CODE-SWITCHING BY YOUNG AND OLDER AFRICAN AMERICAN ADULTS

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Abstract

Language samples were elicited from young and older African American adults during two phases of an interview The formal phase was conducted in standard English and included vocabulary and memory span tests whereas the informal phase was conducted in Black English Vernacular by a different interviewer, similar questions about the participants' background were asked in the two phases The analysis compared the length, grammatical complexity, semantic content, and use of BEV in the participants' responses to the interviewers' questions in the formal versus informal phases Age group differences were observed in both the formal and informal language samples The shift from formal to informal interview resulted in code-switching by both groups of participants both groups increased their use of BEV during the informal phase Young adults, however, were somewhat more successful at code-switching between standard English and BEV since they virtually eliminated BEV from their speech during the formal phase of the interview

Code-Switching by Young and Older African American Adults

Age-grading, or age-related distributional differences, in language have been studied by a number of sociolinguistics, particularly those concerned with the description of non-standard dialects Two patterns of age-grading have been observed On one hand, adolescents and young adults have been observed to use socially stigmatized forms such as double negatives (as in "I don't like nothing"), *ain't,* and omitted copulas (as in "He there in the house") or *be* copulas (as in "He be working today") much more often than children and older speakers (Wolfram & Christian, 1976, Wolfram & Fasold, 1974) On the other hand, some forms such as double modals (such as "I might could do it") and the use of the perfective done (as in "I done went yesterday") appear to be used more frequently by older speakers and may be virtually absent in the speech of young adults, teenagers, and children (Feagin, 1979, Wolfram & Christian, 1964) Hence, some researchers conclude that older speakers exhibit much more distinctive non-standard vernacular than young adults whereas others conclude that older speakers exhibit less non-standard vernacular than young adults

More recently, psycholinguist working within the cognitive aging framework (Craik & Salthouse, 1992) have also begun to investigate age-related changes to speech and language The syntax of the speech of older adults appears simplified in comparison to that of young adults (Kemper, 1992, Kemper, Kynette, Rash, O'Brien, & Sprott, 1989, North, Ulatowska, Macaluso-Haynes, & Bell, 1986, Obler, 1980, Shewan & Henderson, 1988, Ulatowska, Cannito, Hayashi, & Fleming, 1985, Walker, Hardiman, Hedrick & Holbrook, 1981, Walker, Roberts, & Hedrick, 1988) Although sentence length in words remains constant, older adults show a reduction in their use of complex syntactic constructions such as those involving subordinate and embedded

clauses Subordinate and embedded clauses appear to tax older adults' working memories, often analogized as a pool of processing resources which must be shared with different tasks Older adults favor coordinate or right-branching constructions such as "She's awfully young to be running a nursery school for our church" over left-branching constructions such as "The gal who runs a nursery school for our church is awfully young" in order to minimize working memory load During the production of the left-branching constructions (in which the embedded clause occurs to the left of, or prior to, the main clause), working memory is required in order to retain the form of the subject *the gal* and anticipate and plan for the grammatical form of the main clause verb *is* (which must agree with its subject in person and number) while the embedded clause *who runs a nursery school for our church* is being produced Each clause is produced sequentially in the right-branching construction (in which the embedded clause occurs to the right of the main clause), minimizing working memory load

Psycholinguistic research has also shown that older adults' use of complex sentence structure is affected by task demands During undemanding interpersonal conversation or simple picture-description tasks, older adults may be able to use complex syntactic constructions with some ease (North, Ulatowska, Macaluso-Haynes, & Bell, 1986, Obler, 1980, Shewan & Henderson, 1988, Ulatowska, Cannito, Hayashi, & Fleming, 1985, Walker, Hardiman, Hedrick & Holbrook, 1981, Walker, Roberts, & Hedrick, 1988) But as task demands increase, fluency and complex syntax may be sacrificed in order to free working memory for other uses, such as constructing elaborate narrative plots (Kemper, 1990, Kemper, Rash, Kynette, & Norman, 1990)

Taken together, sociolinguistic research on age-grading of dialect and psycholinguistic research on age-related changes to language production suggest that the speech of older speakers of non-standard dialects ought to differ considerably from that of young speakers of non-standard dialects Older speakers of a non-standard dialect should produce considerable vernacular forms and may preserve some non-standard lexical forms and phonological or morphological patterns that are absent in the speech of young adults and they should experience working memory limitations that restrict their ability to produce complex, grammatical constructions

An unresolved issue concerns whether older speakers of non-standard dialects are able to employ a range of speech registers in different circumstances and to code-switch between registers to the same extent as young speakers The choice of registers, or dialect variants, must be tailed to the situational context, topic of conversation, age status, or ability of the conversational partner, code-switching refers to the ability of speakers to adjust their lexical, phonological, morphological, and grammatical style For example, speakers have been observed to spontaneously adopt a different style when addressing older adults, sometimes termed "elderspeak" or "secondary baby talk" (Caporael, 1981, Kemper, 1994, Kemper, Vandeputte, Rice, Cheung, & Gubarchuk, 1995), this speech register is characterized by shorter utterances, simpler syntax, and more sentence fragments than speech addressed to young adults Speakers also speak more slowly and pause longer when addressing older audiences

Older speakers of non-standard dialects may show less code-switching than younger speakers for a variety of reasons older speakers may be less able to process simultaneous task

demands and, hence, to evaluate status, role, and contextual cues to the selection of an appropriate speech register, older speakers may be less concerned about manipulating social identity through the selection speech register, or older speakers may be unable to employ the full range of linguistic tools necessary to exhibit register variation due to cognitive processing limitations

The present study was undertaken to examine how task demands for code-switching affect young and older adults who speak a non-standard dialect of English We choose to investigate aging, code-switching, and the use of Black English Vernacular (BEV) BEV is a fairly common dialect variation of English with clear markers, including double negatives and be copulas, that distinguish it from standard English (Dillard, 1972, Labov, 1969 & 1972, Robbins, 1973, Smitherman, 1992)

Existing research on BEV spans a multitude of topics, often with conflicting findings For instance, Tolliver (1979) argued that BEV is spoken by African Americans living in low income communities, and Fromkin and Rodmin (1993) argue that it is non-middle class African Americans who use BEV However, DeBose (1992) found evidence that for African Americans BEV and Standard English coexist as two distinct linguistic systems and is widespread among middle-class African Americans Spears (1992) agrees but emphasizes that the history of linguistic assimilation will eventually lead to the disappearance of BEV

Other studies have sought to qualitatively evaluate BEV or to document its patterns of use While it may be argued that BEV is socially constructed and limited as a linguistic system (Speicher & McMahon, 1992), others have argued for its facilitative function, as a way of maintaining cultural identity For example, Garner and Rubin (1986) hypothesized that African Americans learn Standard English to fit into mainstream society In their study of African American lawyers, they found that these lawyers felt that proficiency in Standard English was dissociated with cultural identity and assigned a positive value to BEV as a linguistic system Hoover (1978) also found support for this argument in a study of parental attitudes toward BEV Proficiency in Standard English was seen as necessary for economic success whereas BEV was deemed essential to preserve Black culture Smitherman (1992) has found that students are no longer penalized for the use of BEV although Atkins (1993) notes that employment recruiters rate speakers of BEV more negatively than speakers of Appalachian English

Our goal was to determine if young and older adults would respond alike under two different interview formats, one conducted in formal, standard English and the other conducted in informal, BEV We expected to observe code-switching from Standard English to BEV and sought to determine if young and older African Americans would exhibit similar patterns of code-switching We also expected to find age-group differences in linguistic complexity during the formal interview and wanted to determine if such differences would be preserved during the informal interview To maximize the chances of observing code-switching, and hence of detecting age-group differences in code-switching, we deliberately developed an unbalanced design the formal interviews were conducted by a young, white female interviewer in Standard English and included a set of formal tests whereas the informal interviews were conducted by an mid-age, African-American male interviewer in BEV We expected the young participants

would code-switch from Standard English to BEV, our question was whether older participants would exhibit a similar pattern of code-switching

Method

Participants

In depth interviews were conducted with 35 African American participants (20 young adults, ages 20 to 24 years, and 15 older adults, ages 58 to 83 years) The young adults were undergraduates who were recruited from the University of Kansas while the older adults were community-dwelling adults who were recruited from a church in the local area All were life-long residents of the midwestern United States Interviews from two young participants were not included in the final analysis because the quality of the tape recordings rendered the interviews unsuitable for transcription Interviews from one older adults were not included in the final analysis because this man has completed only two years of formal education The result was two groups, 14 older adults (M = 73 years of age, SD = 9 14) and 18 younger adults (M = 21 6 years of age, SD = 1 46)

During the first interview, the participants were asked about their formal schooling, and given a vocabulary (Shipley, 1940) test followed by two tests of working memory, the Digits Forward and Digits Backward tests from the Wechsler Adult Intelligence Scale- Revised (WAIS) (Wechsler, 1958) The first set analyses assessed whether the two age groups differed in terms of education, vocabulary, and performance on the two digit span tests There was a significant difference between age groups in terms of attained educational level, $t(30) = 4\ 17$, $p < 05$, vocabulary, $t(30) = 2\ 60$, $p < 05$, WAIS Digits Forward, $t(30) = 4\ 49$, $p < 05$, and WAIS Digits Backward, $t(30) = 4\ 19$, $p < 05$ (show in Table 1)

Table 1 Means, Ranges, and Standard Deviations (in parentheses) of Participant Variables

		Young Adults	Older Adults
Age	M	21 6 (1 5)	73 0 (9 1)
	range	20 - 24	58 - 83
Education	M	14 8 (1 1)	12 9 (2 6)
	range	13 - 17	8 - 16
Vocabulary	M	49 4 (10 1)	47 9 (14 8)
	range	22 - 62	18 - 66
Digits Forward	M	9 4 (1 9)	6 8 (1 3)
	range	6 - 13	2 - 9
Digits Backward	M	6 7 (2 1)	4 0 (1 1)
	range	4 - 11	2 - 6

The young group had a higher mean educational level, higher vocabulary scores, and larger digit spans than the older group As Table 2 shows, these measures were highly interrelated and all were negatively correlated with age

Table 2 Matrix of Correlations among Participant Variables

	Age	Education	Vocabulary	Digits Forward
Education	- 23			
Vocabulary	- 27	+ 69**		
Digits Forward	- 67**	+ 41**	+ 29	
Digits Backward	- 61**	+ 38*	+ 30	+ 34*

*p < 05, **p < 01

Procedure

The interviews were divided into two phases, a formal phase and an informal phase In the formal phase, the interviewer used standard English while in the informal phase the interviewer used Black English Vernacular This resulted in a 2 (formal and informal) x 2 (young and old) repeated measures design with each participant interviewed twice Each session was audio taped and later transcribed

The formal interview began with the administration of the vocabulary and digit span tests The interviewer then each participant a series of questions about the participant's background, interests, and current activities This session was conducted in a very formal manner the white female interviewer was dressed in business attire, she copiously took written notes on forms secured to a clipboard, and she addressed each participant in a formal manner using standard English

The formal and informal phases were not counter balanced but occurred in a fixed order to maintain the cover story After the formal interview was concluded, the African American male investigator arrived to "check" on the interview He was dressed in an informal attire, and acted informally The investigator told the participants that he wanted to get better acquainted with them and assess their reaction to the experimental participation He then repeated the same series of questions but did not write down the participants' responses Similar questions were used in both phases of the interview with the exception of the change in linguistic style, i e , the use of BEV in the informal phase

Analysis

Each phase of the interview was transcribed by one trained coder using procedures of Kemper, Kynette, Rash, Sprott, & O'Brien (1989) and Cheung and Kemper (1992) Each interview was segmented into utterances at major pauses or at conventional sentence frames Continuations, rephrasing, and revisions of the previous utterance following a pause were considered to be separate utterances The coder identified complete, grammatical sentences as well as sentence fragments then identified all main clauses and embedded or subordinate clauses Semantic or propositional content was also analyzed The transcripts were then analyzed using the SALT (Miller & Chapman, 1982) computer package

Length Three measures of the length of participants' responses were computed (i) The SALT software package determined the total number of words, simply as a count of the number of words elicited during an interview, (ii) the total number of utterances, as the total number of utterances including both complete sentences and fragments, and (iii) the mean length of utterance (MLU) in words as the mean number of words per utterance, including complete sentences and fragments

Grammatical Complexity There were four measures of grammatical complexity (i) mean clause per utterance (MCU) was computed as the total number of clauses (including main, embedded, and subordinate clauses) divided by the total number of utterances in each utterance, (ii) - (iv) the proportions of main clauses, right-branching clauses, and left- branching clauses were computed using the criteria of Kemper et al , (1989) as the total number of each type of clause divided by the total number of clauses Main clauses were required to contain both a subject and a verb Subordinate clauses that preceded the main clause as well as embedded clauses that formed part of the sentence subject were considered to be left-branching clauses Subordinate clauses that followed the main clause and embedded clauses that formed part of the predicate were considered to be right-branching clauses Subordinate clauses include causal and temporal adverbial clauses such as "I would be much happier if I were married" or "Because I work, I've got good prospects" Embedded clauses include comparative, infinitive, complement and nominal constructions such as "I just think they need another coach" or "I drive up there to see her" Examples of fillers include lexical items such as "well" and "You know "

Semantic Content Two measures, type-token ratios (TTR) and propositional density, were used to measure the semantic content of the participants' responses to the interviewer's questions Type-token ratios are computed as the ratio of the number of different lexical items to the total number of words in the transcript As the TTR approaches 1, it is interpreted as meaning that lexical items (tokens) are rarely repeated, conversely a low TTR approaching 0 indicates that lexical tokens are frequently repeated Propositional density was computed using conventions outlined by Kintsch & Keenan (1973), and Turner & Greene (1977) Propositions correspond to a verbal relation and one or more arguments usually nouns Relations included predicates expressing actions or states as well as negations, counts, or other attributes of arguments or other propositions Propositional density scores were derived by taking a ten-utterance segment at the beginning of the second page of the transcript from either the formal and informal phases of the interviews, identifying the propositions in each utterance, and computing propositional density as the total number of propositions divided by the number of words in the segment

Black English Vernacular BEV scores were computed as the total number of identified occurrences of BEV divided by the total number of utterances in each phase of the interview Thus separate scores were computed for the formal and informal contexts Because the greatest differences between BEV and Standard English are most easily identified on the level of morphology and phonology (Smitherman, 1977), the main focus was to code such instances as BEV Morphological forms such as double negatives, perfective done, and Black English copulas were coded Also coded were clear indications of phonological substitutions from standard English, i e , initial /th/ replaced by /d/ or final /th/ replaced by /f/ However, dropping

of the final /g/ , such as "runnin" instead of "running", was not coded as BEV because of the "spill over" of such conventions into standard English

Reliability

One coder transcribed and analyzed all interviews A second trained coder transcribed and analyzed two formal and two informal interviews Intercoder agreement 93 for main clauses, 86 and 74 for right- and left-branching clauses, 95 for propositions, and 87 for BEV The lower agreement for right- and left-branching clauses reflects, in part, the low incidence of subordinate and embedded clauses in the oral interviews Word and utterance counts, MLUs, and TTRs were automatically computed by the SALT computer program

Results

Initially, a multivariate analysis of covariance was performed with age group as a between-subjects factor and interview formality as a within-subjects factor, educational level was the covariate Both multivariate main effects were significant, $p < .05$, but the multivariate interaction was not significant The multivariate covariate of education was also nonsignificant Then univariate analysis of covariance was used to examine each of the length, grammatical complexity, semantic content measures and the measure of BEV, in these analyses, age group was the between-subjects factor and interview formality as the within-subject factor with educational level as the covariate The covariate was not significant for any of these univariate analyses and is not considered further, controlling for age group differences in educational level had no effect on the results Finally, a series of hierarchical regression analyses was then used to consider the relationship between educational level, vocabulary, digit span, and age on each of the language sample measures Table 3 summaries the results of the language sample analyses of the formal and informal interviews and Table 4 summaries the results of the regression analysis

Table 3 Results of the Language Sample Analysis of the Formal and Informal Interviews. Standard Deviations are given in Parentheses.

	Young Adults		Older Adults	
	Formal	Informal	Formal	Informal
Length				
Total Words	332 (109)	168 (39)	327 (96)	146 (68)
Total Utterances	96 (30)	34 (9)	130 (56)	32 (17)
MLU	6 2 (1 3)	5 7 (0 7)	5 8 (1 3)	5 8 (1 5)
Grammatical Complexity				
MCU	83 (19)	88 (10)	76 (19)	72 (15)
Proportion Main Clauses	71 (09)	70 (15)	65 (16)	74 (15)
Proportion Right-Branching	12 (07)	13 (06)	14 (07)	12 (05)
Proportion Left-Branching	03 (01)	03 (03)	05 (03)	03 (02)
Semantic Content				
TTR	53 (67)	55 (06)	50 (07)	61 (06)
Propositions/word	35 (11)	28 (06)	26 (08)	27 (13)
Black English Vernacular				
Occurrences/Sentence	01 (03)	46 (12)	06 (05)	32 (07)

Table 4 Results of the Hierarchical Regression first entering Education and Vocabulary, then Digit Span, and finally Age for the averaged Language Sample Measures.

	Education Vocabulary		Digit Span		Age	
	R^2	F(2,29)	R^2	F to enter	R^2	F to enter
Length						
Total Words	29	5 98**	31	ns	32	ns
Total Utterances	24	4 67**	30	ns	33	ns
MLU	12	ns	.14	ns	19	ns
Grammatical Complexity						
MCU	19	3 37*	27	3 38*	29	ns
Proportion Main Clauses	09	ns	14	ns	16	ns
Proportion Left-Branching	17	ns	35	3 65*	35	ns
Proportion Right-Branching	22	4 21*	34	3 63*	34	ns
Semantic Content						
TTR	17	ns	18	ns	18	ns
Propositions/word	19	3 48*	28	3 40*	28	ns
Black English Vernacular						
Occurrences/sentence	06	ns	17	ns	31	3 15*

ns = not significant *$p < 05$ **$p < 01$

Length

In terms of total words, there was no main effect for age group, $F(1,30) < 1\ 0$, $p > 10$ However, there was a main effect for interview, $F(1,30) = 69\ 15$, $p < 01$, but the interaction between age group and interview was not significant, $F(1,30) < 1\ 0$, $p > 10$ The participants used more words in the formal phase than in the informal phase For total utterances, there were a significant main effects for age, $F(1,30) = 4\ 37$, $p < 05$, and for interview, $F(1,30) = 108\ 42$, $p < 01$, and the interaction between age group and interview was significant, $F(1,30) = 5\ 31$, $p < 05$ The participants produced more utterances in the formal phase of the interview than in the informal phase, and young participants produced more utterances than older participants, the difference between formal and informal phases of the interviews was greater for older adults (difference = 98 utterances) than that for younger adults (difference = 62 utterances) MLUs did not differ by age group, $F(1,30) < 1\ 0$, $p > 10$, or interview, $F(1,30) < 1\ 0$, $p > 10$ nor was the age group by interview interaction significant, $F(1,30) < 1\ 0$, $p > 10$

Grammatical Complexity

The main effect of age for MCU, $F(1,30) = 12\ 57$, $p < 01$, was significant but neither the interview main effect, $F(1,30) < 1\ 0$, $p > 10$, or the interaction of age group and interview, $F(1,30) < 1\ 0$, $p > 10$, were significant Overall, young adults had higher MCUs than older adults There were no significant main effects for the percentage of main clauses nor for the use of left- or right-branching clauses, nor were the age group by interview interactions significant for these measures of grammatical complexity

Semantic Content

For TTRs, a measure of semantic diversity, the main effect for age group was not significant for TTRs, $F(1,30) < 1\ 0$, $p > 10$ However, the interview main effect was significant, $F(1,30) = 18\ 41$, $p < 01$, as was the interaction of interview and age group, $F(1,30) = 5\ 67$, $p < 05$ TTRs were higher in the informal interviews than in the formal interviews for the older adults (difference = 11) but not for the younger adults (difference = 02) For propositional density, only the main effect of age group, $F(1,30) < 14\ 72$, $p < 05$, was significant, the main effect for interview, $F(1,30) < 1\ 0$, $p > 10$, and the interaction, $F(1,30) < 1\ 0$, $p > 10$, were nonsignificant Young adults had higher propositional density scores than older adults

Black Vernacular

The main effect for age group was not significant, $F(1,30) < 1\ 0$, $p > 10$, however, the main effect for interview, $F(1,30) = 23\ 52$, $p < 01$, and interaction, $F(1,30) = 13\ 75$, $p < 01$, were significant Overall, older adults were as likely to use BEV as young adults Both age groups produced significantly less BEV in the formal interviews as compared to the informal interview, however, the difference in use of BEV in the formal and informal interviews was greater for young adults (difference = 45 occurrences per utterance) than for older adults (difference = 28 occurrences per utterance)

Regression Analysis

In order to clarify the effects of education, vocabulary, and digit span on the language sample measures, a series of hierarchical regression models were tested For these analyses, the language sample measures from the formal and informal interviews were averaged Since the participant variables were highly intercorrelated, hierarchical regression was used to identify the best set of predictors of each averaged language sample measure In step one, the participants' educational level and vocabulary were score were entered, Table 4 reports the R^2 and F statistic for this step of the analysis In step 2, the participants' average digit span score was entered Any improvement in the fit of the resulting regression equation is noted as an increase in the R^2 in Table 4 along with the F-to-enter statistic A significant improvement in fit, as indicated by the F-to-enter statistic reflects the contribution of working memory, as measured by digit span, once the contributions education and/or vocabulary have been partialed out In step 3, the participants' age was entered into the equation to determine if any unexplained variance associated with other, unmeasured variables associated with age but not attributable to education and/or vocabulary or working memory affects speech production

Three language sample measures were unrelated to any of the participant measures MLU, the proportion of main clauses, and TTR Two measures, total words and total utterances, reflect educational differences between the participants but independent of working memory or other variables associated with age Three measures, MCU, the proportion of left-branching clauses, and propositional density, reflect both educational differences and working memory For these three measures, education and/or vocabulary account for 19%, 22%, and 19% of the variance, respectively and digit span accounts for an additional 8%, 18%, and 12% of the variance in these measures, as indicated by the significant F-to-enter statistics after step 2 The proportion of left-branching clauses is not related to educational level or vocabulary but solely to working memory since digit span accounts for 35% of the variance in this measure The use of

BEV is determined primary by the participants' age, education and working memory account for 6% and 11% of the variance in BEV and other variables associated with age account for an additional 15% of the variance in BEV, resulting in a significant F-to-enter statistic

A second series of regression analyses was also performed, reversing the order of entry of the predictor variables When age was entered first, it accounted for 28% of the variance in BEV and from 3% to 9% of the variance in the other measures Adding digit span resulted in significant F-to-enter statistics for MCU, left- and right-branching clauses, and propositional density, and adding education and vocabulary lead to significant F-to-enter statistics for total words and utterances, and a further significant increase in R^2 for MCU and propositional density Education and vocabulary appear to be the sole predictors of the length measures, the grammatical complexity measures and propositional density reflect both education and working memory, and the use BEV is attributable to other measures associated with age

Discussion

This study was designed to investigate whether there are age group differences in code-switching between formal and informal speech by young and older African Americans The issue was whether or not older African Americans would exhibit the same pattern of code switching as younger African Americans when a formal interview, conducted in standard English, was followed by an informal phase, conducted in Black English Vernacular

This study partially replicated prior research (Kemper et al , 1989) by showing that there are age-group differences in linguistic complexity Kemper et al , (1989) found that older adults used simpler utterances, as measured by MCU and the production of left-branching clauses than young adults, they attributed these age-group differences to working memory limitations, since MCUs and the production of left-branching clauses were correlated with performance on memory span tests In the present study, age group differences in MCUs, propositional density, and the length measures of total words and total utterances were found.

The two age groups differed in education, vocabulary, and digit span, the regression analysis examined how these participant characteristics are linked to overall verbal fluency as well as grammatical complexity and propositional density Two different patterns were apparent in the hierarchical regression analysis First, individual differences in verbal fluency, in terms of the word and utterance counts, seem to be associated with educational level and vocabulary Better educated adults and adults with larger vocabularies answered the interviewers' questions with both more words and more utterances Once individual differences in education and vocabulary have been entered, adding digit span or age does not improve the fit of the regression model for these fluency measures Second, individual differences in MCU, the use of left-branching or right-branching embedded clauses, and propositional density are partly attributable to educational level and vocabulary but also partly attributable to working memory span Educational level and vocabulary accounted for 19%, 17%, and 22% of the variance in MCU, and the use of left- and right-branching sentences, respectively The regression analysis also indicated that digit span accounted for an additional 8%, 18%, and 12%

of the variance in these measures of grammatical complexity Similarly, educational level and vocabulary accounted for 19% percent of the variance in propositional density and digit span accounted for an additional 9% percent Adding age to these regression models does not improve their fit, suggesting that the observed age group differences in MCU and propositional density reflect group differences due to educational level and vocabulary as well as group differences in working memory span

The shift in interviewers, interview style, and the interviewer's use BEV did result in code-switching or a shift in speech register by both young and older participants both groups increased their use of BEV However, other language sample measures indicate that the two registers were highly similar with regards to grammatical complexity and semantic content although more words and utterances were elicited during the formal interviews , neither MLU nor MCU was affected by interview As suggested by Labov (1972), the primary differences between the two registers occur in the domains of vocabulary, morphology, and phonology rather than in sentence length, grammatical complexity, and semantic content

The switch from Standard English to BEV had a greater effect on the older adults than it did on the young adults with regards to the length and lexical diversity of their speech This pattern suggests that a variety of factors, in addition to age-related limitations on speech production, may have affected the older adults Such factors such as nervousness due to unfamiliarity with research participation and test anxiety triggered by the preliminary vocabulary and span tests may curtailed the older adults' responses during the formal phase of the interview Young adults may have been less bothered by such factors during the formal interviews and thus better able formulate lengthy and diverse responses to the interviewer's questions

It is also interesting to note that the young adults were somewhat more successful at code-switching than the older adults in that the young adults virtually eliminated BEV from their speech during the formal interviews while the older adults produced considerable BEV during the formal interviews The results of the hierarchical regression analysis indicated that the use of BEV was not related to the educational level of the participants, their vocabularies, or digit spans whereas the age of the participants accounted for 31% of the variance in the use of BEV It may be that the young adults have learned that there are advantages to being able to use a highly marked informal vernacular and to efficiently switch between BEV and Standard English whereas older African Americans are less concerned with the manipulation of social identity through the choice of speech register All of the young adults were concurrently enrolled in college where they may practice code-switching between Standard English and BEV on a frequent basis The older adults were retired members of the local community who may have few occasions to switch between registers on a daily basis since they are members of a cohesive African American community It may also be the case that the older adults were less able to suppress the use of BEV during the formal phase of the interview test anxiety or other factors hindered their ability to monitor their speech or to exclude BEV

Implications of this research are two fold First, the findings reported here run contrary to Labov's (1970) stages of language acquisition for speakers of non-standard dialects Labov's model proposes six stages (1) Basic grammar (ages 3-4 years) During this stage, the main

body of grammar and its lexicon of English are acquired, normally under the influence of the parents This stage defines the language of children just entering school (ii) Vernacular (ages 5-12 years) In this stage the child acquires a local dialect consistent with his/her immediate peers Previous parental influence is submerged as the child internalizes the local neighborhood dialect consistent with his/her peer group This transitional stage is also marked by the child learning to read and developing a speech register appropriate to a school setting (iii) Social variation (ages 13-14 years) In this stage, the adolescent comes into contact with a wider range of adults and social classes The importance of vernacular is now more readily apparent to the child and the child begins to distinguish more prestigious forms of speech (iv) Stylistic variation In this phase the speaker relates linguistic forms to contextual cues and the speaker now attempts to modify his/her speech toward a more prestigious standard, especially in formal settings (v) Consistent standard Not all speakers will reach this stage in which the standard language is maintained across situations Mastery of the standard is accompanied by the loss of the ability to switch downwards to the vernacular Labov suggests this stage is attained by middle-class adults (vi) Full range The defining characteristic of this stage is the ability to use a large variety of styles appropriate to a large variety of situations Labov suggested that this stage, like the previous stage, is not acquired by all speakers, but is mainly acquired only by college-educated individuals who have a special interest in speech

According to this model, speakers who attain the consistent standard are predicted to lose the ability to code-switch back into the vernacular Thus, those who become proficient in Standard English should not also be proficient in the use of BEV Proficiency in Standard English coupled with the ability to code-switch into the vernacular, Labov suggested, is rare In the present study, however, the younger participants virtually eliminated the use of BEV in the formal phase of the interview, yet produced significantly more BEV in the informal phase of the interviews Thus they seem to posses the full range of speaking styles although none professed any interest in speech communications, rhetoric, or public speaking Additionally all 18 young adults conformed to this pattern, suggesting that such code-switching is a general phenomena rather than a specialized skill of select individuals The older adults also do not appear to conform to Labov's model since they used a consistent style of speaking but it was a vernacular characterized by the consistent use of BEV rather than Standard English

Second, while many studies of the past have documented age differences among African Americans' use of BEV (Wolfram & Christian, 1976, Wolfram & Fasold, 1974), the present results also suggest that age group differences in the grammatical complexity of Standard English are mirrored by age group differences in the grammatical complexity of BEV With the exception of the use of BEV forms themselves, these age differences are preserved in both formal and informal speech samples elicited from young and older African Americans The age group differences on the length measures arise from educational differences between the two groups of speakers whereas the age group differences in MCU and propositional density reflect both educational differences and differences in working memory span As has been observed in prior studies of adult speakers of Standard English, older adults and adults with limited educations and restricted working memories produce less complex sentences in both formal and informal contexts

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