This study investigated the relationship between the syntactical language development of first-grade children and their socio-ethnic status. From a random selection of 160 first-grade children, 19 Caucasians with highly developed language abilities were selected from a high socioeconomic stratum to be compared with 19 Negroes with low language abilities from a low socioeconomic stratum. When test scores were compared on syntactical items familiar to both groups, the "high" group turned in nearly error-free work and contrasted sharply with the "low" group in the number of errors. The low group deviated from the high group most strikingly in errors in subject-verb agreement, especially in the third person singular. However, on three test items unfamiliar to both groups, no significant differences existed in the number of errors made. These findings indicated the need for the culturally disadvantaged to practice the use of standard English as a second dialect to develop their control over grammatical contrasts. (JB)
May, 1968

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Socio-ethnic Status and the Language Achievement of First-Grade Children

Kindergarten and first-grade teachers have long been keenly aware of the range in quantity and quality of the oral language children bring to school, for it is on this foundation that the language skills program must be built. Within recent years, linguists and psychologists have stressed anew the importance of preschool language development, for a child must have attained minimal competency in spoken language before one can expect him to read and write with any measure of success. Factors favorable to a rich early language background have been found to occur more frequently in families of middle and upper socioeconomic status. Thus the assessment of preschool language competence has important implications for teaching practice, as such knowledge will help guide the teacher in planning appropriate and enriching classroom language experiences.

Objectives. The objective of this study was to investigate the relationship between the degree of syntactical language development and the socio-ethnic status of beginning first-grade children. It was hypothesized that the syntactical errors would be a function of socio-ethnic status. It was also hypothesized that certain types of errors would prove to be a problem only for the low socio-ethnic group.

Related Research. The recent longitudinal research of Loban (6) has shown that children who could read and write well by the end of the third grade were those who had ranked high in oral language in kindergarten and in the first three years of school. Loban concluded that "competence in the spoken language appears to be a necessary base for competence in reading and writing" (p. 88). Strickland (12) observed that "the quality of a child's speech appears closely related to the quality of his oral and silent reading," and that "the more clearly the reader understands the patterning of his language, the better will be his oral reading interpretation and his silent reading comprehension" (p. 14).

A positive relationship between children's language and socioeconomic status has been reported by Brossard and Boll (1), Davis (2), Loban (6) (7), McCarthy (8), Milner (3), Sexton (10), and Templin (13). Children from middle and upper status families were found to use longer and more complex sentences at an earlier age than children from lower status families (7) (13). The upper status children also asked more questions, and attained essen-
tially adult articulation about one year earlier than lower status children (2) (13). Factors in the home found to be important to language growth included opportunities for conversation with adults, the number of books in the home, the family's attitude toward reading, and whether the child had been read to regularly (1) (8) (9) (10). The child from a low socioeconomic status home has seldom had the advantage of these kinds of experiences, and in addition may never have been consistently exposed to an adult model who used standard English. The problem becomes even more complex for a child of a different ethnic background, yet such a child has too often been expected to function with standard English when he arrived at school (10).

Methodology. The subjects in this study were selected from twenty-four first-grade classrooms representing a wide range of socioeconomic levels in the Oakland Unified School District, Oakland, California. One hundred and sixty children were drawn at random from the twenty-four classrooms and categorized into socioeconomic levels on the basis of the University of Minnesota Scale for Paternal Occupations (14). From this random sample, nineteen Caucasian subjects were selected at random from levels I and II of the Minnesota Scale and comprised the high socioeconomic Caucasian group. Nineteen Negro subjects were chosen at random from levels VI and VII of the Minnesota Scale and comprised the low socioeconomic Negro group. These samples were considered representative of high socioeconomic, high language ability children and low socioeconomic, low language ability children. Although the investigators had hoped it would be possible to identify other socio-ethnic groups, specifically a low Caucasian and a high Negro group, the limited range of the available population made it impossible to carry out this phase of the study. In the discussion which follows, High Group will refer to the high socioeconomic Caucasian group, and Low Group will refer to the low socioeconomic Negro group.

During the first month of the school year, the Test of Syntax was administered individually to the entire randomly selected group. This test, originally developed by Fraser, Bellugi, and Brown (4) was slightly lengthened for use in this study. The test provides a measure of the child's ability to imitate, comprehend, and produce these grammatical contrasts: mass noun, count noun (some paper / a paper); singular and plural nouns marked by inflections (the boy draws / the boys draw); singular and plural nouns not marked by inflections (the deer runs / the deer run); singular and plural nouns marked by is and are (the deer is sitting / the deer are sitting); present progressive and past tense (the paint is spilling / the paint spilled); present progressive and future tense (the baby is climbing / the baby will climb); affirmative and negative (the girl is cooking / the girl is not cooking); subject and object in the active voice (the duck pulls the boat / the boat pulls the duck); subject and object in the passive voice (the monkey is kissed by the daddy / the daddy is kissed by the monkey); indirect and direct object (the girl shows the rabbit the bear / the girl shows the bear the rabbit); singular and plural of the third person possessive pronoun (his wagon / their wagon); simple present and future tense (holds the hammer / will hold the hammer).

Each subject was shown a pair of pictures illustrating the contrasts noted above, and then presented with two sentences spoken by the examiner, identical except for one grammatical contrast. The subject was asked to produce and match the appropriate response for each picture. Two test items were used for each of the con-
Socio-ethnic Status and the Language Achievement of First-Grade Children

The item responses were scored by utilizing the "production" scoring procedure described by the test authors. The reliability coefficient for this test when corrected by the Spearman-Brown Prophecy Formula was found to be .93.

Findings. The syntax test errors showing the greatest variation for the two groups being studied were those concerned with the agreement of subject and verb in the third person singular, excluding all forms of the verb to be. The items and errors for both groups are presented in Table 1; only those errors involving the omission of the third person singular inflected -s are reported for each item.

It is evident that the verb form is presented in several different kinds of contexts: singular subject, plural subject (item 2); substitution of subject and object (items 8 and 12); substitution of subject (item 13); singular subject, plural subject with direct object (item 14); present tense, future tense (item 15); and substitution of object (item 16). Item 15 was presented in

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Example of Item</th>
<th>Chi Square</th>
<th>High Caucasian (N = 19)</th>
<th>Low Negro (N = 19)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>the boy draws/</td>
<td>10.83*</td>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>the boys draw</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>the duck pulls the boat/</td>
<td>13.30*</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>the boat pulls the duck</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>the cat chases the dog/</td>
<td>14.50*</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>the dog chases the cat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>the boys pull the boat/</td>
<td>26.17*</td>
<td>0</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>the boy pulls the boat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>will sweep the floor/</td>
<td>26.17*</td>
<td>0</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>sweeps the floor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>the boy throws the ball/</td>
<td>18.21*</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>the boys throw the ball</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the .05 level
1Excluding all forms of the verb to be

Table 2

Omission of Auxiliary Verbs

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Example of Item</th>
<th>Chi Square Value</th>
<th>High Caucasian (N = 19)</th>
<th>Low Negro (N = 19)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>The sheep is eating/</td>
<td>1.56</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>the sheep are eating</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>the paint is spilling/</td>
<td>5.96*</td>
<td>7</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>the paint spilled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>The baby is climbing/</td>
<td>.52</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>the baby will climb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>The girl is cooking/</td>
<td>6.27*</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>the girl is not cooking</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the .05 level
phrase form rather than as a complete sentence, and it is possible that this format may have affected scores on this item for both groups. The High Group made errors on only two of the items, but whatever the context, the error rate of the Low Group was substantially greater, ranging from 14-24, with a total of thirteen times as many errors as the High Group. These data reveal a significant difference between the socio-ethnic groups in control over verb forms in the third person singular.

Another deviation presenting a contrast in error rate for the two groups was the omission of auxiliary verbs. Items 4 through 7 on the Test of Syntax included examples in the present progressive tense. Errors in omission of auxiliary verbs are presented in Table 2.

It is to be noted that the Low Group made 2.6 times as many errors in omitting the auxiliary verb as the High Group. On items 5 and 7 there was a significant difference in error rate, while on items 4 and 6 there was not. The contrast in tense on items 5 and 6 may have increased the error rate for both groups on these particular items.

Other interesting deviations in the use of verb forms were noted in this analysis. Item 12 of the test presented the following pair of contrasts: the cat chases the dog / the dog chases the cat; the boy feeds the girl / the girl feeds the boy. Item 13 included: the dog bites / the cat bites; the boy pushes / the girl pushes. In both of these items, one of the verbs has a regular past tense, e.g., push, pushed; chase, chased, while the other verb of the pair has an irregular past tense, e.g., bite, bit; feed, fed. On items 12 and 13, the Low Group in ten cases substituted the regular past tense for the present tense as given in the item, e.g., the boy pushed for the boy pushes. By using the past tense, the Low Group could avoid the problem of dealing with the inflected -s of the third person singular verb form in the present tense. When the verb in the item had an irregular past tense, as in feed, fed, or bite, bit, the Low Group did not substitute the past tense for the present, and the main source of error was the omission of the inflected -s as noted in Table 1.

In item 3, non-inflected nouns identical in the singular and plural forms were contrasted in the simple present, e.g., the deer runs / the deer run; the sheep jumps / the sheep jump. This was a confusing item for both groups, and errors included a lack of agreement between subject and verb in both the singular and plural forms; addition of -s to form the plural of the noun, and substitution of the participial form of the verb, both with and without an auxiliary, e.g., the deer running. The High Group made a total of 46 errors on this item, while the Low Group made a total of 49 errors. This noun form is relatively infrequent in English and usually refers to the names of animals (trout, moose, etc.). Pre-school experience with such nouns was probably limited for both groups, and this offers a possible explanation for the high error rate of all subjects.

In contrast, when these same nouns were used with auxiliary verbs to mark the singular and plural as in item 4, e.g., the sheep is eating / the sheep are eating, the High Group was able to use this clue to reduce its total errors to 23, in contrast to 46 errors on item 3. However, the Low Group made a total of 51 errors on item 4, two more than on item 3. The introduction of the auxiliary verb, i.e., is, are, apparently helped the High Group to match the singular sentence form with the picture.
The only example of the use of pronouns in the Test of Syntax was in item 11, which included singular and plural third person possessive pronouns, e.g., his wagon / their wagon. The High Group made a total of 18 errors by confusing the singular and plural pronouns, while the Low Group made 47 errors, including the use of several nonstandard forms, e.g., the boy wagon, they wagon, they dog, them girl dog, and them dog. The High Group used no nonstandard forms.

The use of the subject - predicate - indirect object - direct object pattern is infrequent in general usage, and was ranked 25th in frequency of patterns used by first graders according to Strickland’s study (11, p. 29). This pattern was presented in item 10, e.g., the girl shows the rabbit the bear / the girl shows the bear the rabbit. Both groups tended to clarify the meaning by using the preposition to, often with the wrong noun. They also tended to eliminate the indirect object entirely, e.g., the girl shows the bear. Both groups made 66 errors on this item, which represented the highest error rate on the test. It is of interest to note that on an item in which the High Group had little practice, they did no better than the Low Group.

The passive pattern is one which Loban found to be used infrequently by his subjects from kindergarten through grade six (6, p. 46) and was therefore considered to be another example of a pattern which would be unfamiliar to both groups in this study. This form was presented in item 9, e.g., the train is bumped by the car / the car is bumped by the train. A major source of error for both groups was confusion as to the agent; the High Group made this error 12 times and the Low Group 22 times. Another source of error resulted from changing the passive voice to the more usual active voice, e.g., the car is bumping the train. The High Group made this error 8 times and the Low Group 23 times. Miscellaneous errors brought the total error score for the High Group to 30, while the Low Group made 56 errors, almost twice as many as the High Group. These results suggest that the syntactic complexity of the passive pattern presented many opportunities for errors, and was a more confusing construction for the Low Group than for the High Group.

The first item of the test, the mass noun - count noun contrast, e.g., some string / a string, was a specialized structure including few syntactic clues because of the absence of a sentence context. Both groups had difficulty matching the picture to the correct phrase, with 41 errors for the High Group and 50 errors for the Low Group.

Using the above analysis of the test items, it is possible to group the individual items into the two following categories:

1) Items unfamiliar and little used by children at kindergarten - first-grade level according to past research analysis (6) (11). Examples of these items include: item 9, passive voice; item 10, indirect object; those items including word forms which occur with limited frequency in the English language, such as item 3, nouns identical in the singular and plural; those items with limited syntactic clues, such as item 1, mass noun - count noun.

2) Items based on language patterns familiar to both groups. Research has demonstrated that children by the age of five or six have mastered the basic structural elements of the English language (3). An important finding of Loban’s study was the similarity in the use of structural patterns (except for the
linking verb and partial sentence) used by all subjects regardless of their language proficiency (6). However, within these familiar patterns, the Low Group had specific problems as analyzed in the previous discussion and in Tables 1 and 2. Except for test items 1, 3, 9 and 10, the items are examples of patterns frequently used by six year olds (6) (11).

Error scores for both groups on the test items classified as unfamiliar are presented in Table 3. These data indicate that the error scores for both groups are more similar for items on which both groups had little practice in previous language experience. On only one item, the passive pattern, was a significant difference found. The complexities of this item have been previously discussed. It is revealing to contrast the mean error rate of the two groups on the unfamiliar test items with the mean error rate on familiar test items, and on all the test items. These data are presented in Table 4.

### Table 3
**Total Error Scores\(^*\) on Unfamiliar Items**

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Type and Example of Item</th>
<th>Chi Square Value</th>
<th>High Caucasian (N = 19)</th>
<th>Low Negro (N = 19)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>noun-count noun</td>
<td>1.75</td>
<td>41</td>
<td>50</td>
</tr>
<tr>
<td>3</td>
<td>noun identical in the singular and the plural</td>
<td>.11</td>
<td>46</td>
<td>49</td>
</tr>
<tr>
<td>9</td>
<td>passive pattern</td>
<td>10.73*</td>
<td>30</td>
<td>56</td>
</tr>
<tr>
<td>10</td>
<td>indirect object</td>
<td>.00</td>
<td>66</td>
<td>66</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td></td>
<td>183</td>
<td>221</td>
</tr>
</tbody>
</table>

\(^*\)Significant at the .05 level
\(^1\)Including the total number of errors on each item for all reasons (in Tables 1 and 2, only very specific kinds of errors were tabulated).

### Table 4
**Mean Error Scores\(^1\) on Familiar, Unfamiliar and Total Test Items**

<table>
<thead>
<tr>
<th>Items Included</th>
<th>Mean Errors</th>
<th>Chi Square Value</th>
<th>High Caucasian (N = 19)</th>
<th>Low Negro (N = 19)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unfamiliar Items</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Items Unfamiliar to Both Groups (1, 3, 9, 10)</td>
<td>*10.09</td>
<td>9.63</td>
<td>11.63</td>
<td></td>
</tr>
<tr>
<td>Items Unfamiliar to Both Groups (1, 3, 10)</td>
<td>1.257</td>
<td>8.05</td>
<td>8.684</td>
<td></td>
</tr>
<tr>
<td>Familiar Items</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Other Test Items (excluding 1, 3, 9, 10)</td>
<td>*13.936</td>
<td>12.42</td>
<td>26.20</td>
<td></td>
</tr>
<tr>
<td>All Test Items</td>
<td></td>
<td></td>
<td>*14.462</td>
<td>22.05</td>
</tr>
</tbody>
</table>

\(^*\)Significant at the .05 level
\(^1\)Including the total number of errors on each item for all reasons
An examination of these data shows a significant difference in the mean error rate between the High and the Low Groups on all test items combined, and on those items familiar to both groups. Although a significant difference was found between the two groups on all unfamiliar items, it is noted that item 9 (see Table 3) contributed most to this difference. Upon eliminating item 9 from the list of unfamiliar items, the mean error difference between the two socio-ethnic groups on items 1, 3 and 10 was not significant.

One may infer from these findings that at least part of the reason the High Group was more successful on the test as a whole was that they had more preschool practice in standard English usage within familiar language patterns. It is also quite probable that the High Group had been exposed more frequently to standard English in the language models presented by their families and other adults. Research by Milner (9) and Golden (5) has suggested that the Low Negro Group language models do not use standard English, and do not converse extensively with children or encourage them to ask questions.

Summary and Conclusions

The objective of this study was to investigate the relationship between syntactical language development and the socio-ethnic status of beginning first-grade children. It was hypothesized that the number of errors made by the subjects would be a function of socio-ethnic status, and that certain types of errors would prove to be a problem only for the low socio-ethnic group.

The following conclusions are based on the findings of this study:

1. An analysis of the error rate on all the test items for both groups demonstrates a significant positive relationship between error rate and socio-ethnic status. On the test items which were familiar in syntactic structure to both groups, there was also a significant positive relationship between error rate and socio-ethnic status. However, when the error rate was compared on three items unfamiliar to both groups, there was no significant difference between the two groups.

2. The most striking difference in error rate between the two groups was on items involving the third person singular form of the verb. The Low Group made thirteen times as many errors in agreement of subject and verb as the High Group. In the omission of the auxiliary verb *is* or *are* with the -ing form of the verb (present participle), the Low Group made 2.6 times as many errors as the High Group. In the use of possessive pronouns, the Low Group made five times as many errors as the High Group. The contrasts in the performance on the above items indicate that these items presented a unique problem for the Low Socio-ethnic Group. The findings support those reported by Loban (6) (7).

The results of this study have important implications for the classroom teacher. The contrast in error rate on familiar items for the two groups suggests that the performance of the High Group in the use of standard English was influenced by the adult language models of their preschool years, as well as by the amount of practice they had in using standard English in a variety of situations. The fact that the groups moved much closer together in performance on items that were unfamiliar to all subjects re-emphasizes the importance of practice in developing control over grammatical contrasts in standard English. The value of rich and varied classroom
language experiences designed to develop standard English competence of students from culturally different backgrounds becomes evident. The role of the teacher as a language model can be a crucial one.

The identification of syntactical constructions which are a problem for the Low Negro Group but not for the High Caucasian Group demonstrates the need for providing extensive practice for the former group on such items. These students need meaningful opportunities for using the grammatical contrasts of standard English in oral and written contexts. Consideration should also be given to the teaching of standard English as a second dialect. In this way, the students can preserve their "home" or first dialect and use it in situations for which it is more appropriate, while they learn to use standard English to achieve increased success in school. This approach should also enable students to establish a broader base for future social and economic mobility.

The relationship between children's oral language development and their achievement in the basic communication skills merits extensive study and analysis. This direction of research appears to hold great potential for a better understanding of the varied language needs of our diverse elementary school population.

Bibliography