THE ABILITY OF SELECTED ECONOMICALLY DISADVANTAGED BLACK CHILDREN TO COMPREHEND THE NON-IDENTITY REQUIREMENT OF PRONOMINALIZATION

DISSERTATION

Presented to the Graduate Council of the North Texas State University in Partial Fulfillment of the Requirements

For the Degree of

DOCTOR OF EDUCATION

By

Nicholas Bountress, B. S., M. S.
Denton, Texas
December, 1973

The problem with which this investigation is concerned is that of determining the ability of economically disadvantaged black children to comprehend a specific grammatical operation, the non-identity requirement of pronominalization. In addition, the study is also concerned with describing selected characteristics of the language of the subjects in the study through the utilization of a task of imitation.

The subjects of the study were forty-eight black children who were between the ages of four and ten years. All subjects were from families in which the natural parents were living together in the same household. The parents and children were native residents of the area and were recipients of federal welfare aid. None of the subjects in the study had histories of physiological, psychological, neurological, or auditory problems, and none were presently enrolled in rehabilitative language programs. A general estimate of intelligence was provided by the administration of the Columbia Mental Maturity Scale.
The task of comprehension emphasized each subject's ability to understand the non-identity requirement of pronominalization. A list of fifteen sentences was read to each subject. Ten of the sentences contained the non-identity requirement which restricts the pronoun in the sentence from referring to someone who is named in the sentence. In response to specific questions regarding each sentence, each subject selected the referent of the only pronoun in each sentence by pointing to the toy figures which symbolized the referents. All responses were recorded on a tape recorder. The analysis of results from the task of comprehension was conducted by noting the total number of correct responses which each subject attained. A correct response was interpreted as being the selection by the subject of the correct referent for each sentence's pronoun. Based upon the number of correct responses, a percentage was computed for each subject.

The task of imitation necessitated the subjects' repetition of the fifteen stimulus sentences. All responses were recorded on a tape recorder and subsequently copied in broad phonetic transcription. The imitative responses of the subjects were investigated for the purpose of describing those grammatical and phonological characteristics which occurred most often in the language of the subjects of the study.

The results of the investigation into the subjects' comprehension of the non-identity requirement of pronominalization
indicated a gradual and uniform pattern of development, with mastery of comprehension occurring between seven and eight years of age. The four year-old subjects scored no higher than sixty per cent comprehension, while the five year-olds scored no lower than seventy per cent and no higher than ninety per cent. The six year-old group contained three, out of the total eight, subjects who scored one hundred per cent, but also contained three subjects who scored eighty per cent. The seven, eight, and nine year-old groups, however, contained no subjects who scored less than ninety per cent, and differed among each other only in the progressively larger number of subjects who scored one hundred per cent.

The task of imitation indicated that, based upon changes which the subjects made in the stimulus sentences, the most common language characteristics of the children in the study were omission of "is" and "was," omission of the "-s" suffix indicating third person singular present tense, omission of possessive "'s," changes in the form of "th" words, and substitution of "have" for "has" as a main verb.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>LIST OF TABLES</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>iv</td>
</tr>
</tbody>
</table>

## Chapter

### I. INTRODUCTION

Statement of the Problem  
Purposes of the Study  
Guideline Questions  
Background and Significance of the Study  
Definition of Terms  
Procedures  

### II. REVIEW OF RELATED LITERATURE

Comparative Studies  
Results of Descriptive Studies  
Chomsky's Study of Pronominalization  

### III. PROCEDURES

Subjects  
Instruments  
Procedures for Collection of Data  
Procedures for Analysis of Data  

### IV. RESULTS

Four Year-Olds  
Five Year-Olds  
Six Year-Olds  
Seven Year-Olds  
Eight Year-Olds  
Nine Year-Olds  
Comparison of Results  

### V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary and Conclusions  
Recommendations  

### APPENDIX

<table>
<thead>
<tr>
<th></th>
<th>102</th>
</tr>
</thead>
</table>

### BIBLIOGRAPHY

<table>
<thead>
<tr>
<th></th>
<th>155</th>
</tr>
</thead>
</table>
LIST OF TABLES

Table                                      Page

I.  Comprehension of the Non-Identity      56
    Requirement of Pronominalization

II. Total Number of Changes Occurring on   58
    Imitation

III. Total Number of Subjects Making Changes
     in Each Area

IV. Total Number of Changes Made by Males and
    Females in Each Age Group
CHAPTER I

INTRODUCTION

The difficulty encountered by economically disadvantaged black children in the public schools of the United States is a topic of grave concern to American educators, sociologists, and others who are concerned with the welfare of all children. The literature contributed by such researchers as Jensen (28), Shockley (43), Guthrie and Thomas (21), Deutsch (11), Eels (14), Brazziel (7), Havighurst (23), Stewart (49), Dillard (12), Banks (1), Green (20), Johnson and Simons (32), and Erickson and others (18) has focused on a variety of aspects related to the education of black children, and has commonly cited such factors as cultural deprivation, linguistic deprivation, and genetic inferiority as contributors to the educational plight of the black child. The preceding literature has also cited the failure of such programs as Head Start and public school remedial English and language programs to obtain satisfactory results with black children. The continued failure of educational agencies to substantially curtail the failure pattern of these children, with its consequences of further academic and economic failure, coupled with the demands of the civil rights movement for the admission of black persons into the American
economic mainstream, has made progress in the area of black education a high priority commitment of education in the 1970's.

During the past decade, substantial advancement has been made by linguists, particularly Labov (35), Stewart (46), Shuy (44), Baratz (3), and Wolfram (57), in describing the language used by economically disadvantaged black children; this language is often referred to as Black English. Yet, while these studies have provided information emphasizing that Black English is different, not deficient, that it is a language system capable of expressing logical thought, and that no language system is better than another, many educators and researchers, such as Bernstein and Henderson (4), Lawton (37), Raph (42), Blank (5), Engelmann (17), and Deutsch (11), have persisted in the opinion that the language of the economically disadvantaged child is deficient. Furthermore, the literature of the field, particularly in the studies of Hewett (24), Harm (22), Krauss and Rotter (33), Ellis (16), and Dunn (13), describes the moral and intellectual qualities which may be attributed to a child based upon the characteristics of his spoken language, and the role of these judgments in teacher prophecy-fulfillment and the self-concept of the child.

The literature related to language development stresses the need for more research, particularly with respect to the developmental course of all children's language, stages of
development and language comprehension of children. The same avenues of study need to be scrutinized with respect to the language of black children, as well as evaluation of black children's comprehension of standard English, and differences between standard English and Black English. Studies of particular interest and value would be those describing the development of such grammatical elements and operations as negation, interrogation, contraction, possession, adjectival usage and pronominalization. While these subjects have been studied with regard to the language of white children by Bloom (6), C. Chomsky (9), N. Chomsky (10), Menyuk (40), Templin (51), and others, very little has been done to describe comparative development among black children.

Equally as important as the above considerations is making the results of such research describing the language of black children available to the widest possible audience for the purpose of dismissing irresponsible and unvalidated hypotheses as well as for implementing more realistic educational goals.

Statement of the Problem

The subject of this study was to ascertain the capability of economically disadvantaged black children from the North Texas area to comprehend the non-identity requirement of pronominalization.
Purposes of the Study

The purposes of this study were (1) to describe the stages of development in the comprehension of a grammatical operation (pronominalization, non-identity requirement) in a selected group of economically disadvantaged black children, and (2) to describe selected common characteristics of language used by the subjects in the study.

Guideline Questions

For the purposes of this study, the following guideline questions have been formulated:

1. What are the important research needs concerned with the language of economically disadvantaged black children?

2. What research has been done regarding the language of economically disadvantaged black children?

3. What is the pattern of development in the comprehension of the non-identity requirement of pronominalization by a group of economically disadvantaged black children?

4. What similarities and differences are apparent in the development of the non-identity requirement of pronominalization by the black children in this study and the white middle class children of C. Chomsky’s study?

5. What changes occur in the surface structure of the responses of a group of black children on a task of verbal imitation?
6. What differences appear between the responses of older and younger black children on a task of verbal imitation?

7. What procedures appear to be feasible means of investigating the development of grammatical proficiency of black children?

Background and Significance of the Study

Language is more than a symbolic system culminating in communication between human beings—it is a form of social behavior which is responded to in much the same manner as the speaker's actions; it is the means by which the speaker attempts to control the sometimes chaotic state of his environment; it is an embodiment and expression of the speaker's culture. In short, language ultimately becomes an expression of each human being's total self which he presents to other human beings. Most children entering school have five or six years of exposure to a language; this language reflects a complex background of culture, environment, socio-economic circumstances, personality, race, and other factors which compose the total experience of the individual. The black child from a low socio-economic level brings to school with him a myriad of traits which identify him as being from a culture which is different from that of the middle-class school culture, and, aside from the factor of skin pigmentation, no trait is more obvious than his spoken language. Among the obstacles to his academic success is not only the
necessity of decoding to Black English the oral and written standard English symbols with which he is confronted, but learning the mores of his middle class peers, and being exposed to the possible ridicule of those peers and either the intentional or unintentional deprecation of his language by teachers. Numerous studies have dealt with the generalization of educational background, intelligence, morality, and socio-economic level from the language of the speaker, such as Bernstein and Henderson (4), Harms (22), Ellis (16), Dunn (13), Eisenberg and others (15), Krauss and Rotter (33), Williams (53), Shuy (44), and Ponder (41). Wolfram (54) noted the effect of dialect upon racial isolation; Hewett (24) described the negative personality qualities attributed to speakers of non-standard dialects by prospective English teachers, and Caplan and Ruble (8) related that teachers correlate dullness with use of dialect and respond negatively to those speakers who speak it. It is a reasonable assumption, then, that dialectal interference alone may be a factor in the academic failure of the economically disadvantaged black child, but coupled with the negative self-image which may develop as a result of a teachers' unaccepting attitude toward language which departs from standard English, the task of communicating with and motivating such a child becomes very difficult.

That such attitudes exist and persist is unfortunate, particularly considering the number of studies which have
been done that describe Black English as an effective communicative system. Facts generally known to linguists are that no one language or dialect is more complex than any other, that all children who have learned to speak a human language have the capacity for complex concept formation, and that minimal ability to learn to speak a human language includes skills of a high order of magnitude (Labov, 34, p. 17). The above conclusions were arrived at by various investigations of the language of economically disadvantaged black children, particularly in studies in Chicago (McDavid, 38, p. 53), New York City (Labov, 36), Detroit (Wolfram, 55), and Atlanta (McDavid, 38, p. 53), as well as by research conducted by the Center for Applied Linguistics (Baratz, 2). Further significant research has been contributed in studies by Baratz (2), Stewart (46, 47, 48), Shuy (45), and Wolfram (57) who noted that black children read faster and comprehended more when reading texts utilizing the grammatical and phonological characteristics of Black English. Practical application of the preceding research is evidenced in the remedial programs developed by Feigenbaum (19) and Johnson (29, 30, 31).

Despite the growing body of research concerning the language of the economically deprived black child, more analytical descriptions of language in general, and of the comprehension and development of language in black children, specifically, is called for in the literature. As Hurst and
Jones noted, more than enough information has been found to indicate that economically disadvantaged children are having difficulty with standard English; what are now needed are systematic descriptions of the language of such children and more information on their chronological development (25, p. 363). Wolfram stressed the need to investigate whether black deviations from standard English were on a surface level alone (54, p. 46) and at which ages such deviations occur (56, p. 249). Labov (35) implied that research must continue to clarify the fact that the assumed illogical forms of Black English are as logical as standard English with regard to deep structure. Re-emphasizing the above theme, Troike (52), Labov (36, p. 9), McNeill (39, p. 17), Stewart (48, p. 243), Noam Chomsky (10, p. 4), and Menyuk (40, p. 17) stressed that the goal of all linguistic research must be to distinguish between comprehension, or competence, and performance, or between what the child knows implicitly and what he does linguistically. Bloom (6, p. 7) noted that very little has been done to investigate what children say and what they know, even though the concepts of "deep structure" and "surface structure" have been important considerations in linguistic research for more than ten years. Noam Chomsky (10, p. 24) emphasized that a description of a grammar must adequately specify the intrinsic competence of the native speaker, while Carol Chomsky (9, p. 120), in a consideration of a number of grammatical operations including
the non-identity requirement of pronominalization, said that an understanding of linguistic complexity can be enhanced by inquiring into the child's underlying competence.

Menyuk (40, pp. 8-9) concisely described many of the important research needs when she stated that it is critical that researchers learn what the child knows at various stages of development and how he uses this knowledge; that an understanding is needed of the degree to which the child has the innate capacity to search for the abstract rules from which sentences are generated; that insight must be gained into the structure of the child's language at various stages of development. Of particular applicability to the evaluation of the language of black children are the opinions of Menyuk that a "profitable avenue" of investigation is to find how children with deviant language ability vary from the norm (40, p. 12) as well as to clarify the role of environment in the causation of these deviations.

The benefits which accrue from such research directed in the above areas will, hopefully, stimulate educators to become more cognizant of the authenticity of black language as an effective linguistic system, engender a desire on the part of teachers to understand what the child is saying instead of dismissing it as babble, provoke an empathic attitude for the child who may be having difficulty comprehending the surface structures of standard English, and lead to the
propagation of procedures, goals, and attitudes which will allow maximal realization of the abilities of these children.

Definition of Terms

For the purposes of this study the following definitions have been formulated:

**Black English.**--The variety of English spoken by black persons who are members of the lower socio-economic level (Jacobson, 27, p. 80).

**Culturally different.**--A description of persons or institutions whose social customs and environmental circumstances are not the same as those which are found in the middle class.

**Deep Structure.**--A description of the abstract properties of the "meaning" or semantic interpretation of the sentence as intended by the sender and understood by the receiver (Bloom, 6, p. 7).

**Dialectal interference.**--The imposition of a previously learned dialect pattern upon the comprehension and verbal expression of a second dialect to which the individual has been more recently exposed.

**Economically disadvantaged.**--A description of persons or families who are recipients of federal welfare aid.
Grammatical progression.---The process by which the imitated response of a person assumes the grammatical properties of another person's verbal stimulus; exact grammatical reduplication of a verbal stimulus.

Linguistically different.---A description of persons whose linguistic environment and usage are not the same as those of middle class persons.

Non-identity requirement of pronominalization.---The stipulation that a pronoun in a sentence must refer to someone who is not mentioned in the sentence (C. Chomsky, 9, p. 18).

Standard English.---The variety of English spoken by the majority of persons who are members of the middle and upper socio-economic levels.

Surface structure.---A description of the actual physical and acoustic event of the sentence as it is spoken, the linear sequence of elements produced by the sender and heard by the receiver (Bloom, 6, p. 7).

Procedures

The procedures utilized in the present study were designed to elicit responses from a group of economically disadvantaged black children on a task of comprehension and a task of imitation. The subjects of the study were forty-eight black children who were between the ages of four
and ten years. Thirty-two of the subjects were selected from grades one through four, and sixteen were selected from kindergarten. All subjects were from families in which the natural parents were living together in the same household and were the only two adults permanently residing within the family. The parents and children were native residents of the North Texas area and were recipients of federal welfare aid. None of the children in the study had histories of physiological, psychological, neurological, or auditory problems, or histories of major illness, serious injury, or long periods of hospitalization. In addition, none of the subjects were presently enrolled in a rehabilitative language program, nor were any scheduled for such a program. The Columbia Mental Maturity Scale was utilized to select subjects who could be regarded as having normal intelligence.

The task of comprehension emphasized each subject's ability to understand the non-identity requirement of pronominalization. A list of fifteen sentences was read to each child. Ten of the sentences contained the non-identity requirement of pronominalization which restricts the pronoun in the sentence from referring to someone who is named in the sentence. In response to specific questions regarding the sentences, each subject selected the referent of the only pronoun in each sentence by pointing to one of two toy figures which symbolized the referents. All responses were noted by the examiner and recorded on a tape recorder for subsequent analysis.
The task of imitation utilized the fifteen sentences which were used in the task of comprehension. Each child was instructed to listen carefully to each sentence and repeat it when the examiner had completed the sentence. All imitative responses were recorded on a tape recorder for subsequent analysis.

The procedures utilized for the analysis of the data gained through the tasks of comprehension and imitation initially necessitated the transcription of the tape recorded responses to individual record sheets. For the task of comprehension, each child's response to each question regarding the non-identity requirement of pronominalization was judged to be correct or incorrect depending on the correct or incorrect selection of each pronoun referent. The total number of correct responses was found and a percentage was computed for each child. The pattern of percentages for each age group was then observed to note the development in comprehension from the four year-old group through the nine year-old group.

The results of the task of imitation were obtained from the tape recorded responses of the subjects and copied in broad phonetic transcription. The responses of the subjects were investigated for the purpose of describing those grammatical and phonological characteristics which occurred most often in the language of the subjects in the study. Subsequent comparisons were made of the responses of the children in each age group.
CHAPTER BIBLIOGRAPHY


26. Irwin, Orvis, "The Effect of Family Occupational Status and of Age on Use of Sound Types," *Journal of Speech and Hearing Disorders*, 13 (September, 1945), 224-226.


CHAPTER II

REVIEW OF RELATED LITERATURE

Comparative Studies

The growing body of research which deals with the language and the language problems of economically disadvantaged children, and economically disadvantaged black children in particular, is comprised of studies which are dispersed throughout the literature of sociology, linguistics, education, and speech pathology. Two trends, in particular, are apparent. Studies which were conducted before the 1960's often compared the language of disadvantaged children to the language of white middle class children, with conclusions often being reached that economically disadvantaged black children were linguistically deficient. Research which has been conducted since the mid-1960's, particularly that of Labov (30), Baratz (4), Shuy (42), Stewart (47), Wolfram (52), and Pederson (38), has often emphasized that the language of black children and adults should be studied independently and not judged in terms of variations from the language of white middle class children and adults. As a result, many of these latter studies have been primarily concerned with descriptions of grammatical and phonological characteristics of black persons.
The comparative studies, particularly those of Bernstein (9), M. Deutsch (16), C. Deutsch (15), John and Goldstein (27), Bereiter (6), and Hess and Shipman (22), have emphasized that the home environment of the culturally disadvantaged child retards linguistic development and eventually causes failure in school. Reinforcing this attitude are the results of formal testing and developmental studies, as found in the research of Templin (48), Irwin (23), John (26), John and Goldstein (27), Carson and Rabin (11), M. Deutsch (16), and others. The conclusions drawn in the preceding research generally indicate that the child from an economically disadvantaged background does not compare favorably with the white middle class child with regard to a variety of language skills. Those language skills which are most often cited in the comparative literature are related to speech sound development, vocabulary, sentence length as an indicator of complexity, and auditory discrimination, with vocabulary studies predominating. The following descriptions represent a summary of the primary research in each area.

Vocabulary.---A number of comparisons of the vocabulary of white and black children have been based upon the results of tests which utilized predominantly white population samples for standardization, such as the Peabody Picture Vocabulary Test and the Ammons and Ammons Full-Range Picture
Vocabulary Test. This procedure occurred in such commonly cited studies as those of John (26), Templin (48), John and Goldstein (27), Carson and Rabin (11), and M. Deutsch (16). The study by John and Goldstein (27) was based upon the administration of the Peabody to 150 four year-old black children from the lower economic levels, with results indicating a general depression of scores when compared to those of white children. In another study utilizing the Wechsler Intelligence Scale for Children as well as the Peabody, John (26) found that among a group of 174 first and fifth graders from all economic levels, middle class children scored consistently higher with regard to recognition of vocabulary items. However, John found little difference between the subjects with regard to description of objects and work association. Deutsch (16) administered the Peabody to 292 black children from grades one through five of an urban school system and also found that black children performed less adequately than did white children; despite the fact that the black children made gradual improvement through the fifth grade, white children made progressively greater improvement. Carson and Rabin (11) administered the Ammons and Ammons Full-Range Picture Vocabulary Test to thirty Southern black children, all of whom were matched for age, sex, and grade placement. Results indicated that the white children scored higher than the black groups with regard to
vocabulary assessment, while Northern blacks outscored Southern blacks. Templin (48, p. 119) also utilized the Ammons and Ammons Full-Range Picture Vocabulary Test, as well as the Seashore-Eckerson English Recognition Vocabulary Test, with sixty preschool and elementary school children; comparisons of the vocabulary of children from the upper and lower economic levels indicated that the children from the lower economic levels, including black and white subjects, consistently attained lower scores.

Further innovative attempts to assess the vocabulary of children from economically deprived environments are exemplified in the studies of Gahagen and Gahagen (21), LaCivita (33), Lawton (34), and Entwisle (19). The use of word associations to assess the extent of children's vocabulary originated in the studies of John (26) and Brown and Berko (10), and has been utilized with black children by Entwisle. In a study of 200 black and white children from rural Maryland, Entwisle (17) found that black children produced fewer word associations than did white children during the first four grades. However, by the fifth grade, both groups of children were equivalent in the number of paradigmatic responses which they produced. In another study of word associations, Entwisle (18) found that black children produced more synonyms in response to adjectives and adverbs during the first and second grades, but by the fifth grade
had begun to lag behind white children. With regard to nouns and verbs, however, black children held their advantage through the fifth grade. LaCivita (33) utilized a procedure which was similar to that used by Entwisle with 320 children from the second, fourth, and sixth grades. The subjects were read six nonsense sentences and asked to provide synonyms for a stimulus word in each sentence, with cues given to suggest the appropriate part of speech. Results indicated no differences with regard to race and socioeconomic status. However, in similar studies attempting to assess the vocabulary of children from lower economic levels, Gahagan and Gahagan (21) found that black children aged six and seven did not produce as many nouns and verbs as a comparative group of white children, and Lawton (34) noted that children from the lower socioeconomic level produced fewer adjectives, adverbs, and pronouns.

**Auditory discrimination.**—A number of comparative studies of the auditory discrimination of black and white children have also been undertaken, with the research of C. Deutsch (15) most commonly cited in the literature. As has been the case with assessments of vocabulary, the studies by Deutsch and others such as M. Deutsch (16), Katz (28), and Clark and Richards (14) have been based upon the results of tests which utilized predominantly white samples for standardization. In C. Deutsch's 1964 study (15), it was suggested
that disorders of auditory discrimination may be more prevalent among economically disadvantaged children. Deutsch administered the Wepman Auditory Discrimination Test to 120 children and found consistently lower scores than those attained by white middle class children. Although no substantial proof was provided, Deutsch suggested that the results may be explained by the poor quality of the economically disadvantaged child's sensory environment (15, p. 295). Clark and Richards (14) replicated Deutsch's original study by administering the Wepman test to a group of economically disadvantaged and nondisadvantaged children, with the results indicating that the disadvantaged group made more errors in discrimination. Although supporting the results of Deutsch's study, the authors suggested that the results were due to the fact that the parents of disadvantaged children were less likely to stress attentiveness to verbal cues than were the parents of nondisadvantaged children (14, p. 259).

The studies of Katz (28) and M. Deutsch (16) utilized tape recordings of paired words which were to be discriminated between by black children in the first, third, and fifth grades; the results duplicated those of C. Deutsch's study, with black children consistently making more errors in discrimination than white middle class children.

Length of response.--Studies comparing the mean length of response of economically disadvantaged and nondisadvantaged
children are best illustrated in the studies of Bernstein (7, 8, 9), Templin (48), Lawton (34, 35), Williams and Naremore (49), Anastasi and D'Angelo (1), and Hess and Shipman (22), with Bernstein's research most commonly cited in the literature. Bernstein (7, p. 33) has noted that the child from an economically disadvantaged population very often uses a "restricted code" of communication in which sentences are "short, simple, often unfinished" and generally lacking in complexity. In a study of sixteen year-old subjects who were engaged in undirected discussions, Bernstein (9) claimed that middle class subjects used lengthier and more complex responses, although no specific criteria of complexity was defined. Bernstein (8) also concluded that in a study of 311 middle class and lower class mothers, the lower class mothers tended to engage in less complex verbal communication with their children while placing emphasis on the transmission of basic skills. In a similar study of the teaching styles of black and white mothers who were engaged in projects with their children, Hess and Shipman (22) found that black mothers engaged in fewer lengthier conversations and stimulated fewer lengthy responses from their children than did white mothers. Lawton (34, 35), in both written and spoken exercises, found that boys from economically disadvantaged backgrounds and who were aged twelve to fifteen years, tended to use shorter responses than similarly aged boys from nondisadvantaged
backgrounds. Comparable results were obtained by Williams and Naremore (49) in interviews with forty black and white fifth and sixth-graders from Detroit. The results of the interviews, which were stimulated by questions regarding games, aspiration, and television, indicated that lower class children, both black and white, tended to give shorter and less elaborate responses. However, in studies by Cazden (12) and Anastasi and D'Angelo (1), no major differences were noted between white and black subjects. In one study by Cazden (12, p. 82), black children in a Boston day-care center compared favorably to a similar group of white children on measures of mean length of response. In another study by Cazden (12, p. 93), black children in a first grade class provided longer utterances on informal speech tasks, while white children provided longer utterances on more structured tasks. Anastasi and D'Angelo (1), in a study of fifty black and fifty white children in both uniracial and interracial neighborhoods, likewise found no major differences for mean sentence length.

Templin's study (48) of the responses of sixty children from upper and lower socioeconomic groups, comprised of both white and black children, is among the more comprehensive studies of mean length of response in the literature. On the basis of fifty utterances, Templin found that children aged three through eight from the upper socioeconomic levels had a greater mean sentence length for all ages except at
seven years where both groups were identical (48, p. 78). However, these differences were significant only at ages three-and-a-half and five-and-a-half years. Templin also found that children from upper socioeconomic levels consistently attained a mean length for their five longest utterances which was larger than that attained by children from lower socioeconomic levels; the differences in mean length were significant between three and three-and-a-half years, three-and-a-half and four years, and six and seven years of age (48, p. 78). The study also indicated that children from lower socioeconomic levels produced more one-word remarks, but that the differences between groups decreased with age (48, p. 80).

**Speech sound development.**—The studies of Irwin (23, 24, 25), Templin (48), Raph (39), and Andersland (2) are illustrative of the literature comparing the speech sound proficiency and development of black and white children. In the earliest of Irwin's studies (25), two groups of infants from business or professional family backgrounds and laboring class backgrounds were observed for their production of speech sounds. Irwin found that among these infants, who were ages one through thirty months, those from laboring class backgrounds developed speech sounds at a slower rate than did those from middle class backgrounds. A second study by Irwin (24) indicated that before eighteen months, infants
from both working and middle class backgrounds developed
speech sounds at a similar rate; however, between eighteen
and thirty months, infants from working class backgrounds
had fewer relative vocalizations. In a third study, Irwin
(23) observed the speech sound development of a group of
children from birth to two-and-one-half years and concluded
that there were no differences between black and white chil-
dren. However, the results of Irwin's study did indicate
that children from the families of unskilled laborers were
slower to develop speech sounds after the age of eighteen
months when compared to the development of children from
middle class backgrounds.

The studies of Templin (48), Andersland (2), and Raph
(39) produced results which were basically in agreement with
those of Irwin. Templin (48, p. 27) found that among a
group of sixty children, aged three through eight, those
from upper socioeconomic backgrounds indicated consistently
higher proficiency in the production of speech sounds than
did those from lower socioeconomic levels. Andersland (2)
found that kindergarten children from low socioeconomic
backgrounds made more errors of articulation than did chil-
dren from middle class backgrounds, and Raph (39), in a
study of the language of children enrolled in a Head Start
program, reported that children from economically disadvan-
taged backgrounds made many errors of substitution and omis-
sion of speech sounds.
Results of Descriptive Studies

Studies which have attempted to describe the language of black children without comparisons to white children's language have, for the most part, been based upon the "language different" position. Proponents of this point of view, such as Labov (30), Shuy (41), Baratz (4), and Stewart (47), have emphasized that the language of black persons is different and not deficient, and should be studied in terms of the language norms of that specific speech community thereby allowing for more realistic descriptions of linguistic deviancy. Within such a context, the forementioned researchers have often described as dialectal differences those characteristics of grammar and pronunciation which earlier writers, such as M. Deutsch (16), Bereiter (6), Hess and Shipman (22), and John (26), had described as deficient.

The major field studies which have been carried out for the purpose of describing the speech of black children and adults have commonly utilized populations from large urban areas such as Chicago (38), New York City (29), and Detroit (52). Descriptions of the phonological and grammatical characteristics found in the responses of subjects from these populations were secured by a variety of means, but most often by questionnaires and formal and informal interviews. The studies in Chicago, New York City, and Detroit provide examples of the most commonly used procedures found in descriptive investigations as well as some of the more
effective means of obtaining linguistic data from large populations. The methodology utilized by Labov (31) has served as the basic model for other linguistic studies, particularly that of Shuy, Wolfram, and Riley in Detroit (43) and Pederson in Chicago (38).

Labov's two major studies of New York City speech were completed in 1966 (31) and 1968 (32), with the former study emphasizing the language characteristics of all native New Yorkers and the latter study primarily focusing upon black persons. While the 1966 study was, for the most part, based upon a study of eighty-one white informants drawn from a population of 100,000, the interview techniques which were introduced by Labov have been effectively utilized in studies of the language of black persons in Labov's 1968 study and in the Detroit study. Rather than basing the procedure upon the administration of formal tests, Labov utilized both formal and informal interviews to elicit samples of native language. For the most part, the formal interviews were designed to elicit a type of speech which the subjects believed to be appropriate for an interview situation, while the informal interviews were intended to produce casual speech which was constructed around such topics as death and success. In his 1968 study (32), Labov and his associates utilized the preceding techniques to investigate the language of adolescent and preadolescent peer groups in South Central Harlem, conducting hundreds of interviews
in the street environment of the subjects. Pederson (38) utilized the interview technique with thirty adult residents of Chicago, twenty of whom had been residents of the city for twenty or more years and ten who were recent arrivals, and Shuy, Wolfram, and Riley (43) conducted interviews with 700 informants from Detroit who were between the ages of ten and twelve years, fourteen and seventeen years, and thirty and fifty-five years. In addition to the preceding studies, Wolfram (52) conducted a study of the characteristics of Detroit Negro speech based upon interviews with forty-eight informants from the study of Shuy, Wolfram, and Riley (43).

The results of the area studies conducted in New York City, Chicago, and Detroit, as well as the linguistic descriptions found in the writings of Fasold and Shuy (20), McDaid (37), Bailey (3), Malmstrom (36), Labov (29), Stewart (46), Williams (50), and Baratz (5), have provided valuable insight into the language of Negroes who live in various regions of the United States. While no one set of linguistic characteristics are utilized by all black speakers, the following descriptions represent a number of features of grammar and phonology which are most commonly cited in the forementioned research.
Grammar

Past forms.—Descriptions of Negro dialect, such as those compiled by Labov (29, p. 148), Wolfram (52, p. 59), and Fasold and Shuy (20, p. 59), have noted the omission of both /t/ and /d/ in words in which the "-ed" suffix was used to denote the past tense or past participle. However, as is also noted in the above studies, the omissions are often due to the pronunciation characteristics which are found in the dialect. For example, in situations in which the addition of "-ed" results in a cluster of either voiced ("moved", "robbed") or unvoiced ("wrapped", "kicked") consonants, the final /t/ or /d/ which signifies the "-ed" suffix may be removed. Such an occurrence may produce a sentence such as, "He rob the bank last week."

Perfective constructions.—Williams (50, p. 6) and Fasold and Shuy (20, p. 61) have described changes which occur in Negro dialect with respect to perfective constructions, particularly in the present perfect and completive aspects. A common occurrence in the use of present perfect constructions is the omission of forms of "have" as an auxiliary in the contracted form, giving sentences such as, "I seen the car." Negro dialect also has a completive aspect which is formed by the use of "done" plus a past form which allows for the production of such sentences as, "I done tried," (Fasold and Shuy, 20, p. 62).
Third person singular present tense.--One of the more common characteristics of the language of black children from economically disadvantaged areas occurs in the production of the third person singular present tense, particularly in regard to the "-s" and "-es" suffixes. Wolfram (51, p. 35), Fasold and Shuy (20, p. 63), and Williams (50, p. 7) have noted that the "-s" and "-es" suffixes are frequently absent, but emphasized that this is not a careless omission and that those suffixes are simply not a part of the dialectal grammar. Such omissions, therefore, may allow for the production of such sentences as, "He walk" and "The man talk." Hypercorrection may cause the speaker to use the "-s" suffix with the first person ("I walks") and second person ("You walks") singular and plural, and third person plural ("They walks").

Fasold and Shuy (20, p. 64) also noted that the omission of the "-s" suffix may result in the substitution of "have" for "has." The authors noted that the verb "have" is unique because the combination of "have" and "-s" results in "has" rather than "haves," and since the "-s" suffix does not exist in the dialect, the verb remains "have." Such an occurrence is described as the reason for the production of sentences such as, "He have a bike."

Invariant "be".--Stewart (46, p. 36) and Wolfram (51, p. 41) noted that, in Negro dialect, "be" assumes a relatively fixed position and occurs as a main verb in a
variety of contexts. Therefore, such sentences as "He be going" and "They be going" may occur. The word "be" may also be used to indicate habitual activity, for example, "He be working," while deletion may indicate momentary activity, as in "He working."

Absence of forms of "to be".--Labov (29, p. 153), Williams (50, p. 9), Malmstrom (36, p. 49), and Fasold and Shuy (20, p. 67) have noted the absence of forms of "to be" among black children and adults, and referred to such an omission as "zero copula." While "are" is rarely utilized in Negro dialect, "is" may be omitted in any situation in which the contracted form occurs in standard English, as in "He going home."

Plural and possessive suffixes.--Both the plural and possessive suffixes are often omitted in the speech of economically disadvantaged speakers. Bailey (3, p. 153), Labov (32, p. 40), and Fasold and Shuy (20, p. 76) found that instead of the "'s" suffix to indicate possession, the mere positioning of words in the sentence is sufficient to indicate that one is the possessor and the other is the possessed, as in "John old man house." Hypercorrection may account for confusion in the attachment of the "'s" suffix to proper names, as in "Jack's Johnson car" (Fasold and Shuy, 20, p. 43).
The studies of McDavid (37, p. 10), Labov (32, p. 41), Wolfram (51, p. 35), and Fasold and Shuy (20, p. 77) indicated that the plural "-s" suffix may also be absent in the speech of black children and adults, resulting in sentences such as "Three car are outside." However, Fasold and Shuy (20, p. 78) have noted that the absence of the plural suffix occurs more often in the speech of the Southern urban Negro than in the speech of the Northern Negro.

Pronunciation

Reduction of consonant clusters.--A common characteristic of pronunciation in Negro dialect, according to the description of Shuy (41, p. 177), Fasold and Shuy (20, p. 43), and Wolfram (52, p. 74), is the omission of the final member of a consonant cluster. Such omissions usually occur only when both members of the clusters are either voiced or voiceless. Also, reduction may occur when both members of the cluster belong to the same base word, for example, "tes'" for "test," or when the final member of the cluster is the /t/ or /d/ representative of the past tense suffix "-ed," for example "mess'" for "messed" (Fasold and Shuy, 20, p. 44).

"th" sounds.--Labov (32, p. 65), Fasold and Shuy (20, p. 49), Williams (50, p. 2), and Wolfram (52, p. 83) have described the changes which occur in the production of voiced and voiceless "th" sounds, particularly the substitution of /t/ for voiceless "th" may produce such changes in words as "tink" for "think" and "tin" for "thin," while
substitution of /d/ for voiced "th" may produce "dey" for "they" and "dem" for "them." Other changes which may occur are substitutions of /v/ for voiced "th" and /f/ for voiceless "th."

\[/r/ and /l/.\] Researchers, such as Labov (32, p. 65), Fasold and Shuy (20, p. 51), and Wolfram (52, p. 83) have noted that both /r/ and /l/ may be absent in the speech of black persons, with /r/ omission occurring more often in black dialect than in the white dialects of eastern New England, New York City, and parts of the South. Both /r/ and /l/ may be absent following a vowel, preceding a consonant, and between vowels. Fasold and Shuy (20, p. 52) also found that omissions of /r/ and /l/ may cause apparent changes in grammar. For instance, omission of /r/ in "their" removes the small phonological difference between "they" and "their," allowing for the production of a sentence such as "It is they book" (Fasold and Shuy, 20, p. 52). Omission of /l/ may affect the contracted form of "will," allowing for the production of a sentence such as "He be going tomorrow."

\["-ing" suffix.\] The research of Fasold and Shuy (20, p. 55), Williams (50, p. 5), and McDavid (37, p. 9) has described the changes which occur in the "-ing" suffix, particularly the omission of the final /g/. However, while this is a common occurrence in many varieties of spoken English, McDavid (37, p. 9) noted that there appears to be
a higher incidence of omission in Negro dialect. In addition, there may be a tendency among black speakers to omit the entire suffix, allowing for the production of such sentences as "She is open the door."

Final /b/, /d/, and /g/—Williams (50, p. 4) and Fasold and Shuy (20, p. 53) have noted that changes occur in the production of /b/, /d/, and /g/ when these sounds occur at the end of a syllable. In most cases the sounds are substituted for by their voiceless cognates /p/, /t/, and /k/, causing words such as "pig" and "pick" to sound identical except for the differentiation produced by vowel length (Fasold and Shuy, 20, p. 53).

Chomsky's Study of Pronominalization

The study by Carol Chomsky (13) of the non-identity requirement of pronominalization represented one facet of an investigation into the learning of complex syntactic structures by children between the ages of five and ten years. Chomsky stated that the general purpose of the study was to learn the extent to which children between the ages of five and ten years have mastered their native language, and the specific purpose was to ascertain the stages of acquisition through which the subjects progress in the comprehension of particular grammatical structures (13, p. 1).

Chomsky selected the non-identity requirement of pronominalization to illustrate the fact that under certain
limited conditions there are restrictions on a grammatical operation. In the case of the non-identity requirement, Chomsky (13, p. 18) noted that this restriction may apply to the referent of the pronoun in the sentence. For instance, in the sentence, "He knew that John was going to win the race," the pronoun "he" is restricted from referring to "John" (13, p. 20). However, in the sentence, "If he wins the race, John will be happy," the pronoun "he" has unrestricted reference and may refer to "John" or to someone not mentioned in the sentence. Chomsky's study of the non-identity requirement of pronominalization, therefore, attempted to examine the subjects' awareness of the non-identity restriction on pronominal reference in certain specific situations, and to describe those stages through which the subjects progressed in the comprehension of that grammatical operation.

The subjects were forty children, eight each from kindergarten through fourth grade in a Massachusetts elementary school. Although the subjects were chosen from a predominantly middle class school, the final sample was intended to represent a cross-section of economic backgrounds. Of the total forty subjects, twenty-two were male and eighteen were female. Each child was directed to listen to the fifteen sentences which contained five examples of the non-identity requirement and ten examples of unrestricted reference. For the purpose of simplifying each child's task, the subjects were asked to point to the toy figure which they believed to
be the referent of the pronoun in each sentence. The scoring of incorrect and correct responses was limited to the five sentences which included the non-identity requirement of pronominalization.

The responses of the forty children indicated that nine subjects made errors in the identification of referents in the five sentences with the non-identity requirement. Of these children, seven were five year-olds, one was almost seven years old, and one was almost nine years old. Only two five year-old subjects responded correctly to all five sentences, and one of these was almost six years old. On the basis of these results, Chomsky stated that it would appear that the non-identity requirement of pronominalization is a grammatical operation which is learned by the age of five-and-a-half years, with failure to comprehend it occurring before that time (13, p. 116).
CHAPTER BIBLIOGRAPHY


24. ________, "The Effect of Family Occupational Status and Age on Sound Frequency," Journal of Speech and Hearing Disorders, 13 (September, 1948), 320-323.

25. ________, "The Effect of Family Occupational Status and Age on Use of Sound Types," Journal of Speech and Hearing Disorders, 13 (September, 1948), 224-226.


35. ________, "Social Class Differences in Language Development," Language and Speech, 6 (July, 1963), 120-142.


CHAPTER III

PROCEDURES

Subjects

The subjects who participated in the study were forty-eight black children who were enrolled in public school and who were between the ages of four and ten years. Twenty-four of the subjects were male and twenty-four were female, and all were from families who were recipients of federal welfare aid. Eight subjects were selected from each of the first four grades, while sixteen were selected from kindergarten. The latter figure was expanded for the purpose of facilitating lengthier observation of the development of the grammatical operation among younger children.

The subjects were selected on the basis of a number of characteristics and background factors which could have possibly affected normal language development. All children were from families in which the natural parents were living together in the same household and were the only two adults permanently living in the family. The parents and children were native residents of north Texas. It was required that all children who were selected for the study be free from physiological, psychological, neurological, and auditory
problems, with no histories of major illness, serious injury, or long periods of hospitalization. The preceding information was obtained in discussions with classroom teachers and teacher's aides, as well as in discussions with the school guidance counselor who had access to each child's personal files and who was intimately familiar with each child's family. None of the subjects in the study had previously been enrolled in a rehabilitative language program, nor were any scheduled for such a program at the time of the study.

Additionally, an attempt was made to select subjects for the study who were as homogeneous as possible with respect to intelligence. The Columbia Mental Maturity Scale (1) was administered by the investigator to select subjects who could be regarded as having normal intelligence, with results being verified by the impressions of classroom teachers and the school guidance counselor. The primary benefit derived from the use of the Columbia is its capacity for yielding an estimate of intelligence without recourse to complex verbal skills. Ideally, such an instrument provides results which are minimally affected by cultural bias. All subjects selected for the study achieved age deviation scores which were commensurate with, or above, the mean for the Columbia. The age deviation score, itself, reflects the extent to which a child's performance compares with the average performance of children of a similar chronological age on a national level, and is intended to be indicative of general reasoning ability (1, p. 17).
Instruments

A list of fifteen stimulus sentences and seven practice sentences were employed to elicit responses from the subjects. (See Appendix, p. 103) The test sentences were either identical or modified versions of sentences used by Chomsky (2) with a group of primarily middle-class white children. Ten of the test sentences contained the non-identity requirement of pronominalization which restricts the pronoun in the sentence from referring to someone who is named in the sentence, such as, "He is happy that Mickey won the race" (2, p. 104). The remaining five sentences employed statements having unrestricted pronoun reference, such as, "If he wins the race, Donald will be happy" (2, p. 104). The two sentence types were interspersed with each other upon presentation to the subjects, although only the responses to the sentences containing the non-identity requirement of pronominalization were scored.

The toy figures of Mickey Mouse and Donald Duck, the only topics of the fifteen sentences, were utilized to provide the subjects with physical objects to focus upon while each of the sentences was read (2, p. 106).

A small tape recorder was utilized to record all responses of the subjects for subsequent analysis.

Procedures for Collection of Data

The collection of data was begun immediately following the administration of the Columbia Mental Maturity Scale
and the selection of the forty-eight subjects. All classroom teachers were notified two weeks in advance by the school principals regarding the nature of the interviews with the children as well as the amount of time necessary to gather the linguistic data. After the administration of the Columbia Mental Maturity Scale, one interview lasting approximately thirty minutes was held with each child with both the tasks of comprehension and imitation being completed at that time. The task of comprehension necessitated spending approximately twenty minutes with each child, and the task of imitation necessitated ten minutes or less. The total amount of time used to gather all the linguistic data as well as to administer the Columbia Mental Maturity Scale and re-schedule subjects who were absent was four weeks.

The interviews with the subjects were scheduled on the basis of chronological order, beginning with the youngest subjects and concluding with the oldest subjects. Absentees were interviewed immediately upon their return to school. Only two subjects were taken from their classrooms at a time. One of each pair of subjects was brought by the examiner to a vacant office containing one small desk and two chairs while the second child was allowed to preoccupy himself with toys and books in an adjacent room. When the interview with the first child was concluded, the second child was then interviewed while the first child remained in the adjacent room. At the conclusion of both interviews, the subjects
were returned to their classroom and replaced with two other subjects. This procedure was carried out for all forty-eight subjects.

The relatively simple task of imitation was presented before the task of comprehension for the purpose of giving all subjects initial success and setting them at ease. Preceding the presentation of the stimulus sentences, each subject was introduced to the toy figures of Mickey Mouse and Donald Duck, who were the only topics of the fifteen sentences, and asked to identify each by pointing to the toy figure named by the examiner. When it became apparent that the figures were easily recognized by the subjects, the child's role in the task of imitation was clarified. Each child was told to listen very carefully to each sentence and to repeat it after the examiner had completed saying it. Repetition of the sentences by the examiner occurred whenever the child appeared to be confused or asked for a repetition. Three sample sentences were then read to all subjects for the purpose of further clarifying their role in the procedure. When it became apparent that the subjects understood that they were to repeat each sentence, the fifteen stimulus sentences were presented and all responses were tape recorded.

The task of comprehension was introduced upon the completion of the task of imitation. Each subject was again asked to identify the toy figures of Donald Duck and Mickey
Mouse. It was then explained to each subject that he was going to be told something about Donald Duck and Mickey Mouse and then would be asked questions regarding what he had previously been told. Emphasis was placed upon the instruction that the subject needed only to point to the toy figures which personified the referents of the pronouns in the sentences. Four sample sentences were used to further clarify the children's roles. Finally, the identical fifteen stimulus sentences which were used in the task of imitation were read to each child and the questions regarding pronoun reference were asked by the examiner. The examiner verbalized the responses of each child and recorded each subject's response on a tape recorder.

Procedures for Analysis of Data

When all forty-eight children had completed both the tasks of imitation and comprehension, their responses were transcribed from the tape recordings to record sheets, and each individual child's set of responses was grouped with others of the same age. The results were examined to observe the developmental sequence in the group's comprehension of the non-identity requirement of pronominalization, as well as to observe predominant features in the surface structure of this group's responses.

Regarding the task of comprehension of the non-identity requirement of pronominalization, each of the subject's individual responses was scored on the basis of recognition
or non-recognition of the non-identity requirement. Non-recognition was indicated when the child selected an incorrect referent for a pronoun in one of the ten stimulus sentences containing the non-identity requirement. The percentage of correct responses was then noted for each child in every age group, with subsequent comparisons being made between age groups.

The results of the task of imitation were investigated for the purposes of describing those grammatical and phonological characteristics which occurred most often in the language of the subjects of the study. Subsequent comparisons were made of the responses of the children in each age group.
CHAPTER BIBLIOGRAPHY


CHAPTER IV

RESULTS

The results of the present study provided information regarding the developmental stages in the comprehension of the non-identity requirement of pronominalization by a group of economically disadvantaged black children from the North Texas area. Special attention was not only paid to the chronological development of the operation among these children, but to the similarities and differences in development between males and females. In addition, a task of imitation provided information regarding some of the characteristics of the surface structure of these particular children's utterances. Special attention was given to five grammatical and phonological characteristics which commonly appeared in the children's language during imitation of standard English stimulus sentences. The five grammatical and phonological characteristics which most often underwent change when repeated by the children in the study were the verbs "is" and "was," the third person singular present tense "-s" suffix, the possessive "'s" suffix, the voiced and unvoiced "th" sounds, and the verbs "has" and "have." Particular attention was given to the frequency of occurrence of these characteristics by age as well as by sex.
All responses of the children in the study were entered into the Appendix in broad phonetic transcription (See Appendix, p. 106.), while descriptions in the text were represented in phonemic transcription.

Four Year-Olds

Comprehension

Table I indicates the number of subjects who scored at each percentage level in response to questions designed to ascertain their knowledge of the non-identity requirement of pronominalization. The percentages represent the number of correct responses attained by the subjects, and each number within the table represents the total number of children in a specific age group between four and nine years who scored at that particular percentage level. The numbers at the left of each column represent the total number of males (M) who attained a particular percentage of correct answers among the subjects in an age group, while the numbers at the right of each column represent the total number of females (F) who attained a particular percentage of correct answers among the subjects in an age group.

The results of the investigation into the four-year-old subjects' comprehension of the non-identity requirement of pronominalization, as indicated in the first column of Table I, show that none of the children scored above sixty per cent nor below forty per cent. Three of the subjects comprehended the grammatical operation in sixty per cent of
TABLE I

COMPREHENSION OF THE NON-IDENTITY REQUIREMENT
OF PRONOMINALIZATION

<table>
<thead>
<tr>
<th>%</th>
<th>4*</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M**</td>
<td>F**</td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>100</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>90</td>
<td>.</td>
<td>.</td>
<td>1</td>
<td>2</td>
<td>.</td>
<td>2</td>
</tr>
<tr>
<td>80</td>
<td>.</td>
<td>.</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>.</td>
</tr>
<tr>
<td>70</td>
<td>.</td>
<td>.</td>
<td>2</td>
<td>1</td>
<td>.</td>
<td>.</td>
</tr>
<tr>
<td>60</td>
<td>.</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td>.</td>
</tr>
<tr>
<td>50</td>
<td>2</td>
<td>.</td>
<td></td>
<td></td>
<td></td>
<td>.</td>
</tr>
<tr>
<td>40</td>
<td>2</td>
<td>1</td>
<td>.</td>
<td>.</td>
<td></td>
<td>.</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>.</td>
<td></td>
<td></td>
<td>.</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
<td>.</td>
<td></td>
<td></td>
<td>.</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>.</td>
<td></td>
<td></td>
<td>.</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td></td>
<td>.</td>
<td></td>
<td></td>
<td>.</td>
<td></td>
</tr>
</tbody>
</table>

* Age in years.
** M, Male; F, Female.
the sentences, two in fifty percent of the sentences, and three in forty percent of the sentences. Of the four female subjects, three scored sixty percent and one scored forty percent. Of the male subjects, none scored sixty percent, two scored fifty percent, and two scored forty percent.

**Imitation**

Table II indicates the total number of changes which the children of each age level made in regard to the five specific grammatical and phonological areas previously noted. The numbers at the left of each column represent the total number of changes made by male (M) subjects in each area and in each age group, while the numbers at the right of each column represent the total number of changes made by female (F) subjects in each area and in each age group. The following is a description of the type of changes noted among the responses of the four year-old subjects as is indicated in the first column of Table II.

Is-was. -- The most common changes which occurred in the imitation of "is" and "was" in the stimulus sentences were complete omission and change in person-number concord by the substitution of "were" for "was." A total of thirty-nine such changes were made by the four year-old subjects. The absence in Black English of forms of "to be," particularly "is" and "are," has been noted in the literature by Labov
TABLE II
TOTAL NUMBER OF CHANGES OCCURRING ON IMITATION

<table>
<thead>
<tr>
<th>Changes</th>
<th>4*</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M*</td>
<td>F*</td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>Is-Was</td>
<td>22</td>
<td>17</td>
<td>19</td>
<td>5</td>
<td>18</td>
<td>9</td>
</tr>
<tr>
<td>Third Person</td>
<td>26</td>
<td>18</td>
<td>24</td>
<td>18</td>
<td>27</td>
<td>23</td>
</tr>
<tr>
<td>&quot;-s&quot;</td>
<td>9</td>
<td>6</td>
<td>7</td>
<td>6</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Possessive</td>
<td>13</td>
<td>15</td>
<td>22</td>
<td>16</td>
<td>17</td>
<td>14</td>
</tr>
<tr>
<td>&quot;th&quot;</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

*Age in years.
**M, Male; F, Female.
in the responses of all the subjects in the present study except one. The omission of "is" extended to the contraction of "he is," as well; omission of the contracted form occurred in the responses of six subjects. Omission of "was" occurred in the responses of six children, while substitution of "were" for "was" occurred in the responses of four children.

With regard to sex, females made a total of seventeen changes of "is" and "was" on imitation, while males made twenty-two such changes. Of the four subjects who substituted "were" for "was," three were female.

Third person singular present tense.--The absence of the "-s" suffix to denote the third person singular present tense has also been described as a common characteristic of Blank English by Labov (3, p. 153), Wolfram (5, p. 37), and others, and was prevalent among the imitative responses of the children in the present study. A total of forty-four such omissions occurred and were evident in the language of all the four year-old subjects. The absence of the "-s" suffix to denote the third person singular present tense allowed for responses such as, "Donald think he know everything." The breakdown according to sex indicated that females made eighteen such omissions while males omitted the "-s" suffix in twenty-six instances.
Possession.--The absence of the "'s" suffix to indicate possession is also described as a commonly occurring characteristic of Black English by Wolfrom (5, p. 36), Labov (3, p. 152), Gladney (2, p. 760), and others, and, in the present study, it allowed for the production of sentences such as, "He'll eat Mickey candy." The occurrence of this characteristic among the four year-olds was evident in fifteen imitative responses, and all but one child omitted the suffix in all cases. Males omitted the possessive suffix in nine cases and females in six cases.

Voiced and unvoiced "th."--As has been noted by Williams (4, p. 2) and others, both the voiced and unvoiced "th" sounds may be changed in Black English. The most common substitutions are /d/ or /v/ for voiced "th" and /t/ or /f/ for voiceless "th." The substitutions which occurred in the imitations of the subjects in the present study were /t/ for voiceless "th," /d/ for voiced "th," as well as complete omission of the initial voiced "th" sound in the word "the." A total of twenty-eight such changes occurred among the four year-olds, fifteen by females and thirteen by males. While only three of the subjects evidenced usage of /t/ for unvoiced "th," and one of /d/ for voiced "th," all the children of this age group at least occasionally omitted the voiced "th" in "the."
Have-has.---Another change which routinely occurred in the imitations of these children was the substitution of "have" for "has." Gladney (2, p. 759) and others have noted such confusion among black children. In the present study, all four year-olds substituted "have" for "has" at least once in situations where "has" was the main verb of the sentence, and in three cases completely omitted "has," giving "He (has) taken Donald's hat."

Additional changes.---Aside from changes due to imprecise articulation, such as omission of the final sound in "playing" and the merging of "didn't know" to form "dinno," both of which may occur in conversational standard English, two other changes occurred in the imitations of the subjects. In three cases, the contraction "he'll" was simplified to "he" giving "He eat Mickey's candy." Also in three cases, the final sound in "for" was dropped before the production of a vowel, giving "fo."

Five Year-Olds

Comprehension

The results of the investigation into the five year-old subjects' comprehension of the non-identity requirement of pronominalization, as indicated in the second column of Table I, showed that none of the children scored above ninety per cent nor below seventy per cent. Three of the subjects
comprehended the grammatical operation in ninety per cent of the sentences, two in eighty per cent of the sentences, and three in seventy per cent of the sentences. Of the four female subjects, two scored ninety per cent, one scored eighty per cent, and one at seventy per cent. Of the male subjects, one scored ninety per cent, one scored eighty per cent, and two at seventy per cent.

Imitation

Table II indicates the total number of changes which the children of each age level made in regard to the five primary grammatical and phonological areas which were noted in the study. The following represents a description of the type of changes noted among the responses of the five year-old subjects.

Is-was.--As with the four year-old subjects, the most common changes which occurred in the imitation of "is" and "was" in the stimulus sentences were complete omission and change in person-number concord by the substitution of "were" for "was." A total of twenty-four such changes were made by the five year-old subjects. The absence of "is" prevailed in the responses of all subjects except one. However, in the responses of two others, the only omission was in the contracted form. The over-all pattern of omission of the contracted form occurred in the responses of seven children. Omission of "was" occurred in the responses of four children,
while substitution of "were" for "was" occurred in the responses of only two children.

With regard to sex, females made a total of five changes of "is" and "was" on imitation, while males made a total of nineteen such changes. Both subjects who substituted "were" for "was" were male.

**Third person singular present tense.**--A total of forty-two omissions of the third person "-s" suffix occurred in the responses of all eight children of the five year-old group. The breakdown according to sex indicated that males made a total of twenty-four such omissions, while females made eighteen.

**Possession.**--The absence of the "'s" suffix to indicate possession was evident among the responses of the five year-old subjects in thirteen instances, and all but two children omitted the suffix at least once. Males omitted the possessive suffix in seven cases, while females did so in six cases.

**Voiced or unvoiced "th."**--The substitutions which occurred among the imitations of the five year-old subjects were /t/ for voiceless "th," /d/ for voiced "th," and one case of /s/ for voiceless "th," giving "Donald sink he knows everything." Also, as with the four year-olds, the omission of the initial voiced "th" sound in "the" was prevalent. A total of thirty-eight such changes occurred, twenty-two by males and sixteen by females. Seven of the subjects
routinely substituted /d/ for voiced "th," four substituted /t/ for voiceless "th," and all eight subjects routinely omitted the voiced "th" sound in "the."

Have-has.--Substitution of "have" for "has" in situations where "has" was the main verb of the sentence occurred in the imitative responses of four of the five year-olds, producing sentences such as "He have the candy. . . ." Additionally, one other child substituted "had" for "has." Three children omitted "has" when it was performing as an auxiliary verb. Therefore, while five children evinced confusion regarding the use of "have," only four substituted "have" for "has." The breakdown according to sex indicated that two males and two females made the noted changes.

Additional changes.--As was the case with the four year-old subjects, the contracted form of "he will" and the omission of the final sound in "for" were noted. With the former, only one child simplified the contraction to "he," while seven of the subjects produced "fo" for "for."

Six Year-Olds

Comprehension

The results of the investigation into the six year-old subjects' comprehension of the non-identity requirement of pronominalization, as indicated in the third column of Table I, show that all of the children scored eighty per
cent or better. Three of the subjects comprehended the grammatical operation in all of the sentences, two in ninety per cent of the sentences, and three in eighty per cent of the sentences. Of the four female subjects, two scored one hundred per cent. Of the male subjects, one scored one hundred per cent, none scored ninety per cent, and three scored eighty per cent.

**Imitation**

Table II indicates the total number of changes which the children of each age level made in regard to the five specific grammatical and phonological areas previously noted. The following represents a description of the type of changes noted among the responses of the six year-old subjects.

**Is-was.**—The most common change which occurred in the imitation of "is" and "was" in the stimulus sentences was the omission of either word. A total of twenty-seven such changes were made by the six year-old subjects. Unlike the four year-old subjects and five year-old subjects, no evidence of "were" for "was" substitution was found. However, omission of "is" or "was" occurred in the responses of all the subjects of this group. The absence of "is" prevailed in the responses of all eight subjects. However, in four of those eight responses, only the contracted form of "is" was omitted. The over-all pattern of omission of the contracted form occurred in all of the subjects' responses. Omission of "was" occurred in the responses of five subjects.
With regard to sex, females made a total of nine omissions of "is" or "was," while males made a total of eighteen. All four males responded with at least one imitation in which "was" was omitted, and two responded with imitations in which "is" was omitted. Only one female evinced any "was" omissions, while two had omissions of "is."

**Third person singular present tense.** --A total of fifty omissions of the third person "-s" suffix occurred in the responses of all eight subjects in the six year-old group. The breakdown according to sex indicated that males made a total of twenty-seven such omissions, while females made twenty-three.

**Possession.** --The absence of the "'s" suffix to indicate possession was evident among the responses of the six year-old subjects in twenty-four instances, with all children omitting the suffix at least once. Males and females both omitted the suffix a total of twelve times.

**Voiced or unvoiced "th."** --The substitutions which occurred among the imitations of the six year-old subjects were /d/ for voiced "th," as well as only one case of /t/ for unvoiced "th." Also, as with the previous groups, the omission of the initial voiced "th" sound in "the" was prevalent. A total of thirty-one such changes occurred, seventeen by males and fourteen by females. All eight
subjects routinely omitted the voiced "th" sound in "the," while five substituted /d/ for voiced "th."

**Have-has.**—Substitution of "have" for "has" in situations where "has" was the main verb of the sentence occurred in the imitative responses of five of the six year-old subjects. Additionally, one of the subjects omitted "has" completely when its role was that of an auxiliary verb, one of the subjects substituted "had" for "has," and another substituted "have" for "has" both as a main verb and as an auxiliary verb. Therefore, while six children evinced confusion regarding the use of "have," five substituted "have" for "has." The breakdown according to sex indicated that one female and all four male subjects substituted "have" for "has."

**Additional changes.**—As was the case with the previous group, changes in the form of the contracted form of "he will" and omission of the final sound in "for" were observed among the six year-olds. The omission of the contracted form became more prevalent than in either of the previous two groups with four children producing such responses. The omission of the final consonant in "for" occurred with the same frequency, seven, as that of the five year-olds.
Seven Year-Olds

Comprehension

The results of the investigation into the seven year-old subjects' comprehension of the non-identity requirement of pronominalization, as indicated in the fourth column of Table I, show that all of the children scored ninety per cent or better. Two of the subjects comprehended the grammatical operation in all of the sentences, while six comprehended it in ninety per cent of the sentences. The distribution as to sex was even, with one each scoring one hundred per cent and three each scoring ninety per cent.

Imitation

Table II indicates the total number of changes which the children of each age level made in regard to the five specific grammatical and phonological areas previously noted. The following represents a description of the type of changes noted among the responses of the seven year-old subjects.

Is-was.--The most common changes which occurred in the imitation of either "is" or "was" in the stimulus sentences was the omission of "is." While a total of thirteen such changes were made by the seven year-old subjects, twelve represented the omission of "is" while only one represented an omission of "was." Similar to the six year-old subjects,
no evidence of "were" for "was" substitution was found. However, while omission of "is" occurred in the responses of seven of the children in the group, in five of those situations, only the contracted form was omitted, allowing for the production of "Donald thinks he going to win the race." In the responses of only two children did both the omission of the contraction and omission of "is" occur simultaneously. Therefore, the omission of the contracted form appeared in the responses of seven children, while omission of the non-contracted form of "is" appeared in the responses of only two subjects.

With regard to sex, females made a total of six omissions of "is," both contracted and non-contracted, while males made a total of seven omissions, including the only omission of "was."

Third person singular present tense.--A total of twenty-eight omissions of the third person "-s" suffix occurred in the responses of all but one subject in the seven year-old group. The breakdown according to sex indicated that males made a total of thirteen such omissions, while females made fifteen.

Possession.--The absence of the "'s" suffix to indicate possession was evident among the responses of the seven year-old subjects in nine instances, with six of the children
omitting the suffix at least once. Males omitted the possessive suffix in five cases, and females omitted it in four cases.

Voiced or unvoiced "th."--The substitutions which occurred among the imitations of the seven year-old subjects were /d/ for voiced "th" and /t/ for unvoiced "th." Also, as with the previous three groups, the omission of the initial voiced "th" in "the" was prevalent. A total of seventeen such changes occurred, nine by males and eight by females. Only two subjects substituted /t/ for the unvoiced "th," while three substituted /d/ for the voiced "th." Omission of the voiced "th" in "the" occurred in only four cases, half as many as in the six year-old group and lowest of any of the preceding groups.

Have-has.--Responses of the seven year-old group indicated that no substitution of "have" for "has" occurred, and that neither was omitted by any of the children at this age level.

Additional changes.--As was the case in the previous three groups of subjects, changes in the form of the contraction for "he will" and with regard to the final consonant in "for" occurred. The omission of the contraction occurred only once in the responses of the seven year-olds, the lowest frequency of occurrence, and the same as that of the five year-olds, of the four youngest groups. The
frequency of omission of the final consonant in "for" declined to four, which was fewer than the figures noted for the five and six year-olds.

Eight Year-Olds

Comprehension

The results of the investigation into the eight year-old subjects' comprehension of the non-identity requirement of pronominalization, as indicated in the fifth column of Table I, show that all of the children scored ninety per cent or more. Six of the subjects comprehended the grammatical operation in all of the sentences, while two comprehended it in ninety per cent of the sentences. The distribution as to sex was even, with three each scoring one hundred per cent and one each scoring ninety per cent.

Imitation

Table II indicates the total number of changes which the children of each level made in regard to the five grammatical and phonological areas previously noted. The following represents a description of the type of changes noted among the responses of the eight year-old subjects.

Is-was.--The most common changes which occurred in the imitation of either "is" or "was" in the stimulus sentences were omission of both words. Only five such changes occurred, with all five appearing in responses of only three of
the total eight children. While four of the changes made by
the eight year-olds were omissions of "is," and only one an
omission of "was," three of those changes were of the "'s"
suffix to denote the contraction of "he is" to "he's."

With regard to sex, females made a total of one omission
of "is," in the contracted form. Males made a total of four
changes, including the only omission of "was."

Third person singular present tense.—A total of six-
eteen omissions of the third person "-s" suffix occurred in
the responses of all but two subjects in the eight year-old
group. The breakdown according to sex indicated that males
made a total of eleven such omissions, while females made
a total of five.

Possession.—The absence of the "'s" suffix to indicate
possession was evident among the responses of the eight year-
old subjects in only five instances, with four of the children
omitting the suffix at least once. Males omitted the
suffix two times, while females omitted it in three instances.

Voiced or unvoiced "th."—The substitutions which
occurred among the imitations of the eight year-old sub-
jects were /d/ for voiced "th," and one case of /s/ for
unvoiced "th." Also, the omission of the initial voiced
"th" in "the" was prevalent. A total of fifteen such changes
occurred, twelve by males and three by females. Only four
subjects substituted /d/ for the voiced "th," and only four omitted the "th" in "the."

**Have-has.**—Among the eight year-olds, only three cases of "have" for "has" substitution occurred, with one omission of "has" as an auxiliary verb being noted.

**Additional changes.**—As was the case in the other age groups, changes in the form of the contraction for "he will" and with regard to the final consonant in "for" were noted. The smallest frequency of occurrence of both was noted at this age level with no omissions of the contraction and one omission of the final consonant in "for."

**Nine Year-Olds**

**Comprehension**

The results of the investigation into the nine year-old subjects' comprehension of the non-identity requirement of pronominalization, as indicated in the sixth column of Table I, show that all of the children scored ninety per cent or more. Seven of the subjects comprehended the grammatical operation in all of the sentences, while one comprehended it in ninety per cent of the sentences. All females in the study scored one hundred per cent, while three males scored one hundred per cent and one scored ninety per cent.
Imitation

Table II indicates the total number of changes which the children of each level made in regard to the five grammatical and phonological areas previously noted. The following represents a description of the type of changes noted among the responses of the nine year-old subjects.

Is-was.--The most common changes which occurred in the imitation of either "is" or "was" in the stimulus sentences were the omissions of both words. While a total of six such changes were made by the nine year-old subjects, five represented the omission of "is" while only one represented an omission of "was." Similar to the responses of both the six and seven year-old subjects, no evidence of "were" for "was" substitution was found. However, while omission of "is" occurred in the responses of all of the four children who made any errors, in three of those situations only the contracted form was omitted. In the responses of only one child did both the omission of the contraction and omission of "is" occur simultaneously.

With regard to sex, females made a total of four omissions, while males made only two. The sole omission of "was" was by a female, while the sole omission of non-contracted "is" was by a male.

Third person singular present tense.--A total of twenty-five omissions of the third person "-s" suffix occurred in
the responses of the nine year-old group. The breakdown according to sex indicated that males made a total of ten such omissions, while females made a total of fifteen.

**Possession.**--The absence of the "'s" suffix to indicate possession was evident among the responses of the nine year-old subjects in only four instances, with four subjects omitting the suffix once apiece. Males and females both omitted the suffix a total of two times.

**Voiced or unvoiced "the."**--Only ten substitutions of the voiced and unvoiced "the" sounds were evident in the imitations of the nine year-olds, with nine substitutions characterized by the /d/ substitution for the voiced "th" and one by the /t/ substitution for the unvoiced "the." All ten changes occurred in the repetitions of three female subjects.

**Have-has.**--Among the nine year-olds, only two cases of "have" for "has" substitution occurred. Both substitutions occurred in the responses of female subjects, with substitution noted for the auxiliary verb and one for the main verb.

**Additional changes.**--As was the case with the eight year-old subjects, the omission of the final consonant in "for" occurred in only one child's response, while the omission of the contracted form of "he will" was not in evidence in any of the responses.
Comparison of Results

The following is a comparative description of the responses of all six groups of subjects. Particular attention will be devoted to the patterns of development noted in both the task of comprehension and the task of imitation.

Comprehension

The pattern of development in the comprehension of the non-identity requirement of pronominalization by the subjects in the study can be seen in Table I. As Chomsky (1) noted in a similar study, the pattern of development which unfolds cannot tell us exactly when a child will acquire the structures under observation, but it can provide insight into the order of the stages of development. In the case of the present study, a readily observable and orderly sequence of development has occurred. The responses of the first two age groups appeared to indicate that the subjects were not sufficiently comprehending the non-identity requirement of pronominalization. The third group, while scoring generally higher than the previous groups, appeared to be in a transitional stage of development. The three groups of older subjects all appeared to be adequately comprehending the non-identity requirement, but differed with respect to refinement of comprehension.

Among the four year-olds, no subject scored higher than sixty per cent comprehension, while no five year-old scored...
lower than seventy per cent. Three five year-olds not only scored ninety per cent, but scored higher than three six year-olds, and performed equally as well as two other six year-olds. However, no subject in the six year-old group scored as low as any in the five year-old group, and no one in the five year-old group scored as high as three subjects did who were in the six year-old group. The six year-olds were the youngest group to have members who scored one hundred per cent, but, nevertheless, they still had three subjects who were comprehending eighty per cent.

The seven year-olds were the first group to have all members comprehend the non-identity requirement in ninety per cent or more of the sentences, and, while they had one fewer member at the one hundred per cent level than did the six year-olds, they had no members who scored as low as the three lowest scoring six year-olds. At the same time there were as many seven year-olds who comprehended ninety per cent or more of the sentences as there were eight and nine year-olds who did to. However, thirteen out of a total of sixteen eight and nine year-olds comprehended the non-identity requirement in all instances with six and seven from each group respectively.

With regard to sex, Table I indicates that females scored slightly higher in age groups four through six, with ten females and five males in the two superior percentage
levels. However, in age groups seven through nine, the distribution of males and females at the ninety and one hundred per cent levels was almost identical.

**Imitation**

The following descriptions represent a comparison of the five most noticeable changes in the imitative response of the children in the study. The characteristics are not intended to represent a complete description of the most typical characteristics of North Texas Black English, but only a sampling of those characteristics which were stimulated by this study's stimulus sentences. By the same token, the language of the subjects in this study is not intended to represent the common characteristics of all North Texas black children's language, but only the language of those children whose background and development was described in Chapter III.

Tables III and IV indicate the breakdown of changes in words made by the subjects during the task of imitation, specifically with regard to the total number of subjects and the number of males and females who produced changes of words. Table III indicates the total number of subjects who changed the forms of words in each of the designated areas. In addition, Table III indicates the total number of subjects who changed the forms of words in each of the designated areas. In addition, Table III indicates the number of children out of the total eight in each group who made word
**TABLE III**

**TOTAL NUMBER OF SUBJECTS MAKING CHANGES IN EACH AREA**

<table>
<thead>
<tr>
<th>Changes</th>
<th>Age</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Is&quot; Omission</td>
<td></td>
<td>8</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>&quot;Was&quot; Omission</td>
<td></td>
<td>6</td>
<td>4</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>&quot;Is&quot; Contraction Omission</td>
<td></td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>7</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Third Person &quot;-s&quot; Omission</td>
<td></td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Possessive &quot;'s&quot; Omission</td>
<td></td>
<td>7</td>
<td>6</td>
<td>8</td>
<td>6</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>/d/ for voiced &quot;th&quot;</td>
<td></td>
<td>1</td>
<td>7</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>/t/ for unvoiced &quot;th&quot;</td>
<td></td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>&quot;th&quot; Omission in &quot;the&quot;</td>
<td></td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>&quot;Have&quot; for &quot;has&quot; Substitution</td>
<td></td>
<td>8</td>
<td>4</td>
<td>5</td>
<td>0</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>
changes. Table IV indicates the total number of changes made by males and females in each age group, with an indication of those individuals, male or female, who made the fewest or most word changes on imitation at each age level.

Is-was.--As can be observed in Table II, a noticeable decline occurred in the number of imitative changes as a function of increased age with respect to "is" and "was." While changes in the form of "is" and "was" still occurred among the responses of the seven, eight, and nine year-old children, they were markedly fewer than those of the four, five, and six year-olds, and, for the most part, only included omission of the contraction for "he is."

As is indicated in Table III, four year-olds omitted "is" as an auxiliary verb more than any other group, with all eight subjects omitting it at least once, while only four five year-olds, four six year-olds, two seven year-olds, and one child apiece among the two oldest groups omitted it. The omission of "was" followed a similar pattern with six four year-olds, four five year-olds, five six year-olds, and one apiece from the three oldest groups omitting the verb. The omission of "'s" in the contraction of "he is" prevailed in the highest number of children, with a total of twenty-one out of twenty-four children omitting it among the three youngest groups, and a total of thirteen out of twenty-four children omitting it among the three oldest groups. The substitution of "was" for "were" occurred only in the
TABLE IV
TOTAL NUMBER OF CHANGES MADE BY MALES AND FEMALES IN EACH AGE GROUP

<table>
<thead>
<tr>
<th>Age</th>
<th>Male</th>
<th>Female</th>
<th>Most Changes</th>
<th>Fewest Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>74</td>
<td>60</td>
<td>23 (Female)</td>
<td>5 (Female)</td>
</tr>
<tr>
<td>5</td>
<td>74</td>
<td>47</td>
<td>22 (Male)</td>
<td>9 (Female)</td>
</tr>
<tr>
<td>6</td>
<td>79</td>
<td>59</td>
<td>21 (Male)</td>
<td>11 (Female)</td>
</tr>
<tr>
<td>7</td>
<td>34</td>
<td>33</td>
<td>16 (Male)</td>
<td>1 (Male)</td>
</tr>
<tr>
<td>8</td>
<td>31</td>
<td>13</td>
<td>11 (Male)</td>
<td>0 (Female)</td>
</tr>
<tr>
<td>9</td>
<td>19</td>
<td>33</td>
<td>12 (Female)</td>
<td>2 (Male)</td>
</tr>
</tbody>
</table>
responses of the four and five year-olds, with the four year-olds making four and the five year-olds making two such substitutions.

With regard to sex, Table II indicates that males made a consistently greater number of changes in the forms of "is" and "was" in the three youngest groups, while the differences became less marked among the younger children. In fact, among the nine year-olds the trend was reversed with females making more changes, although there were only six total changes noted. However, as is indicated in Table IV, this latter occurrence is in agreement with the trend for all five characteristics among nine year-olds in the study.

**Third person singular present tense.**--As can be observed in Table II, a gradual decline in the total number of imitative changes as a function of increased age occurred with respect to the omission of the third person singular present tense "-s" suffix. Individually, all children in the six groups frequently omitted the "-s" suffix, with a total of forty-five out of the forty-eight children in the study making the omission. As is indicated in Table III, in none of the groups did fewer than six of eight children make the omission, while in four of the groups all children omitted the suffix.

With regard to sex, Table II indicates that males made a consistently greater number of omissions of the "-s" suffix among the three youngest groups with a total of
seventy-seven, while females did so in fifty-nine cases. However, among the three older groups, the differences between males and females are less emphatic with females making a total of thirty-five omissions and males making thirty-four. In fact, females predominated slightly in age groups seven and nine with respect to the "-s" suffix. However, as is noted in Table IV, the high number of changes among females in those two age groups is consistent with the results for all five characteristics which were observed.

**Possession.**—As is indicated in Table II, with the exception of the responses of the six year-olds, there is a gradual decline in the number of omissions of the possessive "'s" suffix as a function of increased age. Among the three youngest age groups, a total of fifty-two omissions of the possessive suffix occurred, while only eighteen were observed among the three older groups. Even with the elimination of the inexplicably divergent responses of the six year-olds, the younger children manifested more omissions than did the three older groups. On an individual basis, and again with the exception of the results of the six year-old group, a gradual decline with age is noticeable in the total number of children in each group who omitted the possessive suffix. Table III indicates that only three of the twenty-four subjects in the three youngest groups failed to omit the possessive suffix, while ten of twenty-four performed similarly among the three older groups.
With regard to sex, no large differences were noted in the omission of the possessive suffix. According to the results listed in Table II, males made a total of thirty-seven omissions of the possessive suffix, while females made thirty-three such omissions.

**Voiced and unvoiced "th."** As indicated in Table II, with the exception of the responses of the four year-olds, there is a gradual decline in the number of changes in the production of the "th" sound as a function of increased age. The apparent factor involved in the low number of changes among the four year-olds is evident in Table III which indicates that this age group contained the fewest number of subjects who produced /d/ for voiced "th" substitution. Despite this occurrence, the results in Table II clearly indicate that the children in the three youngest groups made considerably more changes than the older subjects in the imitative production of "th," with four, five, and six year-olds producing ninety-seven changes, and seven, eight, and nine year-olds producing only thirty-five changes.

The individual analyses of the changes in the imitative production of the "th" sound are noted in Table III. The total number of subjects in each group who produced the substitution of /d/ for voiced "th" and /t/ for unvoiced "th," and who omitted the initial "th" sound in "the," decreased among the three older groups. The omission of the initial sound in "the" was noted among the responses of
all children in the three youngest groups, but only among eight of the twenty-four subjects in ages seven through nine. The substitution of /t/ for unvoiced "th" occurred in the responses of eight children in the three youngest groups, but only in the responses of three children in ages seven through nine. The substitution of /d/ for voiced "th" occurred in the responses of thirteen children in the three youngest groups, but only in the responses of ten children in ages seven through nine.

With regard to differences between male and female subjects, Table II indicates that among the three youngest groups, males made a total of fifty-two changes of words containing the "th" sound, while females made forty-five such changes. Among the seven, eight, and nine year-olds, males made a total of twenty-one and females a total of fourteen changes in "th" words.

Have-has.--Regarding the substitution of "have" for "has" in situations where "has" was the main verb in the sentence, Table II indicates that substitution occurred more frequently among the subjects in the three younger groups than in the three older groups. While seventeen subjects who were ages four through six substituted "have" for "has," five subjects in the three older groups made the substitution. All subjects in the four year-old group indicated confusion in the use of "has," while no subjects in the seven year-old group substituted "have" for "has" as the main verb of the
sentence. In situations where "has" was performing as an auxiliary verb, six subjects completely omitted it, three subjects substituted "have," and one substituted "had."

With regard to differences between the responses of males and females, Table II indicates that males made a total of twelve substitutions of "have" for "has" as a main verb, while females made a total of ten. Among the three younger groups, males made ten such substitutions, while females made seven, and among the older three groups, where only five errors were made, females made three and males made two substitutions.
CHAPTER BIBLIOGRAPHY


CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary and Conclusions

The present study was an investigation of a group of economically disadvantaged black children's comprehension of the non-identity requirement of pronominalization, with additional information about the surface structure of this particular group's language being gained through a task of imitation. The subjects of the study were twenty-four male and twenty-four female black children, thirty-two of whom were selected from grades one through four and sixteen of whom were selected from a kindergarten population of a North Texas public school system. All subjects of the study were from families whose members were recipients of federal welfare aid and were native residents of the North Texas area. At the time of the study, the subjects were living with their natural parents who were the only adults permanently living in the household. It was further required that all subjects who were selected for the study be free from physiological, psychological, neurological, and auditory problems, which could possibly have affected normal language development. All background information was obtained through discussions with teachers and teacher's aides as well as with the school
guidance counselor who provided information regarding the
developmental history of each child. A general estimate of
intelligence for each subject was provided by the administra-
tion of the Columbia Mental Maturity Scale.

The results of both the tasks of comprehension and imi-
tation were obtained through the use of fifteen stimulus
sentences, ten of which contained one example of the non-
identity requirement of pronominalization. For the task of
comprehension of the non-identity requirement, each subject
was required to listen to the stimulus sentences and then
select the correct referents of the pronouns in each sentence
by pointing to a toy figure which symbolized the referent.
Only the subjects' choices in the ten sentences including
the non-identity requirement were scored, and a percentage of
correct responses was assessed for each child in each age
group. The task of imitation required only that each subject
listen to the stimulus sentences and reproduce them, with
those variations which were most often produced by the sub-
jects in each age group being particularly noted.

Comprehension

Chomsky (1, p. 116) noted in her study of the develop-
ment of the non-identity requirement among primarily white
middle class children that the pattern of development was
both simple and uniform and "not subject to fairly extensive
individual variations." As can be observed in Table I (p. 56), Chomsky's observations could pertain to the present study as well. From the responses of the four year-olds through the nine year-olds, a very orderly pattern of development occurred. The four year-old subjects, in particular, indicated the most confusion with regard to comprehension of the non-identity requirement with no subject comprehending more than sixty per cent of the sentences and three comprehending as little as forty per cent. Each succeeding age group, however, contained progressively more subjects who comprehended ninety or one hundred per cent of the sentences. The five year-old group, for instance, included three children who comprehended ninety per cent of the sentences, while the six year-old group included five children who scored ninety per cent or more (two scored ninety per cent and three scored one hundred per cent). Among the seven, eight, and nine year-olds, however, no child scored lower than ninety per cent comprehension, and the number of children who scored one hundred per cent increased from two to six to seven, respectively.

As Chomsky (1, p. 12) has noted, the results of such a developmental study as the present investigation of the non-identity requirement of pronominalization cannot be used to accurately predict exactly when a structure will be acquired, but can offer a "reliable judgment about the relative order"
in which the child will acquire it. In both the present study and Chomsky's study, the relative order of acquisition was gradual and uniform with no major gaps in development noted between age groups. However, it is interesting to note that the children in Chomsky's study had mastered comprehension of the non-identity requirement by 5.6 years, with "mastery" indicated by the absence of any errors. In the present study, no age group attained one hundred per cent accuracy by all the subjects in the group. However, among the nine year-olds, only one child failed to comprehend all instances of the non-identity requirement, and among the eight year-olds, only two children failed to attain one hundred per cent comprehension. Among the seven year-olds, while all eight subjects attained ninety per cent comprehension or better, only two comprehended all instances of the non-identity requirement. Therefore, generally speaking, the subjects in the present study appeared to begin to attain mastery of the non-identity requirement between the ages of seven and eight years. The disparity between the age of mastery of comprehension noted by Chomsky and the results of the present study may possibly be accounted for by the greater number of stimulus sentences utilized in the present study which could possibly have increased the potential for error. In addition, the results of the task of imitation (p. 103) indicated that the majority of the children in the study utilized a number of dialect features in their language,
which may indicate the presence of linguistic interference as a variable in the comprehension of the non-identity requirement by the children in the present study. However, of primary interest is that while the economically disadvantaged children in the present study did not acquire mastery of the grammatical operation at as early an age as did the primarily middle class subjects of Chomsky's study, both groups presented an over-all pattern which was similar in uniformity of development.

Unlike Chomsky's study, the present study attempted to investigate the comprehension of the non-identity requirement among a group of four year-olds as well as among older children. Because Chomsky (1, p. 116) had speculated that the subjects in her study had probably mastered the operation by as early as five-and-a-half years, the present study undertook to observe if development of comprehension before that age was gradual or abrupt. Table I indicates that the pattern of development in the comprehension of the operation among four year-olds is similar to that found among the other age groups and fits into the pattern of gradual over-all development of the study. While no scores of the four year-old subjects overlapped the comprehension scores of the five year-olds, as was the pattern for the other age groups, there was an absence of a large gap between the two groups, with the highest scores of the four year-olds being sixty per cent and the lowest scores of the five year-olds being
seventy per cent. In addition, the dispersal of scores among the four year-olds was identical to that among the five and six year-olds with three scoring at the highest and lowest percentage levels and two at the middle levels. The pattern of responses of the four year-olds was also identical to that of the five and six year-olds in that all scores were spread between three percentage levels, with no subjects scoring lower than the third level.

The role of sex as a variable in the learning of the non-identity requirement of pronominalization was not satisfactorily concluded in the present study, although females appeared to attain higher levels of comprehension at the younger age levels. Among the seven, eight, and nine year-old groups, males and females performed almost identically, but in the three younger groups, seven females as compared to only two males attained the highest percentages of comprehension. Conversely, males outnumbered females among the lowest percentage levels, seven to two. The preceding results were primarily influenced by the fact that among the four year-olds, three females as compared to no males scored the highest percentages of comprehension, while, conversely, three males as compared to no females scored the lowest percentages among the six year-olds. Generally speaking, however, no generalizations regarding superiority of females in the development of the non-identity requirement can be made on the basis of the limited number of subjects utilized in the present study.
Imitation

The task of imitation was utilized to gather information regarding some of the language features of the subjects whose comprehension of the non-identity requirement of pronominalization was being observed. During the repetition of the fifteen stimulus sentences, it was noted that many of the children altered certain words in a consistent manner so that either the phonology or the grammatical intent, or, in some cases, both the phonology and the grammatical intent, of the original words in the stimulus sentences was changed. It was indicated during the comparison of the results of all groups in Chapter IV that the language features which were singled out for description were intended to represent only a sampling of those characteristics which were stimulated by the fifteen stimulus sentences, and were not intended to be a complete description of all typical characteristics of North Texas black dialect. It was also emphasized that the language characteristics of the black children in the study were not intended to represent the common characteristics of all North Texas black children's language, but only the characteristics of black children whose backgrounds and developmental patterns were similar to the subjects in this study.

The five areas which were observed to be undergoing the most consistent alteration when imitated by the subjects in the study were "is" and "was," the "-s" suffix representing
the third person singular present tense, the "'s" suffix indicating possession, "has" as a main verb, and both the voiced and unvoiced "th" sounds. The most common types of errors were either omissions of words or sounds, or substitution of words or sounds for the words or sounds used in the stimulus sentences. For example, "is" was omitted, as well as the contracted form, "was" was often omitted, the possessive "'s" and the third person singular present tense "-s" suffix were commonly omitted, "have" was often substituted for "has" when "has" was functioning as a main verb, and /t/ was often substituted for unvoiced "th" while the voiced "th" was often substituted for by /d/ or omitted completely in the production of "the."

As can be observed in Tables II and III (pp. 58 and 79), the general pattern which prevailed for changes during imitation was that of a gradual decline in frequency with age with the possible exception of the third person singular "-s" suffix which showed the most resistance to change.

The primary example of this gradual decline was the omission of the verbs "is" and "was" which showed a steady decline both in the number of changes as well as the total number of subjects making the changes. However, the decline in frequency could possibly have followed a similarly gradual pattern for changes in the cases of the "-s" suffix to indicate the third person singular present tense, the possessive "'s" suffix and the substitution of "have" for "has" had it
not been for the unexplainable increase in changes among the six year-olds (Table II). The uniform decline of changes in the imitation of "th" sounds was altered by the responses of the four year-old subjects who unexplainably produced the fewest number of /d/ for voiced "th" substitution of any of the age groups.

Perhaps what is even more interesting, and perhaps more potentially significant in the classroom situation, is the large decline in the frequency of changes at the seven year-old level and older. In all cases, the largest decline occurred between the six and seven year-olds. Table II indicates that, with very few exceptions, the differences in the number of changes among the four, five, and six year-olds are very small. However, even with the omission of the divergent responses of the six year-olds, the changes among the seven year-olds were generally fewer than those noted for the older groups with gradually fewer changes appearing among the responses of the eight and nine year-olds. While no definite explanation for the decrease in imitative changes at approximately age seven can be afforded by the present study, the role of maturation, constant exposure to a middle-class institution such as the school, and the ability of the older subjects to interchange dialects appear to be potentially reasonable conjectures.

The role of sex as a variable in the imitation of the study's stimulus sentences can be inferred from Table IV
The responses of the subjects to the imitative task indicated that females produced fewer changes between the ages of four and six years. The males in these groups made as many as twenty-seven and as few as fourteen more total changes than females. However, the seven year-old subjects, both male and female, produced an approximately equivalent number of changes. While the eight year-old males produced more changes than did females, the nine year-old females made more changes on imitation that did the nine year-old males. This over-all pattern, therefore, implies that while males in the study utilized more frequent dialectal characteristics than did females at the earlier age levels, the differences between sexes become less pronounced and regular by approximately age seven.

Recommendations

The results of this study indicated that, among a group of economically disadvantaged black children who were selected on the basis of a number of specific criteria, those subjects who indicated mastery of the non-identity requirement of pronominalization were approximately seven-and-a-half years of age. An investigation of selected language characteristics of these children indicated that it was also the children of approximately seven years of age who began to produce fewer changes in imitated sentences. The result of this decrease in imitative changes was the production of sentences by older children which included fewer dialectal
features than those produced by younger children. While it is not possible to make any generalizations on the basis of this single study, it would appear to be a profitable avenue for further investigations to examine the possible relationship of the decreased use of dialectal features and the increased comprehension of standard English by speakers of other dialects. Specifically, it would be profitable to investigate whether or not the use of a dialect significantly impedes comprehension of standard English and to what degree, as well as to describe the chronological stages, if any, at which the native dialect becomes less of an influence on the production and comprehension of standard English. For practical purposes, such studies could provide remedial English teachers and speech pathologists with information regarding the ages at which dialect speakers could best profit from remedial language programs.

The procedures used in this study would appear to be useful for implementing the research directions mentioned above and for investigating other grammatical structures, particularly if the studies were intent upon describing a group of children's comprehension of those structures. The task of imitation was useful as a tool for stimulating production of certain features of native speech. However, as was the case in the present study, it is difficult to stimulate a large variety of responses with even a large number of stimulus sentences. Detailed samples of native language
would probably be more effectively collected through the stimulation of spontaneous speech in the manner which Labov (2) and Wolfram (3) advocated.

Further research based upon the methodology utilized in the present study could possibly profit from a few additional considerations. For example, regarding the task of comprehension of the non-identity requirement of pronominalization, it might prove valuable to replicate the study utilizing a group of older children for the purpose of finding a group with one hundred per cent comprehension by all subjects as was the case in Chomsky's study. At the same time, it would be interesting to note if the responses of a group composed of subjects younger than the youngest subjects of the present study, perhaps three-and-a-half to four-and-a-half years of age, would conform to the uniform pattern of development noted in this study. For the purpose of assessing the effect of language programs upon the comprehension of a group of black children, it could possibly be of value to compare the developmental sequence of children who have had exposure to a Head Start program to a group of children with no such experience.

Reduplication of the task of imitation would be valuable for the purpose of clarifying the responses of the six year-olds in the present study. If the present responses were corroborated, it might prove interesting to discover those variables which led to the increase of imitative changes
among both males and females. In addition, it would be worthwhile to duplicate the study, with perhaps the addition of spontaneous speech activities, to substantiate the inference that a transitional period for dialect usage by the black children in the study may possibly occur at approximately seven years of age. Finally, reduplication and extension of the study to include ten year-olds could provide additional information regarding the apparent disparity of results between males and females on the task of imitation, particularly among younger subjects.
CHAPTER BIBLIOGRAPHY


INSTRUCTIONS AND STIMULUS SENTENCES

1. Instructions
   A. Imitation: Listen carefully and say what I say.
   B. Comprehension: I am going to say some things about Mickey and Donald. Point to the one that I am talking about.

2. Practice Sentences
   A. Imitation: 1) Mickey has big ears.
      2) Donald has a blue shirt.
      3) He told Donald to run.
   B. Comprehension: 1) Donald is jumping.
      (Who is jumping?)
      2) Mickey is running fast.
      (Who is running fast?)
      3) He is hitting Mickey.
      (Who is hitting?)
      (Who is being hit?)
      4) He is happy because Donald is mad.
      (Who is happy?)
      (Who is mad?)

3. Test Sentences
   Key: (*) indicates sentences containing the non-identity requirement
   (#) indicates questions to be scored
   * A. He is happy that Mickey won the race.
      # (Who is happy?)
      (Who won the race?)
* B. He didn't know why Donald felt so sad.
   # (Who didn't know?)
   (Who felt so sad?)

* C. He has the candy that Mickey wanted.
   (Who wanted the candy?)
   # (Who has the candy?)

D. If he wins the race, Donald will be happy.
   (If "who" wins the race?)
   (Who will be happy?)

* E. He'll eat Mickey's candy.
   # (Who'll eat the candy?)
   (Whose candy is it?)

* F. He doesn't know where Mickey is hiding.
   # (Who doesn't know?)
   (Who is hiding?)

G. When he was playing baseball, Mickey fell down.
   (Who was playing baseball?)
   (Who fell down?)

H. Donald thinks he knows everything.
   (Who knows everything?)
   (Who thinks?)

* I. He is running over to Mickey's house.
   (Whose house is it?)
   # (Who is running?)

J. Mickey said that he was hungry for a big dinner.
   (Who was hungry?)
   (Who said it?)

* K. He says Mickey is funny.
   # (Who says?)
   (Who is funny?)

* L. He has taken Donald's hat.
   (Whose hat is it?)
   # (Who has taken it?)

* M. He thinks Donald knows how to fly.
   # (Who thinks?)
   (Who knows how to fly?)
N. Donald thinks he's going to win the race.
   (Who thinks?)
   (Who's going to win the race?)

* O. He was five years old when Mickey broke his leg.
   # (Who was five years old?)
   (Who broke his leg?)
Personal Data Sheet

Subject: #1  Sex: F  Age: 4-9  Grade: K  Family Members: 3

Father's Occupation: Service station attendant

Mother's Occupation: Housewife

Parents' Educational Background: Neither parent completed high school

Results of Columbia Mental Maturity Scale: 99 (Age Deviation Score)

RESPONSES

IMITATION

Responses to Questions (C = Correct; I = Incorrect)

1. hi həpI fə miki wən ə res // I
2. hi dIn no wə dənəl fəl so səd // I
3. hi həv e kən di ət miki wənId // C
4. If hi wIn ə res dənəld wId bi həpI //
5. hi it miki hənId // C
6. wən hi wəz pləjIn besbəl miki fəl daum //
7. hi dIno wər miki həldIn // C
8. dənəld əIýk hi noz EvrəIn //
9. hi rənIn ovətə miki həus // C
10. miki sə ʃət hi wəz həj grəI fərə bIg dInʃ //
11. hi se miki Iz fənI // C
12. hi təkən dənəl hət // C
13. hięIýk dənəld no hau tə fləI // I
14. dənəld əIýk hi gənə wIn ə res //
15. hi wə fəI jIR old wən miki brok hIz ləg // I

Percentage Correct: 60
Personal Data Sheet

Subject: #2  Sex: M  Age: 4-10  Grade: K  Family Members: 10

Father's Occupation: Service station attendant
Mother's Occupation: School custodian

Parents' Educational Background: Neither parent completed high school

Results of Columbia Mental Maturity Scale: 98 (Age Deviation Score)

RESPONSES

<table>
<thead>
<tr>
<th>Imitation</th>
<th>Responses to Questions (C - Correct; I - Incorrect)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. hi Iz hæpl jæt miliki wan jæ res //</td>
<td>C</td>
</tr>
<tr>
<td>2. hi dono wæl dæøl fel so sæd //</td>
<td>I</td>
</tr>
<tr>
<td>3. hi hæv jæ kændI wæt miliki wanId //</td>
<td>I</td>
</tr>
<tr>
<td>4. If hi win dæ res dæøl wæl bi hæpl //</td>
<td></td>
</tr>
<tr>
<td>5. hi it miliki kændI //</td>
<td>I</td>
</tr>
<tr>
<td>6. wan hi plejIn besbøl miliki fel dan //</td>
<td></td>
</tr>
<tr>
<td>7. hi dono wær miki haidIn //</td>
<td>C</td>
</tr>
<tr>
<td>8. dæøl tiøk hi no evoxøj //</td>
<td></td>
</tr>
<tr>
<td>9. hi rønIn ovø tu miki hæus //</td>
<td>I</td>
</tr>
<tr>
<td>10. miliki se hi hægri fær a big dïnæ //</td>
<td></td>
</tr>
<tr>
<td>11. hi se miki Iz fænI //</td>
<td>C</td>
</tr>
<tr>
<td>12. hi hæz tekIn dæøl hæt //</td>
<td>C</td>
</tr>
<tr>
<td>13. hi tiøk dæøl no hæu tu flai //</td>
<td>I</td>
</tr>
<tr>
<td>14. dæøl tiøk hi gæø wæn æ res //</td>
<td></td>
</tr>
<tr>
<td>15. hi flæ jîræ ol wan miki brok hîz læg //</td>
<td>I</td>
</tr>
</tbody>
</table>

Percentage Correct: 40
# Personal Data Sheet

**Subject:** #3  
**Sex:** F  
**Age:** 4-10  
**Grade:** K  
**Family Members:** 3

**Father's Occupation:** Laborer  
**Mother's Occupation:** Housewife  
**Parents' Educational Background:** Neither parent completed high school

**Results of Columbia Mental Maturity Scale:** 99 (Age Deviation Score)

---

**RESPONSES**

<table>
<thead>
<tr>
<th></th>
<th>Imitation</th>
<th>Responses to Questions (C - Correct; I - Incorrect)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>hi iz hæpli dæt miKI wæn ə res //</td>
<td>C</td>
</tr>
<tr>
<td>2.</td>
<td>hi done wAI dænɔl fɔl so səd //</td>
<td>I</td>
</tr>
<tr>
<td>3.</td>
<td>hi hæ.zə kænI dæt miKI wænId //</td>
<td>C</td>
</tr>
<tr>
<td>4.</td>
<td>If hi wIn de res dænɔl WI hi hæpli //</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>hil it miKI kændI //</td>
<td>I</td>
</tr>
<tr>
<td>6.</td>
<td>wæn hi pleJIn besbɔl miKI fɔl dævn //</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>hi dİno wɛr miKI hældIn //</td>
<td>G</td>
</tr>
<tr>
<td>8.</td>
<td>dænɔl tIŋk hi no ɛvətIŋ //</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>hi ranIn oVe tə miKI hævs //</td>
<td>I</td>
</tr>
<tr>
<td>10.</td>
<td>miKI se hi hæŋgri fo ə bɪg dɪnə //</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>hi se miKI fænI //</td>
<td>C</td>
</tr>
<tr>
<td>12.</td>
<td>hi tɛkIn dænɔl hæt //</td>
<td>I</td>
</tr>
<tr>
<td>13.</td>
<td>hi ɔIŋks dænɔl no hæv tu flai //</td>
<td>I</td>
</tr>
<tr>
<td>14.</td>
<td>dænə ɔIŋk hi gænə wIn de res //</td>
<td></td>
</tr>
<tr>
<td>15.</td>
<td>hi wə fælv jIr old wɛn miKI brok hɪz lɛɡ //</td>
<td>I</td>
</tr>
</tbody>
</table>

**Percentage Correct:** 40
Personal Data Sheet

Subject: #4 Sex: M Age: 4-5 Grade: K Family Members: 3

Father's Occupation: Construction worker

Mother's Occupation: Rest home attendant

Parents' Educational Background: Neither parent completed high school

Results of Columbia Mental Maturity Scale: 117 (Age Deviation Score)

RESPONSES

<table>
<thead>
<tr>
<th>Imitation</th>
<th>Responses to Questions (C - Correct; I - Incorrect)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. hi hæpI jik miKI won ø res //</td>
<td>I</td>
</tr>
<tr>
<td>2. hi dIn no wa donøl fçl so są d //</td>
<td>C</td>
</tr>
<tr>
<td>3. hi hæv ø kændI jik miKI wonId //</td>
<td>C</td>
</tr>
<tr>
<td>4. If hi win ø res donøl wil bi hæpI //</td>
<td></td>
</tr>
<tr>
<td>5. hil it miKiz kændI //</td>
<td>I</td>
</tr>
<tr>
<td>6. wan hi plejIn besbål miKI fçl davn //</td>
<td></td>
</tr>
<tr>
<td>7. hi dáztnt no wer miKI iz háldIn //</td>
<td>I</td>
</tr>
<tr>
<td>8. donøl ìkhi nóz évréIj //</td>
<td></td>
</tr>
<tr>
<td>9. hi rånIn ovø té miKI hávs //</td>
<td>C</td>
</tr>
<tr>
<td>10. miKI sø hi hægri fôr ø big dInæ //</td>
<td></td>
</tr>
<tr>
<td>11. hi sëz miKI iz fænI //</td>
<td>C</td>
</tr>
<tr>
<td>12. hi hæz tækIn donøl hæt //</td>
<td>I</td>
</tr>
<tr>
<td>13. hi ìk donøl no hávte flæI //</td>
<td>I</td>
</tr>
<tr>
<td>14. donøl ìk hiz gænø win ø res //</td>
<td></td>
</tr>
<tr>
<td>15. hi wø faIv jIr ol wen miKI brok hiz leg //</td>
<td>C</td>
</tr>
</tbody>
</table>

Percentage Correct: 50
Personal Data Sheet

Subject: #5 Sex: P Ages: 4-9 Grade: K Family Members: 4
Father's Occupation: Laborer
Mother's Occupation: Housewife
Parents' Educational Background: Neither parent completed high school
Results of Columbia Mental Maturity Scale: 108 (Age Deviation Score)

RESPONSES

Imitation      Responses to Questions (C - Correct; I - Incorrect)
1. hi Iz hæpi ʃæt miki wən tə res // C
2. hi dint no ʃæt dəŋəl fɛlt so səd // C
3. hi hæv ʃə kændə ʃə miki wənId // I
4. If hi wən tə res dəŋəl wɪ be hæpi //
5. hɪl it mɪkɪz kændɪ // C
6. wən hi wəz pleʃIn besbɔl mɪkɪ fʊl daʊn //
7. hi dono wərz mɪkɪ Iz hædɪn // C
8. dəŋəl əɪj k hɪ noz əvɪtɪn //
9. hi Iz rænɪn oʊv tə mɪkɪz hævs // I
10. mɪkɪ sə hi hægri fə ə blɪg dɪnʃ //
11. hi sə mɪkɪ Iz fæmɪ // I
12. hi hæz tɛkɪn dəŋəlz hæ.t // I
13. hɪz əɪjks dəŋəl noz hæv tu flæ // C
14. dəŋəl əɪjks hɪz gənə rɪn ə res // C
15. hi fælɪv jɪrz ol əd wən mɪkɪ brək hɪz lɛɡ // C

Percentage Correct: 60
Personal Data Sheet

Subject: #6  Sex: F  Age: 4-10  Grade: K  Family Members: 7

Father's Occupation: Rest home attendant
Mother's Occupation: Rest home attendant
Parents' Educational Background: Neither parent completed high school
Results of Columbia Mental Maturity Scale: 29 (Age Deviation Score)

RESPONSES

Imitation | Responses to Questions (C - Correct; I - Incorrect)
---|---
1. hi hæpl ðæ mìkî won ø res // | C
2. hi dîno wâl dønål fîlt so sæd // | C
3. hi hæv ðæ kændî dæt mìkî wonîd // | I
4. If hi wîn ðø res dønål wîl bi hæpl // | 
5. hil it mîkîz kændî // | I
6. wîn hi wî plejîn besbøl mìkî fêl davn // | 
7. hi dînt no wêr mìkî haldîn // | C
8. dønål Ðlîk hi noz ëvri0In // | 
9. hi Iz rønîn ove tø mìkîz hâvs // | I
10. mìkî sêd ðæt hi wê hâgrî fôr ø blîg dînê // | 
11. hi sêz mìkî Iz fani // | C
12. hi hæz tekîn dønål hæt // | C
13. hi Ðlîk dønål noz hau tu flai // | I
14. dønål Ðlîks hi gowîn tu wîn ø res // | 
15. hi wêz falv jîrz old wên mìkî brøk hîz lêg // | C

Percentage Correct: 60
Personal Data Sheet

Subject: #7 Sex: M Age: 4-9 Grade: K Family Members: 5

Father's Occupation: Laborer

Mother's Occupation: Housewife

Parents' Educational Background: Neither parent completed high school

Results of Columbia Mental Maturity Scale: 95 (Age Deviation Score)

RESPONSES

<table>
<thead>
<tr>
<th>Imitation</th>
<th>Response to Questions (C - Correct; I - Incorrect)</th>
</tr>
</thead>
<tbody>
<tr>
<td>hi hæpl dæt miki wen ø res //</td>
<td>C</td>
</tr>
<tr>
<td>hi dino wa dønal fe₁ so sæ-d //</td>
<td>I</td>
</tr>
<tr>
<td>hi hæv ø kædi ffe miki wønId //</td>
<td>I</td>
</tr>
<tr>
<td>If dønal win ø res hi wil bi hæpl //</td>
<td></td>
</tr>
<tr>
<td>hi it miki kændI //</td>
<td>I</td>
</tr>
<tr>
<td>wen hi ple Jin beb₁ miki ffe₁ døyn //</td>
<td></td>
</tr>
<tr>
<td>hi done war miki Iz haidIn //</td>
<td>C</td>
</tr>
<tr>
<td>dønal Θɪy k hi no æræIɪ //</td>
<td></td>
</tr>
<tr>
<td>hi ranɪn te miki hævs //</td>
<td>C</td>
</tr>
<tr>
<td>miki se hi hægrɪ fo ø bɪg dɪnæ //</td>
<td></td>
</tr>
<tr>
<td>hi se miki Iz fænt //</td>
<td>I</td>
</tr>
<tr>
<td>hi hæz tekn dønælds hæt //</td>
<td>C</td>
</tr>
<tr>
<td>hi Θɪy k dønal no hæv te flæ //</td>
<td>C</td>
</tr>
<tr>
<td>dønal Θɪy k hi goɪn te wɪn ø res //</td>
<td></td>
</tr>
<tr>
<td>hi faɪv jirz ol wen miki brok hɪz læg //</td>
<td>I</td>
</tr>
</tbody>
</table>

Percentage Correct: 50
Personal Data Sheet

Subject: #8  Sex: M  Age: 4-9  Grade: K  Family Members: 7

Father's Occupation: Dairy barn employee

Mother's Occupation: Waitress

Parents' Educational Background: Father completed high school

Results of Columbia Mental Maturity Scale: 95 (Age Deviation Score)

RESPONSE

<table>
<thead>
<tr>
<th>Imitation</th>
<th>Responses to Questions (C - Correct; I - Incorrect)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. hi hₐₚl ₐₜ mikut won ᵩ res //</td>
<td>C</td>
</tr>
<tr>
<td>2. hi din no wai donl fel sad //</td>
<td>C</td>
</tr>
<tr>
<td>3. hi hₐₜ v ₙ kₐₚndI wet mikut wantI //</td>
<td>C</td>
</tr>
<tr>
<td>4. If hi win ᵩ res donl wi bi hₐₚl //</td>
<td></td>
</tr>
<tr>
<td>5. hil it mikut kₐₚndI //</td>
<td>I</td>
</tr>
<tr>
<td>6. wen hi plejIn besb₁ mikut fel dauIn //</td>
<td></td>
</tr>
<tr>
<td>7. hi don no w₂r mikut haIIn //</td>
<td>I</td>
</tr>
<tr>
<td>8. don₁ ₀Iₐk hi no ₂vₙ ₀In //</td>
<td></td>
</tr>
<tr>
<td>9. hi ranIn oᵩ tₜ mikut haₜs //</td>
<td>I</td>
</tr>
<tr>
<td>10. mikut se ₙₜ hi wₙₜ hanₚI fo ₀ bIg dIₜn //</td>
<td></td>
</tr>
<tr>
<td>11. hi se mikut Iz fanI //</td>
<td>I</td>
</tr>
<tr>
<td>12. hi tekIn don₁ hₜₜ //</td>
<td>C</td>
</tr>
<tr>
<td>13. hi ₀I₂kIn don₁ no hₚₚ tₜ flaI //</td>
<td>I</td>
</tr>
<tr>
<td>14. don₁ ₀I₀k hi gan win res //</td>
<td></td>
</tr>
<tr>
<td>15. hi faₜₜ jirz ol wen mikut brok hi leg //</td>
<td>I</td>
</tr>
</tbody>
</table>

Percentage Correct: 40
Personal Data Sheet

Subject: #9  Sex: F  Age: 5-10  Grade: K  Family Members: 5

Father's Occupation: Lumberyard employee

Mother's Occupation: Housewife

Parents' Educational Background: Both parents completed high school

Results of Columbia Mental Maturity Scale: 103 (Age Deviation Score)

RESPONSES

<table>
<thead>
<tr>
<th>Imitation</th>
<th>Responses to Questions (C - Correct; I - Incorrect)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. hi iz h₈p₇ ot m₈kI w₇nz ÷ res //</td>
<td>C</td>
</tr>
<tr>
<td>2. hi d₈nt no d₈t d₈n₁ f₈l so s₈-d //</td>
<td>C</td>
</tr>
<tr>
<td>3. hi h₈z ÷ k₈ndl d₈t m₈kI w₇nld //</td>
<td>C</td>
</tr>
<tr>
<td>4. If hi w₁nz ÷ res d₈n₁ wil bi h₈p₇ //</td>
<td>C</td>
</tr>
<tr>
<td>5. hil it m₈kiz k₈ndl //</td>
<td>C</td>
</tr>
<tr>
<td>6. wen hi wₑz pleJNI besb₁ m₈kI f₈l d₈vn //</td>
<td>C</td>
</tr>
<tr>
<td>7. hi d₈z₇nt no wₑr m₈kI iz h₁ldI //</td>
<td>C</td>
</tr>
<tr>
<td>8. d₈n₁ Ï₇k hi noz ëv₁ Ï₇ //</td>
<td>C</td>
</tr>
<tr>
<td>9. hi Iz r₇nI₁ ov₁tₐ m₈kiz h₇v₁ //</td>
<td>C</td>
</tr>
<tr>
<td>10. m₈kI sₑd hi wₑz h₇₈grI f₇r ø b₁g dÎnₑ //</td>
<td>C</td>
</tr>
<tr>
<td>11. hi sₑz m₈kI Iz f₇n₁ //</td>
<td>C</td>
</tr>
<tr>
<td>12. hi hₑz teKin d₈n₁ h₇p₇ //</td>
<td>C</td>
</tr>
<tr>
<td>13. hi Ï₇k₁s d₈n₁d noz h₇v₁ tₑ fl₇ //</td>
<td>C</td>
</tr>
<tr>
<td>14. d₈n₁ Ï₇k₁s h₁z g₁d₁ tu w₁n₁ ḟₑ res //</td>
<td>C</td>
</tr>
<tr>
<td>15. hi wₑz f₇lₐv j₁r₁z old wen m₈kI brok h₁z lₑg //</td>
<td>I</td>
</tr>
</tbody>
</table>

Percentage Correct: 90
Personal Data Sheet

Subject: #10  Sex: F  Age: 5-10  Grade: K  Family Members: 10

Father's Occupation: Rest home employee
Mother's Occupation: Housewife
Parents' Educational Background: Mother completed high school
Results of Columbia Mental Maturity Scale: 99 (Age Deviation Score)

RESPONSES

<table>
<thead>
<tr>
<th>Imitation</th>
<th>Responses to Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(C - Correct; I - Incorrect)</td>
</tr>
<tr>
<td>1. hi hāpI ʃət mIKI wən ə res //</td>
<td>C</td>
</tr>
<tr>
<td>2. hi dİdİnt no wAI dɔnəl fɛlt so sɚd //</td>
<td>C</td>
</tr>
<tr>
<td>3. hi hɛz ɟ kɛndI wət mIKI wɔntɪd //</td>
<td>C</td>
</tr>
<tr>
<td>4. If hi wɪn də res dɔnəl wɪl bi hɛpI //</td>
<td></td>
</tr>
<tr>
<td>5. hɪl it mIKIz kɛndI //</td>
<td>C</td>
</tr>
<tr>
<td>6. wɛn hɪz pleİn besbol mIKI fɛl dawn //</td>
<td></td>
</tr>
<tr>
<td>7. hi dɔznt no wɛr mIKI Iz hælİn //</td>
<td>C</td>
</tr>
<tr>
<td>8. dɔnəl siIk hI no ɛvɛrɛI //</td>
<td></td>
</tr>
<tr>
<td>9. hi Iz rænɪn oʊvɛ tə mIKIz hævs //</td>
<td>C</td>
</tr>
<tr>
<td>10. mIKI sɛd hi wɔz hæŋgrI fɔr ə bɪg dɪnɪ //</td>
<td></td>
</tr>
<tr>
<td>11. hi sɛz mIKI Iz fənI //</td>
<td>C</td>
</tr>
<tr>
<td>12. hi hɛz tekɪn dɔnəlz hɛ pt //</td>
<td>C</td>
</tr>
<tr>
<td>13. hi ɛI极少 dɔnəld no hæv tə flaɪ //</td>
<td>I</td>
</tr>
<tr>
<td>14. dɔnəld ɛI极少 hɪz gənə wɪn ə res //</td>
<td>I</td>
</tr>
<tr>
<td>15. hi wɔz fælv jɪrz ɔld wɛn mIKI brok hɪz lɛɡ //</td>
<td>I</td>
</tr>
</tbody>
</table>

Percentage Correct: 80
Personal Data Sheet

Subject: #11  Sex: F  Age: 5-7  Grade: K  Family Members: 4

Father's Occupation: Dairy bar employee

Mother's Occupation: Housewife

Parents' Educational Background: Neither parent completed high school

Results of Columbia Mental Maturity Scale: 99 (Age Deviation Score)

### RESPONSES

<table>
<thead>
<tr>
<th>Imitation</th>
<th>Responses to Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. hi Iz hæpl dæt miki won ø res //</td>
<td>C</td>
</tr>
<tr>
<td>2. hi dïdïnt no wæ dœnœl fel so sæd //</td>
<td>C</td>
</tr>
<tr>
<td>3. hi hæv ø kændl øt miki wæld //</td>
<td>C</td>
</tr>
<tr>
<td>4. If hi wîn dœ res dœnœl hæpl //</td>
<td>C</td>
</tr>
<tr>
<td>5. hil it miki kændl //</td>
<td>I</td>
</tr>
<tr>
<td>6. wæn hi plejIn bejbal miki fel dávn //</td>
<td>C</td>
</tr>
<tr>
<td>7. hi don no wàr miki Iz haidIn //</td>
<td>C</td>
</tr>
<tr>
<td>8. dœnœl øæj k hi no ëvœIj //</td>
<td>C</td>
</tr>
<tr>
<td>9. hi wæz rænIn ove tø miki hævs //</td>
<td>C</td>
</tr>
<tr>
<td>10. miki sel hi wæz hægri fo ø blig dins //</td>
<td>C</td>
</tr>
<tr>
<td>11. hi sel miki Iz fœnI //</td>
<td>C</td>
</tr>
<tr>
<td>12. hi tekin dœnœd hæt //</td>
<td>C</td>
</tr>
<tr>
<td>13. hi ØIj k dœnœd no hæv tø flai //</td>
<td>C</td>
</tr>
<tr>
<td>14. dœnœd ØIj k hiz goIn tu wîn ø res //</td>
<td>C</td>
</tr>
<tr>
<td>15. hi wæz faïv jîrs old wæn miki brok hîz leg //</td>
<td>C</td>
</tr>
</tbody>
</table>

Percentage Correct: 90
Personal Data Sheet

Subject: #12 Sex: F Age: 5-11 Grade: K Family Members: 7

Father's Occupation: Laborer

Mother's Occupation: Maid

Parents' Educational Background: Both parents completed high school

Results of Columbia Mental Maturity Scale: 101 (Age Deviation Score)

RESPONSES

<table>
<thead>
<tr>
<th>Imitation</th>
<th>Responses to Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. hi iz hæpl ʃæt mǐkí wən ø res //</td>
<td>C</td>
</tr>
<tr>
<td>2. hi dɪn no wæl dənəld fɛlt so səd //</td>
<td>I</td>
</tr>
<tr>
<td>3. hi hæv zæ kændi dæt mǐkí wəntɪd //</td>
<td>I</td>
</tr>
<tr>
<td>4. If hi wɪn ø res dənəld wɪl bi hæpl //</td>
<td></td>
</tr>
<tr>
<td>5. hi it mǐkí kændi //</td>
<td>C</td>
</tr>
<tr>
<td>6. wən hi pleʃɪn besbol mǐkí fɛl dəvn //</td>
<td></td>
</tr>
<tr>
<td>7. hi dɒnt no wər mǐkí iz hældɪŋ //</td>
<td>C</td>
</tr>
<tr>
<td>8. dənəld tɪŋks hi noz ɛvɪtɪŋ //</td>
<td></td>
</tr>
<tr>
<td>9. hi iz rənɪn tʃ mɪkɪz həvs //</td>
<td>C</td>
</tr>
<tr>
<td>10. mǐkí sɛz hi wəz həɡri fər ø bɪg dɪn //</td>
<td></td>
</tr>
<tr>
<td>11. hi sel mǐkí iz fənɪ //</td>
<td>C</td>
</tr>
<tr>
<td>12. hi hæz tɛkɪn dənəld hæt //</td>
<td>C</td>
</tr>
<tr>
<td>13. hi tɪŋks dənəldz no hæv tʃ ʃɛl //</td>
<td>I</td>
</tr>
<tr>
<td>14. dənəld tɪŋk hi gənø wɪn ø res //</td>
<td></td>
</tr>
<tr>
<td>15. hi fælv jɪrz əld wən mǐkí brok hi ləɡ //</td>
<td>C</td>
</tr>
</tbody>
</table>

Percentage Correct: 70
Personal Data Sheet

Subject: #13  Sex: M  Age: 5-10  Grade: K  Family Members: 5

Father's Occupation: Laborer
Mother's Occupation: Housewife
Parents' Educational Background: Neither parent completed high school
Results of Columbia Mental Maturity Scale: 95 (Age Deviation Score)

RESPONSES

Imitation                  Responses to Questions
                           (C - Correct; I - Incorrect)

1. his hÆpl dæt mikI wæn ø res //  C
2. hi din no wæ dænæl fel so sæd //  I
3. hi hæz ø kæni wæt mikI wænid //  C
4. If hi wIn dø res dænæl WI bi hæpl //
5. hil it mikIZ kæni //  C
6. wæn hi wæz plejIn besbæl mikI fel dævn //
7. hi dæno wær mikI ïz hældin //  C
8. dænæl tIjks hi noz ëvritIj //
9. hi ïz rænIn ovr te mikIZ hærs //  C
10. mikI sæd hi wæz hægrI fo ø big dIænæ //
11. hi se mikI ïz fænI //  I
12. hi hæz tækIn dænælz hæt //  C
13. hi tIjks dænæl no hær te flæl //  I
14. dænæl tIjks hi gænæ wIn dø res //
15. hi wæz fæl jIrz ol wæn mikI bRoK hiz læg //  C

Percentage Correct: 70
Personal Data Sheet

Subject: #14 Sex: M Age: 5-11 Grade: K Family Members: 10

Father's Occupation: Laborer
Mother's Occupation: Housewife

Parents' Educational Background: Mother completed high school

Results of Columbia Mental Maturity Scale: 101 (Age Deviation Score)

RESPONSES

<table>
<thead>
<tr>
<th>Imitation</th>
<th>Responses to Questions (C - Correct; I - Incorrect)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. hi hæ-pI dæ-t mɪkɪ wən də res //</td>
<td>I</td>
</tr>
<tr>
<td>2. hi dɪn no wə dæ-nəl fəl so səd //</td>
<td>C</td>
</tr>
<tr>
<td>3. hi hæ-d ə kændI wet mɪkɪ wənɪD //</td>
<td>I</td>
</tr>
<tr>
<td>4. If hi wɪn ø res dæ-nəl wɪl bi hæ-pI //</td>
<td></td>
</tr>
<tr>
<td>5. hil ɪt mɪkɪz kændI//</td>
<td>C</td>
</tr>
<tr>
<td>6. wən hi wə plɛʃɪŋ əbɛl mɪkɪ fəl dævn //</td>
<td></td>
</tr>
<tr>
<td>7. hi dæʒt nor wɪə mɪkɪ hældɪn //</td>
<td>C</td>
</tr>
<tr>
<td>8. dæ-nəl əɪ Jo hɪ no ɛvriɪɡ //</td>
<td></td>
</tr>
<tr>
<td>9. hi rənɪn oʊə tə mɪkɪ həvs //</td>
<td>C</td>
</tr>
<tr>
<td>10. mɪkɪ sə hi həɡrɪ fo ø əɪɡ dɪnə //</td>
<td></td>
</tr>
<tr>
<td>11. hi se mɪkɪ wəz fənɪ //</td>
<td>C</td>
</tr>
<tr>
<td>12. hi tɛkɪn dæ-nəl hæ-t //</td>
<td>C</td>
</tr>
<tr>
<td>13. hi tɪ Jo dæ-nəl no hɛv tə flæɪ //</td>
<td>I</td>
</tr>
<tr>
<td>14. dæ-nəl əɪ Jo hɪ gəmæɪn də reʊ //</td>
<td></td>
</tr>
<tr>
<td>15. hi wə fəlʊ Ʌɪɹz ol wən mɪkɪ brok hɪz Ʌɛɡ //</td>
<td>C</td>
</tr>
</tbody>
</table>

Percentage Correct: 70
Personal Data Sheet

Subject: #15  Sex: M  Age: 5-8  Grade: K  Family Members: 7
Father's Occupation: Cement finisher
Mother's Occupation: Housewife
Parents' Educational Background: Mother completed high school
Results of Columbia Mental Maturity Scale: 109 (Age Deviation Score)

RESPONSES

<table>
<thead>
<tr>
<th>Imitation</th>
<th>Responses to Questions (C - Correct; I - Incorrect)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. hi Iz h₃-pl d₇t miki w₇n d₇ res //</td>
<td>I</td>
</tr>
<tr>
<td>2. hi dIno w₇l d₇n·l f₇lt so s₇d //</td>
<td>I</td>
</tr>
<tr>
<td>3. hi h₃-v d₇ k₇nI w₇t miki w₇nId //</td>
<td>C</td>
</tr>
<tr>
<td>4. If hi wIn d₇ res d₇n·l w₁₁ bi h₃-pl //</td>
<td></td>
</tr>
<tr>
<td>5. hil it miki k₇ndI //</td>
<td>C</td>
</tr>
<tr>
<td>6. w₇n hi w₇ pleJIn besb₇l miki f₇l d₇vn //</td>
<td></td>
</tr>
<tr>
<td>7. hi dono w₇r miki h₇ldIn //</td>
<td>C</td>
</tr>
<tr>
<td>8. d₇n·l ƏI₇k hi no ɬvRIgIỊ //</td>
<td></td>
</tr>
<tr>
<td>9. hi ṁnIn o=&quot; t· miki ṁw₇s //</td>
<td>C</td>
</tr>
<tr>
<td>10. miki se hi h₃jgrI fo → bi dIne //</td>
<td></td>
</tr>
<tr>
<td>11. hi se miki f₃nI //</td>
<td>C</td>
</tr>
<tr>
<td>12. hi teki₇n d₇n·l h₇t //</td>
<td>C</td>
</tr>
<tr>
<td>13. hi ƏI₇k d₇n·l no h₇r tu fl₇I //</td>
<td>C</td>
</tr>
<tr>
<td>14. d₇n·l ƏI₇k hi g₇n₇ wIn → res //</td>
<td></td>
</tr>
<tr>
<td>15. hi faIv jIr ol w₇n miki br₇k hIz l₇g //</td>
<td>C</td>
</tr>
</tbody>
</table>

Percentage Correct: 80
Personal Data Sheet

Subject: #16  Sex: M  Age: 5-5  Grade: K  Family Members: 12

Father's Occupation: Laborer

Mother's Occupation: School cafeteria employee

Parents' Educational Background: Neither parent completed high school

Results of Columbia Mental Maturity Scale: 108 (Age Deviation Score)

RESPONSES

<table>
<thead>
<tr>
<th>Imitation</th>
<th>Responses to Questions (C = Correct; I = Incorrect)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. hi hapli daet miki wen res //</td>
<td>C</td>
</tr>
<tr>
<td>2. hi din no wa danel fel so sad //</td>
<td>C</td>
</tr>
<tr>
<td>3. hi hæv dæ kæní wat miki wanld //</td>
<td>C</td>
</tr>
<tr>
<td>4. If he win dæ res danel wil bi hæpl //</td>
<td>C</td>
</tr>
<tr>
<td>5. hil it mikiz kændI //</td>
<td>C</td>
</tr>
<tr>
<td>6. wen hi waz plejin besbæl miki fel dæn //</td>
<td>C</td>
</tr>
<tr>
<td>7. hi dinæ wær miki wæz halIn //</td>
<td>C</td>
</tr>
<tr>
<td>8. danel ΘΙيث hi no evrItæŋ //</td>
<td>C</td>
</tr>
<tr>
<td>9. hi ranIn ovøtæ miki hasv //</td>
<td>I</td>
</tr>
<tr>
<td>10. miki se hi wæz hægæI fo ð big dinæ //</td>
<td>C</td>
</tr>
<tr>
<td>11. hi se miki iz fanæ //</td>
<td>C</td>
</tr>
<tr>
<td>12. hi hæv tekIn danæl hæst //</td>
<td>C</td>
</tr>
<tr>
<td>13. hi ΘΙيث danæl no hav to flæ //</td>
<td>C</td>
</tr>
<tr>
<td>14. danæl ΘΙيث hi gææ winæ res //</td>
<td>C</td>
</tr>
<tr>
<td>15. hi flæ jIræ ol wen miki brok hi læg //</td>
<td>C</td>
</tr>
</tbody>
</table>

Percentage Correct: 90
Personal Data Sheet

Subject: #17  Sex:  M  Age:  6-8  Grade:  1  Family Members:  9

Father's Occupation:  Laborer

Mother's Occupation:  Housewife

Parents' Educational Background:  Mother completed high school

Results of Columbia Mental Maturity Scale:  109 (Age Deviation Score)

RESPONSES

Imitation  Responses to Questions
(C - Correct; I - Incorrect)

1. hi Iz hæ.pl dæ.t miki wæn ø res //  C
2. hi dIn no wæl dæ.nl fæ.l so sæ.l //  I
3. hi hæ.ø so kæ.nl wæt miki wænId //  C
4. If hi wIn dæ res dæ.nl wIl bi hæ.pl //
5. hi it miki kæ.ndI //  C
6. wæn hi plejIn bes.nl miki fæ.l dæ.vn //
7. hi dono wæ.t miki hæIdIn //  C
8. dæ.nl ðæ.j k hi no evmItIñ //
9. hi ræIn ovè tø miki hæv //  I
10. miki se hi hæ.grI fo ø bIg dInø //
11. hi se miki fæ.nI //  C
12. hi tekJIn dæ.nl hæt //  C
13. hi ðIñ k dæ.nl no hæv tu flaI //  C
14. dæ.nl ðIñ ks hi gænø wIn ø res //
15. hi fælv jIrz oId wæn miki brok hiz lëg //  C

Percentage Correct:  80
Personal Data Sheet

Subject: #18  Sex: M  Age: 6-10  Grade: 1  Family Members: 3

Father's Occupation: Laborer

Mother's Occupation: Waitress

Parents' Educational Background: Neither parent completed high school

Results of Columbia Mental Maturity Scale: 106 (Age Deviation Score)

RESPONSES

Imitation

Responses to Questions (C = Correct; I = Incorrect)

1. hi hapl dæt miki wən ø res //  C
2. hi dino wai dænəl fəl so səd //  C
3. hi hævə kændi wət miki wənd //  C
4. If he wən ø res dænəl wəl bi hæpu //  C
5. hil it miki kændi //  C
6. wən hi plejin besbal miki fəl dəvn //  C
7. hi dəzn no wər miki Iz haIdIn //  I
8. dænəl ŋIk hiz no təvədIk //  C
9. hi rənIn ovə tə miki hævs //  C
10. miki se hi wəz həŋgrI fər ø bIg dInə //  C
11. hi sə miki Iz fənI //  C
12. hi hæz tekIn dænəl hæt //  I
13. hi ŋIk dænəld no hər tu flai //  C
14. dænəl ŋIk hiz gænə wən ø res //  C
15. hi fælv jørz ol wən miki brok hiz l̩̩g //  C

Percentage Correct: 80
Personal Data Sheet

Subject: #19  Sex: F  Age: 6-10  Grade: 1  Family Members: 6

Father's Occupation: Dairy bar employee

Mother's Occupation: Housewife

Parents' Educational Background: Neither parent completed high school

Results of Columbia Mental Maturity Scale: 107 (Age Deviation Score)

RESPONSES

Imitation

<table>
<thead>
<tr>
<th>Response</th>
<th>Responses to Questions (C = Correct; I = Incorrect)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. hi hæ pl ðæ mïkï wøn ø res //</td>
<td>C</td>
</tr>
<tr>
<td>2. hi dìn no wäl dâmêl fêl so sêd //</td>
<td>C</td>
</tr>
<tr>
<td>3. hi hæ d ø kændi wê mïkï wønId //</td>
<td>1</td>
</tr>
<tr>
<td>4. If hi wìn ø res dâmêl wîl bî hæ pl //</td>
<td></td>
</tr>
<tr>
<td>5. hi it mïkï kændi //</td>
<td>C</td>
</tr>
<tr>
<td>6. wën hi wëz plejIn besbol mïkï fêl davn //</td>
<td></td>
</tr>
<tr>
<td>7. hi dazn no wer mïkï Iz hâIdIn //</td>
<td>C</td>
</tr>
<tr>
<td>8. dâmêl Òlôk hi no evriIIn //</td>
<td></td>
</tr>
<tr>
<td>9. hi Iz rûnIn owê tu mïkï hâvs //</td>
<td>C</td>
</tr>
<tr>
<td>10. mïkï se hi hñ grI fo ø big dînë //</td>
<td></td>
</tr>
<tr>
<td>11. hi sëz mïkï Iz fândI //</td>
<td>C</td>
</tr>
<tr>
<td>12. hi hëz tekIn dâna hæt //</td>
<td>C</td>
</tr>
<tr>
<td>13. hi Òlôk dâmêl no hâv tu flai //</td>
<td>C</td>
</tr>
<tr>
<td>14. dâmêl Òlôk hi gûne wìn ø res //</td>
<td></td>
</tr>
<tr>
<td>15. hi wëz faîv jîr old wën mïkï brok hîz lèg //</td>
<td>C</td>
</tr>
</tbody>
</table>

Percentage Correct: 90
Personal Data Sheet

Subject: #20  Sex: F  Age: 6-9  Grade: 1  Family Members: 5

Father's Occupation: Laborer

Mother's Occupation: Housewife

Parents' Educational Background: Neither parent completed high school

Results of Columbia Mental Maturity Scale: 102 (Age Deviation Score)

RESPONSES

<table>
<thead>
<tr>
<th>Imitation</th>
<th>Responses to Questions (C - Correct; I - Incorrect)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. hi hōpI kəz miki wən ø res //</td>
<td>C</td>
</tr>
<tr>
<td>2. hi dono wəI dənəl fel so səd //</td>
<td>C</td>
</tr>
<tr>
<td>3. hi həz ø kəni wət miki wənId //</td>
<td>C</td>
</tr>
<tr>
<td>4. If hi wIn ø res dənəl wəI bi həpI //</td>
<td>C</td>
</tr>
<tr>
<td>5. hil it miki kəni //</td>
<td>C</td>
</tr>
<tr>
<td>6. wən hi wəz plejIn besbəl miki fel dən //</td>
<td>C</td>
</tr>
<tr>
<td>7. hi dono wər miki həldIn //</td>
<td>C</td>
</tr>
<tr>
<td>8. dənəl ΘIj k hi no evrIΘIj //</td>
<td>C</td>
</tr>
<tr>
<td>9. hi Iz rənIn oved tu miki həus //</td>
<td>C</td>
</tr>
<tr>
<td>10. miki se hi wəz həŋgri fo ø bIg dInə //</td>
<td>C</td>
</tr>
<tr>
<td>11. hi se miki Iz fənI //</td>
<td>C</td>
</tr>
<tr>
<td>12. hi həz tekIn dənəl hət //</td>
<td>C</td>
</tr>
<tr>
<td>13. hi ΘIj k dənə no həv tu flai //</td>
<td>C</td>
</tr>
<tr>
<td>14. dənə ΘIj k hi gənə wIn ø res //</td>
<td>C</td>
</tr>
<tr>
<td>15. hi wəz flai jIrz old wən miki brok hIz ləg //</td>
<td>C</td>
</tr>
</tbody>
</table>

Percentage Correct: 100
Personal Data Sheet

Subject: #21  Sex: F  Age: 6-9  Grade: 1  Family Members: 4

Father's Occupation: Laborer

Mother's Occupation: Housewife

Parents' Educational Background: Neither Parent completed high school

Results of Columbia Mental Maturity Scale: 107 (Age Deviation Score)

RESPONSES

Imitation

Responses to Questions
(C - Correct; I - Incorrect)

1. hi Iz hæpl dæt miki wîn d res //  C
2. hi din no wai dæn al fæl so sæd //  C
3. hi hæ z ðæ kændI wot miki wænl //  C
4. If hi wîn dæ res dæn al wîl bi hæ pl //  C
5. hi it miki kændI //  C
6. wen hi wæz plejIn besbæl miki fæl dæn //  C
7. hi dont no wær miki Iz hældIn //  C
8. dæn al ðIj k hi no eVy ðIj //  C
9. hi Iz rænIn owy tu miki hæs //  C
10. miki sêd ðæt hi wæz hængri fo ðæ big dînæ //  C
11. hi sëz miki Iz rænI //  C
12. hi hæ z tekin dæn al hæ t //  C
13. hi ðIj k dæn al no hæv tu flæI //  C
14. dæn al ðIj k hi goIj tu wîn dæ res //  C
15. hi wæz fæl v jîrz ðold wen miki brok hîz lêg //  C

Percentage Correct: 100
Personal Data Sheet

Subject: #22 Sex: M Age: 6-8 Grade: 1 Family Members: 4

Father's Occupation: Dairy bar employee

Mother's Occupation: Housewife

Parents' Educational Background: Neither parent completed high school

Results of Columbia Mental Maturity Scale: 111 (Age Deviation Score)

RESPONSES

Imitation

<table>
<thead>
<tr>
<th>RESPONSES TO QUESTIONS</th>
<th>(C - Correct; I - Incorrect)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. hi Iz həpɪ ʃət Miki wən ə res //</td>
<td>C</td>
</tr>
<tr>
<td>2. hi dɪn no wəl dənə ʃəl so əd //</td>
<td>C</td>
</tr>
<tr>
<td>3. hi hæ ʃə kəni wət Miki wənId //</td>
<td>C</td>
</tr>
<tr>
<td>4. If hi wɪn də res dənə wɪl bi hæpɪ //</td>
<td></td>
</tr>
<tr>
<td>5. hil it Miki kəndɪ //</td>
<td>C</td>
</tr>
<tr>
<td>6. wən hi plejɪn bebol Miki ʃəl dən //</td>
<td></td>
</tr>
<tr>
<td>7. hi dono wər Miki Iz haldɪn //</td>
<td>C</td>
</tr>
<tr>
<td>8. dənəl əɪŋ k hi no əvəɪŋ //</td>
<td></td>
</tr>
<tr>
<td>9. hi wəz rənɪŋ oʊvə tə Miki həvəs //</td>
<td>C</td>
</tr>
<tr>
<td>10. Miki se hi wəz həŋgrɨ fo ə bɪg dɪnə //</td>
<td></td>
</tr>
<tr>
<td>11. hi se Miki Iz fənɪ //</td>
<td>C</td>
</tr>
<tr>
<td>12. hi həv teken dənəl həst //</td>
<td>C</td>
</tr>
<tr>
<td>13. hi əɪŋ k dənəl no həv tu flaɪ //</td>
<td>C</td>
</tr>
<tr>
<td>14. dənəl əɪŋ k hi gənə wɪn ə res //</td>
<td></td>
</tr>
<tr>
<td>15. hi wəz faɪ vərj əl wən Miki brok ɪl əz ɭəg //</td>
<td>C</td>
</tr>
</tbody>
</table>

Percentage Correct: 100
Personal Data Sheet

Subject: #23  Sex: M  Age: 6-10  Grade: 1  Family Members: 9

Father's Occupation: School cafeteria employee

Mother's Occupation: Housewife

Parents' Educational Background: Mother completed high school

Results of Columbia Mental Maturity Scale: 106 (Age Deviation Score)

RESPONSES

Imitation                          Responses to Questions
                                          (C - Correct; I - Incorrect)

1. hi Iz həpl dət miki wən də res //  C
2. di dIn no wəl dənəl fəl so səd //  C
3. hi həv a kəndI wət miki wənİd //  I
4. If hi wən a res dənəl wIł be həpl //
5. hi it miki kəndI //  C
6. wən hi wəz plejIn besbəl miki fəl dəvn //
7. hi donO wər miki haldIn //  C
8. dənəl əIgk hi no əweIg //
9. hi Iz rənİn ov rə miki həyrs //  C
10. miki se hi wəz həggrI fər a bIg dInə //
11. hi se miki Iz fənİ //  C
12. hi həz tekİn dənəl hət //  C
13. hi əIgk dənəl no həw tu flal //  I
14. dənəl əIgk hi gənə wIn a res //
15. hi fəlIv jIrZ old wən miki brok hi ləg //  C

Percentage Correct: 80
Personal Data Sheet

Subject: #24  Sex: F  Age: 6-8  Grade: 1  Family Members: 9

Father's Occupation: Service station attendant

Mother's Occupation: School maid

Parents' Educational Background: Neither parent completed high school

Results of Columbia Mental Maturity Scale: 106 (Age Deviation Score)

RESPONSES

Imitation                      Responses to Questions
(C - Correct; I - Incorrect)

1. hi Iz hæpI sät mIKI wën ø res //
   C

2. hi dino wAI dænø fæl so sæd //
   I

3. hi hæv ðæ kændI wøt mIKI wønlød //
   C

4. If hi wIn ø res dænø wIl bi hæpI //

5. hIl it mIKI kændI //
   C

6. wën hi wëz plejIn besbøl mIKI fæl døn //

7. hi dont no wër mIKI Iz haldIn //
   C

8. dænøl ðInks hi noz ërIørIn //

9. hi Iz rønIn oø tø mIKI høvs //
   C

10. mIKI se hi Iz hægRI fø ø bIg dInø //

11. hi sæz mIKI Iz fænI //
    C

12. hi hæz tekIn dænø hæt //
    C

13. hi ðInk dænø no hæs tu flaI //
    C

14. dænøl ðInk hi gøæ wIn ø res //

15. hi wëz flaI jIrz ol wën mIKI brok hIz lèg //
    C

Percentage Correct: 90
Personal Data Sheet

Subject: #25  Sex: M  Age: 7-10  Grade: 2  Family Members: 7
Father's Occupation: Laborer
Mother's Occupation: Housewife
Parents' Educational Background: Both parents completed high school
Results of Columbia Mental Maturity Scale: 101 (Age Deviation Score)

**RESPONSES**

<table>
<thead>
<tr>
<th>Imitation</th>
<th>Responses to Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. hi hæ-pl jæt mkl wæn ø res //</td>
<td>C</td>
</tr>
<tr>
<td>2. hi dino wæ dæ-næl fæl so sæd //</td>
<td>C</td>
</tr>
<tr>
<td>3. hi hæ-z jæ kændl jæ mkl wænId //</td>
<td>C</td>
</tr>
<tr>
<td>4. If hi wïn ø res dæ-næl wi bi hæ-pl //</td>
<td></td>
</tr>
<tr>
<td>5. hi it mklz kænI //</td>
<td>C</td>
</tr>
<tr>
<td>6. wæn hi plejIn bæsðæl mkl fæl dæn //</td>
<td></td>
</tr>
<tr>
<td>7. hi dïn no wær mkl hældIn //</td>
<td>C</td>
</tr>
<tr>
<td>8. dæ-næl ÒIgks hi noz ÒvriÒIg //</td>
<td></td>
</tr>
<tr>
<td>9. hi Iz rænIn ove òøæ mkl hævs //</td>
<td>C</td>
</tr>
<tr>
<td>10. mkl sëz hi hængri fò ø big dïn //</td>
<td></td>
</tr>
<tr>
<td>11. hi se mkl Iz fænl //</td>
<td>C</td>
</tr>
<tr>
<td>12. hi hæ-z tekIn dæ-næl hæt //</td>
<td>C</td>
</tr>
<tr>
<td>13. hi ÒIgk dæ-næl no hæz òø flæ //</td>
<td>C</td>
</tr>
<tr>
<td>14. dæ-næl ÒIgk hi gænæ rïn dæ wæs //</td>
<td></td>
</tr>
<tr>
<td>15. hi wæz flæ jïræ ol wæn mkl brøk hïz lëg //</td>
<td>I</td>
</tr>
</tbody>
</table>

Percentage Correct: 90
Personal Data Sheet

Subject: #26  Sex: M  Age: 7-11  Grade: 2  Family Members: 9

Father's Occupation: Service station employee

Mother's Occupation: Housewife

Parents' Educational Background: Neither parent completed high school

Results of Columbia Mental Maturity Scale: 101 (Age Deviation Score)

RESPONSES

Imitation

<table>
<thead>
<tr>
<th>Responses to Questions (C - Correct; I - Incorrect)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. hi Iz hæpI kæz mIKI wæn ðæ res //</td>
</tr>
<tr>
<td>2. hi dIn no wæl dænæl felt so sæd //</td>
</tr>
<tr>
<td>3. hi hæz ðæ kændI wæt mIKI wænId //</td>
</tr>
<tr>
<td>4. If hi wInz ðæ res dænæl wIL bi hæpI</td>
</tr>
<tr>
<td>5. hil it mIKIz kændI //</td>
</tr>
<tr>
<td>6. wæn hi wæz pleJIn besbæl mIKI fæl dæn //</td>
</tr>
<tr>
<td>7. hi dænæ no wær mIKI Iz hædIn //</td>
</tr>
<tr>
<td>8. dænæl ðIjks hi noz ævrIæI æy //</td>
</tr>
<tr>
<td>9. hi Iz rænIn ovæ tø mIKI hævs //</td>
</tr>
<tr>
<td>10. mIKI sëd hi wæz hægrI fôr ðæ bïg dInæ //</td>
</tr>
<tr>
<td>11. hi sëz mIKI Iz fænI //</td>
</tr>
<tr>
<td>12. hi hæz teKIn dænælz hæt //</td>
</tr>
<tr>
<td>13. hi ðIjks dænæl noz hæv tu flæI //</td>
</tr>
<tr>
<td>14. dænæl ðIjks hiz gænæ wæn ðæ res //</td>
</tr>
<tr>
<td>15. hi wæz fælæ fÎrz ðæ wæn mIKI brok hiz leg //</td>
</tr>
</tbody>
</table>

Percentage Correct: 90
Personal Data Sheet

Subject: #27  Sex: F  Age: 7-9  Grade: 2  Family Members: 10

Father's Occupation: School custodian

Mother's Occupation: Housewife

Parents' Educational Background: Neither parent completed high school

Results of Columbia Mental Maturity Scale: 109 (Age Deviation Score)

RESPONSES

<table>
<thead>
<tr>
<th>RESPONSES</th>
<th>Responses to Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imitation</td>
<td>(C - Correct; I - Incorrect)</td>
</tr>
</tbody>
</table>

1. hi iz hə̱pI jət miki wən də res // C
2. hi dino wai daœl fel so sæd // C
3. hi hə̱z jə kændi wət miki wənId // C
4. If hi wIn də res daœl wIl bi hə̱pI // C
5. hil it miki kændI // C
6. wən hi wəz pleIIn besbəl miki fel dəuN // C
7. hi dažnt no wər miki Iz haldIn // C
8. daœl tIŋk hi noz ēvstIn // C
9. hi məIn ovJ te mIKIz haUS // C
10. mIKI se hi wəz hə̱gRI foə bIg dInə // C
11. hi səz mIKI faMI // C
12. hiz tekIn daœl hət // C
13. hi tIŋk daœl no həv tu flaI // C
14. daœl tIŋk hi gaœ wIn də res // C
15. hi wəz faIv jIRZ ol wən mIKI brok hiz ləg // C

Percentage Correct: 100
Personal Data Sheet

Subject: #28  Sex: F  Age: 7-11  Grade: 2  Family Members: 6

Father's Occupation: Construction company employee

Mother's Occupation: Housewife

Parents' Educational Background: Neither parent completed high school

Results of Columbia Mental Maturity Scale: 107 (Age Deviation Score)

RESPONSES

Imitation                      Responses to Questions (C - Correct; I - Incorrect)

1. hi Iz hærpi fæt miki won ʃə res //  C
2. hi didn no wai danäl fel so sæd //  C
3. hi hæz ʃə kændi fæt miki wœnId //  C
4. If hi winiz ʃə res danäl wil bi hæ/pi //
5. hil it mikiz kændi //       C
6. wen hi wœz plejIn besbal miki fel daun //
7. hi dæzn no wer miki Iz haidIn //  C
8. danäl tʃɪks hi noz ɛvɾɪɡIʃ //
9. hi Iz rænɪn o⁴ ɬe mikiz hæv //  I
10. miki sɛd fæt hi wœz hajgrI fœr ə bɪɡ dɪnʃ //
11. hi sɛz miki Iz fænI //       C
12. hi hæz tekin danälz hæt //  C
13. hi ʃɪŋk danäl no hav tu flai //  C
14. danäl ʃɪŋk hi goɪŋ tu wɪn də res //
15. hi wœz fælv jɪrz old wen miki brok hɪz ɬeɡ //  C

Percentage Correct: 90
Personal Data Sheet

Subject: #29  Sex: F  Age: 7-6  Grade: 2  Family Members: 6

Father's Occupation: Laborer

Mother's Occupation: Waitress

Parents' Educational Background: Neither parent completed high school

Results of Columbia Mental Maturity Scale: 101 (Age Deviation Score)

<table>
<thead>
<tr>
<th>RESPONSES</th>
<th>Responses to Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imitation</td>
<td>(C - Correct; I - Incorrect)</td>
</tr>
<tr>
<td>1. hi Iz hæpl ʃeɪt ɹɪk wən ə res //</td>
<td>C</td>
</tr>
<tr>
<td>2. hi dɪn əʊ wæl ɒnæl ʃeɪl əʊ sæd //</td>
<td>C</td>
</tr>
<tr>
<td>3. hi hæz ə kænɪd wət ɹɪk wənId //</td>
<td>C</td>
</tr>
<tr>
<td>4. If hi ʃɪn ə res ɒnæl wɪl bi hæpl //</td>
<td></td>
</tr>
<tr>
<td>5. hil it ɹɪkɪz kænɪd //</td>
<td>C</td>
</tr>
<tr>
<td>6. wen hi wəz plɛʃɪn əsəbl ɹɪk fəl əʊvn //</td>
<td></td>
</tr>
<tr>
<td>7. hi ʃɜnt no wər ɹɪk ɪz hælɪn //</td>
<td>C</td>
</tr>
<tr>
<td>8. ɒnæl əɪŋks hi no əvRIgin //</td>
<td></td>
</tr>
<tr>
<td>9. hi Iz ɾænɪn ovə tu ɹɪkɪz həvs //</td>
<td>C</td>
</tr>
<tr>
<td>10. ɹɪkɪ sæd hi wəz hæŋɡrɪ fər ə bɪɡ dɪnʃ //</td>
<td></td>
</tr>
<tr>
<td>11. hi sæz ɹɪk ɪz fænɪ //</td>
<td>C</td>
</tr>
<tr>
<td>12. hi hæz tɛkɪn ɒnæl hæt //</td>
<td>C</td>
</tr>
<tr>
<td>13. hi əɪŋk ɒnæl no hæv tu flæl //</td>
<td>C</td>
</tr>
<tr>
<td>14. ɒnæl əɪŋk hi gænə ʃɪn də res //</td>
<td></td>
</tr>
<tr>
<td>15. hi wəz fælɪv jɪr ol wen ɹɪk brək hɪz lɛɡ //</td>
<td>C</td>
</tr>
</tbody>
</table>

Percentage Correct: 100
Personal Data Sheet

Subject: J0  Sex: F  Age: 7-5  Grade: 2  Family Members: 7

Father's Occupation: Church janitor

Mother's Occupation: Housewife

Parents' Educational Background: Neither parent completed high school

Results of Columbia Mental Maturity Scale: 102 (Age Deviation Score)

RESPONSES

Imitation  Responses to Questions
(C - Correct; I - Incorrect)

1. hi iz hæpl ɔːt mɪkI won jæ res //  C
2. hi didInt no wai dænɔld fælt so sæd //  C
3. hi hæ z ə kændI ɔːt mɪkI wʊnId //  C
4. If hi wɪn æ res dænɔl wɪl bi hæpl //  C
5. hil it mɪkIz kændI //  C
6. wen hi wɔz pleʃIn besbaI mɪkI fʊl dæn //  C
7. hi dæznt no wər mɪkI iz hæIdI ʃ //  C
8. dænɔld θɛŋks hi noz ɛvriθI ʃ //
9. hi Iz mɪn ov tj tu mɪkIz hæv $ //  C
10. mɪkI se hi wɔz hæŋgrI fɔr ə bɪg dɪn$ //  C
11. hi se mɪkI iz fænI //  C
12. hi hæ z tekIn dænɔlz hæt //  I
13. hi θɪŋk dænɔl noz hær tu flæI //  C
14. dænɔl θɛŋks hi ɡænə wɪn æ res //
15. hi wɔz fæl ʃɪrz ɔld wɪn mɪkI brok hɪz lɛg //  C

Percentage Correct: 90
Personal Data Sheet

Subject: #31  Sex: F  Age: 7-8  Grade: 2  Family Members: 6

Father's Occupation: Carwash employee

Mother's Occupation: Drug store employee

Parents' Educational Background: Both parents completed high school

Results of Columbia Mental Maturity Scale: 104 (Age Deviation Score)

RESPONSES

Imitation

1. hi Iz ha$pl $°t miKL wen $. res // C
2. hi din no wa dan$ f°l so s°d // I
3. hi hæz $. kændl wet miKL wenId // C
4. If hi winz $. res dan$ wil bi hæpl //
5. hil it miKL kændl // C
6. wen hi wøz plejIn bebøl miKL f°l dømn //
7. hi døzen no wør miKL Iz haldIn // C
8. dan$ Gøjks hi noz EvriGøj //
9. hi Iz rønIn oøt øt mikiz høvs // C
10. miKL sæd hi wøz høj grI fo ø biøg diø //
11. hi se miKL Iz fønI // C
12. hi hæz tekIn dan$ høt // C
13. hi Gøj k dan$ no hør tu fløI // C
14. dan$ Gøj k hi gøø win ø res //
15. hi wøz faiø jìrø øld wen miKL brok híø lg // C

Percentage Correct: 90
Personal Data Sheet

Subject: #32 Sex: M Age: 7-8 Grade: 2 Family Members: 5

Father's Occupation: Laborer

Mother's Occupation: Housewife

Parents' Educational Background: Mother completed high school

Results of Columbia Mental Maturity Scale: 99 (Age Deviation Score)

RESPONSES

Imitation responses to questions (C - Correct; I - Incorrect)

1. hi Iz hæpl tæst miki wən tə res // C
2. hi dIn no wai dænəl fəl so səd // I
3. hi hæz ə kændI wət miki wənd // C
4. If hi wInz tə res dænəl wIl bi hæpl //
5. hil it miki kændI // C
6. wən hi wəz plejIn besbəl miki fəl dæn //
7. hi dæzn no wər miki Iz haidIn // C
8. dænəl ΘIk hi noz eyelIŋ //
9. hi Iz rənIn ov tu miki hərs // C
10. miki se hi Iz hənərI fo ə bIg din //
11. hi səz miki Iz fənI // C
12. hi hæz tekIn dænəl hæt // C
13. dænəl ΘIk hi gənə rIn de wes //
14. hi ΘIk dænəl no həv tu fIəI //
15. hi wəz fəlv jɪrz old wən miki brok hІz ləg // C

Percentage Correct: 90
Personal Data Sheet

Subject: #33  Sex: M  Age: 8-8  Grade: 3  Family Members: 3

Father's Occupation: Laborer

Mother's Occupation: Maid

Parents' Educational Background: Neither parent completed high school

Results of Columbia Mental Maturity Scale: 109 (Age Deviation Score)

RESPONSES

<table>
<thead>
<tr>
<th>Imitation</th>
<th>Responses to Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. hi iz hæ.pl ʃæt mɪkɪ wən ʃə res //</td>
<td>C</td>
</tr>
<tr>
<td>2. hi dɪnɔ wəl dənəl fəl so sæd //</td>
<td>C</td>
</tr>
<tr>
<td>3. hi hævə kəndI wət mɪkɪ wənId //</td>
<td>C</td>
</tr>
<tr>
<td>4. If hi wIn ʃə res dənəl wɪl bi hæ.pl //</td>
<td>C</td>
</tr>
<tr>
<td>5. hil it mɪkɪz kəndI //</td>
<td>C</td>
</tr>
<tr>
<td>6. wən hi wəz pleʃIn bestəl mɪkɪ fəl dəvn //</td>
<td>C</td>
</tr>
<tr>
<td>7. hi dɔnt no wər mɪkI Iz hældI //</td>
<td>C</td>
</tr>
<tr>
<td>8. dənəl əIjks hi noz ɛvrIəIj //</td>
<td>C</td>
</tr>
<tr>
<td>9. hi iz rænɪn ovə tə mɪkɪz hævəs //</td>
<td>C</td>
</tr>
<tr>
<td>10. mɪkɪ se hi wəz hægəI fo → bɪg dɪnə //</td>
<td>C</td>
</tr>
<tr>
<td>11. hi sæz mɪkI Iz fənI //</td>
<td>C</td>
</tr>
<tr>
<td>12. hi hæz tɛkIn dənəlz hæt //</td>
<td>C</td>
</tr>
<tr>
<td>13. hi əIj k dənəl no həv tu flæI //</td>
<td>C</td>
</tr>
<tr>
<td>14. dənəl əIjks hɪz gənə wIn ʃə res //</td>
<td>C</td>
</tr>
<tr>
<td>15. hi wəz fælV jɪɾ oI wən mɪkI brok hɪz ɫæg //</td>
<td>C</td>
</tr>
</tbody>
</table>

Percentage Correct: 100
Personal Data Sheet

Subject: #34 Sex: F Age: 8-7 Grade: 3 Family Members: 6

Father's Occupation: Laborer

Mother's Occupation: Motel maid

Parents' Educational Background: Both parents completed high school

Results of Columbia Mental Maturity Scale: 105 (Age Deviation Score)

RESPONSES

<table>
<thead>
<tr>
<th>Imitation</th>
<th>Responses to Questions (C - Correct; I - Incorrect)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. hi iz hæ-pi jæt miKi wən ünl res //</td>
<td>C</td>
</tr>
<tr>
<td>2. hi dɪno wai dawn felt so sæ.d //</td>
<td>C</td>
</tr>
<tr>
<td>3. hi hæ.z tw kændI jæt miKI wənId //</td>
<td>C</td>
</tr>
<tr>
<td>4. If hi wɪnz tw res dawn wɪl bɪ hæ.pi //</td>
<td></td>
</tr>
<tr>
<td>5. hɪl it miKɪz kændI //</td>
<td>C</td>
</tr>
<tr>
<td>6. wɛn hi wɛz plejɪn besbal miKI fel dawn //</td>
<td></td>
</tr>
<tr>
<td>7. hi dæn t no wɛr miKI Iz haiDɪn //</td>
<td>C</td>
</tr>
<tr>
<td>8. dawɛl ɬɪŋks hɪ nozɛwɪɛIŋ //</td>
<td></td>
</tr>
<tr>
<td>9. hi iz ᵇɑnɪn ovə tu miKIz həv_s //</td>
<td>C</td>
</tr>
<tr>
<td>10. miKI sæd jæt hi wɛz həŋɛRI fôr ə bɪg dɪnə //</td>
<td></td>
</tr>
<tr>
<td>11. hi sæk miKI Iz fənɨ//</td>
<td>C</td>
</tr>
<tr>
<td>12. hi hæ.z tekiŋ dawnz hæt //</td>
<td>C</td>
</tr>
<tr>
<td>13. hi ɬɪŋks dawnz noz hɑv tu flæl //</td>
<td>C</td>
</tr>
<tr>
<td>14. dawɛl ɬɪŋks hɪz gænə wɪn tw res //</td>
<td></td>
</tr>
<tr>
<td>15. hi wɛz felɪv jɪrɪz olə wɛn miKI brok hɪz læg //</td>
<td>C</td>
</tr>
</tbody>
</table>

Percentage Correct: 100
**Personal Data Sheet**

**Subject:** #35  
**Sex:** F  
**Age:** 8-7  
**Grade:** 3  
**Family Members:** 4

**Father’s Occupation:** Farm laborer  
**Mother’s Occupation:** Housewife

**Parents’ Educational Background:** Neither parent completed high school

**Results of Columbia Mental Maturity Scale:** 104 (Age Deviation Score)

---

**RESPONSES**

<table>
<thead>
<tr>
<th>Imitation</th>
<th>Responses to Questions (C - Correct; I - Incorrect)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. hi Iz hæ plæt mikI wen ðæ res ///</td>
<td>C</td>
</tr>
<tr>
<td>2. hi dino wai danæl felt so sæd ///</td>
<td>C</td>
</tr>
<tr>
<td>3. hi hæ z ðæ kændI ðæt mikI wantId ///</td>
<td>C</td>
</tr>
<tr>
<td>4. If hi wIn ðæ res danæl wIł bi hæ plI ///</td>
<td></td>
</tr>
<tr>
<td>5. hil it mikIz kændI ///</td>
<td>C</td>
</tr>
<tr>
<td>6. wen hi wæz pleʃIn besbaI mikI fell dæn ///</td>
<td></td>
</tr>
<tr>
<td>7. hi dænt no wɛr mikI Iz hailIn ///</td>
<td>C</td>
</tr>
<tr>
<td>8. danæl əɪŋgs hi noz ɛvrIɛIŋ ///</td>
<td></td>
</tr>
<tr>
<td>9. hi Iz rænIn ovd tæ mikIz hæs ///</td>
<td>C</td>
</tr>
<tr>
<td>10. mikI sɛd ðæt hi wæz hæŋgI fɔr ə blɪg dɪnæ ///</td>
<td></td>
</tr>
<tr>
<td>11. hi se mikI Iz fænI ///</td>
<td>C</td>
</tr>
<tr>
<td>12. hi hæ z tekIν danælz hæt ///</td>
<td>I</td>
</tr>
<tr>
<td>13. hi əɪŋgs danæld noz hæv tu flæI ///</td>
<td>C</td>
</tr>
<tr>
<td>14. danæl əɪŋgs hiz gænɛ wɛn ðæ res ///</td>
<td></td>
</tr>
<tr>
<td>15. hi wæz faɪv jɪrIz old wɛn mikI brok hiz 1ɛg ///</td>
<td>C</td>
</tr>
</tbody>
</table>

**Percentage Correct:** 90
Personal Data Sheet

Subject: #36 Sex: M Age: 8-8 Grade: 3 Family Members: 7
Father's Occupation: Laborer
Mother's Occupation: Dress factory employee
Parents' Educational Background: Both parents completed high school
Results of Columbia Mental Maturity Scale: 107 (Age Deviation Score)

RESPONSES

Imitation Responses to Questions
(C - Correct; I - Incorrect)

1. hi Iz hæ.pi dæt mɪkɪ ṭeŋ də ṭe res // C
2. hi dɪno setattr fel so sæ.d // C
3. hi hæ.z də kænɪ dæt mɪkɪ wənɪd // C
4. If hi wɪn.z ə res dænəl wɪl bi hæ.pi //
5. hil it mɪkɪz kændɪ // C
6. wɛn hi wɛz pleɪɪn beslɔl mɪkɪ fel dæn //
7. hi dono wɛr mɪkɪ iz hældɪn // C
8. dænəl θɪj.k hi no ɛvɪl ɪŋ //
9. hi Iz rænɪn ovz ə mɪkɪ hævz // C
10. mɪkɪ se hi wɛz hæ.grɪ fər ə bɪɡ dɪnʃ //
11. hi se mɪkɪ iz fænɪ // C
12. hi hæ.z tekɪn dænəlz hæt // C
13. hi θɪj.ks dænəl no hæv tu flai // C
14. dænəl sɪj.ks hi gænə wɪn də res //
15. hi wɛz fælɪv jɪrɪz ɔld wɛn mɪkɪ brok hɪz lɛɡ // C

Percentage Correct: 100
Personal Data Sheet

Subject: #37 Sex: M Age: 8-7 Grade: 3 Family Members: 7

Father's Occupation: Laborer
Mother's Occupation: Maid

Parents' Educational Background: Both parents completed high school

Results of Columbia Mental Maturity Scale: 103 (Age Deviation Score)

RESPONSES

Imitation

<table>
<thead>
<tr>
<th>Responses to Questions (C - Correct; I - Incorrect)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. hi Iz hə.pi fət məkI wən jə res //</td>
</tr>
<tr>
<td>2. hi didIn no wəl dənəl fəl so səd //</td>
</tr>
<tr>
<td>3. hi həz de kəndI dət məkI wənId //</td>
</tr>
<tr>
<td>4. If hi wInz jə res dənəl wIl bi hə.pi //</td>
</tr>
<tr>
<td>5. hil it məkIz kəndI //</td>
</tr>
<tr>
<td>6. wən hi wəz pleJIn besbəd məkI fəl davn //</td>
</tr>
<tr>
<td>7. hi do no wər məkI Iz hədIn //</td>
</tr>
<tr>
<td>8. dənəl əIŋks hi noz əvəIŋ //</td>
</tr>
<tr>
<td>9. hi Iz rənIn ovə tu mıkIz həvs //</td>
</tr>
<tr>
<td>10. mıkI səz hi wəz həŋərI fərə ə bIg diŋə //</td>
</tr>
<tr>
<td>11. hi səz məkI Iz fənI //</td>
</tr>
<tr>
<td>12. hi həz tekIn dənəlz hət //</td>
</tr>
<tr>
<td>13. hi əIŋks dənəld noz həv tu fləI //</td>
</tr>
<tr>
<td>14. dənəl əIŋks hIz gənə wIn jə res //</td>
</tr>
<tr>
<td>15. hi wəz fəIv jIrz old wən məkI brOk hIz ləg //</td>
</tr>
</tbody>
</table>

Percentage Correct: 100
Personal Data Sheet

Subject: J, 38  Sex:  F  Age:  8-4  Grade:  3  Family Members:  7

Father's Occupation: Laborer

Mother's Occupation: Housewife

Parents' Educational Background: Both parents completed high school

Results of Columbia Mental Maturity Scale: 99 (Age Deviation Score)

RESPONSES

<table>
<thead>
<tr>
<th>Imitation</th>
<th>Responses to Questions (C - Correct; I - Incorrect)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. hi Iz hæpl jæt mïkĩ wen ð res //</td>
<td>C</td>
</tr>
<tr>
<td>2. hi dIn no wai dãnãl fel t so sãd //</td>
<td>C</td>
</tr>
<tr>
<td>3. hi hæz ð kãndI dæt mïkĩ wanId //</td>
<td>C</td>
</tr>
<tr>
<td>4. If hi wînz ð res dãnãl wîl bi hæ pl //</td>
<td></td>
</tr>
<tr>
<td>5. hil it mïkIz kãndI //</td>
<td>C</td>
</tr>
<tr>
<td>6. wëñ hi wêz plejin besbãl mïki fêl davn //</td>
<td></td>
</tr>
<tr>
<td>7. hi dãzn no wãr mïki iz hãdIn //</td>
<td>C</td>
</tr>
<tr>
<td>8. dãnãl ΩIžks hi noz ëvriηηj //</td>
<td></td>
</tr>
<tr>
<td>9. hi ïz rãnηj ov jõ mïkIz hãrs //</td>
<td>C</td>
</tr>
<tr>
<td>10. mïkĩ sêd hi wêz hâgãrl fôr a bîg dînș //</td>
<td></td>
</tr>
<tr>
<td>11. hi sê mïkĩ iz ñãnl //</td>
<td>C</td>
</tr>
<tr>
<td>12. hi hæz tekIn dãnãl hæt //</td>
<td>C</td>
</tr>
<tr>
<td>13. hi ΩIžks dãnãl no hâr tu flai //</td>
<td>C</td>
</tr>
<tr>
<td>14. dãnãl ΩIžks hi gãne wîn ð res //</td>
<td></td>
</tr>
<tr>
<td>15. hi wêz faîv jîrz oûd wêñ mïkĩ brok hi z lêg //</td>
<td>C</td>
</tr>
</tbody>
</table>

Percentage Correct: 100
Personal Data Sheet

Subject: #39  Sex: M  Age: 8-7  Grade: 3  Family Members: 5

Father's Occupation: Construction worker

Mother's Occupation: Housewife

Parents' Educational Background: Neither parent completed high school

Results of Columbia Mental Maturity Scale: 103 (Age Deviation Score)

RESPONSES

<table>
<thead>
<tr>
<th>Imitation</th>
<th>Responses to Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. hi ha pi kez mikI wen o res //</td>
<td>C</td>
</tr>
<tr>
<td>2. hi din no wen dama fel so sade //</td>
<td>C</td>
</tr>
<tr>
<td>3. hi ha-z a kani det mikI wani //</td>
<td>C</td>
</tr>
<tr>
<td>4. If hi win o res dama bi ha-pl //</td>
<td></td>
</tr>
<tr>
<td>5. hi it mikIz kani //</td>
<td>I</td>
</tr>
<tr>
<td>6. wen hi plejIn besbAl mikI fel davn</td>
<td></td>
</tr>
<tr>
<td>7. hi dent no war mikI iz haIDIn //</td>
<td>C</td>
</tr>
<tr>
<td>8. dama ijkks hi no evj ijk //</td>
<td></td>
</tr>
<tr>
<td>9. hi iz ranIn ove te mikIz haus //</td>
<td>C</td>
</tr>
<tr>
<td>10. mikI sed hi wez hangri fo o big din o //</td>
<td></td>
</tr>
<tr>
<td>11. he sez mikI iz fanI //</td>
<td>C</td>
</tr>
<tr>
<td>12. hi tekin danaI hast //</td>
<td>C</td>
</tr>
<tr>
<td>13. hi ijk danaI no han tu flai //</td>
<td>C</td>
</tr>
<tr>
<td>14. danaI ijkks hi gana win de res //</td>
<td></td>
</tr>
<tr>
<td>15. hi waz falv jir ol wen mikI brok hi leg //</td>
<td>C</td>
</tr>
</tbody>
</table>

Percentage Correct: 90
Personal Data Sheet

Subject: #40 Sex: F Age: 8-5 Grade: 3 Family Members: 5
Father's Occupation: Laborer
Mother's Occupation: Maid
Parents' Educational Background: Neither parent completed high school
Results of Columbia Mental Maturity Scale: 102 (Age Deviation Score)

RESPONSES

Imitation

1. hi iz hæpI jæt mikI wæn jæ res // C
2. hi dɪnt no wæl dænæl fælt so sæd // C
3. hi hæv jæ kændI jæt mikI wæntIæ // C
4. If hi wɪnz jæ res dænæl wɪl bi hæpI // C
5. hil it mikI kændI // C
6. wæn hi wæz pleɪIn besbol mikI fæl dævn // C
7. hi dæznt no wær mikI iz hældI // C
8. dænæ ɐɪʃks hi noz ævʀʃɪŋ // C
9. hɪz rænɪn ovɐ tu mikI hæɪs // C
10. mikI sɛd hi wæz hæpI fɔr æ bɪg dɪnæ // C
11. hi sɛz mikI iz fænɪ // C
12. hi hæ-z tekiŋ dænælz hæt // C
13. hi ɐɪʃks dænæl no hæv tu flæ // C
14. dænæl ɐɪʃks hɪz gæn-wɪn æ res // C
15. hi wæz fælv jɪrzn ɔld wæn mikI bʊk hɪz lɛɡ // C

Percentage Correct: 100
Personal Data Sheet

Subject:  #41 Sex:  F  Age:  9-4  Grade:  4  Family Members:  7

Father's Occupation:  Carpenter

Mother's Occupation:  Housewife

Parents' Educational Background:  Neither parent completed high school

Results of Columbia Mental Maturity Scale:  100 (Age Deviation Score)

<table>
<thead>
<tr>
<th>RESPONSES</th>
<th>Responses to Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imitation</td>
<td>(C - Correct; I - Incorrect)</td>
</tr>
<tr>
<td>1. hi Iz hæ pl dæ t mikI wæn dæ res //</td>
<td>C</td>
</tr>
<tr>
<td>2. hi didn’t no wai danel dæl felt so sæd //</td>
<td>C</td>
</tr>
<tr>
<td>3. hi hæv ðæ kændI dæ t mikI wænId //</td>
<td>C</td>
</tr>
<tr>
<td>4. If hi wI n dæ res danel wI l bi hæ pl //</td>
<td></td>
</tr>
<tr>
<td>5. hil it mikIz kændI //</td>
<td>C</td>
</tr>
<tr>
<td>6. wæn hi wæz plejIn besbæl mI kI fel dær //</td>
<td></td>
</tr>
<tr>
<td>7. hi dæznt no wær mikI Iz hæIdIn //</td>
<td>C</td>
</tr>
<tr>
<td>8. danæl ðIjk hi noz ëvItIj //</td>
<td></td>
</tr>
<tr>
<td>9. hi IZ ræ In ovd tu mikIz hæs //</td>
<td>C</td>
</tr>
<tr>
<td>10. mikI sæd dæ t hi wæz hæjgrI för ð bIg dInI //</td>
<td></td>
</tr>
<tr>
<td>11. hi sæz mikI Iz fænI //</td>
<td>C</td>
</tr>
<tr>
<td>12. hi hæz tekIn danæl z hæt //</td>
<td>C</td>
</tr>
<tr>
<td>13. hi ðIjk danæl no hæv tu flæl //</td>
<td>C</td>
</tr>
<tr>
<td>14. danæl ðIjk hi goIj tu wIn ðæ res //</td>
<td></td>
</tr>
<tr>
<td>15. hi wæz fæl v jlrz ol wæn mikI brok hiz lēg //</td>
<td>C</td>
</tr>
</tbody>
</table>

Percentage Correct:  100
Personal Data Sheet

Subject: #42 Sex: F Age: 9-11 Grade: 4 Family Members: 9

Father's Occupation: Farmer
Mother's Occupation: Housewife

Parents' Educational Background: Mother completed high school

Results of Columbia Mental Maturity Scale: 108 (Age Deviation Score)

RESPONSES

Imitation

1. hi Iz hæpi jæt miki wan do res // C
2. hi dino wai danel fel so sæd // C
3. hi hæz ñæ kændI wet miki wantId // C
4. If hi winz ñæ res danel wII bi hæpi // C
5. hil it mikiZ kændI // C
6. wen hi plejIn besbæl miki fel dæn // C
7. hi dont no wet miki Iz haidIIn // C
8. danæl ÒIjks hi no ÒvriòIj// C
9. hi iz ræIn ovI tu mikiZ hærs // C
10. miki se hi wæz hægri fôr ñ big dænæ // C
11. hi se miki Iz fænI // C
12. hi hæv tekIn danæl hæst // C
13. hi ÒIjk danæl no hæv tu fæI // C
14. danæl ÒIjk hi goI y tu win de res // C
15. hi wæz fælV jiræ old wen miki brok hIz leg // C

Percentage Correct: 100
Personal Data Sheet

Subject: #43  Sex: F  Age: 9-10  Grade: 4  Family Members: 3
Father's Occupation: Laborer
Mother's Occupation: Waitress
Parents' Education Background: Both parents completed high school

Results of Columbia Mental Maturity Scale: 98 (Age Deviation Score)

RESPONSES

<table>
<thead>
<tr>
<th>Imitation</th>
<th>Responses to Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. hi Iz hæpl jæt mikl won dæ res //</td>
<td>C</td>
</tr>
<tr>
<td>2. hi didInt no wai danæl felt so sæd //</td>
<td>C</td>
</tr>
<tr>
<td>3. hi hæz ðæ kændI jæt mikI wæntIð //</td>
<td>C</td>
</tr>
<tr>
<td>4. If hi win ðæ res danæl wil bi hæpl //</td>
<td>C</td>
</tr>
<tr>
<td>5. hil it mikIz kændI //</td>
<td>C</td>
</tr>
<tr>
<td>6. wen hi wæz plejIn besbol mikI fæl dan //</td>
<td>C</td>
</tr>
<tr>
<td>7. hi dæznt no wær mikI Iz hældIn //</td>
<td>C</td>
</tr>
<tr>
<td>8. danæl ΘIqks hi noz EvrIðI //</td>
<td>C</td>
</tr>
<tr>
<td>9. hi Iz ranIn ovø te mikIz hærs //</td>
<td>C</td>
</tr>
<tr>
<td>10. mikI sed ðæt hi wæz hægrI fœr æ bιg dιnæ //</td>
<td>C</td>
</tr>
<tr>
<td>11. hi sæz mikI Iz fænI //</td>
<td>C</td>
</tr>
<tr>
<td>12. hi hæz tekIn danæl hæt //</td>
<td>C</td>
</tr>
<tr>
<td>13. hi ΘIqk danæl noz hærs tu flæ //</td>
<td>C</td>
</tr>
<tr>
<td>14. danæl ΘIqks hiz gænæ wIn ðæ res //</td>
<td>C</td>
</tr>
<tr>
<td>15. hi wæz fælv jirz old wen mikI brok hiz læg //</td>
<td>C</td>
</tr>
</tbody>
</table>

Percentage Correct: 100
Personal Data Sheet

Subject: #44 Sex: F Age: 9-9 Grade: 4 Family Members: 13

Father's Occupation: Construction worker

Mother's Occupation: Housewife

Parents' Education Background: Neither parent completed high school

Results of Columbia Mental Maturity Scale: 108 (Age Deviation Score)

RESPONSES

Imitation

1. hi iz hæ-pl dət mikI wən də res //
2. hi dino wai dæ-nəl fəlt so sæd //
3. hi hæ-z ə kændI dət mikI wənId //
4. If hi wɪnzn ə res dæ-nəl wɪl bɪ hæ-pl //
5. hil it mikiz kændI //
6. wɛn hi wɛz pleɪn besbəl mikI fəl dəvn //
7. hi dæznt no wɛr mikI iz hædIn //
8. dæ-nəl Θɪŋks hɪ nɔz ɛvrɪtI ʃ //
9. hi iz ɾɑnɨn oʊz tə mikiz həvəs //
10. mikI se hɪ wɛz hæŋgrɪ fɔ ðɪg dɪnə //
11. hi sɛz mikI iz fɑnɪ //
12. hi hæ-z tekɪn dənəlz hæt //
13. hi Θɪŋk dənəl no hæv tu flai //
14. dənəl Θɪŋk hɪ ɡənə wɪn ə res //
15. hi wɛz fɛlv jɪɹz əl wɛn mikI brok hɪz lɛg //

Responses to Questions (C - Correct; I - Incorrect)

Percentage Correct: 100
Personal Data Sheet

Subject: #45  Sex: M  Age: 9-11  Grade: 4  Family Members: 3

Father’s Occupation: Airport Employee

Mother’s Occupation: Housewife

Parents’ Educational Background: Both parents completed high school

Results of Columbia Mental Maturity Scale: 102 (Age Deviation Score)

RESPONSES

Imitation  

1. hi Iz hæpl bæt mîkl weñ dœ res //   C
2. hi dîno wai dænl felt so sœd //   C
3. hi hæz dœ kændI wæt mîkl wænId //   C
4. If hi wIn dœ res dænl wîl bi hæpl //
5. hil it mîklz kændI //   C
6. wêm hi wëz plejIn besbâl mîkl fêl davn //
7. hi dæænt no wer mîkl Iz hÂldIn //   C
8. dænl ΘIâks hi noz ÆvRIÆI //
9. hi Iz rænIn ovœ tœ mîklz hævs //   C
10. mîkl sæd hi wëz hægrI fôr a bîg dîn //
11. hi sœz mîkl Iz fænl //   C
12. hi hæz tekin dænlz hæt //   C
13. hi ΘIâks dænl no hævtu flâI //   C
14. dænl ΘIâks hiz gænœ win dœ res //
15. hi wëz fælv jirz old weñ mîkl brok hiz lêg //   C

Percentage Correct: 100
Personal Data Sheet

Subject: #46  Sex: M  Age: 9-7  Grade: 4  Family Members: 11

Father's Occupation: School custodian

Mother's Occupation: Waitress

Parents' Educational Background: Neither parent completed high school

Results of Columbia Mental Maturity Scale: 108 (Age Deviation Score)

RESPONSES

Imitation

1. hi iz hæ(pl) ðæt miði wæn ðæ res //  c
2. hi dino wəl dənəl fel so sæd //  c
3. hi hæz ðæ kəndi wæt miði wænId //  c
4. If hi wIn ðæ res dənəl WIl bi hæ(pl) //
5. hil it miðiz kəndI //  c
6. wən hi wəz plejIn besbd miðI fel dawn //
7. hi dəznt no wə miðI iz hældIn //  c
8. dənəl ðIŋk hi noz ðvriŋŋ //
9. hi Iz rənIn oʊ tu miðiz hærs //  c
10. mIðI se ðæt hi wəz hæɡərI fər ðə bɪɡ dInz //
11. hi sæz miðI iz fənI //  c
12. hi hæz tekin dənəl hæst //  c
13. hi ðIŋks dənəl noz hæs tu fləI //  c
14. dənəl ðIŋks hiz gənə wIn ðæ res //
15. hi wəz faIV jɪrZ old wən miðI brok hIz lɛɡ //  c

Percentage Correct: 100
Personal Data Sheet

Subject: #47  Sex: M  Age: 9-9  Grade: 4  Family Members: 7

Father's Occupation: Construction worker

Mother's Occupation: Rest home employee

Parents' Educational Background: Neither parent completed high school

Results of Columbia Mental Maturity Scale: 102 (Age Deviation Score)

RESPONSES

Imitation

<table>
<thead>
<tr>
<th>Response</th>
<th>Percentage Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. hi iz hæ.pi ʃæt miKI wen ʃæ res //</td>
<td>100</td>
</tr>
<tr>
<td>2. hi didInt no wai dan-əl felt so sæd //</td>
<td></td>
</tr>
<tr>
<td>3. hi hæz ʃə kændI ʃæt miKI wantId //</td>
<td></td>
</tr>
<tr>
<td>4. If hi wind ʃə res dan-əl will bi hæ-pI //</td>
<td></td>
</tr>
<tr>
<td>5. hil it miKiz kændI //</td>
<td></td>
</tr>
<tr>
<td>6. wen hi ʃəz plejIn besbol miKI fæl danN //</td>
<td></td>
</tr>
<tr>
<td>7. hi dəznt no wər miKI iz haldIn //</td>
<td></td>
</tr>
<tr>
<td>8. dan-əl Θıŋks hi no evrııŋ //</td>
<td></td>
</tr>
<tr>
<td>9. hiz ranIn owə tə miKiz həvS //</td>
<td></td>
</tr>
<tr>
<td>10. miKI sed ʃæt hi ʃəz həŋərI fər a bɪg dɪnə //</td>
<td></td>
</tr>
<tr>
<td>11. hi səz miKI iz fanI //</td>
<td></td>
</tr>
<tr>
<td>12. hi hæ.z tekIn dan-əlz hæt //</td>
<td></td>
</tr>
<tr>
<td>13. hi Θıŋks dan-əl no həv tə flai //</td>
<td></td>
</tr>
<tr>
<td>14. dan-əl Θıŋks hiz gən-wın ʃə res //</td>
<td></td>
</tr>
<tr>
<td>15. hi wəz faIV jırz old wen miKI brok hiz leg //</td>
<td></td>
</tr>
</tbody>
</table>
Personal Data Sheet

Subject: #48  Sex: M  Age: 9-8  Grade: 4  Family Members: 7

Father's Occupation: Construction worker

Mother's Occupation: Housewife

Parents' Educational Background: Both parents completed high school

Results of Columbia Mental Maturity Scale: 103 (Age Deviation Score)

RESPONSES

Imitation

1. hi IZ hæ-pli ðæt mIKI wən ðæ res // C
2. hi dino wəI dənəl fəlt so səd // C
3. hi hæz ðæ kændI ðæt mIKI wəIld // C
4. If hi wINz ðæ res dənəl wIl bi hæ-plI //
5. hil it mIKI kændI // C
6. wən hi wəz pleJIn besbəl mIKI fəI dən //
7. hi dono wər mIKI IZ haidIn // C
8. dənəl ðIŋks hi noz ëvrIñIŋ //
9. hi rənIn oʊətə mIKIz hərs // C
10. mIKI se hi wəz həz grI fər ðə bIg dIn //
11. hi se mIKI IZ fənI // C
12. hi hæ-z tekIn dənəlz hæt // C
13. hi ðIŋk dənəl no həW tu flai // I
14. dənəl ðIŋk hi gənə wIn ðæ res //
15. hi wəz fəIv jIRz ol wən mIKI brok hIz ləg // C

Percentage Correct: 90
KEY FOR PHONETIC SYMBOLS

Consonants

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Word 1</th>
<th>Word 2</th>
<th>Word 3</th>
<th>Word 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>✈️</td>
<td>this</td>
<td>think</td>
<td>azure</td>
<td>wish</td>
</tr>
<tr>
<td>✈️</td>
<td>them</td>
<td>both</td>
<td>pleasure</td>
<td>shoot</td>
</tr>
<tr>
<td>✈️</td>
<td>mother</td>
<td>breath</td>
<td>measure</td>
<td>cash</td>
</tr>
<tr>
<td>🏠</td>
<td>junk</td>
<td>choose</td>
<td>sing</td>
<td>yellow</td>
</tr>
<tr>
<td>🏠</td>
<td>wedge</td>
<td>watch</td>
<td>wrong</td>
<td>yes</td>
</tr>
<tr>
<td>🏠</td>
<td>jell</td>
<td>chapter</td>
<td>fang</td>
<td>you</td>
</tr>
</tbody>
</table>

Vowels

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Word 1</th>
<th>Word 2</th>
<th>Word 3</th>
<th>Word 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>🍃</td>
<td>see</td>
<td>sick</td>
<td>ray</td>
<td>head</td>
</tr>
<tr>
<td>🍃</td>
<td>leak</td>
<td>rim</td>
<td>stay</td>
<td>set</td>
</tr>
<tr>
<td>🍃</td>
<td>week</td>
<td>hit</td>
<td>weigh</td>
<td>dead</td>
</tr>
<tr>
<td>🍃</td>
<td>for</td>
<td>calm</td>
<td>look</td>
<td>moon</td>
</tr>
<tr>
<td>🍃</td>
<td>corp</td>
<td>arm</td>
<td>took</td>
<td>soon</td>
</tr>
<tr>
<td>🍃</td>
<td>sore</td>
<td>farm</td>
<td>shook</td>
<td>tool</td>
</tr>
<tr>
<td>🍃</td>
<td>law</td>
<td>above</td>
<td>water</td>
<td>courage</td>
</tr>
<tr>
<td>🍃</td>
<td>caught</td>
<td>among</td>
<td>weather</td>
<td>surrey</td>
</tr>
<tr>
<td>🍃</td>
<td>all</td>
<td>lucky</td>
<td>gather</td>
<td>murder</td>
</tr>
</tbody>
</table>

Diphthongs

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Word 1</th>
<th>Word 2</th>
<th>Word 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>🏠</td>
<td>sky</td>
<td>cow</td>
<td>boy</td>
</tr>
<tr>
<td>🏠</td>
<td>lie</td>
<td>brow</td>
<td>joy</td>
</tr>
<tr>
<td>🏠</td>
<td>buy</td>
<td>shower</td>
<td>toy</td>
</tr>
</tbody>
</table>
BIBLIOGRAPHY

Books


**Articles**


Irwin, Orvis, "Speech Development in the Young Child," Journal of Speech and Hearing Disorders, 17 (September, 1952), 269-279.
"The Effect of Family Occupational Status and Age on Sound Frequency," Journal of Speech and Hearing Disorders, 13 (September, 1948), 320-323.

"The Effect of Family Occupational Status and Age on Use of Sound Types," Journal of Speech and Hearing Disorders, 13 (September, 1948), 224-226.


Reports
