	0	0
36	0	0
37	1	1
38	0	1
39	1	0
40	1	0

Questionnaire B:

Subject #	B/W	Age	M/F	From	PRES +H
					B1
1	W	29	M	AR	0
2	W	22	M	Clarksdale, MS	0
3	W	29	M	Corinth, MS	0
4	W	16	M	Belmont, MS	0
5	B	27	M	Meridian, MS	0
6	B	25	M	Columbus, MS	1
7	W	21	M	Monroe, LA	0
8	B	22	M	Carrollton, MS	1
9	B	22	M	Oxford, MS	1
10	B	31	M	Oxford, MS	1
11	W	21	M	MS	0
12	B	20	M	Tupelo, MS	1
13	W	26	F	Oxford, MS	1
14	B	31	M	Oxford, MS	1
15	W	47	F	Booneville, MS	0
16	W	54	F	MS	1
17	W	24	M	Oxford, MS	0
18	B	52	F	MS	0
19	B	17	F	Oxford, MS	1
20	B	19	F	Oxford, MS	1
21	B	13	F	Tunica, MS	0
22	B	13	F	Kosciusko, MS	0
23	B	14	F	Shelby, MS	0
24	B	28	F	Batesville, MS	0
25	W	39	M	MS Delta	0
26	W	20	M	Oxford, MS	0
27	W	74	F	Oxford, MS	0
28	W	57	F	Abbeville, MS	
29	W	18	F	Philadelphia, MS	1
30	W	22	F	Southaven, MS	0
31	B	39	F	Oxford, MS	0
32	W	32	F	MS Delta	0
33	W	24	F	MS	0
34	W	30	F	FL	0
35	W	22	F	Bay St Louis, MS	0
36	B	51	M	Taylor, MS	1
37	B	23	F	Sardis, MS	0
38	B	20	M	Lumberton, MS	1
39	B	18	M	Darling, MS	1
40	W	32	M	MS	0

Subject #	ØING+H	ØINGAdv +H	BING+H	PRES +C	ØING-C
	B20	B48	B12	B27	B2
1	1	0	0	1	1
2	1	0	0	0	0
3	1	0	0	0	0
4	0	0	0	0	0
5	0	0	0	0	0
6	1	0	1	0	1
7	1	0	0	0	1
8	1	0	1	1	1
9	1	0	1	0	1
10	0	1	0	0	1
11	1	0	0	0	0
12	1	0	0	1	1
13	1	0	0	0	1
14	1	1	1	0	1
15	0	0	1	0	0
16	1	1	1	1	0
17	0	0	0	0	1
18	1	0	1	0	1
19	1	0	0	1	0
20	1	0	0	0	1
21	1	0	0	0	0
22	0	0	0	0	0
23	1	0	1	1	1
24	1	0	1	1	0
25	0	0	0	0	1
26	0	0	0	0	0
27	0	0	0	0	0
28	1	0	1	0	0
29	0	0	0	0	1
30	1	0	0	0	0
31	1	1	1	1	1
32	1	0	0	1	1
33	1	1	0	1	1
34	1	0	0	0	1
35	0	0	0	0	0
36	1	1	1	0	0
37	1	0	1	0	1
38	1		0	1	1
39	1	1	1	1	0
40	0	0	0	0	0

Subject #	BING-C	PRES-P	ØING+P	BING-P	PRES+S
	B40	B45	B21	B13	B3
1	0	1	1	0	0
2	0	0	1	0	1
3	0	1	1	0	0
4	0	0	0	0	0
5	0	0	0	0	1
6	0	0	1	0	1
7	1	0	1	0	1
8	0	0	1	0	1
9	0	0	1	0	0
10	0	0	1	0	1
11	0	0	1	0	1
12	0	0	1	0	1
13	0	0	0	0	1
14	1	0	1	0	1
15	1	0	1	0	1
16	1	0	1	0	1
17	0	0	1	1	1
18	0	0	1	0	1
19	0	0	1	0	0
20	1	1	1	0	1
21	0	0	1	0	1
22	0	0	1	0	0
23	1	0	1	0	1
24	1	0	1	0	1
25	0	0	0	0	1
26	0	0	0	0	1
27	0	0	0	0	0
28	0	0	0	0	1
29	0	0	0	0	0
30	1	0	0	0	1
31	1	0	1	0	1
32	1	0	1	0	1
33	1	1	1	0	1
34	0	0	0	0	1
35	0	0	0	0	1
36	0	1	1	1	1
37	1	0	1	0	1
38	1	1	1	0	1
39	1	1	1	1	1
40	0	0	0	0	1

Subject #	ØING-S	BING+S	PREST-P	ØINGT+P	BINGT+P
	B37	B33	B28	B43	B4
1	0	0	0	0	0
2	0	0	0	0	0
3	0	0	1	1	0
4	0	0	0	0	0
5	0	0	0	0	0
6	1	0	0	0	1
7	0	0	0	0	1
8	1	1	1	0	0
9	0	1	1	0	1
10	1	1	1	1	1
11	0	0	0	0	0
12	1	0	0	1	0
13	0	0	0	0	0
14	0	0	0	0	1
15	0	0	0	0	0
16	1	1	1	0	1
17	1	0	1	0	1
18	0	0	1	0	0
19	1	0	1	0	1
20	1	1	1	1	0
21	1	0	1	0	0
22	0	0	0	0	0
23	0	0	0	0	0
24	1	1	1	0	0
25	0	0	0	0	0
26	0	0	0	0	0
27	0	0	0	0	0
28	0	1	1	0	0
29	0	0	0	0	0
30	1	0	0	0	0
31	1	0	1	0	1
32	0	0	0	0	0
33	0	0	1	1	0
34	0	0	0	0	1
35	0	0	0	0	0
36	1	1	1	1	1
37	1	0	1	0	1
38	0	0	1	1	0
39	1	1	1	0	1
40	0	0	0	0	0

Subject #	PREST+O	ØINGT-O	BINGT+O	ØDP+H	BDP+H
	B14	B22	B53	B47	B5
1	1	0	0	1	0
2	0	0	0	0	0
3	0	0	0	1	0
4	0	0	0	0	0
5	0	0	0	0	0
6	0	0	0	1	1
7	0	1	0	0	0
8	1	0	0	1	0
9	0	0	1	1	0
10	1	1	1	1	0
11	0	0	0	0	0
12	1	1	0	1	0
13	0	0	0	0	0
14	1	1	0	1	1
15	1	0	0	0	0
16	1	1	1	1	0
17	1	0	1	1	1
18	1	1	1	1	0
19	1	0	1	0	0
20	1	0	0	1	0
21	1	0	0	1	0
22	0	0	0	0	0
23	1	0	0	1	0
24	1	1	0	0	0
25	0	0	0	0	0
26	0	0	0	0	0
27	0	0	0	0	0
28	0	1	0	1	1
29	0	0	0	0	0
30	0	0	0	0	0
31	0	1	1	1	1
32	1	0	0	0	0
33	0	0	1	1	0
34	0	0	0	0	1
35	0	0	0	0	0
36	1	1	1	1	1
37	0	0	1	0	0
38	1	1	0	1	1
39	1	1	1	1	1
40	0	0	0	0	0

Subject #	∅AP+H	BAP+H	∅PP+H	BPP+H	∅DP+E
	B41	B15	B29	B23	B6
1	0	0	0	0	0
2	0	0	0	0	0
3	0	0	1	0	1
4	0	0	0	0	0
5	0	0	0	0	0
6	0	1	1	1	1
7	0	1	1	1	1
8	1	1	0	0	0
9	0	1	1	1	1
10	0	1	1	1	1
11	0	0	0	0	0
12	1	0	1	0	1
13	0	0	0	0	0
14	0	1	0	1	1
15	0	1	0	1	0
16	0	1	1	1	1
17	1	1	1	1	1
18	0	0	1	1	1
19	0	0	0	1	1
20	0	0	0	1	1
21	0	0	1	0	0
22	0	0	0	1	0
23	1	0	1	1	0
24	0	1	1	1	1
25	0	0	1	0	1
26	0	0	1	0	0
27	0	0	0	0	0
28	0	0	1	0	0
29	0	1	1	0	1
30	0	0	0	1	0
31	0	0	1	1	1
32	0	1	1	1	1
33	1	0	1	0	1
34	0	1	1	0	1
35	0	0	0	0	0
36	1	1	1	1	1
37	0	1	0	1	1
38	1	0	1	0	1
39	0	1	1	1	1
40	0	0	0	0	0

Subject #	BDP-E	∅AP+E	BAP-E	∅PP+E	BPP-E
	B34	B38	B16	B51	B7
1	0	1	0	1	0
2	0	0	0	0	0
3	0	1	0	1	0
4	0	0	0	0	0
5	0	0	0	0	0
6	0	0	0	0	0
7	1	0	0	1	0
8	0	1	0	1	0
9	0	0	0	0	0
10	1	1	0	1	0
11	0	1	0	1	0
12	0	1	0	1	0
13	0	0	0	0	0
14	1	1	0	1	0
15	0	1	0	0	0
16	1	1	1	1	0
17	1	1	0	1	0
18	0	1	0	0	0
19	0	1	0	1	0
20	0	1	0	1	1
21	0	1	0	1	0
22	0	1	0	1	0
23	0	1	0	1	1
24	0	0	0	0	0
25	0	0	0	1	0
26	0	0	0	0	0
27	0	0	0	0	0
28	1	1	1	1	0
29	0	1	1	0	0
30	1	0	0	1	0
31	1	0	0	1	0
32	0	0	0	1	0
33	0	1	0	1	0
34	0	0	0	1	1
35	0	0	0	0	0
36	1	1	1	1	1
37	0	1	0	1	0
38	0	1	0	1	1
39	0	1	1	1	1
40	0	0	0	0	0

Subject #	Ø+PS	B-PS	Ø+HS	B+HS	ØDP-T
	B52	B24	B30	B17	B8
1	1	0	1	0	0
2	0	0	0	0	0
3	1	0	1	0	1
4	0	0	0	0	0
5	0	0	0	0	0
6	0	1	0	1	0
7	0	0	1	0	0
8	1	0	0	0	1
9	1	0	1	1	1
10	1	1	0	1	1
11	0	0	0	0	0
12	1	0	1	0	1
13	0	0	0	0	0
14	1	1	1	1	1
15	1	1	0	0	1
16	1	1	0	1	1
17	1	1	0	1	1
18	1	1	1	0	0
19	1	0	0	0	0
20	0	1	0	1	1
21	0	0	1	1	0
22	0	0	0	1	1
23	1	0	1	1	0
24	0	0	0	1	1
25	0	0	0	0	0
26	0	0	0	0	0
27	0	0	0	0	0
28	1	1	1	1	0
29	0	0	0	0	1
30	0	0	0	0	1
31	1	0	1	1	1
32	0	0	0	0	1
33	1	0	1	0	0
34	1	0	1	0	0
35	0	0	0	0	0
36	1	1	1	1	1
37	0	0	0	0	1
38	1	0	1	1	1
39	1	0	0	1	0
40	0	0	0	0	0

Subject #	BDP+T	∅AP-T	BAP+T	∅PP-T	BPP+T
	B44	B35	B46	B25	B9
1	0	0	0	0	0
2	0	0	0	0	0
3	0	0	0	1	0
4	0	0	0	0	0
5	0	0	0	0	0
6	0	1	0	1	0
7	1	1	1	0	0
8	0	1	0	1	0
9	1	0	0	1	0
10	1	1	1	1	0
11	0	0	0	0	0
12	1	1	0	1	0
13	0	0	0	0	0
14	0	1	0	1	1
15	0	1	0	1	0
16	1	1	1	0	1
17	0	1	1	1	1
18	0	0	0	1	0
19	1	1	0	1	0
20	1	0	0	1	0
21	0	0	0	1	0
22	0	0	0	1	0
23	1	0	0	1	0
24	0	1	0	1	0
25	0	0	0	0	0
26	0	0	0	0	0
27	0	0	0	0	0
28	1	0	1	0	0
29	0	1	1	0	0
30	0	0	0	0	0
31	1	1	1	1	0
32	0	1	0	0	0
33	1	1	0	0	0
34	0	0	1	0	0
35	0	0	0	0	0
36	1	1	1	1	1
37	1	1	0	1	0
38	0	1	0		0
39	1	1	1	1	0
40	0	0	0	0	0

Subject #	∅DPT+P	BDPT+P	∅APT+P	BAPT+P	∅PPT+P
	B18	B39	B31	B42	B10
1	0	0	0	0	0
2	0	0	0	0	0
3	0	0	0	0	1
4	0	0	0	0	0
5	0	0	0	0	0
6	0	0	1	1	1
7	0	0	1	1	0
8	0	0	0	1	0
9	1	0	0	1	1
10	0	1	1	1	1
11	0	0	0	0	0
12	1	1	1	0	1
13	0	0	0	0	0
14	0	0	1	1	1
15	0	0	0	1	1
16	1	1	1	1	1
17	1	0	1	1	1
18	1	0	0	1	0
19	0	1	1	1	1
20	0	1	0	1	1
21	0	0	0	1	0
22	0	0	0	1	0
23	1	1	1	1	1
24	1	0	0	1	1
25	0	0	0	0	0
26	0	0	0	0	1
27	0	0	0	0	0
28	0	1	0	1	1
29	1	0	0	0	1
30	0	0	0	0	0
31	1	1	1	1	1
32	1	0	0	0	0
33	1	0	1	1	0
34	0	0	0	1	0
35	0	0	0	0	0
36	1	1	1	1	1
37	1	1	1	1	0
38	1	0	1	1	1
39	1	1	1	1	1
40	0	0	0	0	0

Subject #	BPPT+P	ØDPT-O	BDPT+O	ØAPT-O	BAPT+O
	B50	B19	B26	B36	B11
1	0	0	0	0	0
2	0	0	0	0	0
3	0	0	1	0	0
4	0	0	0	0	0
5	0	0	0	0	0
6	1	0	0	0	1
7	0	1	1	0	0
8	1	0	0	0	0
9	0	0	1	1	1
10	1	0	1	0	1
11	0	0	0	0	0
12	0	1	1	0	1
13	0	0	0	0	0
14	1	1	1	0	1
15	1	1	0	0	0
16	1	0	1	1	1
17	1	0	1	1	1
18	0	0	1	1	1
19	1	0	1	0	1
20	1	0	0	1	0
21	1	0	0	0	1
22	1	0	0	0	1
23	1	1	1	1	1
24	1	0	1	0	1
25	0	0	0	0	0
26	0	0	0	0	0
27	0	0	0	0	0
28	1	1	1	1	0
29	0	0	0	0	0
30	0	0	0	0	0
31	0	1	1	0	1
32	0	1	0	0	0
33	0	0	1	1	1
34	0	0	0	0	0
35	0	0	0	0	0
36	0	1	1	1	1
37	1	0	1	0	1
38	1	1	1	0	1
39	1	1	1	0	1
40	0	0	0	0	0

Subject #	ØPPT-O	BPPT+O
	B49	B32
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	1
7	0	0
8	1	0
9	1	0
10	1	0
11	0	0
12	0	0
13	0	0
14	0	1
15	1	1
16	0	1
17	0	0
18	1	1
19	0	0
20	1	1
21	0	0
22	0	0
23	1	0
24	0	0
25	0	0
26	0	0
27	0	0
28	0	1
29	0	0
30	0	0
31	1	1
32	0	0
33	1	0
34	0	0
35	0	0
36	1	1
37	0	1
38	1	1
39	1	1
40	0	0

Questionnaire C:

Subject #	B/W	Age	M/F	From	PRES +H
					C32
1	W	45	F	MS/CA	1
2	B	22	M	Yazoo, MS	1
3	B	21	F	MS	1
4	B	26	M	Sardis, MS	1
5	B	21	F	Oxford, MS	1
6	B	20	F	Holly Sprgs, MS	1
7	B	23	M	Sardis, MS	0
8	B	21	M	Coldwater, MS	0
9	W	39	M	Oxford, MS	0
10	W	37	M	Memphis, TN	1
11	W	74	F	Memphis, TN	0
12	W	27	M	Laurel, MS	0
13	W	18	M	Oxford, MS	1
14	W	33	M	Jackson, MS	1
15	W	38	F	MS Gulf Coast	1
16	B	22	M	Aberdeen, MS	1
17	B	26	M	TX/Oxford, MS	0
18	B	52	M	Oxford, MS	1
19	B	42	M	Pontotoc, MS	1
20	W	22	F	McComb, MS	0
21	B	28	M	Cleveland, MS	0
22	W	28	M	Memphis, TN	0
23	W	66	F	Oxford, MS	0
24	W	28	M	MS	0
25	W	28	M	MS	0
26	W	19	M	McComb, MS	0
27	B	18	F	Batesville, MS	0
28	B	18	F	Bay Sprgs, MS	1
29	B	18	F	Jackson, MS	0
30	B	20	F	Jackson, MS	0
31	B	20	F	MS Gulf Coast	1
32	B	20	F	MS Gulf Coast	0
33	W	28	F	MS	0
34	W	22	F	Bruce, MS	0
35	W	20	F	Blue Mtn, MS	0
36	W	37	M	Raleigh, MS	0
37	B	17	F	Kosciusko, MS	1
38	B	17	F	Pearl, MS	0
39	B	16	F	Sardis, MS	0
40	B	48	M	Germantown, TN	1

Subject #	ØING +H	ØINGAdv +H	BING+H	PRES +C	ØING-C
	C53	C11	C36	C26	C19
1	1	1	1	1	1
2	1	0	1	1	0
3	1	0	0	1	0
4	1	1	0	1	1
5	1	0	1	0	0
6	1	0	1	1	0
7	1	0	1	1	1
8	1	0	1	1	0
9	0	0	0	1	0
10	0	0	1	1	0
11	0	0	0	0	0
12	0	0	1	0	0
13	0	0	0	1	1
14	0	0	0	1	1
15	1	0	0	1	0
16	1	0	0	1	0
17	1	1	0	1	0
18	1	1	1	1	1
19	1	1	0	0	1
20	0	0	0	1	0
21	1	0	1	0	0
22	0	0	0	1	0
23	0	0	0	0	0
24	1	0	0	1	1
25	1	0	0	1	1
26	0	0	0	1	0
27	0	0	1	1	0
28	1	0	0	1	0
29	0	0	0	1	0
30	0	0	1	1	0
31	0	1	1	1	1
32	1	0	1	1	1
33	0	0	0	0	0
34	0	0	0	1	0
35	0	0	0	1	0
36	0	0	0	0	0
37	1	0	0	1	0
38	1	0	0	1	0
39	1	1	0	1	1
40	0	0	0	1	0

Subject #	BING-C	PRES-P	ØING+P	BING-P	PRES+S
	C48	C10	C50	C31	C39
1	0	0	1	0	1
2	1	0	1	1	1
3	1	0	1	0	1
4	0	1	1	0	1
5	1	0	1	0	1
6	1	1	1	1	1
7	1	0	1	1	1
8	0	0	1	0	1
9	0	0	0	0	0
10	0	0	1	0	0
11	0	0	0	0	0
12	0	0	0	0	0
13	0	0	1	0	0
14	0	0	1	0	0
15	0	0	1	0	1
16	0	1	1	0	1
17	0	0	1	1	1
18	1	1	1	0	1
19	0	1	1	1	0
20	0	0	0	0	0
21	0	1	1	1	0
22	0	0	1	0	1
23	0	0	0	0	0
24	0	1	1	0	0
25	0	1	1	0	0
26	0	0	0	0	0
27	1	0	0	1	0
28	0	1	1	0	1
29	0	0	0	0	1
30	1	1	0	0	0
31	0	0	1	0	1
32	0	0	1	0	0
33	0	0	0	0	0
34	0	0	0	0	0
35	0	0	0	0	0
36	0	0	0	0	0
37	1	0	0	0	1
38	0	0	1	0	0
39	0	1	1	0	1
40	0	0	1	0	1

Subject #	ØING-S	BING+S	PREST-P	ØINGT+P	BINGT+P
	C18	C9	C25	C42	C35
1	0	1	0	0	0
2	0	0	0	0	1
3	0	1	1	0	1
4	0	0	1	1	0
5	0	0	0	0	1
6	0	1	1	0	0
7	0	0	1	0	1
8	0	0	0	0	1
9	0	0	0	0	0
10	0	0	1	0	1
11	0	0	0	0	0
12	0	0	0	0	0
13	0	0	0	0	0
14	1	0	1	0	0
15	0	0	0	0	0
16	0	0	0	0	1
17	1	1	0	0	1
18	1	1	1	1	1
19	0	1	1	0	1
20	0	0	1	0	0
21	0	0	1	0	1
22	0	0	0	0	0
23	0	0	0	0	0
24	0	0	0	0	0
25	0	0	0	0	0
26	0	0	0	0	0
27	0	1	0	0	1
28	0	0	0	1	0
29	0	0	1	1	1
30	0	1	0	0	1
31	0	0	0	0	1
32	0	0	0	0	0
33	0	0	0	0	0
34	0	0	0	0	0
35	0	0	0	0	0
36	0	0	0	0	0
37	0	0	1	0	0
38	0	0	1	0	0
39	0	0	1	1	0
40	0	0	0	0	0

Subject #	PREST+O	ØINGT-O	BINGT+O	ØDP+H	BDP+H
	C46	C8	C17	C30	C24
1	0	1	0	1	1
2	1	0	1	1	0
3	1	0	1	1	0
4	1	0	0	0	0
5	1	0	1	0	0
6	1	0	0	1	1
7	0	0	1	0	1
8	0	0	0	0	0
9	0	0	0	1	0
10	0	0	0	1	1
11	0	0	0	0	0
12	0	0	0	0	0
13	0	0	0	0	0
14	0	0	0	0	0
15	1	0	0	1	0
16	0	0	1	0	0
17	1	0	0	0	1
18	1	1	1	1	1
19	1	0	0	0	0
20	0	0	0	0	0
21	1	1	1	1	1
22	0	1	0	0	0
23	0	0	0	0	0
24	0	0	0	0	0
25	0	0	0	0	0
26	0	0	0	0	0
27	0	0	1	0	0
28	1	0	1	0	0
29	1	0	0	0	0
30	0	0	0	0	0
31	1	0	1	0	0
32	1	0	0	0	0
33	0	0	0	0	0
34	0	0	0	0	0
35	0	0	0	0	0
36	0	0	0	0	0
37	0	0	0	1	0
38	0	0	0	0	0
39	1	1	0	1	0
40	0	0	1	1	0

Subject #	∅AP+H	BAP+H	∅PP+H	BPP+H	∅DP+E
	C44	C7	C49	C16	C38
1	1	1	0	0	1
2	1	1	0	1	1
3	1	1	1	1	1
4	1	0	1	0	1
5	1	0	1	1	0
6	1	1	1	1	1
7	0	0	0	1	1
8	1	1	1	0	1
9	0	1	0	0	1
10	1	0	1	0	1
11	0	0	0	0	0
12	1	1	0	0	1
13	0	0	0	0	0
14	1	0	1	0	1
15	1	0	1	0	1
16	0	0	1	1	1
17	1	1	1	1	1
18	1	1	1	1	1
19	1	1	0	1	0
20	0	0	0	0	0
21	0	1	1	0	0
22	0	1	0	0	1
23	0	0	0	0	0
24	1	0	0	0	0
25	1	0	0	0	0
26	0	0	0	0	0
27	0	1	0	1	0
28	1	0	1	0	1
29	1	1	0	0	1
30	0	0	0	1	0
31	0	1	0	1	1
32	1	1	0	1	1
33	0	0	0	0	0
34	0	0	0	0	0
35	0	0	0	0	0
36	0	0	0	0	0
37	1	0	1	0	1
38	0	1	1	0	1
39	1	0	1	0	1
40	1	0	0	0	0

Subject #	BDP-E	∅AP+E	BAP-E	∅PP+E	BPP-E
	C34	C6	C23	C29	C15
1	0	1	1	1	1
2	0	1	0	0	0
3	0	0	0	0	0
4	0	0	0	1	0
5	0	0	0	0	0
6	0	0	0	1	0
7	0	0	0	1	0
8	0	0	0	0	0
9	0	0	0	0	0
10	0	0	1	0	0
11	0	0	0	0	0
12	0	0	1	0	0
13	0	0	0	1	0
14	0	0	0	1	0
15	0	0	0	1	0
16	0	0	0	1	0
17	1	1	1	1	0
18	1	1	1	1	0
19	1	1	0	0	1
20	0	0	0	0	0
21	0	1	0	0	0
22	0	0	0	0	0
23	0	0	0	0	0
24	0	0	0	1	0
25	0	0	0	0	0
26	0	0	0	0	0
27	0	0	0	0	0
28	0	0	0	1	0
29	0	0	0	1	0
30	0	0	0	0	0
31	0	0	0	1	0
32	0	0	0	0	0
33	0	0	0	0	0
34	0	0	0	0	0
35	0	0	0	0	0
36	0	0	0	0	0
37	0	0	0	1	0
38	0	0	0	0	0
39	0	1	0	1	0
40	0	0	0	1	0

Subject #	Ø+PS	B-PS	Ø+HS	B+HS	ØDP-T
	C52	C5	C41	C51	C22
1	1	0	1	0	1
2	0	0	1	0	1
3	1	0	0	1	1
4	1	0	1	0	1
5	0	0	1	1	1
6	0	1	1	1	1
7	1	1	0	1	1
8	1	0	1	0	1
9	1	0	0	0	0
10	1	0	1	0	1
11	0	0	0	0	0
12	0	0	0	0	0
13	1	0	1	0	0
14	1	0	1	0	1
15	1	0	1	0	0
16	1	1	0	0	1
17	1	0	1	1	1
18	1	1	1	0	1
19	1	1	1	1	1
20	0	0	1	0	0
21	1	1	1	1	0
22	1	0	1	0	1
23	0	0	0	0	0
24	0	0	1	0	1
25	1	0	0	1	0
26	0	0	0	0	0
27	0	1	0	0	0
28	1	0	1	1	1
29	0	0	1	0	1
30	0	0	0	0	0
31	0	0	0	0	1
32	1	1	0	1	1
33	0	0	0	0	0
34	0	0	0	0	0
35	0	0	0	0	0
36	1	0	0	0	0
37	0	0	1	0	1
38	0	0	1	0	1
39	1	0	1	0	1
40	1	0	1	1	0

Subject #	BDP+T	∅AP-T	BAP+T	∅PP-T	BPP+T
	C14	C4	C47	C28	C33
1	1	1	0	1	0
2	0	1	0	1	1
3	0	1	0	1	0
4	0	0	0	1	0
5	0	1	0	1	0
6	0	1	1	0	0
7	0	1	0	1	1
8	0	1	0	1	0
9	0	1	0	0	0
10	0	0	1	1	0
11	0	0	0	0	0
12	0	1	0	0	0
13	0	1	0	0	0
14	0	1	0	1	0
15	0	1	0	1	0
16	0	1	0	1	0
17	1	1	1	1	1
18	1	1	1	1	1
19	0	1	1	1	1
20	0	0	0	0	0
21	1	1	1	1	0
22	1	1	0	0	0
23	0	0	0	0	0
24	0	0	0	0	0
25	0	0	0	0	0
26	0	0	0	0	0
27	1	0	0	0	0
28	0	1	0	1	0
29	0	1	0	0	0
30	0	0	0	0	0
31	0	1	0	1	0
32	0	1	0	1	0
33	0	0	0	0	0
34	0	0	0	0	0
35	0	0	0	0	0
36	0	0	0	0	0
37	0	1	0	1	0
38	0	0	0	0	0
39	0	1	0	1	0
40	0	1	0	1	0

Subject #	∅DPT+P	BDPT+P	∅APT+P	BAPT+P	∅PPT+P
	C37	C3	C13	C21	C43
1	0	0	1	0	0
2	0	1	1	1	1
3	1	1	1	1	1
4	1	0	1	0	1
5	1	0	1	1	1
6	1	0	1	1	0
7	0	0	1	1	0
8	1	0	1	0	1
9	0	1	1	0	0
10	0	0	0	1	1
11	0	0	0	0	0
12	0	0	1	1	0
13	0	0	1	0	1
14	0	0	1	0	1
15	0	0	1	1	1
16	0	0	1	1	0
17	1	0	1	1	1
18	1	1	1	1	1
19	1	1	1	0	1
20	0	0	0	0	0
21	1	1	1	1	1
22	1	0	1	1	0
23	0	0	0	0	0
24	0	0	1	0	1
25	0	0	1	0	1
26	0	0	0	0	0
27	0	1	0	1	0
28	0	1	0	1	1
29	1	0	1	1	1
30	0	0	1	1	0
31	1	1	1	1	1
32	0	0	1	1	0
33	0	0	0	0	1
34	0	0	0	0	0
35	0	0	0	0	0
36	0	0	0	0	1
37	0	0	0	0	1
38	0	0	1	0	0
39	1	0	1	0	1
40	0	0	1	1	0

Subject #	BPPT+P	∅DPT-O	BDPT+O	∅APT-O	BAPT+O
	C45	C2	C27	C12	C40
1	0	0	1	1	1
2	1	1	1	1	0
3	1	1	1	1	1
4	0	1	0	1	0
5	1	1	1	1	1
6	1	1	1	1	1
7	1	1	1	1	1
8	1	1	0	1	0
9	1	1	0	1	1
10	1	0	1	1	0
11	0	0	0	0	0
12	0	0	0	1	0
13	0	0	0	1	0
14	0	0	0	0	0
15	0	1	0	1	1
16	1	1	1	1	1
17	1	1	1	0	1
18	1	0	1	1	1
19	0	1	1	0	1
20	0	0	0	0	0
21	1	0	1	1	1
22	1	0	0	1	0
23	0	0	0	0	0
24	0	0	0	1	0
25	0	0	0	1	0
26	0	0	0	0	0
27	1	0	1	0	1
28	1	1	1	1	1
29	1	1	0	1	1
30	1	1	1	0	0
31	0	1	0	1	0
32	0	1	1	0	0
33	0	0	0	0	0
34	0	0	0	0	0
35	0	0	0	0	0
36	0	0	0	0	0
37	0	1	0	0	0
38	1	1	0	1	1
39	0	1	0	1	0
40	1	1	1	1	1

Subject #	ØPPT-O	BPPT+O
	C20	C1
1	1	0
2	0	1
3	0	1
4	1	1
5	1	1
6	0	1
7	0	1
8	0	1
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	1	0
15	1	0
16	1	1
17	0	1
18	1	1
19	0	1
20	0	0
21	1	1
22	0	0
23	0	0
24	0	0
25	0	0
26	0	0
27	0	0
28	1	1
29	0	1
30	0	0
31	1	0
32	0	0
33	0	0
34	0	0
35	0	0
36	0	0
37	1	0
38	0	0
39	0	0
40	0	1

9.6. Results of ANOVA on all Five Groups of Speakers

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
PAB+,PNC+	29	1826	62.96551724	48.0323399
PAB+,PNC-	4	211.4	52.85	35.47
PAB-,PNC+	30	1765.6	58.85333333	83.9211954
PAB+/- ,PNC+/-	32	1700	53.125	120.6096774
PAB-,PNC-	25	905.8	36.232	29.25393333

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	10917.77008	4	2729.442521	37.69937102	4.02787E-20	2.450570518
Within Groups	8326.024584	115	72.40021377			
Total	19243.79467	119				

9.7. Results of ANOVA on the Four Groups of AAVE Speakers

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
PAB+,PNC+	29	1826	62.96551724	48.0323399
PAB+,PNC-	4	211.4	52.85	35.47
PAB-,PNC+	30	1765.6	58.85333333	83.9211954
PAB+/- ,PNC+/-	32	1700	53.125	120.6096774

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	1602.954027	3	534.3180089	6.377673672	0.000568606	2.704703471
Within Groups	7623.930184	91	83.77945257			
Total	9226.884211	94				

9.8. Results of ANOVA on Age Groups

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
13-17 yrs	53	3064.4	57.81886792	247.2419448
18-25 yrs	53	2786	52.56603774	330.0580552
26-49 yrs	53	2784.5	52.53773585	358.1543179
50+ yrs	53	2725	51.41509434	220.3147678

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	1312.766179	3	437.5887264	1.514450358	0.211826516	2.648009703
Within Groups	60099.99245	208	288.9422714			
Total	61412.75863	211				

9.9. Results of ANOVA on Questionnaire Types

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Qre A	53	1143	21.56603774	36.13497823
Qre B	53	1121	21.1509434	66.39985486
Qre C	53	1136	21.43396226	84.36574746

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	4.767295597	2	2.383647799	0.03826068	0.962471042	3.054004174
Within Groups	9718.830189	156	62.30019352			
Total	9723.597484	158				

9.10. Results of ANOVA on Groups (P_{AB}⁺, P_{NC}⁺), (P_{AB}⁺, P_{NC}⁻) and (P_{AB}⁻, P_{NC}⁺)

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
PAB+,PNC+	29	1826	62.96551724	48.0323399
PAB+,PNC-	4	211.4	52.85	35.47
PAB-,PNC+	30	1765.6	58.85333333	83.9211954

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	490.5729907	2	245.2864953	3.788178991	0.028228907	3.150411311
Within Groups	3885.030184	60	64.75050307			
Total	4375.603175	62				