PHONOLOGICAL FEATURES OF AFRICAN AMERICAN VERNACULAR ENGLISH IN CHILD-DIRECTED VERSUS ADULT-DIRECTED SPEECH

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By

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ABSTRACT

One of the most timeless and universal activities, in which human beings across cultures participate, is speaking to children. This study investigated the differences between child-directed speech (CDS) and adult-directed speech (ADS) on measures of mean length of utterance (MLU), number of utterances, number of different words (NDW), and total number of words (TNW). In addition to examining the differences between CDS and ADS on these criterion-referenced measures, this study also examined the phonological features of African American vernacular English (AAVE) in CDS versus ADS. A total of 4 African American AAVE-speaking caregivers from low and middle socioeconomic (SES) backgrounds were recorded speaking to their 10-18 month old infant for 30 minutes and to an adult examiner for 30 minutes. These language samples were transcribed and analyzed to yield measures of linguistic diversity and proportion of AAVE phonological feature use in CDS and ADS. Results indicated that all mothers used a simplified speech register with their children. For two of the seven phonological variables noted, all mothers showed significantly more use in the CDS than ADS condition. Additionally, African American mothers with the low SES, showed significantly more use of the AAVE phonological features across speaking conditions than African American mothers with middle SES. These findings indicate that AAVE speaking mothers do modify their lexical and phonological input to children. Future research should further characterize the CDS of AAVE speakers in order to document the typical development of AAVE.

DEDICATION

This thesis is dedicated to children of every kind.

ACKNOWLEDGMENTS

I thank God for giving my grace to endure until the end.

I thank Jan Edwards for being a wonderful adviser who remained supportive throughout this entire process.

I also thank Mary Beckman for energetically helping with coding conventions and teaching me all I ever wanted to know about Praat!

I am grateful to Robert Fox and Wayne King for help with statistical analyses on my data.

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CHAPTER 1

INTRODUCTION AND LITERATURE REVIEW

Every culture has systematic rules governing how people communicate with infants and young children. In many cultures, a different speech register is used by adults and older children when they are interacting with babies and toddlers. This speech register has been called "baby-talk," "parentese," "motherese," "caregiver speech," "infant-directed speech" or "child-directed speech" (CDS). In middle class European American culture, CDS is characterized by simplified vocabulary, melodic pitch, higher pitch, increased pitch range, repetitive questioning, and slower or deliberate tempo (e.g., Cooper, Abraham, Berman, & Staska, 1997; Fernald & Simon, 1984).

Child-directed speech has been studied in languages such as English, Mandarin Chinese (Grieser & Kuhl, 1988), Dutch, Russian, German, Spanish (Blount & Padgug, 1976; Kempe, Brooks, & Pirott, 2001), Italian, French and Japanese (Fernald, Taeschner, Dunn, Papousek, & Boysson-Bardies, 1989). It has been found to serve a variety of social and cognitive functions. That is, it helps to establish the child's attention and regulates arousal (Cooper, Abraham, Berman & Staska, 1997; Fernald, 1984; Fernald & Simon, 1984), marks word and clause boundaries (Fernald & Mazzie, 1991; Albin & Echols, 1996), contributes to the development of pitch and temporal order discrimination, assists in auditory pattern recognition (Fernald & Simon, 1984), promotes vocabulary acquisition, and supports the development of pragmatic skills (Ochs & Schieffelin, 1984; Fernald & Simon, 1984).

Child-directed speech appears to play a major role in establishing attention and regulating arousal levels in infants (Cooper, Abraham, Berman & Staska, 1997; Fernald & Simon, 1984). It has been established that young children are more attentive to pitch contours of CDS than to those of adult-directed speech (ADS). Furthermore, CDS elicits more attention than ADS in male as well as female children (Fernald, 1985). In an auditory preference study, Fernald (1985) found that 4-month-old infants chose more often to listen to CDS than to ADS. Cooper and colleagues (1997) replicated these findings in their 4-month-old infants, but not in their 1-month-old infants. The younger subjects did not appear to listen more attentively to CDS, as compared to ADS, when both were spoken by their own mothers (Cooper, Abraham, Berman & Staska, 1997). This suggests that infant preference for CDS is acquired later in development than an infant preference for his/her own mother's voice. Werker and McLeod (1989) reported that adults using CDS judged children listening to it as more appealing, suggesting that

CDS may help create greater emotional ties between the speaker and the child; speakers feel reinforced by the child's engagement and provide more speech to the child.

Child-directed speech also seems to have some lexical functions. It appears to be abundant in prosodic cues (such as pauses and changes in pitch) to clause and phrase boundaries in English. Kemler Nelson and colleagues (1989) found that 7 to 10 month old infants are sensitive to prosodic cues to clause and clause boundaries in CDS but not in ADS. According to Albin and Echols (1996), CDS makes phrase and clause boundaries more salient by providing a boundary either before or after a word that assists the child in word identification. Breaks at the ends of words or phrases may also serve to cue the child to take a turn and thereby serve a pragmatic function. Woodward and Aslin (1990, as cited in Albin and Echols 1996) found that pauses following utterances served as cues for detecting word boundaries in fluent speech. Child-directed speech also has characteristics that may help facilitate vocabulary development. For example, Woodward and Aslin (1990) also showed that English-speaking mothers tend to place novel words in the final position of their child-directed utterances where the words can bear the main sentence stress.

Child-directed speech is not unique to one specific culture. However, it is well documented that characteristics of CDS are not universal. It has been shown to manifest itself differently across cultures. The CDS of many cultures differs dramatically from that of middle class European American and Western European cultures. For example, Ingram (1995) found that Quiché-Mayan speaking mothers show less pitch and prosodic modifications than do English speaking mothers. Quiché-Mayan speakers typically use the same prosodic pattern with children and low status adults. Higher pitches are used with people from higher classes. Polynesian speakers in the Samoan culture similarly vary their speaking styles according to the social status of the listener (Ochs & Schiefflin, 1984).

Child-directed speech can also differ morphologically from ADS in ways that are not universal. For example, in languages such as Spanish and Russian, CDS is rich in diminutive derivations comparable to "doggie" for "dog" in English (Kempe, Brooks & Pirott, 2001). Kempe et al. (2001) suggest that diminutives aid in the acquisition of noun morphology by highlighting the morpho-phonological marking of gender category. For example, Spanish feminine *–a* and masculine *–o* gender markers are emphasized by their regular alternation with feminine *–ita* and masculine *–ito* diminutive derivational endings. According to Kempe et al. (2001), "English diminutives can be derived only from a very limited number of proper and animate nouns, along with a few child-specific items such as blankets, pacifiers, and beds, which places obvious constraints on the frequency of diminutive usage" (p. 1237). Diminutives are not as widespread in "standard" English varieties of CDS because the morphological devices for creating diminutives are more limited in this language.

Ochs & Schiefflin (1984) suggest that there are two orientations toward infants that result in two distinct caregiver speech patterns. The first orientation toward children observed involves adapting the linguistic situation to accommodate the child's needs. Such accommodations may include closing the linguistic gap between the adult and the child by expanding the child's utterance into a more adult-like form. For example, the child may throw a toy into a toy box and say, "In the box!" and the adult would expand

this utterance into "The toy is in the toy box!" This orientation is typically seen in middle class European American cultures where there is frequently a two-party communicative situation in which the child is often alone with a caregiver. The second orientation observed involves adapting the child to the linguistic situation. Such adaptations may include direct teaching of appropriate things to say to various societal members. The child may be required to repeat a statement spoken by a caregiver to a third party. The child is offered an utterance that is in an adult form. For instance, the child may be told to address an older child and say "The toy is in the box." This orientation is typically seen in Kaluli and Samoan cultures where there is typically a multiparty communicative situation in which a child is surrounded by multiple caregivers. In his study on the linguistic input to children in Samoan and Luo societies, Blount (1977) found that adults used a high level of directives in order to manage young children "who have not yet learned the rules for proper behavior" (p. 122).

Interestingly, observations reported by Heath (1983) suggest that, in many ways, the conversational context for low SES African American infants shares many similarities with that of Kaluli and Samoan cultures, while there are many differences relative to middle SES European American culture. For example, in Kaluli and Samoan cultures, CDS input has been shown to come from various members of the family (Ochs & Schieffelin, 1984) rather than dyads. In the Kaluli culture, adult caregivers address very little speech directly to young children, in contrast to the CDS of middle SES European American culture. Language addressed to preverbal children consists largely of short, one-line imperatives, rhetorical questions, and greetings. There is no "baby-talk lexicon" in the Kaluli culture because members do not want their children to sound infantile. Similarly, Heath (1983) reported that CDS was almost nonexistent in the working class predominantly African American town of Trackton. While it is true that in the Samoan culture, caregivers provide CDS "in the form of songs or rhythmic vocalizations in a soft, high pitch" from birth to 5 or 6 months (p. 295), CDS in the Samoan culture becomes lower pitched, louder and sharper as the child gets older. The language used by caregivers in both the Kaluli and Samoan cultures is not semantically or syntactically simplified, as it is in the middle class European American culture.

The CDS that Heath (1983) reported for the low SES African American population she observed is comparable in many ways to that in the Kaluli, Luo, Samoan and Chinese cultures. As in Kaluli and Samoan cultures, the infant is usually involved in a multiparty communication context. Heath (1983) also reported that, similar to the Kalulis and Samoans, working class African Americans do not provide their babies with a simplified speech register. In her sample, the adults in the working class town of Trackton did not reduce the phonological structure of words, substitute easier sounds for more complex ones, reduce inflections, or use special lexical items. She reported that the working class African American adults in Trackton also did not use slower speech, or special pitch or intonation patterns. They also did not substitute names for pronouns like middle SES European Americans varieties of CDS. According to Heath (1983), simplifying aspects of CDS and clarifying features were noted in the CDS only of mainstream middle-class families.

In a recent study of the cultural differences in beliefs and practices concerning CDS in Canadian mothers from "Western" (i.e., European) and Chinese backgrounds,

Johnston & Wong (2002) observed differences similar to those observed in low SES versus middle SES mothers by Heath (1983). According to Johnston & Wong (2002), Chinese mothers were less inclined to follow the child's conversational lead and were more directive. Western mothers used more expansions and conversational prompting. Similarities in CDS across the two cultures were also observed. Both Chinese and Western mothers used parallel talk, did not use overt correction, realized that children understand words before they can speak, and desired to teach skills needed to communicate effectively with others.

The CDS in families across socioeconomic (SES) backgrounds has been investigated. In their longitudinal study of language input provided from parents of different SES backgrounds to their children, Hart & Risley (1995) found quantitative and qualitative differences between low SES families and middle to upper SES families. Parents from working class and professionals were from various racial and ethnic backgrounds. However, all of the selected parents on public assistance were African American. Hart & Risley (1995) observed that parents from families on public assistance provided more imperatives and prohibitions or discouragements to their 13-36 month old children than those from working class and professional backgrounds. Hart & Risley (1995) also reported that parents in families on public assistance provided fewer affirmations, more limited vocabulary, fewer linguistic interactions, and fewer utterances per hour to their 13-36 month old children than those from working class and professional backgrounds. Differences in CDS in families from different SES backgrounds may stem from differences in beliefs about the benefits, or lack thereof, of raising a talkative child (Heath, 1983).

Hart & Risley (1999) also observed similarities in CDS across the different SES groups in their study. According to Hart & Risley (1999), parents from all SES groups talked "appropriately to their 1- to 2-year-old children about much the same things in much the same ways" (p. 168). All families presented with daily conversational episodes in which parent and child engaged in social interaction, mostly about the "here and now." Of the 340 utterances per hour in CDS to 13- to 36-month-old American children, 90 were questions, 62 were directives, and 105 were declarative statements. Parents across SES groups increased CDS before the children were 19 months and decreased CDS after the children were 30 months as the children had become more competent conversationalists. Although there were taciturn and talkative parents from all SES backgrounds, most parents on public assistance tended to be taciturn, spending less time talking to their children, while professional parents tended to be talkative, spending more time talking to their children. Parents from all SES groups raised children who talked approximately as little or as much as themselves.

Research such as Hart & Risley (1995; 1999) has focused on differences between CDS of low SES and middle SES families in terms of the lexicon, syntax, and semantics. There is virtually no research on the differences between CDS of low and middle SES families in terms of phonology. There is also little or no information available on the phonological features of African American English (AAE) in CDS.

African American Vernacular English (AAVE) has been studied extensively by many researchers. AAVE is now considered to be a systematic, rule-governed variety of English (Green, 1998; Stockman, 1996; Wolfram, 1994; Wolfram & Thomas, 2002).

There are two major theories accounting for the origins of AAVE. According to the Anglicist hypothesis, AAVE stemmed from British-based dialects and is comparable to southern European American Vernacular English (Wolfram & Thomas, 2002). According to the Creolist hypothesis, AAVE stemmed from a widespread Creole found in the African diaspora, including southern slave plantations (Wolfram & Thomas, 20002). Linguists have concluded that phonology of AAVE developed from an ancestral creole language, Southern vernacular contact source, and idiosyncratic phonological developments (Wolfram, 1994).

African American Vernacular English is the everyday language spoken by many, but not all African Americans (Hinton & Pollock, 2000). According to Taylor & Dorsey-Gaines (1988), AAVE is used mainly by working class African Americans, especially in informal situations and within their speech community. African American Vernacular English may be spoken by more low SES African Americans than middle and high SES African Americans as a result of their isolation from the mainstream culture (Hinton & Pollock, 2000). Labov (1987) and Bailey (1987) suggest that linguistic divergence of AAVE from SAE occurs as a consequence of isolation of African Americans within inner cities or from their contact only with other culturally and linguistically diverse populations (Hinton & Pollock, 2000). Vaughn-Cooke (1987) contends that the advancement of educational opportunities has created more of a linguistic convergence of AAVE with SAE.

This study focused on the characteristics of CDS produced by African American mothers from low and middle SES backgrounds, including the phonological features of AAVE. It is important to note that AAVE and SAE phonology do not differ in every respect, and that these differences are mainly quantitative and not qualitative (Stockman, 1996). The phonology of AAVE has been widely studied in adults and adolescents (Wolfram, 1994; Stockman, 1996; Bailey & Thomas, 1998; Green, 2002). Wolfram (1994) presents a selection of the major phonological structures of AAVE phonology such as: final consonant cluster reduction (e.g. “best” is realized as /bɛs/), final consonant deletion (e.g. “five” is realized as /fɑɪ/), unstressed syllable deletion (e.g. “remember” is realized as /mɛmbə/), syllable reduction (e.g. “oil” is realized as /ol/), reduction of initial <θr> sequences followed by a round vowel such as /u/ or /o/ (e.g. “throw” is realized as /θo/), hapology (e.g. “Mississippi” is realized as /mɪzsɪpi/), depalatalization (e.g. “figure” is realized as /fɪgə/), metathesis (e.g. “grasp” is realized as /græps/), fricative stopping (e.g. “those” is realized as /doz/), stopping of voiced fricative preceding nasals (e.g. “seven” is realized as /sɛbm/), stopping of voiceless interdental fricative contiguous to a nasal (e.g. “tenth” is realized as / tɛnt/), unstressed nasal fronting (e.g. “swimming” is realized as /swɪmɪn/), nasalization (e.g. “remain” is realized as /rimẽ/), labialization (e.g. “bath” is realized as /bæf/), vocalization of post vocalic /r/ (e.g. “fire” is realized as /fiə/), vocalization of postvocalic /l/ (e.g. “bell” is realized as /bɛʊ/), final stop devoicing (e.g. “pig” is realized as /pɪ:k/), /str/ backing (e.g. “street” is realized as /skrit/), glide reduction (e.g. “time” is realized as /tɑm/), vowel merger such as neutralization of /ɪ/ and /ɛ/ preceding nasals (e.g. “pin” or “pen” is realized as /pɪn/), and centralizing (e.g., “sister” is realized as /sʊstə/). Huang (2000), in a study of adolescents and elderly people

in Muncie, Indiana, found five phonological features of AAVE: final consonant cluster simplification, <ð> in the word-initial position is realized as /d/ (e.g. "this" is realized as /dɪs/), <θ> in the word-final position is realized as /f/ (e.g. "both" is realized as /bof/), lack of constriction of postvocalic <r> (e.g. "tire" is realized as /tiə/), and absence of medial and final /l/ (e.g. "ball" is realized as /bɑu/).

There have been fewer studies on the phonological features of AAVE spoken by children. In a recent study Craig, Thompson, Washington, and Potter (2003) examined the phonological features of AAVE used by 64 typically developing African American second- through fifth-grade students from middle to low SES backgrounds in Detroit, Michigan. They found nine phonological types, in order of saliency: monophthongization of diphthongs (e.g. "our" is realized as /ar/), substitutions for <θ> and <ð> in prevocalic positions (e.g. "this" is realized as /dɪs/), in intervocalic positions (e.g. "breathing" is realized as /brivɪŋ/), and in postvocalic positions (e.g. "both" is realized as /bof/), consonsant cluster reduction (e.g. "first" is realized as /firs/), postvocalic consonant reduction (e.g. "mouth" is realized as /maʊ/), consonant cluster movement (e.g. "escape" is realized as /ɛkskep/), syllable deletion (e.g. "about" is realized as /bɑʊt/), nasal substitution in word-final positions (e.g. "waiting" is realized as /wetɪn/), syllable addition (e.g. "forests" is realized as /forɛsɪz/), and devoicing of final consonants (e.g. "his" is realized as /hɪs/).

This study centers on the characteristics of CDS produced by low and middle SES African American mothers including the phonological features of AAVE. More specifically, the study seeks to determine the phonological features of AAVE in CDS as distinct from ADS. This information will provide a foundation for research on the acquisition of AAVE phonology.

CHAPTER 2

METHODS

Research Participants

Flyers were posted and agencies such as CDC Headstart and Columbus Public Schools were contacted in the recruitment of research participants. The research participants included 4 African American mothers from middle socioeconomic status (SES) and 4 African American mothers from low SES backgrounds. Socioeconomic status was determined by participation in the Women, Infants, and Children (WIC) Program. That is, all mothers in the study from low SES backgrounds received WIC and all mothers from middle SES backgrounds did not. All mothers had no history of treatment for speech or language problems, according to self report. This information was obtained by having the mothers complete a questionnaire and consent form. Table 2.1 to 2.3 provides demographic information for all research participants and for the children addressed by the research participants. All subjects signed a consent form and received a children's book and $20 gift certificate to Target Department Store as an incentive.

Procedure

A portable digital tape (DAT) recorder was used to record CDS and ADS. A lapel microphone was affixed to each mother's shirt approximately 8 inches below her mouth. Each recording session lasted one hour. The mother was instructed to talk to her child for the first half hour and then was interviewed by the examiner in the second half hour. Child-directed speech was operationally defined as any speech directly spoken to the child by the primary research participant. This was the definition even for multiparty communicative sessions in which other adults participated. Adult-directed speech was operationally defined as anything uttered by the primary research participant to the examiner as well as to any other adult in multiparty communication settings who was identified as an AAVE speaker. The examiner spoke AAVE and code-switched between AAVE and SAE in accordance with the participant.

Research Participants	SES	Age	Relationship to Child	Number of Children
S2	Low	33	Grandmother	3 (1)*
S3	Low	21	Mother	1
S1	Mid	30	Mother	2
S4	Mid	31	Mother	1

Table 2.1 Demographic information for all primary research participants. *(S2 has three children herself, but the grandson she addressed is the only child of her daughter.)

Research Participants	Age of Child	Gender of Child	Birth Order of Child
S2	12 months	Male	1
S3	10 months	Female	1
S1	18 months	Female	2
S4	12 months	Female	1

Table 2.2 Demographic information for children addressed by research participants.

Research Participant	Number of other speakers in context	Relationship(s) of other speakers to Child	Dialect of Speaker(s)
S3	2	Grandparents	Appalachian
S4	1	Grandmother	AAVE

Table 2.3 Other speakers in multiparty communicative context.

Data Analysis

Praat, a program for doing phonetic analyses and sound manipulations, was used to make a transcript which could be used to measure type and number of AAVE phonological features. The CDS and ADS utterances were orthographically transcribed in an interval tier in Praat. All adult-directed speech utterance transcriptions included the following marker at the end: [ADS]. Phonological features of AAVE were coded in a point tier in Praat each time they occurred. The coded phonological features of AAVE that were coded are listed in Table 2.2.

The data were then transferred to Word format and the number of opportunities for each AAVE feature was marked. For example, opportunities for final consonant cluster absence were marked when there was a final consonant cluster preceding a vowel, <h> or <j> as in "that's it," and the cluster had not been reduced or deleted. Opportunities for final consonant cluster absence were marked only for final consonant clusters that particular participants reduced or deleted. For example, if a particular participant only reduced or deleted /nt/ and /nd/ final clusters, then these clusters would be the only consonant clusters eligible to be counted as opportunities for the final consonant cluster absence feature.

The data were transferred to Systematic Analysis of Language Transcripts (SALT; Miller & Chapman, 2000) and the number of instances of each phonological feature and each opportunity for its use were found using the "utterance code analysis" feature of SALT. Similar phonological features were combined before proportion of use was calculated to reduce the number of variables. This is summarized in Table 2.4 in the "variable" column. For example, all of the features involving <θ> and <ð> were combined into a single <th> variable. Also, all of the features involving <r> were

combined into a single <r> variable. The proportion of each phonological feature was calculated as # of instances of feature/ # of opportunities + # of instances.

SALT was also used to obtain several criterion-referenced measures of vocabulary usage and diversity. These were mean length of utterance (MLU), number of utterances, number of different words (NDW) and total number of words (TNW).

Variable	Descriptor	Example	AAVE
<th>	<ð> is realized as:		
	/d/ word-initially	those	/doz/
	/n/ word-initially following a nasal.	Bring that to me.	/næt/
	<θ> is realized as:		
	/f/ word-medially	birthday	/bə˞fde/
	Ø or /d/ or /t/ in the word "with"	with	/wɪ/
	/f/ word-finally	breath	/brɛf/
	/t/ word-finally after /n/	month	/mənt/
<r>	is realized as Ø in postvocalic position and initial <θr> clusters before /u/ or /o/	over throw	/ovə/ /θo/
<l>	is realized as /ə/ in post-vocalic position	she'll	/ʃiə/
<t>	is realized as /ʔ/ word-medially	getting	/gɛʔɪn/
<CC>	realized as single C word-finally	almost	/almos/
-ing	<ŋ> is realized as /n/ in unstressed syllables (not just present progressive).	having morning nothing	/hævɪn/ /mornɪn/ /nʌθɪn/
don't	<d> is realized as Ø in unstressed "don't" after pronoun	I don't know.	/on/

Table 2.4 AAVE phonological features used in the analysis.

CHAPTER 3

RESULTS AND DISCUSSION

Figures 3.1, 3.2.a, 3.3.a, and 3.4.a show data for individual participants for mean length of utterance in morphemes (MLU), number of utterances, number of different word types (NDW), and total number of word tokens (TNW). One of the research participants (S3) only spoke for 20 minutes rather than 30 minutes in the first half of the recording session (when the participant was instructed to address the child). Therefore all number of utterances, NDW, and TNW scores for the CDS condition for each participant were adjusted to include utterances from only the first 20 minutes of her recording session. Similarly, all of these measures for the ADS condition for each participant were adjusted to include utterances only from the first 20 minutes of the second half of the recording session (when the participant was being interviewed by the experimenter). Figures 3.2.b, 3.3.b and 3.4.b show these adjusted numbers.

Robust quantitative comparisons could not be made for all of the criterion-referenced measures because of the small number of participants. MLU, in particular, could not be compared across conditions or across SES groups. However, some general trends could be observed. First, all mothers had greater MLUs and used a greater number of different words in the ADS condition than in the CDS condition. Furthermore, in accordance with existing research on language input from mothers across SES (Hart & Risley, 1995; 1999), mothers from middle SES backgrounds in the present study had greater MLUs than mothers from low SES backgrounds in both ADS and CDS. Middle SES mothers also talked slightly more and used more different words in the ADS condition than low SES mothers.

A Chi-square with Yates' Correction was used to compare number of utterances, NDW, and TNW across CDS and ADS, across low and middle SES, and across multiparty and dyad communicative contexts. Number of utterances was significantly different in the ADS and CDS conditions [χ^2 (4) = 117.73, p< 0.01]. Although there was a significantly lower number of utterances in CDS than ADS overall, this is not because each participant talked less to child than to the examiner, but because just two of the participants talked less to the child than to the examiner. Interestingly, those two participants were both in a multiparty communicative context, and they talked less to their child because other adults were competing for the child's attention. The number of utterances addressed to the child was significantly higher in the dyad than the multiparty communicative context [χ^2 (1) = 85, p<0.01]. The middle SES mothers produced a significantly higher number of utterances than low SES participants [χ^2 (1) = 66.89, p<0.01]. Primary research participants used significantly higher NDWs in the ADS condition than in the CDS condition [χ^2 (4) = 348.93, p<0.01]. This was consistent across participants, and thus independent of the number of utterances and TNW measures, which were not consistently higher in the ADS condition. This independence

shows that the difference in NDWs is not an artifact of talking less to the children, a result which supports a characterization of CDS as having a simplified vocabulary. There was no significant difference in NDW across low and middle SES participants in the CDS condition [χ^2 (1) = 3.46, p<0.01]. There was significantly higher NDWs addressed to children by the primary research participants in dyad than in multiparty communicative contexts [χ^2 (1) = 35, p<0.01]. Again we assume that the primary research participant did not interrupt the other people speaking to the child during the recording. The participants in general showed a significantly higher TNW in ADS than CDS [χ^2 (4) = 1615.74, p<0.01]. The one exception was a low SES mother in a dyad communicative context, who used more words to communicate with the child than with the examiner. This may be because she felt a bit awkward talking to the examiner (whom she might have perceived as of a higher SES), whereas she was comfortable with her child and there were no other parties to compete for the child's attention. Total number of words was significantly higher in middle than low SES participants [χ^2 (1) = 3098, p<0.01]. Middle SES mothers used significantly larger differences in TNWs between CDS and ADS [χ^2 (1) = 8.67, p<0.01]. The primary participants used significantly more TNWs in the dyad than multiparty communicative context [χ^2 (1) = 3098, p<0.01]. We assume this is due to conversational turn-taking.

Figures 3.5 to 3.7 show individual participant data for proportion of use of phonological features of AAVE in CDS and ADS, and Figure 3.9 shows overall group means. These figures show much variability in proportion of use within and across conditions. A Chi-square with Yates Correction was used to compare AAVE phonological variable <th> and <r> use across CDS and ADS and across low and middle SES. The participants showed significantly more use of AAVE values for <th> in CDS as compared to the ADS condition, [χ^2(1) =6.33, p< 0.05]. The same was true of <r>, [χ^2(1) = 8.47, p< 0.05]. The low SES participants showed significantly more use of <th> than the middle SES participants [χ^2(1) = 13.05, p< 0.05]. The same was true of <r> [χ^2 (1) = 6.13, p< 0.05]. There is a significant interaction, such that low SES mothers code switch less, showing more use of AAVE features when speaking to the adult researcher than expected, given the difference between CDS and ADS for the middle SES participants. This is particularly true of S2, the participant who talked the least to the examiner, producing only a third as many utterances in her ADS as compared to her CDS.

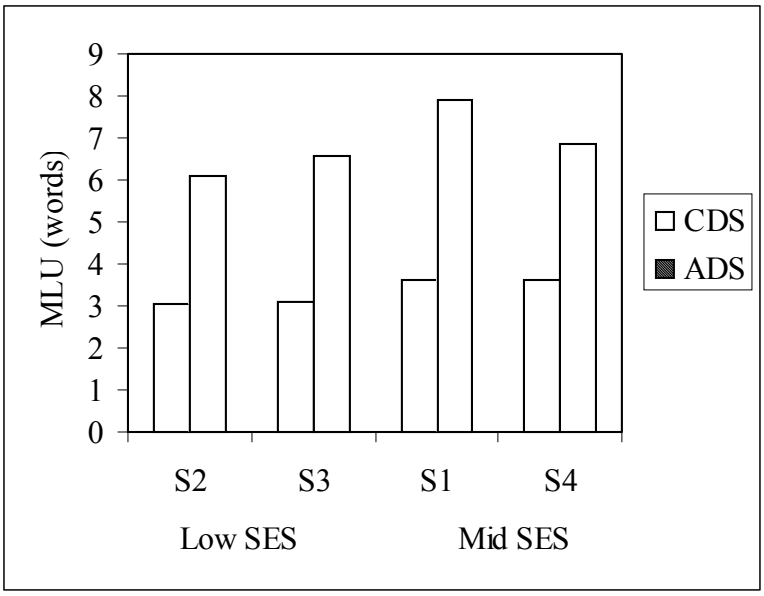

Figure 3.1. Measure of mean length of utterance (MLU) for each participant for CDS (open bars) and ADS (cross-hatched bars). The two participants on the left are low SES and the two participants on the right are mid SES.

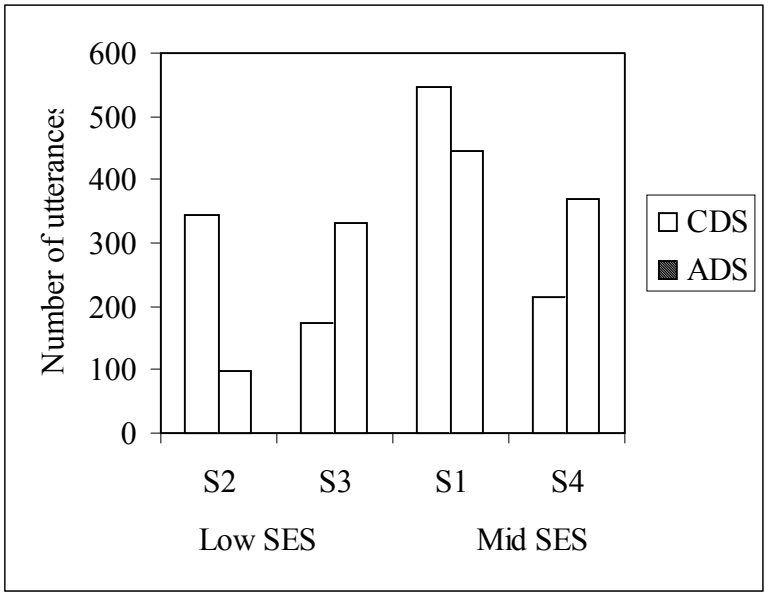

Figure 3.2a. Measure of number of utterances for each participant for CDS (open bars) and ADS (cross-hatched bars). The two participants on the left are low SES and the two participants on the right are mid SES. All bars represent 30 minutes of recorded interaction except the bar for S3 in the CDS condition.

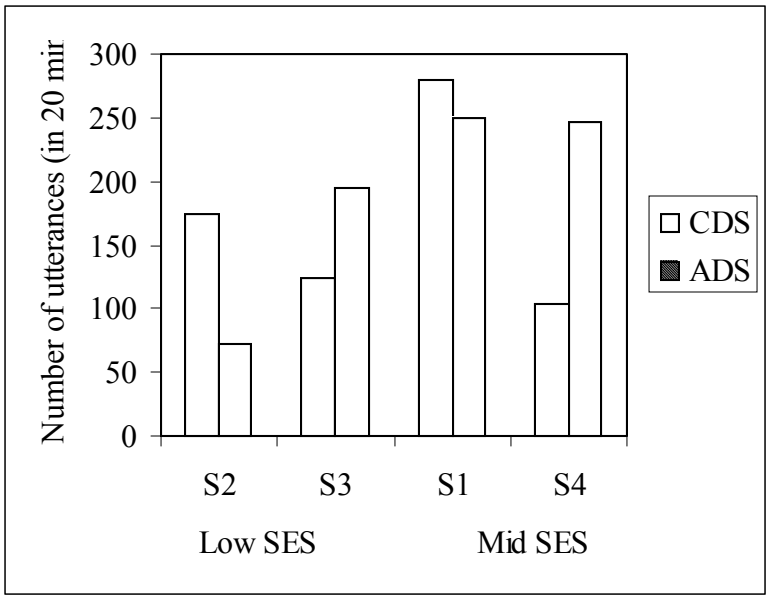

Figure 3.2b. Adjusted measure of number of utterances for each participant for CDS (open bars) and ADS (cross-hatched bars). The two participants on the left are low SES and the two participants on the right are mid SES.

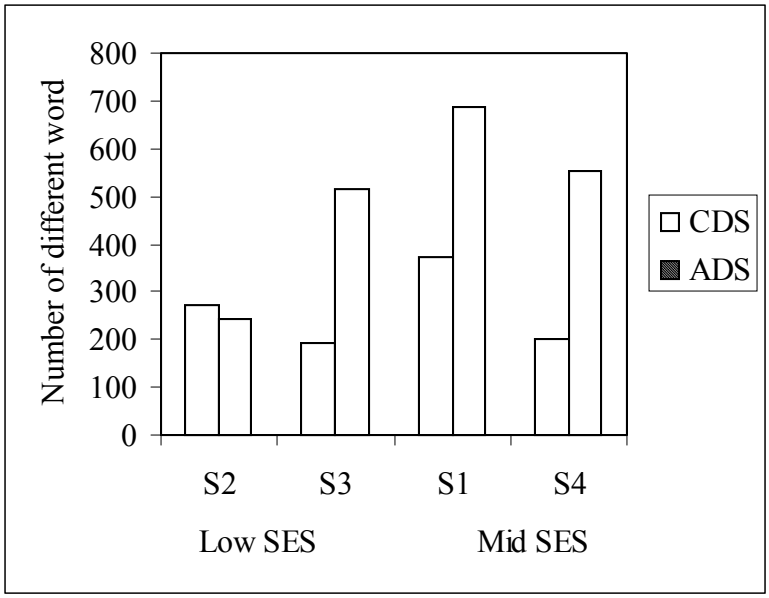

Figure 3.3a. Measure of number of different words (NDW) for each participant for CDS (open bars) and ADS (cross-hatched bars). The two participants on the left are low SES and the two participants on the right are mid SES.

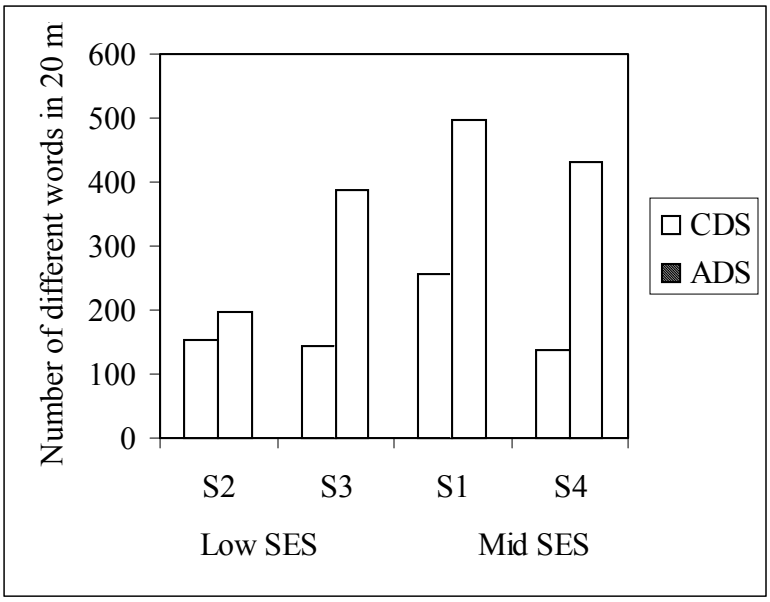

Figure 3.3b. Adjusted measure of number of different words (NDW) for each participant for CDS (open bars) and ADS (cross-hatched bars). The two participants on the left are low SES and the two participants on the right are mid SES.

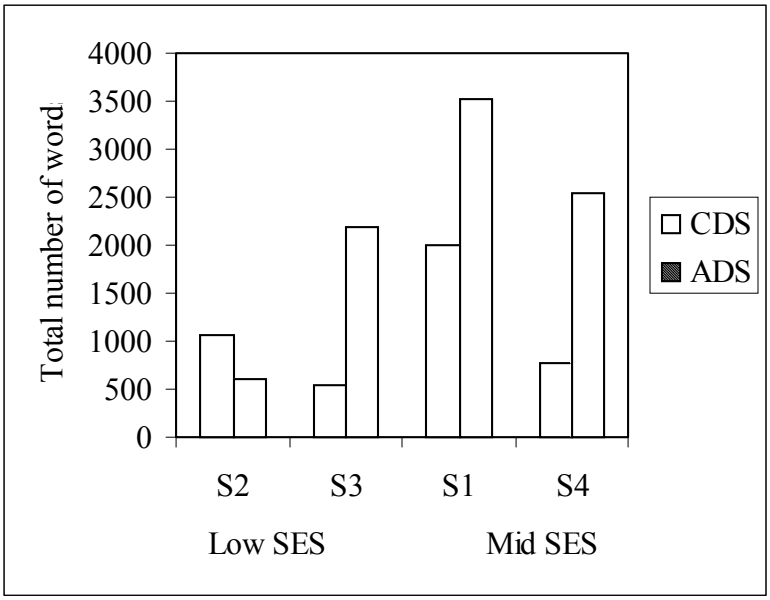

Figure 3.4a. Measure of total number of words (TNW) for each participant for CDS (open bars) and ADS (cross-hatched bars). The two participants on the left are low SES and the two participants on the right are mid SES.

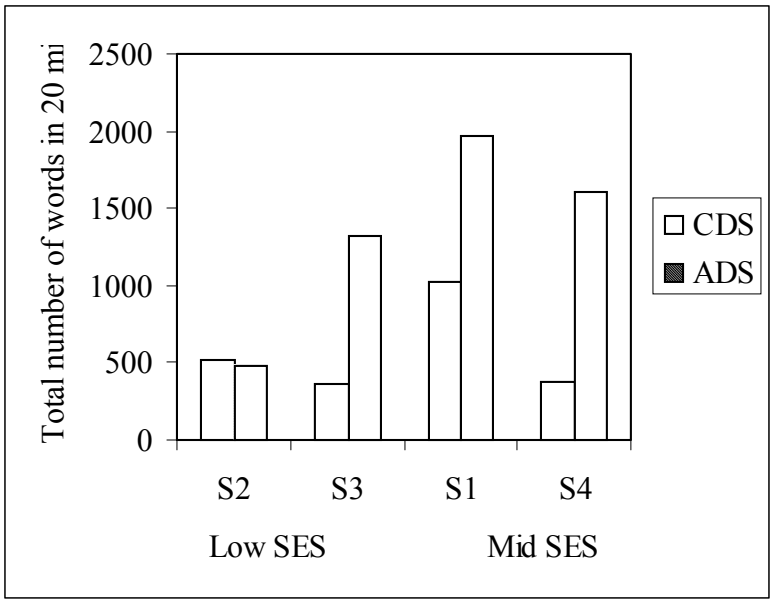

Figure 3.4b. Adjusted measure of total number of words (TNW) for each participant for CDS (open bars) and ADS (cross-hatched bars). The two participants on the left are low SES and the two participants on the right are mid SES.

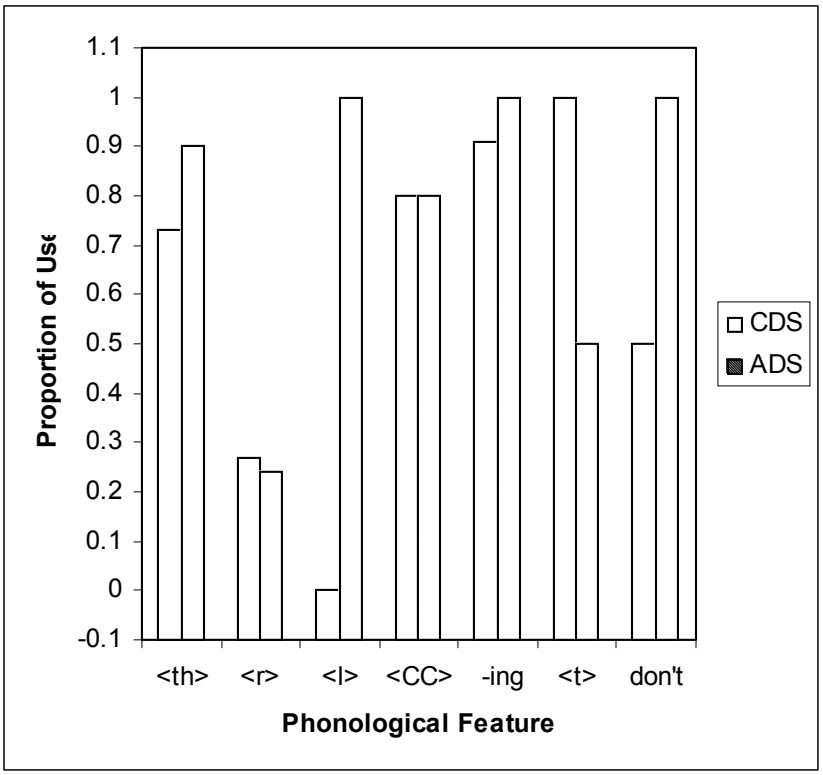

Figure 3.5. Measure of proportion of use of AAVE phonological features in CDS (open bars) and ADS (cross-hatched bars) for S2, a low SES mother. See Table 2.1 for descriptions of the phonological features listed on the x-axis.

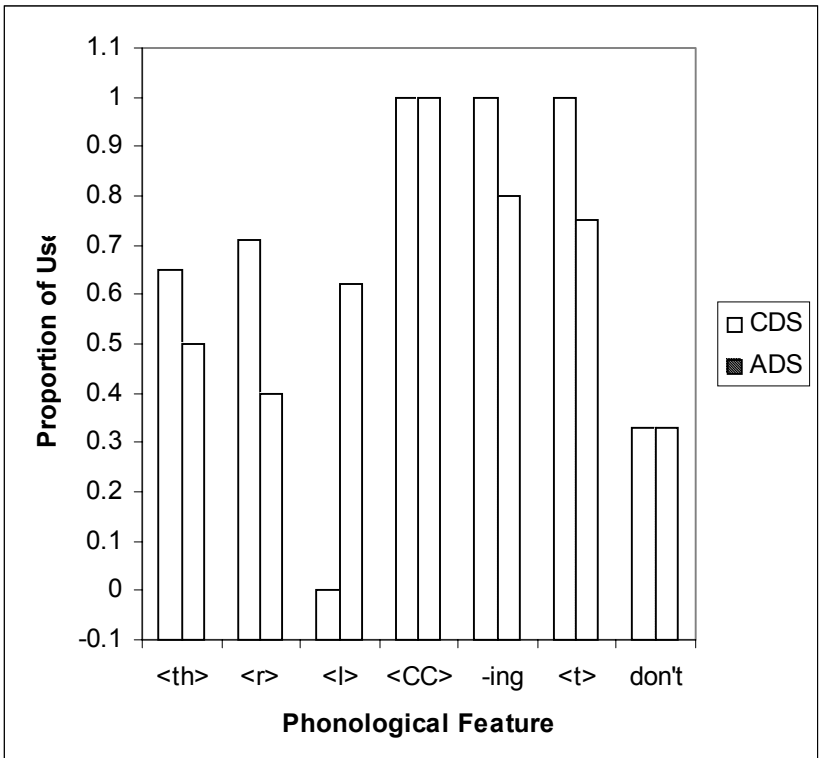

Figure 3.6. Measure of AAVE use (as in Fig. 3.5) for S3, a low SES mother.

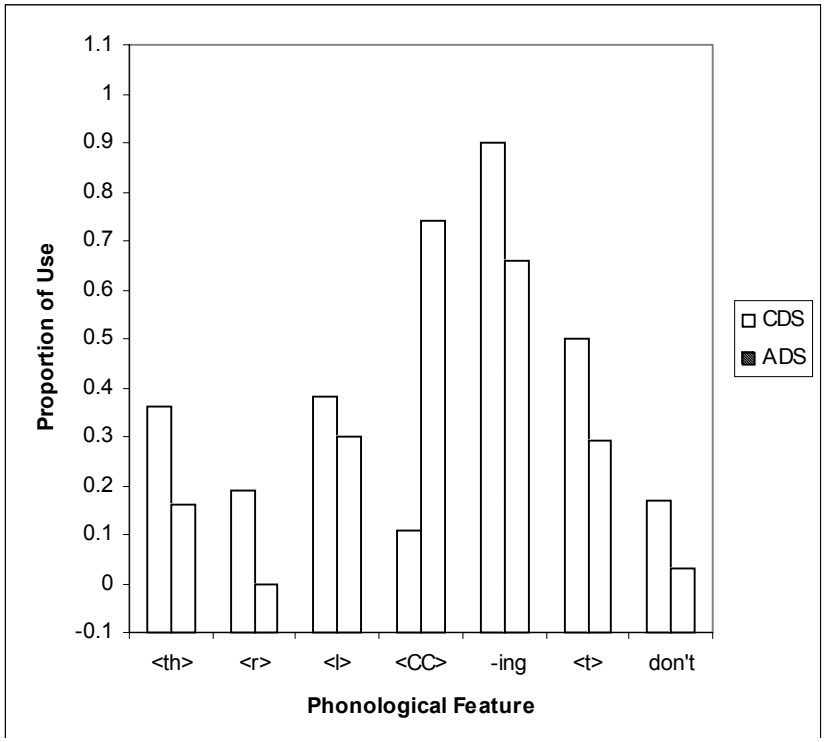

Figure 3.7. Measure of proportion of AAVE (as in Fig. 3.5) for S1, a middle SES mother.

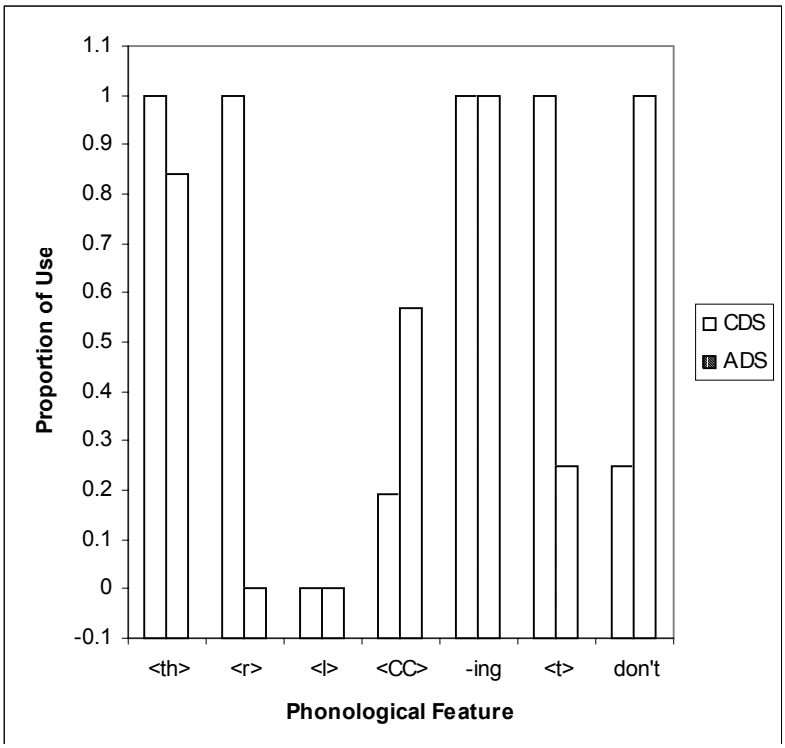

Figure 3.8. Measure of proportion of AAVE use (as in Fig. 3.5) for S4, a middle SES mother.

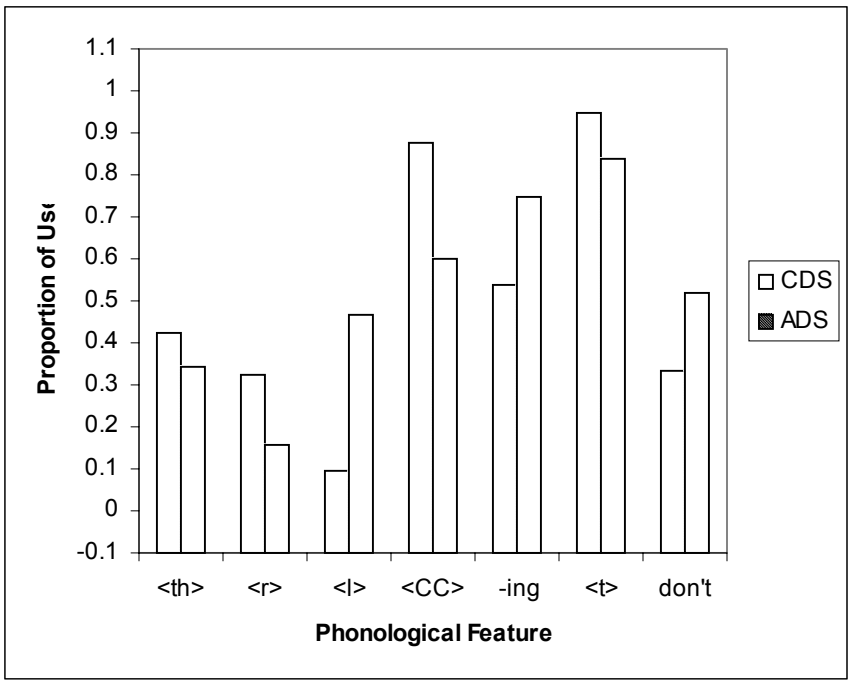

Figure 3.9. Measure of proportion of use of AAVE phonological features in CDS (open bars) and ADS (cross-hatched bars) for all participants. See Table 2.1 for descriptions of the phonological features listed on the x-axis.

CHAPTER 4

OTHER OBSERVATIONS AND CONCLUSIONS

Although there were not enough research participants to do a robust statistical comparison of MLU, in CDS versus ADS or in the speech of low SES mothers versus middle SES mothers, nevertheless, several trends can be observed. Higher MLUs in the ADS condition as compared to the CDS condition were noted across participants. This supports a characterization of CDS as having a simplified syntax and morphology. Moreover, every participant used a smaller number of different word types in CDS than in ADS, even the mother who produced more than three times as many utterances in her CDS. This supports a characterization of CDS as having a simplified vocabulary. Middle SES mothers also showed slightly higher MLUs than low SES mothers in the ADS and CDS conditions. Finally, although the trend was not consistent across all variables, for some of the AAVE variables, the participants show higher use of AAVE features in CDS than in ADS. All of these results support the idea that AAVE speaking mothers use a difference speech register with their infants.

Other qualitative observations also support this characterization. The child-directed speech in AAVE was different from adult AAVE and somewhat different from CDS in SAE. Child-directed speech in AAVE speaking mothers shared some similarities with CDS in SAE. As in CDS in SAE, CDS in AAVE speaking mothers sounded higher-pitched overall and there was a more exaggerated pitch range seen in informal observation of the FO contour while completing the transcriptions. Inspection of the transcripts also shows repetitive questioning and simplified vocabulary. Child-directed speech in AAVE was also characterized by the frequent use of diminutives with reduplicative morphology, such as “night-night,” “ea-eat,” and “no-nose.” Only the first of these forms has been reported for SAE-speaking mothers. Diminutive use in CDS has also been reported in the CDS of Spanish and Russian speaking mothers (Kempe, Brooks, Pirott, 2001). Based on this study, it may be that there is more productive diminutive morphology in CDS of AAVE speaking mothers, which makes it different from that of SAE speaking mothers. African American vernacular English speaking mothers also used a baby-talk register characterized by word substitutions such as “sheepy” for “sleepy” and “binky” or “paci” for “pacifier,” that seemed to be endearingly used to obtain the child’s attention and to make them feel comfortable. They engaged in pseudo conversations with their infants and used phrases and sentences that assigned emotional states and intention to their infants. They were directive with their infants, giving repetitive commands to “comere,” or “sit down” when the infant was perceived to be in danger. The following example from S4 demonstrates some salient features of CDS in AAVE speaking mothers:

1. Tay [say] I don't know.
Mother uses baby talk word “tay” for “say.”

2. Hey hey hey nothing (nothing).

3. Huh huh huh huh nothing (nothing).
When baby vocalizes, the mother imitates the vocalization as "hey, hey, hey" or "huh huh huh." Because the baby's vocalization did not closely approximate "I don't know," the mother adds a rebuke "nothing" as a way of playfully dismissing the child's inaccurate production.

4. What did you eat?
Mother directs the child on how to respond.

5. Say I ate some hotdog.

6. Say I ate a hotdog.
Mother directs the child on how to respond. She then simplifies the redundant command by changing "some" to "a," a word she may perceive to be more easy to repeat or pleasant to the infant's ears.

The AAVE speaking mothers in the present study showed patterns quite different from those observed by Heath (1983). Heath did not observe a CDS register in the working class African American mothers of Trackton, a Southern town. This study observed a simplified CDS register in both low SES and middle SES African American mothers in Columbus, Ohio, a Northern city. Exaggerated pitch, a simplified speech register, and special lexical items were used in the CDS of these AAVE speaking mothers. Names were substituted for pronouns in utterances like "Mommy sorry" and "Come to ma-maw." There are several possible reasons for differences between the present study and that of Heath's (1983). First, data collection methods were quite different. Heath (1983) simply observed families interacting. In the present study, the author set up a particular situation. She asked the mother to interact with her infant for ½ hour and then she engaged the mother in conversation for ½ hour. Second, the author is African American, and is a speaker of AAVE. These factors may have increased the level of comfort for research participants. Finally, there may be differences in the cultural beliefs and practices of African Americans in the Southern town of Trackton and the northern city of Columbus, Ohio.

There was another interesting finding of the study that was not captured in the analysis. African American vernacular English speaking mothers also presented with realizations of phonological AAVE features that were variable. This is consistent with previous research (Wolfram, 1994). The postvocalic <t>, for example was either realized as /t/ or a glottal stop preceding /ɪŋ/ in words such as "getting" and "sitting". This study also found that some features, such as initial consonant absence were really lexical rather than phonological in that they only affected specific, high frequency words. For example, the variable <d> was either realized as <d> or absent in the word "don't" following a pronoun and preceding a stressed word. Initial consonant absence was observed only for the particular word "don't."

Additional research is needed to further characterize the CDS of AAVE speakers in order to document the normal development of AAVE. It may be useful to replicate the present study with a wider pool of research participants to better assess the effect of SES

differences. Regional differences in the AAVE speakers may be explored to investigate different cultural beliefs and practices underlying CDS patterns. Pitch and lexical differences in CDS and ADS in AAVE also need to be studied to more fully characterize the CDS of AAVE speakers and to describe similarities and differences between CDS in AAVE and other variations of English.

REFERENCES

Albin, D. D. & Echols, C. H. (1996). Stressed and word-final syllables in infant-directed speech. *Infant Behavior and Development, 19*, 401-418.

Bailey, G. & Maynor, N. (1987). Decreolization? *Language and Society, 16*, 449-474.

Blount, B.G. (1972). Parental speech and language acquisition: Some Luo and Samaon examples. *Anthropological Linguistics, 14*, 119-130.

Blount, B.G. & Padgug, E.J. (1976). Mother and father speech: Distribution of parental speech features in English and Spanish. *Papers and Reports on Child Language Development, 12,* 251-277.

Blount, B.G. (1977). Parental speech to children: Cultural patterns. In M. Saville-Troike (Ed.). *Linguistics and Anthropology* (pp. 117-138).
Washington,D.C.:Georgetown University Press.

Cooper, R. P., Abraham, J., Berman, S., & Staska, M. (1997). The development of infants'preference for motherese. *Infant Behavior and Development, 20*, 477-488.

Craig, H. K., Thompson, C. A., Washington, J. A., and Potter, S. L. (2003). Phonological features of child African American English. *Journal of Speech, Language, and Hearing Research, 46*, 623-635.

Fernald, A. (1984). The perceptual and affective salience of mothers' speech to infants. L. Feagans, C. Garvey, & R. Golinkoff (Eds.). *The origins and growth of communication* (pp. 5-29). Norwood, NJ: Ablex.

Fernald, A. (1985). Four-month-old infants prefer to listen to motherese. *Infant Behavior and Development, 8,* 181-195.

Fernald, A. & Mazzie (1991). Prosody and focus in speech to infants and adults. *Developmental Psychology, 27*, 209-221.

Fernald, A. & Simon, T. (1984). Expanded intonation contours in mothers' speech to newborns. *Developmental Psychology, 20*, 104-113.

Fernald, A., Taeschner, T., Dunn, J., Papousek, M., Boysson-Bardies, B., and Fukui, I. (1989). A cross-language study of prosodic modifications in mothers' and fathers' speech to preverbal infants. *Journal of Child Language, 16*, 477-501.

Green, L.J. (1998). Aspect and predicate phrases in African-American vernacular English. In S.S. Mufwene, J.R. Rickford, G. Bailey, & J. Baugh (Eds.), *African-American English* (pp. 37-68). New York: Routledge.

Green, Lisa J. (2002). *African American English: A Linguistic introduction.* Cambridge:Cambridge University Press.

Hart, B. & Risley, T. (1995). *Meaningful differences in the everyday experience of young American children*. Baltimore: Paul H Brookes Publishing Co.

Hart, B. & Risley, T. (1999). *The social world of children learning to talk.* Baltimore: Paul H Brookes Publishing Co.

Heath, S.B. (1983). *Ways with words.* Cambridge: Cambridge University Press.

Hinton, L. N. & Pollock, K. E. (2000). Regional variation in the phonological characteristics of African American vernacular English*. WorldEnglishes, 19*, 59-71.

Huang (2000). *A study of African-American vernacular English in America's "Middletown": Evidence of linguistic convergence*. Lewiston: The Edwin Mellen Press.

Ingram, D. (1995). The cultural basis of prosodic modifications to infants and children: A response to Fernald's universalist theory. *Journal of Child Language, 22*, 223-233.

Johnston, J.R. & Wong, M.-Y.A. (2002). Cultural differences in beliefs and practices concerning talk to children. *Journal of Speech, Language, and Hearing Research, 45,* 916-926.

Kemler-Nelson, D., Hirsh-Pasek, K., Jusczyk, P., & Wright Cassidy, K. (1989). "How prosodic cues in motherese might assist language learning. *Journal of Child Language, 16*, 53-68.

Kempe, V., Brooks, P.J, & Pirott, L. (2001). How can child-directed speech facilitate the acquisition of morphology*? Proceedings of the VIIIth International Congress for the Study of Child Language.* 1237-1247

Labov (1987). Are Black and White vernaculars diverging? Papers from the NWAVE XIV Panel Discussion. *American Speech, 62,* 5-12.

Luelsdorff (1975). *A segmental phonology of Black English*. The Hague: Mouton.

Miller, J.F., & Chapman, R.S. (2000). *Systematic Analysis of Language Transcripts (SALT).* Language Analysis Lab, University of Wisconsin-Madison.

Ochs, E. & Schieffelin, B.B. (1986). Language acquisition and socialization: Three developmental stories and their implications. In R.A. Schweder & R.A. Levine (Eds.), *Culture theory*. NY: Cambridge University Press (pp. 285-305).

Stockman (1996). Phonological development and disorders in African American children. In A.G. Kamhi, K.E. Pollock, & J.L. Harris (Eds.), *Communication development and disorders in African American children: Research, assessment, and intervention* (pp.117-153). Baltimore: Paul H. Brookes Publishing Co.

Taylor, D., & Doresey-Gaines, C. (1988). *Growing up literate: Writing and reading.* Norwood, NJ: Ablex Publishing Corp..

Werker, J.F. & McLeod (1989). A cross-language investigation of infant preference for infant-directed communication. *Infant Behavior and Development,17,* 323-333.

Woodward & Aslin (1990). Segmentation cues in maternal speech to infants. Poster presented at the International Conference on Infancy Studies, Montreal, Canada.

Wolfram, W. (1994). The phonology of a sociocultural variety: The case of African American vernacular English. In J.E. Bernthal & N.W. Bankson (Eds.). *Child phonology: Characteristics, assessment, and intervention with special populations* (pp. 227-244). New York: Thieme Medical Publishers, Inc.

Wolfram, W. & Thomas, E.R. (2002). *The development of African American English.* Cambridge/Oxford: Blackwell.