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Brandy Gatlin, Jeanne Wanzek and Stephanie Al Otaiba

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Brandy Gatlin,
Florida Center for Reading Research and School of Teacher Education, Florida State University

Jeanne Wanzek, and
Florida Center for Reading Research and School of Teacher Education, Florida State University

Stephanie Al Otaiba
Department of Teaching and Learning, Southern Methodist University

Abstract

Understanding differences in oral language abilities is vital, particularly for children from low-income homes and minority children who are at an increased risk for academic failure because of differences or deficits in language use or exposure before they enter school. The purpose of this study was to investigate oral language performance, including receptive and expressive vocabulary, grammar, and sentence imitation, among a diverse group of kindergarten students ($n = 503$). Using hierarchical linear modeling, we examined the contributions of student race, African American or non-African American, student socioeconomic status (SES), and schoolwide SES to oral language performance. In separate analyses, we found significant absolute effects of both race and individual SES. However, when analyzed simultaneously, only race was a significant predictor for all measures. We also found that both identification as African American and schoolwide SES were significant predictors of oral language performance. We discuss implications for practice and future research.

Keywords

oral language; early literacy; cultural and linguistic diversity; African American; minorities; socioeconomic status

The United States is becoming an increasingly diverse society. According to the year 2010 U.S. Census Bureau, over 25% of the population is comprised of individuals of racial/ethnic groups other than White, an increase from 22.9% from the previous 2000 census (2011). This trend is expected to continue, with minorities predicted to make up over 50% of the population by the year 2042, and more than half of all children by 2023. As population trends move toward the minority becoming the majority within the next generation, we must be ready to prepare students from all backgrounds for success. Inarguably important for

Correspondence concerning this article should be sent to Brandy Gatlin, 1107 W. Call St., Department of Psychology Building, C234F, bgatlin@fcrr.org.

success is the acquisition of literacy skills. However, many individuals struggle with learning to read. For example, according to the most recent National Assessment of Educational Progress (NAEP), also known as "The Nation's Report Card" (National Center for Education Statistics [NCES], 2011), at both grade levels 4 and 8, only 34% of the nation's schoolchildren demonstrated proficient reading skills, representing solid academic performance in this area.

Moreover, African American and Hispanic students continue to lag behind their White peers in reading proficiency. While the gaps between the groups have decreased slightly over the last 19 years, there has been no significant change in the difference between the groups in the last few years (NCES, 2011). Additionally, minority students are more likely to live in poverty, which is also highly correlated with low reading performance (Federal Interagency Forum on Child and Family Statistics [FIFCFS], 2013; Meece & Kurtz-Costes, 2001). Attention to literacy achievement for minority students is crucial if we are determined to successfully address population trends and minimize achievement gaps in U.S. schools. The purpose of this study was to contribute to the discussion on achievement gaps in reading performance by examining relations among student racial background and socioeconomic status, and early literacy development. In particular, this study focused on oral language ability, an empirically established predictor of reading comprehension (Catts, Fey, Zhang, & Tomblin, 1999; Scarborough, 1990), among a racially and socioeconomically diverse population of students.

Oral Language and Literacy Achievement

The role of oral language in literacy achievement has been studied extensively over the past few decades. Gough and Tunmer's (1986; Hoover & Gough, 1990) simple view suggested that reading is the product of decoding and linguistic comprehension, with both factors of equal importance in reading comprehension. According to the model, in order to understand text, one must not only be able to accurately identify words in print, but also have the ability to proficiently analyze the semantic and syntactic relationships among those words to reach an understanding of the text's meaning. As the years progressed and as further research demonstrated, the nature of the relationship between oral language and literacy development appeared to be more complex than previously assumed. Whitehurst and Lonigan (1998) proposed that emergent and conventional literacy are derived from one's ability to use information from two interdependent domains of information: *inside-out* sources (e.g., phonemic awareness, letter knowledge) and *outside-in* sources (e.g., vocabulary, conceptual knowledge). In a longitudinal study, Storch and Whitehurst (2002) found that in preschool years the relationship between oral language and code-related skills is strong (i.e., oral language skills affect the development of code-related abilities) but weakens over time. Associations between oral language and reading achievement were not found to be significant in first and second grades in their study, but a significant relationship re-emerged in Grades 3 and 4. Their findings suggested that oral language skills may play a more significant role in emergent literacy and in supporting later reading comprehension.

In separate assessments of factors contributing to reading outcomes, studies conducted by both the National Institute on Child Health and Human Development (NICHD; 2005) and

the National Early Literacy Panel (NELP; 2008) supported implications for an expansion and a reassessment of the role of oral language in early reading development. In fact, more recent studies have encompassed a broader definition of the term, incorporating various components of oral language, including vocabulary, syntax, semantic knowledge, listening comprehension, and narrative discourse, while also investigating their relationships to reading comprehension (see Dethorne, Petrill, Schatschneider, & Cutting, 2010; Dockrell, Lindsay, Connelly, & Mackie, 2007; Kendeou, White, van den Broek, & Lynch, 2009). Basing their study on the simple view of reading, Cutting and Scarborough (2006) investigated the relationship of word recognition, oral language skills (including receptive and expressive vocabulary and sentence processing), and other cognitive skills to various frequently used reading comprehension measures among a sample of first through tenth graders. The study found significant and unique contributions for each of the various components of oral language as predictors of reading achievement across the range of grade levels. The authors contended that future research should measure and analyze several facets of oral language proficiency.

Also framed by the simple view of reading, Catts, Adlof, and Weismer (2006), conducted two studies, concurrently and retrospectively, investigating the impact of oral language on literacy achievement. In the first study, on the basis of eighth grade reading achievement, the researchers identified students as poor comprehenders, poor decoders, and typical readers. They investigated each subgroup's performance on language comprehension, which included receptive vocabulary, grammatical understanding, and discourse comprehension, and phonological processing skills. They found that students who were poor comprehenders had deficits in language comprehension but normal abilities in phonological processing. Students who were poor decoders had normal language skills but were generally weak in phonological processing.

Next, using longitudinal data, Catts et al. (2006) analyzed the kindergarten, second, and fourth grade language comprehension performance of the three groups. Overall, students who were poor comprehenders in eighth grade had early deficits in language, particularly in receptive vocabulary and grammatical understanding. However, because the deficits were not always clinically apparent, many of the students did not receive specific intervention targeted at improving oral language ability. This study supported implications for a classification system for early struggling readers based on the simple view of reading. This system would categorize readers according to their strengths and weaknesses in word recognition and language comprehension, as opposed to classic systems of placing poor readers into the same category based on general reading comprehension. Early identification of students with specific oral language difficulties may be an important component of early identification for intervention. Recent work has indicated positive effects on reading achievement when oral language interventions that go beyond vocabulary development are implemented (O'Connor, Bocian, Beebe-Frankenberger, & Linklater, 2010).

Although more recent studies have examined the relationship between a more broad definition of oral language and literacy outcomes, there is still a limitation of the existing research based on the NELP's meta-analysis (2008) that needs to be addressed. The NELP noted that many theories suggest the likelihood of individual differences that might be

mediated by demographic characteristics. The meta-analysis attempted to evaluate whether variables such as race/ethnicity or socioeconomic status (SES) influenced student achievement. However, they found that the original studies rarely provided sufficient data regarding demographics to allow for unambiguous conclusions. A meta-analysis on the impact of vocabulary instruction on passage comprehension conducted by Elleman, Lindo, Morphy, and Compton (2009) revealed similar findings. Because many of the included studies did not report factors such as race and SES, the investigators could not examine relationships between student achievement and student characteristics. If we are to successfully address academic achievement gaps, further investigations of a broad range of oral language abilities specific to demographic groups are needed. In this study, we begin to address this need by examining the contributions of race and SES to various oral language outcomes.

African Americans and Oral Language

Children from low-income homes usually begin school with oral language skills significantly below that of their more advantaged peers (Snow, Burns, & Griffin, 1998). In one of the most well-known studies on language development, Hart and Risley (1995) estimated that by preschool entry, the cumulative language experiences provided to children from families receiving welfare is over 13 million fewer words than that of children from more advantaged homes. Minority students are more likely to live in poverty, and for African American students in particular, child poverty rates are approximately three times higher than those for non-Hispanic White children (FIFCFS, 2012). Oral language is an essential skill for learning to read successfully, meaning that children from disadvantaged backgrounds are more likely to begin school with a greater risk of poor literacy acquisition.

African Americans also make up the most substantial proportion of the country's growing racial minority population (U.S. Census Bureau, 2011). In 2010, in the United States about 12.6% of the country's population was African American, thereby representing roughly half of minority groups across the U.S. In addition, a large proportion of the students who are failing to meet academic standards are African American (NCES, 2011). According to the Nation's Report Card, on the 2011 NAEP, 51% of African American fourth graders did not reach basic reading levels, indicating that many African American students did not demonstrate *partial* mastery of fundamental knowledge and skills for reading. African American students experience higher rates of high school drop-out and lower college enrollment, and are disproportionately represented in special education programs (Donovan & Cross, 2002; Harry & Klingner, 2006; Simon, 2001; U.S. Department of Education [DOE], 2009).

Because oral language skills play such a significant role in literacy development, the search for factors contributing to what has been referred to as the Black-White achievement gap, or Black-White test score gap (Ferguson, 2007; Jencks & Phillips, 1998) have included investigations into the spoken language used by many African American students, African American English (AAE). AAE is a rule-governed and linguistically rich variety of English that contributes to the cultural identity of African American individuals (Green, 2002). Adults and children from both higher income and low income homes speak AAE (Craig &

Washington, 2006; Horton-Ikard & Miller, 2004), and children's AAE is characterized by various systematic differences from Mainstream American English (MAE) in morpho-syntactic and phonological features (Craig & Washington, 2006).

The unique contribution of AAE to reading and oral language skills remains unclear. In a study conducted by Connor and Craig (2006), findings suggested that students' overall language skills were a better predictor of reading outcomes than the use of AAE. Other researchers have demonstrated that AAE-speaking students who are able to dialect shift to MAE in various literacy contexts outperform "nonshifters" (Craig & Washington, 2006, p. 98) on measures of reading achievement (Charity, Scarborough, & Griffin, 2004; Craig & Washington, 2004; Craig, Zhang, Hensel, and Quinn, 2009). Researchers have also found that students with better language skills are more likely to be able to dialect shift in literacy tasks (Connor & Craig, 2006) and acquire these dialect-shifting abilities early in the school setting (Craig and Washington, 2006; Terry, Connor, Petscher, & Conlin, 2012). While this study does not address AAE or dialect use specifically, the study contributes to the discussion by examining an array of oral language abilities of African American students in comparison to their non-African American peers.

Based on the fact that several African American students are at risk for academic difficulties partially due to their high rates of living in poverty, Craig and colleagues (2009) suggested that any examination of factors contributing to the Black–White achievement gap should also include SES. The researchers also noted that until recently, very little research has investigated the role that oral language factors may play in the achievement gap. Early examination of oral language skills particularly for African American students across a variety of measures while also investigating the contribution of SES may provide important information regarding risk factors and intervention targets in order to address the achievement gap. While several studies have indicated that students who come from low income homes are at risk for academic deficiencies (e.g., Hart & Risley, 1995; Sirin, 2005; White, 1982), researchers have more recently begun to investigate associations between individual factors and academic achievement while also accounting for environmental influences (e.g., Connor, Morrison, Fishman, Schatschneider, & Underwood, 2007; Petrill et al., 2010). Recent research has highlighted the importance of examining the impact of not only individual factors such as race and student SES, but also environmental influences on individual performance, including racial diversity within the school, and neighborhood and schoolwide SES (Caldas & Bankston, 1997; Taylor & Schatschneider, 2010; Terry, Connor, Thomas-Tate, & Love, 2010). In this study, we not only examine factors related to oral language performance at the individual level, but also extend previous research by investigating the contributions of environmental characteristics as well.

The Present Study

The purpose of this study was to examine oral language ability, including receptive and expressive vocabulary, grammar, and sentence imitation, among African American and non-African American kindergarten students. In the present study, we extend the previous research in several ways. First, we focused on a range of measures of oral language that have been previously established as predictors of literacy performance. We measured not only

receptive and expressive vocabulary, but also grammar and sentence imitation among a sample of kindergarten students. These students were assessed in early fall of the school year; thus the data provide a general gauge of each student's oral language ability at kindergarten entry. Second, we investigated the contribution of student identification as African American or non-African American to oral language outcomes. Finally, we examined these relationships with regard to SES at both the individual level and the schoolwide level. Specifically, the following research questions guided the study:

1. What is the relationship between student racial background, specifically African American and non-African American, student SES, and early oral language skills?

2. What is the relationship between student race and SES, school-level race and SES, and early oral language skills?

Method

Participants

To answer our research questions, we analyzed data from a racially and economically diverse sample of kindergarten students from 11 schools in a mid-sized southern city who were participating in a larger NICHD funded study examining school-based prevention and identification of learning disabilities. The schools had been recruited with consultation of the local school district to represent a diverse sample of students, and participants were selected to over-represent students at risk for future reading difficulties. Seven of the 11 schools received Title I funding, which would indicate that the majority of their students received free and reduced price lunch (FARL).

Within the schools, we analyzed data from kindergarten students across 34 different classrooms. The original sample included 568 students. Because we were interested in comparisons among students identified as African American and non-African American, we excluded 54 students from the original sample whose parents had identified their race as either "Other" or "Multi-racial," because we could not be sure about their racial background. We also did not include students who had been identified as Limited English Proficient (LEP; $n = 11$). Thus, the final sample consisted of 503 students. Demographic data for the final sample is provided in Table 1. The majority of the students were African American ($n = 327$, 65%). Approximately 12% of the sample was eligible for special education services by the end of the school year. About half of the students (51.5%) were eligible for FARL. FARL status data were not available for 121 of the students, including 35 students within one school. The percentage of students in the sample qualifying for FARL at each of the schools ranged from 0–100% ($M = 64.87$, $SD = 31.67$), indicating a wide variety of SES among the schools.

Procedures and Measures

At the beginning of the school year, each student was given assessments in various early oral language skills. All measures were administered and scored in standardized format by research staff. Each staff member was trained on administering and scoring the individual

assessments and, before testing in schools, was required to pass a fidelity check to ensure accurate administration and scoring procedures for each of the tests. Children were assessed individually in a quiet area of their school on the following measures:

Woodcock-Johnson Test of Achievement – 3rd Edition, Picture Vocabulary (WJIII-PV)—The Picture Vocabulary subtest of the Woodcock-Johnson III (Woodcock, McGrew, & Mather, 2001) is a norm-referenced, standardized assessment of expressive vocabulary with established median reliability of .77 in the age five to 19 range (Mather & Woodcock, 2001). The WJIII-PV is widely used and assesses oral language development and lexical knowledge by having students orally name various pictures of objects. For this subtest, a standard score of 100 is average and scores falling within one standard deviation (SD; ±15 points) are considered within the average range.

Kaufman Brief Intelligence Test – Second Edition, Verbal Knowledge (KBIT-VK)—The Verbal Knowledge portion of the KBIT contains two kinds of items – Verbal Knowledge and Riddles – both of which assess students' knowledge of words and their meanings (Kaufman & Kaufman, 2004). Although this test is designed to assess intellectual abilities, for the purpose of the study, the verbal knowledge subtest provided a general measure of students' overall receptive and expressive vocabulary. For the Verbal Knowledge portion of the subtest, students are required to listen to a word or phrase and point to the picture that goes with the dictated word or phrase. For the Riddles subtest, students respond to the examiner's verbal prompt, given in riddle format, either by pointing to a picture that answers the examiner's riddle or by verbally responding with a one word answer. The reported internal reliability coefficient for the Verbal Scale is .91. For the KBIT Verbal Knowledge subtest, a standard score of 100 is average and scores falling within one SD (±15 points) are considered within the average range.

Test of Language Development – Primary, Third Edition (TOLD-P:3)—Two subtests of the TOLD-P:3 (Newcomer & Hammill, 1997) were administered, the Grammatic Completion subtest (TOLD-GC) and the Sentence Imitation subtest (TOLD-SI). This assessment, which was developed for use with children between 4 years and 8 years and 11 months, is a commonly used assessment among speech-language pathologists to diagnose language disorders. However, for the purpose of this study, the two subtests were used to determine each student's skills in the two areas and to provide measures of syntactic ability and morpho-syntactic awareness. For the Grammatic Completion subtest, each child is verbally prompted to supply the missing last word in the sentence that the examiner says. For this subtest, which has a reliability of .90, the student may also listen to a sentence that is read aloud and be asked to determine whether the sentence is grammatically correct. As the subtest title suggests, the Sentence Imitation task requires the student to repeat verbatim the increasingly complex sentences that the examiner says. Reliability for this subtest is .91. For each subtest, Grammatic Completion and Sentence Imitation, a standard score of 10 is average and standard scores falling between 7 and 13 are considered within the average range.

Analysis—Student level race and SES were used as dichotomous predictors, and we used FARL status as a proxy for SES. Students who were African American were coded as 1, and students who were not African American were coded as 0. Similarly, students who were in the FARL program were coded as 1, and students who were not in the program were coded as 0. We calculated the percentage of students in the sample at each school who were African American and used this number as the variable to represent school racial background. School SES was calculated as the percentage of individual students in the sample that were in the FARL program. The percentage of sample students in the school who were African American was highly correlated with the percentage of sample students in the school who were in the FARL program ($r = .925$, $p < .001$); thus to avoid multicollinearity problems we used only School SES in the models.

To examine the contributions of student race and SES and school-level SES on kindergarten students' oral language abilities, we fit two-level hierarchical linear models (HLM; Bryk & Raudenbush, 2002) using HLM 7.0 (Raudenbush, Bryk, Cheong, Congdon, & du Toit, 2011) with students nested within schools. Although students were assessed at the beginning of their kindergarten year, and thus had not attended these schools for more than a few weeks, the nesting within schools served as a marker of neighborhood/community. Separate HLM models were conducted for each oral language measure with each model run in three stages. First, HLM models were built with an unconditional model, with no predictors at the student or school levels, providing a measure of the variances within and between schools for each of the oral language measures. Second, the student level predictors of race and SES were added to the model, first separately, to examine the absolute effect on oral language measures independent of other variables, then in combination, to examine the relative effect on oral language in the presence of other variables. The interaction of race and SES was also examined. Third, the grand-mean centered school level variable of SES was added to the model and the cross-level interaction of student race and School SES was examined. All models were run using full maximum likelihood estimation.

Results

Raw scores for each subtest were converted into standard scores based on each student's chronological age at the time of testing. Table 2 displays the means and standard deviations of the standard scores for each of the oral language measures. Overall, the sample's standard scores were within the average range on the WJIII-PV. On three of the oral language measures, the KBIT-VK, TOLD-GC, and the TOLD-SI, standard scores generally fell within the low average range. Bivariate correlations among the oral language measures are also shown in Table 2. Correlations among the oral language measures were moderate and significant (rs = .46 to .60, ps < .001). The two subtests of the TOLD-P:3 had the strongest correlation of the oral language measures included in this study ($r = .60$).

For the unconditional model, the proportion of variance between schools was significant for all measures (ps <.001). Chi-square model comparisons between nested and non-nested models were used to assess model fit. For all oral language measures, the nested model provided a better fit to the data, and intraclass correlations (ICCs), indicating the amount of variance attributable to schools, ranged from .099 to .213.

Oral Language by Student Race and SES

For each oral language measure, we first measured the absolute effects of identification as African American and student SES. In our analysis, we found that identification as African American was a significant predictor of decreases in scores on all of the measures ($ps < .01$). Student SES, as measured by eligibility for FARL, was also a significant predictor of decreases in scores for all of the oral language measures ($ps < .05$). Next we investigated the relative contribution of each factor and an interaction term in order to determine whether the relationship between student identification as African American and oral language performance might be moderated by student SES. Because race and SES are often highly correlated, we were concerned with multicollinearity and that the impact of examining AA and SES simultaneously as predictors might inflate the standard errors. However, a Phi coefficient correlation revealed that student identification as African American and student SES were significantly, but only moderately correlated ($r = .596$, $p < .001$).

The results of the analysis of student level factors are shown in Table 3 (Model 1). In the first column for each of the oral language measures, the intercept coefficients represent the expected score for a non-African American student who is not eligible for FARL. Overall, we found that controlling for SES, identification as African American predicted a significant decrease in scores on each of the measures ($ps < .05$). Once individual race was accounted for, low SES was a significant predictor of decreased scores for only one of the oral language measures, the WJIII-PV ($p = .012$), but not for the others. The interaction of race and SES was not significant for any of the oral language outcomes ($ps > .05$).

We compared our findings to the unconditional model in order to assess the amount of variance in oral language measures accounted for by our predictors. With the individual predictors of race and SES in our model, the amount of variance at the school level remained significant for each of the measures. At the individual level, the amount of variance accounted for was relatively similar to those of the unconditional models. By adding these factors to our models, we were able to account for 6% of the total variance at the individual level for the WJIII-PV, 3% for the KBIT-VK, 8% for the TOLD-GC, and 0% of the variance at the individual level for the TOLD-SI.

Oral Language by Student Race and SES and School SES

In order to address the second research question regarding the impact of school SES on individual oral language performance, we added school SES to the previous conditional model while removing the student AA x SES interaction term, which was not significant in the previous model. We then added a child race by school-level SES (AA x School SES) interaction term. The second column for each measure, labeled Model 2, in Table 3 displays the results of the analyses for the four oral language outcome measures. The intercepts represent the expected score for a non-African American student not receiving FARL at a school with an average SES level. While controlling for other variables, student identification as African American remained significant for all of the measures ($ps < .01$). Individual SES was not significant on any of the oral language measures ($ps > .05$). However, school-level SES, as determined by the percentage of students within a school receiving FARL was a significant predictor for all of the measures ($ps < .05$). The interaction

term AA x School SES was not significant in any of the models (ps > .05), suggesting that aggregate school SES does not moderate the AA-oral language achievement slope.

By adding school-level SES to our model, we were able to account for over 99% of the school-level variance in our data for three out of four of the measures (the WJIII-PV, KBIT-VK, and TOLD-GC), resulting in nonsignificant variance at the school level for all measures except for the TOLD-SI. Model 2 accounted for 16% of the total variance in the WJIII-PV, 25% of the total variance in in the KBIT-VK, 23% of the total variance in the TOLD-GC, and 15% of the total variance in the TOLD-SI.

Discussion

Research over the past few decades has shown the vital role that oral language plays in the development of literacy skills. Our study was framed by the simple view of reading as we focused on the language component of the simple view and examined oral language abilities of kindergarten students at the beginning of the school year. In this study, we were able to examine the associations of African American race and SES, as determined by student's eligibility for FARL, with students' oral language abilities on multiple measures including expressive and receptive vocabulary, grammar, and sentence imitation.

In our models we found that, separately, both identification as African American and SES were significant predictors of oral language outcomes. However, in analyzing the relative contribution of each factor within the context of the other, we found that identification as African American remained a significant factor for all of the measures and that student SES was significant for only one measure, the WJIII-PV. Because student SES was not a significant predictor of oral language performance on three of the four measures, our findings suggest that many African American students, regardless of SES, demonstrated performance that was significantly lower than that of their non-African American peers, from both low income homes and higher income homes, on the measures of oral language included in this study. In addition, because the interaction between race and child-level SES was not significant, this finding suggests that at kindergarten entry, many African American students may fall behind their non-African American peers in these aspects of oral language and that these differences may not be attributable to individual income. The findings from the study were generally consistent with previous research regarding literacy skills of students from minority backgrounds (e.g., Craig, et al, 2009; Meece & Kurtz-Costes, 2001). However, our findings suggest further examination into key factors leading to lower achievement scores that go beyond student SES.

School level SES was a significant predictor of student oral language scores accounting for virtually all of the school-level variance in three out of four of the measures. As the percentage of students eligible for FARL increased, the predicted scores for students on all of the oral language measures analyzed decreased. This finding suggests that schoolwide SES is a better predictor of individual performance than a student's family income level, a relationship that exists regardless of student race. Because the students in our study had not received much exposure to formal schooling, this finding would suggest that a student's neighborhood or community may be a significant predictor of early oral language skills. The

lack of significance of the SES interaction terms at both the child level and school level indicates that the association between race and oral language scores cannot be attributed solely to income.

In our study many students, both African American and non-African American, generally scored in the low average to below average range on three of the measures of oral language, the KBIT-VK, a measure of receptive and expressive vocabulary, and the TOLD-GC and TOLD-SI, measures of syntactic ability. For the beginning reader, vocabulary is one important language skill in literacy acquisition. Once a student sounds out the letters in a word, he or she must link the "phonological representation to a meaningful word" (Whitehurst & Lonigan, 1998, p. 849), thus relying on lexical knowledge to interpret the word. For many students, such as the participants of this study, early deficits in receptive vocabulary may transfer into difficulty with word recognition skills. In addition, if the differences observed between the African American students and non-African American students in our study are truly deficits in syntactic skills, then students who scored low on these measures may be at risk of academic difficulties. Research has demonstrated that students with deficits on measures of syntax are at risk of poor literacy acquisition (Scarborough, 1990). When coupled with below average vocabulary skills, deficits in syntactic ability could put students at further risk of poor reading development and performance. Further, our findings suggest that these deficits may be exacerbated by factors such as a child's environment.

Implications and Future Research

Findings from this study offer implications for both practice and future research. In regard to practice, the findings suggest direct implications for measurement and intervention. The students in this study were assessed on multiple measures of oral language revealing differences that could potentially impact later reading performance. The results of this study suggest that assessing students on a variety of oral language measures, not just vocabulary, may be an important component of early evaluation of student needs. Knowing the patterns of strengths or weaknesses in a wide range of oral language abilities could assist reading interventionists in individualizing instruction.

Further, according to the simple view of reading, providing language-focused instruction and interventions may be just as important as providing code-focused interventions. Identifying students who score significantly below expected levels on one or more of these types of oral language measures and providing additional support or intervention would be especially ideal in the primary grades, given the substantial amount of research that has demonstrated the effects of early intervention (Snow, Burns, & Griffin, 1998; Torgesen, 1998) and specifically targeted interventions for students at risk for later reading difficulties (e.g., Gersten et al., 2008; Vellutino, Scanlon, Zhang, & Schatschneider, 2008). Moreover, previous research has demonstrated the positive effects of the prevention approach as early as kindergarten for reducing the number of students who experience reading difficulties (e.g., Al Otaiba et al., 2008; Cavanaugh, Kim, Wanzek, & Vaughn, 2004). Thus, in line with the simple view of reading, early intervention for students with oral language deficits may be one area to target for closing the achievement gap. However, in observational studies of early

reading instruction, particularly for students at risk of later reading difficulties, researchers have found that in classroom instruction, not only was more time devoted to code-focused instruction as opposed to meaning-focused instruction including language skills (Kent, Wanzek, & Al Otaiba, 2012), but also teachers were more effective in teaching code-focused than meaning-focused reading skills (Al Otaiba et al., 2011).

O'Connor, Bocian, Beebe-Frankenberger, and Linklater (2010) found positive and significant results when an oral language intervention focusing not only on vocabulary development, but also on word analysis, written and spoken language conventions, listening and speaking strategies, and speaking applications was introduced early in the kindergarten year. For students with deficits present at school entry, such as the participants of this study, providing targeted individualized instruction and interventions focusing on these components as early as possible in the kindergarten year may prove beneficial to later literacy performance and help reduce the differences noted in this study. Measuring performance and providing intervention as early as possible is an important component to improving later literacy performance. However, African American children are less likely to be represented in early intervention and early childhood special education programs (Delgado & Scott, 2006; Morgan, Farkas, Hillemeier, & Maczuga, 2012).

Our results also indicate that, regarding oral language, there may be more similarities than differences within racial groups and that race, or perhaps other factors associated with race and/or ethnicity, may be more highly related to oral language achievement than SES alone. While race itself is certainly not the sole contributing factor to or predictor of oral language abilities, the findings of this study would suggest that the relationship is important and warrants further examination into key factors that go beyond SES. Because African American students were generally lower in oral language skills in comparison to their non-African American classmates, our results also suggest further investigation into the role that AAE plays in the development of early oral language and literacy skills. Recent studies have investigated AAE and other forms of Nonmainstream American English (NMAE; e.g., Connor & Craig, 2006; Oetting & Newkirk, 2011; Terry, 2006), and its relation to early literacy achievement (e.g., Ortiz et al., 2012; Terry et al., 2012; Terry et al., 2010), noting the complexity of the relationship between dialect use and literacy development. The ability to dialect shift from NMAE to MAE in various literacy contexts may be a unique predictor of literacy skills or it may be an oral language skill itself, more specifically, a metalinguistic skill (Connor & Craig, 2006; Terry, 2012), that contributes to the development of reading skills (Craig et al., 2009). More research in the area is necessary in order to better understand the dynamics of AAE and its seemingly complex relationship with oral language and literacy.

Finally, in our study, while student SES was not significant in most of our models, schoolwide SES was a significant predictor on all of the oral language measures, even after controlling for both race and individual SES. This finding indicates that for studies in which individual differences are investigated, simultaneously analyzing environmental characteristics and their potential influences on individual performance may be a necessary component of the study.

Limitations

This research study was not without limitations. First, the findings of this correlational study represent associations and do not suggest that race or SES *cause* differences in oral language performance. However, in examining multiple constructs of oral language using student racial background (African American and non-African American) and SES, the study provides information on the language skills of students in relation to demographics, adding to the previous literature that focused largely on vocabulary and did not separately analyze race and SES factors. Therefore, the study provides additional information for future research, including intervention research.

By adding school level SES to our models, we were able to reduce the amount of school level variance to non-significant on almost all our measures. However, even after accounting for race and SES, significant factors in previous research that contribute to literacy performance (e.g., Hart & Risley, 1995; Snow, Burns, & Griffin, 1998), the amount of unexplained variance at the child level was still relatively large. Perhaps adding other components of SES (e.g., parent education level, parent occupation) may contribute to decreasing the level of variance unexplained at the individual level. The need for further research in order to determine other factors leading to differences among schoolchildren in early oral language skills is necessary. In addition, the findings of this study may be limited to the geographical region in which the study took place. Different findings may be established in the northern or western portion of the country. Further research to determine regional effects is also warranted.

Conclusion

African Americans, who make up half of the growing minority population, continue to fall behind their peers in reading proficiency. Early oral language is one area of risk for this population, and the findings in this study suggest these gaps may exist regardless of individual SES. Further research, including intervention research, is needed to address these complex issues and to provide instructional implications in order to increase academic proficiency in this population of students. Particularly for young African American students, such as the participants of this study, cultural and linguistic differences may further complicate the transition from the home into the classroom culture (RAND Reading Study Group, 2002). These factors, along with low educational expectations and assessment practices – including standardized testing bias – have all been identified as variables that may have a significant impact on educational outcomes for African American children (Ferguson, 2007; Ogbu & Simons, 1998; Washington, 2001). With all of these factors taken into consideration, further research needs to be conducted in order to determine instructional factors and ultimately methods in order to more effectively reach not only African American students, but all minority students and students from low-income homes and neighborhoods, in order to address the achievement gap.

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Table 1

Demographic Information

Age (*M, SD*)	5.15	.29
Gender	*n*	%
Male	271	53.9
Female	232	46.1
Race		
American Indian/Alaska Native	2	.4
Asian	5	1.0
Native Hawaiian or Pacific Islander	1	.2
Black or African American	327	65
White	168	33.4
Ethnicity		
Hispanic	16	3.2
Non-Hispanic	487	96.8
FARL		
Eligible	259	51.5
Not Eligible	123	24.5
Missing	121	24.1
ESE	61	12.2

Note. FARL = free or reduced price lunch; ESE = eligible for Exceptional Student Education.

Table 2

Means, Standard Deviations, and Correlations of Oral Language Measures

Measures	M (*SD*)	Correlations			
		1	2	3	4
1. WJIII-PV	99.89 (10.10)	-			
2. KBIT-VK	90.58 (14.48)	.55	-		
3. TOLD-GC	7.32 (2.93)	.47	.55	-	
4. TOLD-SI	7.85 (3.15)	.46	.54	.60	-

Note. WJIII-PV = Woodcock Johnson Picture Vocabulary; KBIT-VK = Kaufman Brief Intelligence Test – Verbal Knowledge Scale; Values reported in standard scores with a mean of 100 and an SD of 15; TOLD-G = Test of Language Development – Grammatic Completion; TOLD – SI = Test of Language Development – Sentence Imitation; Values reported in standard scores with a mean of 10 and an SD of 3.

All correlations significant at *p* < .001.

Table 3

Hierarchical Linear Modeling for Student Race and SES and School-Level SES and Oral Language

Model	WJIII-PV		KBIT-VK		TOLD-GC		TOLD-SI	
	1	2	1	2	1	2	1	2
Fixed Effects								
Intercept	105.83*** (1.09)	103.40*** (1.22)	99.05*** (1.81)	97.79*** (1.66)	9.15*** (0.34)	8.57*** (0.34)	9.07*** (1.81)	8.68*** (0.44)
Child Variables								
AA	−5.89** (1.97)	−3.62** (1.29)	−5.71* (2.75)	−6.96*** (1.76)	−2.27*** (0.55)	−1.78*** (0.36)	−1.48* (0.61)	−1.17** (0.40)
SES	−4.43* (1.76)	−2.48 (1.36)	−3.23 (2.48)	−3.63 (1.85)	−0.70 (0.50)	−0.24 (0.38)	−0.41 (0.55)	−0.11 (0.41)
AA x SES	1.72 (2.52)		−3.63 (3.49)		0.36 (0.70)		0.30 (0.77)	
School Variables								
School SES		−0.09* (0.03)		−0.13* (0.04)		−0.03* (0.01)		−0.03* (0.01)
Child x School								
AA x School SES		0.06 (0.04)		−0.06 (0.06)		0.004 (0.01)		0.01 (0.01)
Random Effects								
Level 1	87.47	86.79	164.42	161.06	6.69	6.66	7.93	7.94
Level 2	1.47*	0.02	11.25***	0.01	0.32**	0.02	1.33***	0.43***
Model Fit								
Deviance	2796.96	2789.17	3035.90	3015.58	1820.18	1809.53	1894.65	1886.53
Parameters	6	7	6	7	6	7	6	7

Note. Model 1: Child-Level Variables; Model 2: Child-Level + School-Level Variables. WJIII-PV = Woodcock-Johnson III Picture Vocabulary; KBIT-VK = KBIT-2 Verbal Knowledge; TOLD-GC = Test of Language Development – Grammatic Completion; TOLD-SI = TOLD – Sentence Imitation; AA = African American; SES = Socioeconomic status, indicated by eligibility for Free and Reduced Price Lunch. Values in parentheses are corresponding standard errors.

*
 $p < .05$,

**
 $p < .01$,

***
 $p < .001$.