INFORMATION TO USERS

This was produced from a copy of a document sent to us for microfilming. While the most advanced technological means to photograph and reproduce this document have been used, the quality is heavily dependent upon the quality of the material submitted.

The following explanation of techniques is provided to help you understand markings or notations which may appear on this reproduction.

1. The sign or "target" for pages apparently lacking from the document photographed is "Missing Page(s)". If it was possible to obtain the missing page(s) or section, they are spliced into the film along with adjacent pages. This may have necessitated cutting through an image and duplicating adjacent pages to assure you of complete continuity.

2. When an image on the film is obliterated with a round black mark it is an indication that the film inspector noticed either blurred copy because of movement during exposure, or duplicate copy. Unless we meant to delete copyrighted materials that should not have been filmed, you will find a good image of the page in the adjacent frame.

3. When a map, drawing or chart, etc., is part of the material being photographed the photographer has followed a definite method in "sectioning" the material. It is customary to begin filming at the upper left hand corner of a large sheet and to continue from left to right in equal sections with small overlaps. If necessary, sectioning is continued again—beginning below the first row and continuing on until complete.

4. For any illustrations that cannot be reproduced satisfactorily by xerography, photographic prints can be purchased at additional cost and tipped into your xerographic copy. Requests can be made to our Dissertations Customer Services Department.

5. Some pages in any document may have indistinct print. In all cases we have filmed the best available copy.

University Microfilms International
300 N. ZEEB ROAD, ANN ARBOR, MI 48106
18 BEDFORD ROW, LONDON WC1R 4EJ, ENGLAND
STUDENT INTERPRETATION OF MALE AND NEUTER GENERIC TERMS

Copyright 1980
by
Lowry, Cheryl Meredith
All Rights Reserved
PLEASE NOTE:

In all cases this material has been filmed in the best possible way from the available copy. Problems encountered with this document have been identified here with a check mark ✓.

1. Glossy photographs ______
2. Colored illustrations ______
3. Photographs with dark background /
4. Illustrations are poor copy ______
5. Print shows through as there is text on both sides of page ______
6. Indistinct, broken or small print on several pages ✓
7. Tightly bound copy with print lost in spine ______
8. Computer printout pages with indistinct print ______
9. Page(s) ______ lacking when material received, and not available from school or author
10. Page(s) ______ seem to be missing in numbering only as text follows
11. Poor carbon copy ______
12. Not original copy, several pages with blurred type ______
13. Appendix pages are poor copy ______
14. Original copy with light type ______
15. Curling and wrinkled pages ______
16. Other ____________________________________________________________________
STUDENT INTERPRETATION OF MALE AND NEUTER GENERIC TERMS

DISSERTATION

Presented in Partial Fullfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By
Cheryl Meredith Lowry
B.A. in Journalism, M.A. in Journalism

* * * * *

The Ohio State University

1980

Reading Committee: Approved By
I. Keith Tyler
J. Robert Warmbrod
Elsie J. Alberty

Facility of Educational Foundations and Research

Advisor
ACKNOWLEDGMENTS

The author would like to thank the members of her dissertation committee, Dr. I. Keith Tyler, Dr. J. Robert Warmbrod, and Dr. Elsie J. Alberty, for their unfailing assistance, encouragement, and enthusiasm. The scholarly, humane, and gracious example they set will influence the author's personal and professional life. Dr. Tyler has a special ability to help students believe in themselves, for which the author is especially grateful.

Others deserving of gratitude are Mary E. LaBelle, Jolaine Scholl, Dr. H. Lawrence Hotchkiss, Dr. James B. Hamilton, Dr. Lucy Campbell Thrane, and the author's mentor and friend, Dr. Louise Vetter.

The data presented herein could not have been collected had not the teachers, administrators, and students at the schools involved been willing to cooperate.

Deserving of special thanks is the author's husband, William Lowry, without whose emotional and financial support this dissertation would not have been undertaken. That it has been completed is no small tribute to his faith and practical assistance. He and our son Tyler gave meaning to it all.
VITA

April 13, 1947 .......... Born—Dayton, Ohio
1969 ................. B.A. in Journalism, The Ohio State University
1970 ................. M.A. in Journalism, The Ohio State University
1970-present ........ Employed as a writer, editor, researcher, and developer at The National Center for Research in Vocational Education, The Ohio State University

PUBLICATIONS


FIELDS OF STUDY

Journalism

News writing and editing. Professor John C. Clarke

Educational Communications

Educational Television and Radio. Professor Emeritus I. Keith Tyler

Curriculum. Professor Elsie J. Alberty and Professor Emeritus Paul R. Klohr

Research

Methods, Design, and Analysis. Professor J. Robert Warmbrot
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGMENTS</td>
<td>ii</td>
</tr>
<tr>
<td>VITA</td>
<td>iii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>vii</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>viii</td>
</tr>
<tr>
<td>Chapter</td>
<td></td>
</tr>
<tr>
<td>I. INTRODUCTION AND STATEMENT OF THE PROBLEM.</td>
<td>1</td>
</tr>
<tr>
<td>Statement of the Problem</td>
<td>5</td>
</tr>
<tr>
<td>Specific Research Questions</td>
<td>7</td>
</tr>
<tr>
<td>Methodology</td>
<td>8</td>
</tr>
<tr>
<td>Significance of the Study</td>
<td>11</td>
</tr>
<tr>
<td>Limitations of the Study</td>
<td>13</td>
</tr>
<tr>
<td>Definition of Terms</td>
<td>14</td>
</tr>
<tr>
<td>II. REVIEW OF RELATED LITERATURE</td>
<td>16</td>
</tr>
<tr>
<td>Complaints Against Sexist Language</td>
<td>16</td>
</tr>
<tr>
<td>Should/Can Sexist Language Be Changed?</td>
<td>29</td>
</tr>
<tr>
<td>Research Related to Generic Terms</td>
<td>36</td>
</tr>
<tr>
<td>III. CARRYING OUT THE STUDY</td>
<td>54</td>
</tr>
<tr>
<td>Restatement of the Problem</td>
<td>54</td>
</tr>
<tr>
<td>Target Population</td>
<td>55</td>
</tr>
<tr>
<td>Sampling Procedures</td>
<td>55</td>
</tr>
<tr>
<td>Sample</td>
<td>59</td>
</tr>
<tr>
<td>Instrument Development</td>
<td>61</td>
</tr>
<tr>
<td>Administration of the Instrument</td>
<td>68</td>
</tr>
<tr>
<td>Treatment of the Data</td>
<td>69</td>
</tr>
<tr>
<td>IV. RESULTS OF THE STUDY</td>
<td>71</td>
</tr>
<tr>
<td>Treatment of the Data</td>
<td>72</td>
</tr>
<tr>
<td>Effect of IQ</td>
<td>74</td>
</tr>
<tr>
<td>Tests of Null Hypotheses</td>
<td>74</td>
</tr>
<tr>
<td>An Additional Research Question</td>
<td>95</td>
</tr>
</tbody>
</table>
### V. SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summary</td>
<td>98</td>
</tr>
<tr>
<td>Conclusions</td>
<td>109</td>
</tr>
<tr>
<td>Implications</td>
<td>111</td>
</tr>
<tr>
<td>Recommendations for Further Research</td>
<td>118</td>
</tr>
<tr>
<td>Other Recommendations</td>
<td>122</td>
</tr>
<tr>
<td>In Conclusion</td>
<td>123</td>
</tr>
</tbody>
</table>

**APPENDIX**

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms 1 and 2 of the Instrument</td>
<td>124</td>
</tr>
</tbody>
</table>

**BIBLIOGRAPHY**                     | 147  |
**LIST OF TABLES**

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Participating Schools With Corresponding Socioeconomic Status Levels and Grades at Which Their Students Participated.</td>
<td>58</td>
</tr>
<tr>
<td>2. Number of Students by School Who Were Asked to Participate, Received Permission, Were Absent or Dropped Out, and Participated in the Study.</td>
<td>60</td>
</tr>
<tr>
<td>3. Number of Subjects from Each Participating School by Sex, Grade Level, Socioeconomic Status, and Form of the Instrument Completed.</td>
<td>62</td>
</tr>
<tr>
<td>4. Number of Subjects by Socioeconomic Status, Sex, Grade Level, Form of the Instrument Completed, and Availability of I.Q. or Standard Achievement Test Scores.</td>
<td>63</td>
</tr>
<tr>
<td>5. Unadjusted and Adjusted Means of Subjects Who Completed Form 1 of the Instrument.</td>
<td>75</td>
</tr>
<tr>
<td>6. Unadjusted and Adjusted Means of Subjects Who Completed Form 2 of the Instrument.</td>
<td>76</td>
</tr>
<tr>
<td>7. Unadjusted and Adjusted Means of Subjects Who Completed Either Form of the Instrument.</td>
<td>77</td>
</tr>
<tr>
<td>8. Multiple-Classification Analysis of Covariance of Students' Interpretation of Generic Terms.</td>
<td>78</td>
</tr>
<tr>
<td>9. Number of Subjects Who Interpreted All Generic Terms on Their Instruments as Including Males Only.</td>
<td>97</td>
</tr>
</tbody>
</table>
## LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Means of High, Middle, and Low SES Subjects' Scores on Form 1 and Form 2 of the Instrument</td>
<td>83</td>
</tr>
<tr>
<td>2.</td>
<td>Means of 3rd, 5th, 7th, 9th, and 11th Grade Subjects' Scores on Form 1 and Form 2 of the Instrument</td>
<td>85</td>
</tr>
<tr>
<td>3.</td>
<td>Means of Male and Female Subjects' Scores on Form 1 and Form 2 of the Instrument</td>
<td>88</td>
</tr>
<tr>
<td>4.</td>
<td>Means of Male 3rd, 5th, 7th, 9th, and 11th Grade Subjects of High, Middle, and Low Socioeconomic Status</td>
<td>90</td>
</tr>
<tr>
<td>5.</td>
<td>Means of Female 3rd, 5th, 7th, 9th, and 11th Grade Subjects of High, Middle, and Low Socioeconomic Status</td>
<td>91</td>
</tr>
</tbody>
</table>
CHAPTER I
INTRODUCTION AND STATEMENT OF THE PROBLEM

Those who consider English to be a sexist language seem virtually unanimous in their condemnation of the use of male generic terms in instances where females are, or may be, part of the referent group. In such instances, it is the use of such words as "man" and "mankind," masculine pronouns, and terms that contain the "-man" or "-men" suffixes that is criticized.

Those who condemn the use of male terms as generics generally do so for one or more of the following reasons:

(1) They consider the use of male terms as generics to be unfair to females because they believe females are by definition subsumed by this language that explicitly, at least, ignores them. (In other words, they believe that both sexes simply deserve to get "equal time" in the language.)

(2) They consider the use of male terms as generics to be unfair to females because they believe words that describe roles taken by individuals, as generics may, also help determine what roles are available to be taken. Following this line of reasoning, they believe that generics that do not explicitly include females may contribute to a limitation of female role options. And/or (3) they believe that the use
of male terms as generics produces ambiguity because they believe the terms do not communicate whether females are intended to be included in the referent group. Adamsky¹ points out that writers have claimed since 1884 that the use of male generics is an obstacle to clear communication, while the argument that their use is sexist (unfair) is of much more recent origin.

All three of the reasons for criticizing the use of male terms as generics given above are predicated on a belief that these terms are not truly generic. That is, those who cite those reasons believe male terms are interpreted by readers and listeners to refer to males only, despite the grammar rule to the contrary. Individuals who hold this position maintain that use of male terms as generics discourages or precludes readers or listeners from mentally including females in the referent group—regardless of the writer's or speaker's intent. Burr, Dunn, and Farquhar,² for instance, argue that children simply do not form a mental image that includes females when reading such sentences as "Men by the

¹Cathryn Adamsky, "Changes in Pronominal Usage Among College Students as a Function of Instructor Use of 'She' as the Generic Singular Pronoun" (Paper presented at meetings of the American Psychological Association, September 1976).

thousands headed west" or "The average citizen in the United States is proud of his citizenship." "Even an adult," Burr, Dunn, and Farquhar maintain, "is unlikely to picture a group of amicable females when reading about 'men of good will'." In other words, according to Burr, Dunn, and Farquhar, the male generic terms do not actually function as generics.

Unfortunately, there are no firm answers to questions concerning the relationship between language and thought. Does language only reflect the way people think or does it help determine the way they think? More specific to this study: Do male generic terms and neuter generic terms differ in their capacity to encourage people to include both males and females in the referent group?

These questions should be important to educators, in particular. As perhaps the most basic "tool" educators have for communicating face-to-face and through mediated materials with their students, language is of paramount importance in the educational process. If the conventional use of male generic terms does not communicate those terms' intended inclusion of females in the referent group, educators may be teaching something quite different from what they had intended. And what they are teaching may conceivably be harmful to students of both sexes in that it may distort the students' view of the world and their place in it.

Because of the conceivable effects generic terms that may not really be generic may have on students whose twelve-
year school experience conventionally includes their use, many educators have argued for the elimination of the use of male terms as generics. These individuals have cited not only possible long-term effects (such as development of a belief that females are less important than males), but also more limited effects, such as mistakes students may make in interpreting instructional materials. For instance, Harrison points out that elementary and secondary science textbooks nearly always discuss human evolution in terms of cavemen, primitive man, Cro-Magnon Man, and Java Man, while never referring to our female predecessors. Do these omissions, Harrison asks, discourage students from including females in their interpretations of discussions about human evolution? This researcher would ask further: Does the capability of male and neuter generic terms to express the fact that they are intended to include females vary, depending on characteristics of the students who read or hear them?

Such questions and arguments have persuaded many speakers and writers of English to eliminate the use of male terms as generics. Among those who have declared their intention to avoid using male terms as generics have been several publishers of educational materials. This change on the part of publishers may be the result of pressure brought to bear

3Linda Harrison, "Cro-Magnon Woman--In Eclipse," The Science Teacher, April 1975, pp. 8-11.
by numerous feminist groups within and without the field of education and/or the result of the publishers' understanding of the research concerning generic terms. This body of research, while not large and not of uniform formality and quality, indicates that male generic terms may well discourage students from including females in the referent group. However, the research on generics conducted previously studies only the part sex of subject may play in the subjects' interpretations of generic terms. Consequently, this study focused on the extent to which other subject characteristics (e.g., grade in school, I.Q., and socioeconomic status) may explain subjects' interpretations of generic terms.

Statement of the Problem

The purpose of this study is twofold: (1) To investigate how well male and neuter generic terms communicate the fact that they are intended to refer to both males and females, and (2) To investigate whether certain student characteristics (sex, grade in school, I.Q., and socioeconomic status) help explain a student's interpretation of generic terms to include both males and females. The general research questions investigated were:

1. Are male and neuter generic terms equally capable of encouraging students to interpret them as including both males and females?
2. Does the sex, grade in school, I.Q., or socioeconomic status of students (or combinations of these characteristics) help explain the students' interpretation of male and neuter generic terms to include both sexes in the referent group?

The independent variables investigated were: (1) type of term (two levels: male generics and neuter generics), (2) sex of subject (two levels: male and female), (3) subject's grade in school (five levels: grades 3, 5, 7, 9, and 11), (4) I.Q. of subject (operationally defined as the subject's I.Q., or standard achievement test score if the I.Q. was not available, as recorded on school records), and (5) socioeconomic status of subject (operationally defined as residence or attendance in a school district whose average family income is either high, middle, or low as compared with those of other suburban districts in the county; three levels: high, middle, and low).

The dependent variable investigated was student interpretation of generic terms, operationally defined for this study to be the students' scores on an instrument that asked them to choose drawing-answers that best illustrate individual statements that use generic terms.

The population involved in this study was elementary and secondary Catholic and public school students who reside in Franklin County, Ohio, suburbs or attend their schools. Because the suburbs, schools, and subjects involved were not
randomly selected, the results of the study may be generalized only with caution.

**Specific Research Questions**

Specific research questions answered by the study, and from which null hypotheses were developed, are the following:

1. Once students have read statements identical except for the type of generic term used, do the drawing-answers they select to illustrate the statements include both males and females more or less often, depending on whether their statements used male or neuter generic terms?

2. Do male and female students select with the same frequency drawing-answers that include both males and females to illustrate the statements?

3. Do students in grades 3, 5, 7, 9, and 11 select with the same frequency drawing-answers that include both males and females to illustrate the statements?

4. Do students with different I.Q.'s select with the same frequency drawing-answers that include both males and females to illustrate the statements?
5. Do students with socioeconomic status that is high, medium, or low for their county select with the same frequency drawing-answers that include both males and females to illustrate the statements?

6. Do students with varying combinations of these characteristics (type of generic term he/she received, sex, grade in school, I.Q., and socioeconomic status) select with the same frequency drawing-answers that include both males and females?

7. What are the characteristics (sex, grade in school, I.Q., and socioeconomic status) of students who illustrate all statements with drawing-answers that include only males or only females?

These specific research questions guided the study and were used to generate appropriate null hypotheses to be tested by the data. Research hypotheses were not formulated because the literature regarding interpretation of generic terms did not offer enough information upon which to base research hypotheses.

Methodology

In an attempt to answer the specific research questions listed above, the study was conducted in the following manner.
Sampling Procedures. Five Franklin County, Ohio, suburbs were selected on the basis of their average family income for 1977 and the willingness of their schools to participate in the study. (Figures for 1977 were the most recent available to the researcher.) Because the public school districts were not willing to make available research subjects at all grade levels under investigation, Catholic schools were also asked to participate in the study. By using both public and Catholic schools, the researcher was able to have available a sample that included male and female subjects in grades 3, 5, 7, 9, and 11 from suburbs whose average family income was considered either high, middle, or low for the county. School officials selected the schools and classrooms that would participate. Four hundred fifty-eight students participated in the study. (For a complete numerical description of the sample, see Chapter III.)

Instrument Development. The researcher developed two forms of an instrument designed to measure students' interpretation of generic terms. (Copies of both forms of the instrument appear in the Appendix.) Each form of the instrument consisted of thirty short statements that contained generic terms and drawings that illustrated the statements. The statements on Form 1 used neuter generic terms, and the statements on Form 2 used conventional masculine generic
terms. Otherwise, the two forms of the instrument were nearly identical. A set of three drawings appeared beneath each statement on the instrument. The three drawings beneath any one statement were identical except for the sex of the human figures within them. One drawing contained all males, another contained all females, and the other one contained both males and females. These drawings were prepared by a commercial artist. Both forms of the instrument underwent a face validity review and a pilot test. Inter-item reliability using the Kuder-Richardson 20 was calculated at .929 for Form 1 and .967 for Form 2.

**Administration of the Instrument.** The subjects, at random while blocked on sex, were assigned to receive either Form 1 or Form 2 of the instrument in their regular classrooms or school's multipurpose room. Without being told the purpose of the instrument, the subjects were asked to read each statement on the form of the instrument they received and to then circle the drawing under each that best showed what the statement meant. Presumably, generic terms (male or neuter) that were truly generic would encourage subjects to circle drawings that contained both males and females.

**Data Treatment.** The researcher scored the instruments by assigning a value of 1 for every circled drawing that included both males and females and assigning a value of 0
for every circled drawing that contained only males or only females. Thus, each subject's score on the instrument corresponded to the number of statements the subject chose to illustrate with a drawing that included both males and females. The participating schools made available recorded I.Q.'s (or standard achievement test scores) for 393 of the 458 subjects. Each of the sixty-five subjects for whom an I.Q. or standard achievement test score was not available was assigned an I.Q. equal to the mean I.Q. of those subjects whose sex, grade in school, and socioeconomic status matched his/her own. All of the I.Q.'s/standard achievement test scores were converted to standard Z scores so that these test scores, despite the fact that they resulted from different tests, could be compared.

Multiple-classification analysis of covariance, with I.Q. as the covariate, was used to treat the data. Post hoc comparisons, where appropriate, were made using the Scheffe method. The findings of the study are reported in Chapters IV and V.

Significance of the Study

This study extends the research previously conducted on student interpretation of generic terms. It does so by providing not only more information about the capability of male and neuter generic terms to express their "genericness,"
but by also providing information regarding student characteristics that may help explain the students' interpretation of generic terms.

The research previously conducted indicates that male generic terms, as compared to neuter generic terms, are significantly less often interpreted by students as referring to females as well as males. This tendency is stronger for male students than for female students. However, except for this relationship between sex of subject and student interpretation of generic term, little is known about what student characteristics may help explain the relationship between type of generic term and student interpretation. (The age of subjects has not yet been studied as a variable, although the individual studies previously conducted involved subjects in third grade, junior high school, and college.) By investigating (in addition to sex of subject) the variables student grade in school, I.Q., and socioeconomic status, this study helps determine whether these student characteristics are related to that interpretation.

The results of this study, combined with those of other studies, should be important to teachers and other selectors and developers of educational materials in the schools studied. These results can help them decide whether, and with which students, it may be necessary to avoid the conventional use of male generic terms. Other researchers, too, may benefit from the information provided by this study as
they seek to understand how students interpret generic terms, why, and with what effects.

Limitations of the Study

This study has three major limitations. They are:

1. Because the suburbs, schools, and subjects involved in the study were not selected at random, the results of the study may be generalized only with caution. The sample did, however, represent a careful selection in terms of some important variables, in order to be as representative as possible.

2. The vast majority of the subjects participating in this study were non-minority students. Therefore, results should not necessarily be considered to apply to minority students.

3. The measure of socioeconomic status used in the selection of subjects (residence or school attendance in a suburb that had a particular level of average family income) was a gross measure of this variable. Those income levels were called high, middle, and low and did in fact represent high, middle, and low incomes for Franklin County, Ohio, suburbs in 1977. However, the incomes represented by those labels do not necessarily correspond to what would have
been called high, middle, and low for a national sample.

4. In some cases, the size of subsamples was quite small. Consequently, some instances of a finding of statistical nonsignificance may not be a true assessment.

Definition of Terms

Generic terms--for the purposes of this study, nouns and pronouns that are intended to refer to people of both sexes. Generic terms in this study are considered to be either (1) ostensibly male-oriented terms that in other instances are used to refer to males only (such as "he" or "man") or that contain the suffixes "-man" or "-men," or (2) ostensibly neuter terms (such as "people" or "humans") that are not sex-specific.

I.Q. of subject--an independent variable in this study, operationally defined as the subject's I.Q. (or, in some cases, the subject's score on a standard achievement test) as recorded on school records.

Referent group--the people referred to by a statement. For example, in the statement "U.S. citizens are not forced to vote," the people referred to are "U.S. citizens."
Sexist language—words and word patterns that serve to exclude people of one sex or that arbitrarily assign roles or characteristics to people on the basis of their sex.

Socioeconomic status of subject—an independent variable in this study, operationally defined as residence or attendance in a suburban school district whose average family income is either high, middle, or low as compared with those of other suburban districts in the county. This variable is considered to have three levels: high, middle, and low.

Student interpretation of generic terms—the dependent variable in this study, operationally defined as the students' scores on an instrument that asked them to choose drawing-answers that best illustrate individual statements that use generic terms.

Subject's grade in school—an independent variable in this study having five levels: grades 3, 5, 7, 9, and 11. Also referred to as "grade level."

Type of term—an independent variable in this study, operationally defined as being either an ostensibly male-oriented generic word or an ostensibly neuter (non-sex-specific) generic word.
CHAPTER II
REVIEW OF RELATED LITERATURE

This literature review is organized into three major sections. The first section provides the views of various authors concerning sexist language, of which the use of male generic terms is believed to be a part. This section contains specific complaints the authors make against the use of male generic terms and the reasons they believe language does in fact affect the speakers, readers, and listeners who use it. The second section provides information regarding language change and the authors' beliefs concerning whether sexist language should and/or can be eliminated. This section also contains the various new terms that have been suggested as alternatives to conventional male generic terms. The third section reviews research studies that are directly related to the study of male and neuter generics reported in this dissertation.

Complaints Against Sexist Language

The researcher's definition of sexist language is those words and word patterns that serve to exclude people of either sex or that arbitrarily assign roles or characteristics to people on the basis of sex. When the words "sexism"
and "sexist" were coined, they were considered to mean prejudice and discrimination against women. It was only later that the concepts embodied in these words were extended to include men. The definition of sexist language that appears above reflects that extension. However, the fact remains that nearly all the criticism of sexist English reviewed here has been made by women. Nearly all those men who have been critical, and are reviewed here, have done so on behalf of women, and examples of language that is considered to reflect negatively on or arbitrarily exclude men are rare. There is sexist language that excludes and arbitrarily assigns roles or characteristics to males on the basis of sex, but not many have thus far complained about it in scholarly literature.

Educational materials have been thoroughly examined and vehemently criticized by feminists, in part because of the sexist language they are believed to contain. At least seventy-eight published studies have been made of basal readers, reading textbooks, and children's literature during roughly the last decade.4 Studies of educational materials in areas other than reading have also been conducted. Many, if not most, of these studies have indicted the materials as sexist. The criteria against which these materials have been judged have varied. Principal criteria have been:

(1) the ratio of male to female names, characters, pronouns, and illustrations; (2) the roles of the characters; (3) the ratio of male to female authors represented in anthologies; and (4) the use of the generic pronouns "he" and "his" and other generic words such as "mankind." As can be seen from these criteria, language has been only one aspect of the studies investigating sexism in educational materials. Still, the charges of sexism against English have been strong enough to cause the authors of what has become the classic investigation of educational materials for sexism to characterize the language as having "symbolically handed over the entire world to men."

The perceived problem with the use of male generic terms is part of what Miller and Swift call the "linguistic male-as-norm syndrome." Although not always called by that name, this area seems to receive more attention than any other in the literature concerning sexist language. Generally, what Miller and Swift call the "linguistic male-as-norm syndrome" is considered to manifest itself in three ways: (1) through the assumption that the hypothetical, typical, and average person or animal is male; (2) through the use of male generic pronouns; and (3) through the use of generic words such as

---

5Ibid., p. 133.


"mankind" and "forefathers" to represent the human species or all human ancestors.

**Masculine Generic Pronouns.** The difficulty with the use of the generic "he" stems from the fact that there really is no truly generic third-person singular English pronoun. Lakoff\(^8\) maintains that English is not alone in this regard by pointing out that the "great majority" of the world's languages use the masculine singular pronoun as a generic.

Burr, Dunn, and Farquhar\(^9\) consider "he" used as a generic to be what they call "subsuming terminology." These authors define "subsuming terminology" as terms that are commonly believed to include or refer to females as well as males, although they in fact operate to exclude females.

Adamsky\(^10\) believes that the common pattern of switching from generic "he" to the sex-definite "she" when referring to those who hold jobs usually held by women suggests that women are indeed ignored in the sex-indefinite "he."


\(^10\)Cathryn Adamsky, "Changes in Pronominal Usage Among College Students as a Function of Instructor Use of 'She' as the Generic Singular Pronoun" (Paper presented at meetings of the American Psychological Association, September 1976), p. 1.
Sutton, one of the few authors reviewed who criticized English for its sexism toward both sexes, gives an interesting example of the incapability of the generic "he" in some cases. The quotation he cites is part of Section 3C of HB 302 that was under consideration by the Ohio House of Representatives in April 1973: "No person may require another person to perform, participate in, or undergo an abortion against his will."

Gunderson encourages investigation of how and when children learn to use the generic "he."

Other Masculine Generic Words. The use of other masculine generic words has also been criticized. Burr, Dunn, and Farquhar maintain that "Usage of the words 'man' (without an indefinite article) and 'men' to represent human beings in general or adults in general is objectionable on the grounds of ambiguity."

Harrison and Passero point out that "'man' and 'men' are allowed to stand for both males and females but female

---

13 Burr, Dunn, and Farquhar, op. cit., p. 415.
terms refer to people only if there is almost no possibility that a male might be included in the reference."

Baron\textsuperscript{15} writes that while the word "man" originally carried the two-fold sense of "human being" and "adult male human being" in all Germanic languages, the meaning of "man" has shifted in modern English from the original neutral sense of "person" so that now it refers to women "only by implication." "'Man,' then," he says, "has become an ambiguous term. In general usage, it and the compounds in which it appears point first to the masculine; although they can refer to women, the feminine is always a special case and implicitly inferior." Baron goes on to say that semantic systems try to resolve ambiguity such as this because a word that requires multiple meanings also has lowered content and may be replaced by a more specific term. "All the Germanic languages except English preserve the distinction between 'man' in the sense of 'human being' and 'man' in the sense of 'adult male human being' by creating separate, though derivative, terms for the latter (e.g., German 'Mensch')."

Similarly, Miller and Swift\textsuperscript{16} write that while the use of "man" to include both women and men may be grammatically

\textsuperscript{15}Dennis C. Baron, "Lexical Change in Present-Day English" (paper presented at the annual meeting of the Linguistic Society of America, San Francisco, California, December 1975), p. 13.

\textsuperscript{16}Miller and Swift, op. cit., p. 18.
"correct," it is in constant conflict with the more common use of "man," as distinguished from "woman." "This ambiguity," they believe, "renders 'man' virtually unusable in what was once its generic sense...." Miller and Swift offer several examples from other literature that illustrate the conflict between "man" used to convey "adult male human being" and "man" used to mean "human being." Their example cited here is a sentence by psychoanalyst Erich Fromm, writing in the New York Times Magazine, February 27, 1972. Fromm described man's vital interests as "life, food, access to females, etc."17 "One may be saddened but not surprised," Miller and Swift write, "at the statement 'man is the only primate that commits rape.' Although, as commonly understood, it can apply to only half the human population, it is nevertheless semantically acceptable. But 'man, being a mammal, breast-feeds his young' is taken as a joke."18

To lexicographer Graham,19 the exclusion of women in what she considers "the constant, careless overuse of the word 'man' in its extended senses" is the most pervasive manifestation of sexism in English.

17Ibid., p. 23.

18Ibid.

If a woman is swept off a ship into the water, the cry is 'man overboard!' If she is killed by a hit-and-run driver, the charge is 'manslaughter.' If she is injured on the job, the coverage is 'workman's compensation.' But if she arrives at a threshold marked 'men only,' she knows the admonition is not intended to bar animals or plants or inanimate objects. It is meant for her.20

Graham draws the contrasts between the use of the word "man" to mean "adult male human being" and "human being" by stating the problem somewhat like a mathematical proposition:

If you have a group half of whose members are A's and half of whose members are B's and if you call the group C, then A's and B's may be equal members of group C. But if you call the group A, there is no way that B's can be equal to A's within it. The A's will always be the rule and the B's will always be the exception—the subgroup, the subspecies, the outsiders.21

The Effects of Language. Several authors' views reflect the undetermined relationship between language and thought. Schneider and Foss22 write that "The precise nature of the relationship between thought and language

20Ibid., p. 62.


remains to be delineated." Saporta\textsuperscript{23} echoes the same sentiment in relation to sexism and language as he writes "A linguist trying to discuss language and sexism is immediately confronted with the absence of relevant theory." In the first place, according to Saporta, very little is known about the relationship between language and attitudes, beliefs, and perceptions. He says it is very difficult to demonstrate whether language determines, or is determined by, attitudes, beliefs, or perceptions. In the second place, according to Saporta, "virtually nothing" is known about how linguistic competence (what speakers know about their language) interacts with beliefs and attitudes to determine linguistic performance (how speakers use their language).

Other authors writing about language they believe to be sexist are apparently not overly bothered by the lack of theory regarding the relationship between language and thought. They clearly indicate their belief that language does, at least in part, determine thought.

Lakoff\textsuperscript{24} maintains that "Language uses us as much as we use language. As much as our choice of forms of expression is guided by the thoughts we want to express, to the same


\textsuperscript{24}Lakoff, op. cit., p. 3.
extent the way we feel about things in the real world governs the way we express ourselves about these things."

Bosmajian\(^{25}\) claims that "Our identities, who and what we are or think we are, how others see and define us, are greatly affected by language. The power of language to affect identity is reflected in the fact that language has been used again and again to define and dehumanize groups of individuals into submission." Bosmajian cites examples of the Nazis' use of language to "define and redefine" the Jews "to the point that elimination of the 'Jewish bacilli,' the 'Jewish plague,' and 'Jewish vermin' seemed reasonable to the Nazi audiences." White racists have also used the language, Bosmajian says, to "keep the nigger in his place." It is Bosmajian's view that language played an important part in the civil rights movement for blacks when people like Martin Luther King and Malcolm X pointed to the need for blacks to stop allowing whites to define who blacks were and are.

Burr, Dunn, and Farquhar\(^{26}\) believe that "A language is not merely a means of communication; it is also an expression of shared assumptions. Language thus transmits implicit values and behavioral models to all those people who use it."


\(^{26}\)Burr, Dunn, and Farquhar, op. cit., p. 414.
These writers are consciously or unconsciously endorsing, at least in part, what has come to be called the Whorfian hypothesis or, sometimes, the Sapir-Whorf hypothesis. (Whorf was Sapir's student.) It is Whorf's hypothesis that language in fact shapes ideas so that contrasting perceptions of reality can result from differences in language structure and lexicon. Whorf believed that "A person's thoughts are controlled by inexorable laws of pattern of which he is unconscious. These patterns are the unperceived intricate systematizations of his own language..." He says that "Every language is a vast pattern-system, different from others, in which are culturally ordained the forms and categories by which the personality not only communicates, but also analyzes nature, notices or neglects types of relationships and phenomena, channels his reasoning, and builds the house of his consciousness." 27 The Whorfian hypothesis, as explained by Farb, also predicts that "Language makes its speakers intellectually lazy. They will categorize new experiences in the well-worn channels they have been used to since birth, even though these channels might appear foolish to an outsider." 28


Postman and Weingartner\textsuperscript{29} say that the Whorfian hypothesis could more rightly be called the "Sapir-Whorf-Korzybski-Ames-Einstein-Hesenberg-Wiggenstein-McLuhan, et al. hypothesis," since in their opinion these other scholars, despite the diversity of their fields of study, have essentially agreed with Whorf. Postman and Weingartner go so far as to say that:

Almost all of what we call knowledge is language. Which means that the key to understanding a 'subject' is to understand its language. In fact, that is a rather awkward way of saying it, since it implies that there is such a thing as a 'subject' which contains 'language.' It is more accurate to say that what we call a subject is its language. A 'discipline' is a way of knowing, and whatever is known is inseparable from the symbols (mostly words) in which the knowing is codified.\textsuperscript{30}

Fodor, Bever, and Garrett\textsuperscript{31} criticize the Whorfian hypothesis because they believe Whorf's arguments supporting it to be circular.

If, in short, one is going to explain differences in the cognitive organization of speakers by reference to differences in the grammatical organization of their languages, one had better have some way of demonstrating the existence of the former that does not depend solely upon the latter.\textsuperscript{32}


\textsuperscript{30}Ibid., p. 102.


\textsuperscript{32}Ibid.
It is these authors' opinion that "the best current evidence" suggests that the Whorfian hypothesis is probably not true.33

Farb34 believes that the weakness of the Whorfian hypothesis is what Farb considers the "impossibility of generalizing about entire cultures and then attributing these generalizations to the languages spoken." Whorf, he says, "overemphasized one point (that languages differ in what can be said in them) at the expense of a greater truth (that they differ as to what is relatively easy to express in them)."35

But even Farb does not discount Whorf's work. The true value of Whorf's theories, he says, is that they emphasize "the close alliance between language and the total culture of the speech community. No linguist today doubts that language and culture interpenetrate one another."36

O'Donnell37 apparently believes that this interpenetration of language and culture exists. "Whether language shapes our culture or culture shapes our language," she

33Ibid., p. 388.
34Farb, op. cit., p. 183.
35Ibid., p. 185.
36Ibid., p. 187.
writes about language she believes to be sexist, "women have been categorized and stereotyped, and our language helps perpetuate this division between the sexes."

Should/Can Sexist Language Be Changed?

All but two of the reviewed authors of literature that deals directly with sexist language either call for specific language changes or make statements that are compatible with language changes suggested by others. Kingston and Lovelace are the authors who do not argue for language change. Their views will be considered later in this section.

Sexist Language Should Be Changed. The comments of only a few of those authors reviewed who support language change are given here. After reporting the results of their study that suggest that masculine generic words do not communicate in the way they are supposedly intended, Harrison and Passero state the following: "Conscious efforts should be made to use alternative language forms that openly include females, rather than language forms that fail to mention them purportedly for the sake of convenience."39


39Harrison and Passero, op. cit., p. 25.
Berger and Kachuck argue that contemporary social changes require changes in the lexicon or the rules of grammar. Changes in the lexicon seem to be easier, they say, and would contribute to clarity of communication. "Since situations in which 'man' does refer only to males are changing, the use of the term becomes less accurate. Clear communication is facilitated when each word has a single meaning."41

Horton believes that sexist language is not only demeaning but also inaccurate and that for this reason the demand to "desex" English is not likely to fade away.

To Bosmajian the fact that so many women have found the sexism in English to be offensive is hardly surprising; what surprises him is that it has taken so long for it to offend them. He, too, recommends change.

Terrebone and Terrebone advocate using new, nonsexist expressions in order to create awareness about sexism and


41Ibid.


43Bosmajian, op. cit., p. 312.

thereby bring about social change directed toward equality for women.

**Sexist Language Should Not Be Changed.** As mentioned earlier, Kingston and Lovelace do not argue for changing sexist language. In "Sexism and Reading: A Critical Review of the Literature," Kingston and Lovelace point out that the investigations of sexism in educational materials they reviewed were content analyses, not experimental studies. Since the effect of sexist materials on the students who use them cannot be ascertained from the materials' content, Kingston and Lovelace do not believe that the investigators' arguments for change are merited.45

In another article, "Guidelines for Authors: A New Form of Censorship," Kingston and Lovelace state that the "sex fair" guidelines developed by publishers and professional associations constitute censorship since a writer's work will not be published unless it adheres to the guidelines. They criticize the guidelines for imposing "hazy and unclear" rules and standards. They also raise the issue of whether an author "should depict life as it is or depict what is ideal," but do not state their opinion about that issue.46

**How Should It Be Changed?** Several authors have suggested alternative forms for conventional masculine generic

---

45Kingston and Lovelace, op. cit., p. 133.

46Kingston and Lovelace, op. cit.
terms. Miller and Swift, for instance, offer their word "genkind" as a replacement for the word "mankind." 47 They suggest a set of singular, "common gender" pronouns: "tey" for nominative case, "ter" ("ters") for possessive case, and "tem" for the objective case. 48

Horton, too, suggests his own words to be used in cases where there is no specific sex referent. Such new words or new combinations to replace the masculine generic words or their commonly suggested replacements must be (1) brief (this dooms "he/she," he says), (2) clear (dooms "it" as a replacement for the generic "he"), (3) simple, (4) euphonious, and (5) familiar. Horton suggests "she" be used where "he/she" might be used, "herm" for cases where "him/her" is appropriate, "hs" (pronounced Z Z Z) instead of "his/hers," "maman" as a replacement for "man/woman," and "birl" for use where "boy/girl" would be appropriate. 49

Horton says that he doesn't believe that his suggestions will be accepted: "They are practical, simple, and would require little learning effort, but the same could be said of Esperanto, the universal language which is spoken by no one." 50


49Horton, op. cit., p. 160.

50Ibid.
Unlike Miller and Swift, who recommend new replacements for masculine generics, Burr, Dunn, and Farquhar suggest that masculine generics like "mankind," "men," and "man" be replaced by such terms as "citizens," "inhabitants," "humanity," "women and men," "people," and "individuals."51

Sutton also believes that the invention of new words is not required. "A very important factor is that English has all the resources needed to eliminate the traditional and prevailing male sexual bias in utterance," he writes.52

**Will It Change?** Most authors of the literature reviewed here seem confident that sexist language will be changed, and that it already is changing in regard to male generics and job titles. Several mentioned the U.S. Department of Labor's revision of its Dictionary of Occupational Titles, in which terms such as "man," "woman," "lady," and the "-ess" and "-man" suffixes were eliminated and sex-specific job titles were changed to neutral forms. For example, "policeman" was changed to "police officer," "salesman" became "sales agent," and "stewardess" was changed to "airplane flight attendant." Also mentioned was the fact that the Department of Labor's Office of Manpower Administration changed its name to Employment and Training Administration and changed the name of its official publication from Manpower to Worklife.

51Burr, Dunn, and Farquhar, op. cit., p. 415.

Rhome points out that if some of the suggestions for changes and new words sound ridiculous, one should remember that the words "ms.," "sexism," "male chauvinism," and "androgynous" are in the dictionary and have come into full acceptance.53

Horton believes that language change does not occur merely because someone thinks up logical improvements. "Languages change as people feel a personal, individual need to communicate effectively," he writes. "In time, new language terms and usages will develop to describe new social realities--this has happened in the past and may be expected to happen again."54

Berger and Kachuck55 apply linguistic theory to their position that language can and will change to reflect social conditions. The rationale for their position, they say, stems from three aspects of language theory: (1) the structure of language, (2) the language change process, and (3) the relationship between thought and language.56


54 Horton, op. cit., p. 160.

55 Berger and Kachuck, op. cit.

56 Ibid., p. 4.
Language is structured into at least three strata, according to Berger and Kachuck. The deep stratum represents the perception of reality. A second stratum contains linguistic rules, some optional and others required by the language itself, that structure statements made about the concepts of reality perceived in the deep stratum. The third stratum is the expression or outward display that results from the rules of the second stratum. 57

Berger and Kachuck explain that words are "marked" in the deep stratum. For instance, the word "desk" may be marked as neuter, inanimate, and nonhuman. It is these markings in the deep stratum that cause the rules of the second stratum to disallow expression in the third stratum of a sentence such as "The desk thought it would be warmer next to the window and ran over there." Similarly addressing words believed to be sexist, Berger and Kachuck believe that imposing "markers" concerning sex on words that have no inherent sex meanings can produce anomalous sentences such as "My sister is a cameraman," which they believe to be grammatically questionable in the way the example sentence about the desk is. 58

57 Ibid., pp. 4-5.
58 Ibid., p. 7.
In regard to the aspect of language change, Berger and Kachuck believe the Department of Labor's changes in its official lexicon of job titles reflect the idea that sex features should not be added in third stratum expression of semantic terms that have no underlying sex marker. "Whether a governmental agency can change common usage of words is problematical...But relatively rapid cultural changes are accompanying the government's vocabulary change."\textsuperscript{59}

The relationship between language and thought revolves around what Berger and Kachuck believe to be the central question of "whether language reflects a person's perception of reality or causes perceptions of reality or causes perception."\textsuperscript{60}

\textbf{Research Related to Generic Terms}

Several researchers have conducted studies relevant to the research reported in this dissertation. Because some of those studies were informal and/or published in rather fugitive literature, not as much information about them as one would like is currently available. The first three studies that are described here (those conducted by Kidd, Schneider and Hacker, and Shimanoff) were reported in a literature review by William R. Todd-de-Mancillas, entitled

\textsuperscript{59}Ibid., pp. 8-9.

\textsuperscript{60}Ibid., p. 9.
"The Generic 'Man': A Review of Literature and Implications for Communication Scholars." The footnotes that accompany the description of those studies here show where the studies were first reported, reports that were unavailable to the researcher.

Kidd studied approximately 600 subjects' interpretations of the terms "man" and "men" by asking them to react to eighteen short declarative sentences such as "The potentialities of man are infinitely varied and exciting." The subjects were asked to describe in their own words the gender of the person referred to in each of the first nine sentences. For each of the last nine sentences, the subjects were asked to indicate whether the person referred to in the sentence was male or female by choosing a forced-choice answer. Sixty-six percent of the responses to the first nine questions identified the sentences' referents as males; only five percent of the responses identified females as referents; and twenty-nine percent of the responses identified referents as neither exclusively male nor female. In responding to the last nine sentences, eighty-six percent


of the subjects choose male referents and nine percent of them chose female referents.

Schneider and Hacker\textsuperscript{63} also studied interpretation of the term "man." The subjects were 306 college students enrolled in a sociology course. They were asked to illustrate chapter titles of an introductory sociology textbook by submitting pictures from newspapers and magazines. Half of the subjects were to illustrate a list of chapter titles that did not use the term "man" in its generic sense (e.g., "Culture," "Population," "Social Theory"). The other half of the subjects received a list of chapter titles that did use the term "man" in its generic sense (e.g., "Social Man," "Urban Man," "Political Man"). Sixty-four percent of the subjects who received chapter titles that used the generic "man" submitted pictures that depicted males only. Only fifty percent of the subjects who received chapter titles that did not use the term "man" submitted pictures that depicted males only.

Shimanoff\textsuperscript{64} studied the terms "chairman," "chairperson," and "individual." One hundred eighty subjects (ninety male and ninety female college students) were divided into three


\textsuperscript{64}Susan B. Shimanoff, "English Lexical Gender and the Perception of Sex Markedness" (Paper presented at the convention of the Western Speech Communication Association, Newport Beach, California, November 1975).
groups. Group 1 received the sentence "A group of students had to choose a chairman to lead the group." Groups 2 and 3 received the same sentence as Group 1 subjects, except that the word "chairperson" was substituted for "chairman" in Group 2's sentence and the word "individual" was substituted for "chairman" in Group 3's sentence. The subjects were asked to describe the gender of the person being sought to lead the group and to rate the masculinity and femininity of the words "chairman," "chairperson," and "individual" using a previously verified rating scale. The researchers report that the word "chairman" was perceived by subjects as referring to a male much more frequently than to a woman. The words "chairperson" and "individual" were not perceived as referring to males as frequently as the word "chairman." Male subjects were more likely than female subjects to perceive all three words ("chairman," "chairperson," and "individual") as referring to males.

Harrison and Passero\(^6^5\) studied the neuter terms "people," "salesperson," "handmade," and "pilgrim ancestors," and their male-oriented generic counterparts "man," "men," "salesman," "manmade," and "pilgrim forefathers." They used eighty-five third graders as subjects. The subjects

remained in intact classes and the classes of subjects were randomly assigned to the control or treatment groups. The control group classes of subjects received an eight-item instrument (Form 2) that contained short sentences using masculine generic terms. The treatment group's instrument (Form 1) was identical except that neuter generic terms were substituted for the male terms used in the control group's instrument. The subjects were asked to circle the appropriate drawing-answer for each item. The researchers compared the percentages of subjects who circled drawings of males only on Form 1 and Form 2 using the chi-square test (Yates correction). Subjects who responded to Form 2 (male generics) circled male-only drawings significantly more often (at the .01 level) than did subjects who responded to Form 1 (neuter generics). Harrison and Passero concluded that children may not include females within their understanding of male generic terms.

Harrison conducted a similar study, this time using 503 junior high school students (257 males, 246 females) as subjects. Three groups of randomly assigned subjects were given one of three forms of an instrument. The instrument varied only in the terms used for people. Each of seven items asked subjects to draw early humans (e.g., "Draw three

---

examples of early man and the tools you think he used in daily life."). On Form 1 of the instrument, the terms used to refer to people were the male generics "man," "men," "he," and "mankind." On Form 2 of the instrument, the neuter generic terms "humans," "people," and "they" were used to refer to people. On Form 3, the terms "men" and "women" and "they" were used. The researcher's results can be summarized in the following way:

1. Male and female subjects were far more likely to draw only male figures than female figures in response to all three forms of the instrument.

2. Both male and female subjects consistently drew only male figures more often in response to Form 1 than to Forms 2 and 3 and to Form 2 than to Form 3.

3. A significantly greater number of male than female subjects drew only male figures in response to all items on Forms 1 and 2. That is, they did not draw even one female on the entire form.

4. More male subjects than female subjects drew exclusively male figures in response to each item on all three forms.
5. Both male and female subjects generally drew the greatest percentage of exclusively male figures in response to the items concerning early tool users and plant cultivators.

6. More males and females drew exclusively female figures in response to the item concerning early child nurturing than they did for any other item.

7. The researcher's first null hypothesis ("The proportion of students who will draw males to the exclusion of females in response to any one form of the instrument will not differ significantly from the proportion who will draw males exclusively in response to any other instrument form for the same item.") was tested at the 0.05 level of significance using chi-square. This null hypothesis was:
   a. Rejected in nineteen of twenty-one comparisons (three forms, seven items) for males.
   b. Rejected in fifteen of twenty-one instances for females.

8. The researcher's second null hypothesis ("The proportion of students who will draw females to the exclusion of males in response to any one form of the instrument will not differ significantly
from the proportion who will draw females exclusively in response to any other instrument form for the same item."") was tested at the 0.05 level of significance using chi-square. This null hypothesis was:

a. Rejected in only two of twenty-one comparisons for male students.

b. Rejected in only three of twenty-one comparisons for female students.

Moulton, Robinson, and Elias67 studied the pronouns "his," "his or her," and "their" using 490 (226 males, 264 females) college students as subjects, each randomly assigned to one of six groups. The subjects were asked to make up a story creating a fictional character who fit the theme each group was given. Groups 1, 2, and 3 received the theme "In a large coeducational institution, the average student will feel isolated in ___ introductory courses."
The blank was filled by the pronoun "his" for Group 1, by the pronoun "their" for Group 2, and by the pronouns "his or her" for Group 3. This theme for Groups 1, 2, and 3 was intended to be gender-neutral by the researchers. That is, it was assumed to be unassociated with (not "about") either sex.

Groups 4, 5, and 6 received the theme "Most people are concerned with appearance. Each person knows when ___ appearance is unattractive." The blank was filled in by the pronoun "his," for Group 4, by the pronoun "their," for Group 5, and by the pronouns "his or her" for Group 6. This theme was intended to be more gender-specific (female) than the one for Groups 1, 2, and 3 in that the researchers believed concern for appearance to be stereotypically more associated with females. The researchers' report the following results of their study:

1. Over all conditions, when the pronoun "his" was used, 35 percent of the story characters created were female; when "their" was used, 46 percent were female; when "his or her" was used, 56 percent were female.

2. The main effect for pronoun on the frequency of male and female characters created across all conditions was significant at the 0.001 level.

3. The main effects for sex of subject were significant at the 0.0001 level.

4. The main effects for theme were significant at the 0.01 level.

5. The interaction effects of sex of subject x theme, sex of subject x pronoun, theme x pronoun, and sex of subject x theme x pronoun were not significant.
Moulton, Robinson, and Elias concluded that their results indicate a tendency for more male exemplars to be selected in response to a male term used as a gender-neutral term than in response to a genuinely neutral term, even for explicitly gender-neutral contexts (themes). They theorize that the failure of male terms to convey gender neutrality may be the result of a broader linguistic phenomenon: A term that refers to a high-status subset of a larger class is being used in place of a generic term in the same way tissues are called Kleenex and petroleum jelly is called Vaseline.

Another study, conducted by Bem and Bem, investigated whether language that these researchers believe is sex-biased (including male generics) used in job advertisements discourages job applicants who are not of the "right" sex. The answers to three questions were sought by this experimental study: (1) Do sex-biased job advertisements discourage males and females from applying for "opposite-sex" jobs? (2) Would more males and females be interested in applying for such "opposite-sex jobs" if the advertisements were unbiased (that is, if the advertisements did not indicate the employers' preference for applicants of one sex or the other by either the job titles, pronouns, or the ads' overall tone?

(3) Would even more males and females be willing to apply for such "opposite-sex" jobs if sex-reversed, "affirmative action" advertisements were specifically written to appeal to them?

One-hundred twenty seniors (sixty males, sixty females) from a racially integrated high school comprised the sample. They were divided into three groups, each group composed of twenty males and twenty females. The subjects in each group received a booklet that contained twelve job advertisements and were asked to indicate on a six-point scale how interested they would be in applying for each job. The points on the scale ranged from "very uninterested" to "very interested." The jobs advertised were: appliance sales, telephone operator, photographer, travel agent, telephone frameman, dental assistant, taxicab driver, telephone service representative, assistant buyer, keypunch operator, telephone lineman, and a position in public relations advertising. All of the jobs were advertised as having a starting salary of between $100 and $120 per week, as requiring no previous training or experience beyond high school graduation, and as providing paid on-the-job training. At the end of each job advertisement appeared the phrase "An Equal Job Opportunity Employer, M/F."

Three versions of the booklets were provided for subjects. All versions of the booklets contained identical sex-unbiased ads for the eight non-telephone jobs. (Sex-unbiased ads were considered to be those that did not seem to indicate
the employers' preference for applicants of one sex or the other. They contained no sex-specific job titles or pronouns and were unbiased in tone.) What varied in the three versions of the booklets were the ads for telephone-related jobs. One group of subjects received booklets that contained sex-biased advertisements for the telephone-related jobs. They were copied verbatim from American Telephone and Telegraph (AT&T) advertisements and brochures and contained sex-specific job titles (e.g., telephone frameman and telephone lineman) and pronouns (i.e., female pronouns in the ads for telephone operator and telephone service representative; male pronouns in the ads for telephone lineman and telephone frameman). In addition, this group's telephone ads described the persons working at these jobs as being either male or female. For example, the ad for the telephone operator contained the following: "Behind every man's telephone call, there is a woman....She places the complex long distance calls people cannot place themselves..."

The second group of subjects received booklets whose telephone ads were considered unbiased. Like the non-telephone-related ads in their booklets, these subjects' telephone ads did not seem to indicate the employers' preference for applicants of one sex or the other. They contained no sex-specific job titles or pronouns and were unbiased in tone.
The third group of subjects received booklets whose telephone job ads were considered by Bem and Bem to be "sex-reversed, affirmative action" advertisements. These ads were written to appeal to the sex not normally holding these jobs, while remaining consistent with AT&T job descriptions. In these ads, the sex-specific job titles lineman and framesman were changed to linewoman and framewoman. The affirmative action ads for the jobs usually held by males included a quote from a female already holding the job and/or used feminine pronouns. In one case, the ad referred to "craftspeople" with whom the linewoman must work, while in the sex-biased version of this ad the word that was used was "craftsmen." The affirmative action ads for the jobs usually held by females were specifically written to appeal to men (e.g., the telephone operator ad contained the sentence: "we need calm, coolheaded men with clear masculine voices to do that important job of helping our customers.")

Subjects' indication of interest on the six-point scale was scored in the following way. If a subject checked "slightly interested," "moderately interested," or "very interested," he/she was considered by the researchers to be "interested in applying for the job." Subjects who checked "slightly uninterested," "moderately uninterested," or "very uninterested" were considered "not interested in applying for the job."
The results of this study suggest that sex-biased job advertisements do discourage males and females from applying for jobs most commonly held by the opposite sex. Only five percent of the female subjects were interested in the jobs telephone lineman and telephone frameman when the ads they read were sex-biased. However, twenty-five percent of the female subjects were interested in those same jobs when the ads they read were written in the sex-unbiased format. And when the ads for telephone lineman and frameman appeared in the affirmative action format, forty-five percent of the females reading that version of the booklets were interested in applying for one or the other of those jobs ($X^2 = 8.53$, $p < .01$, one-tailed test).

The results for males are similar but not identical. Bem and Bem report that the male subjects were generally more interested in the "female" jobs of telephone operator and service representative than the females were in the "male" jobs of frameman and lineman, regardless of the format of the ads. Still, the results of this study indicate that males are discouraged by sex-biased advertisements from applying for jobs as telephone operators and telephone service representatives ($X^2 = 9.09$, $p < .01$, one-tailed test). Only thirty percent of the male subjects were interested in applying for one or the other of these jobs when the ads they read were sex-biased. Seventy-five percent of the male
subjects were interested in applying for one or the other of these jobs when the ads they read were sex-unbiased. Unlike with the female subjects, however, wording the ads in the "sex-reversed, affirmative action format" did not encourage a greater number of male subjects to indicate they were interested in these jobs most commonly held by females. In fact, fewer males indicated interest in applying when their ads were worded in the affirmative action format than when their ads were sex-unbiased. Sixty-five percent of the male subjects whose ads were written in the affirmative action format indicated interest in applying for jobs as an operator or service representative.

Summary. The research directly related to generic terms described above is not of consistent formality and quality, at least as reported in literature available to this researcher. Whether Kidd's study involved randomly selected and/or assigned subjects was not reported. Percentages of the kinds of responses are reported but not whether these results were statistically significant. Statistical significance/non-significance was also not reported for Schneider's and Hacker's study. Neither is it clear whether subjects were randomly selected and/or assigned. Another potential problem regarding the Schneider and Hacker study involves the chapter titles that the two groups of subjects were asked to illustrate. The results would have been more convincing
had the chapter titles for the two groups been identical except for use or non-use of the generic "man." The report of Shimanoff's study also did not indicate whether students were randomly selected and/or assigned or whether the results were statistically significant. One may wonder whether the subjects in Harrison's study were able to draw well enough to make it clear whether their figures were male or female. Furthermore, unless they drew clothed figures in dress that distinguished males from females, any student inhibitions about drawing naked and anatomically distinguishable figures may have confounded the results. Harrison's and Passero's study used only stick-figure drawings that students responded to. The sex of the figures may have been less than clear to the students, due to the primitive style of the drawings.

Two research studies introduced variables in addition to type of generic term (sex of subject--both Harrison, and Moulton, Robinson, and Elias; theme or context--Moulton, Robinson, and Elias). The study conducted by Bem and Bem involved more than generic terms in the ads the students reacted to.

The age of subjects involved in the studies reviewed here were third graders (Harrison and Passero), junior high school students (Harrison), senior high school students (Bem and Bem), and college students (Moulton, Robinson, and Elias; Schneider and Hacker; and Shimanoff). The age of Kidd's subjects was not reported.
The literature reported here contributed in several important ways to the study described in his dissertation. First, the literature convinced the researcher that student interpretation of generic terms was a researchable problem. That is, the literature demonstrated that student interpretation of generic terms is not only a problem worthy of study (and that there is much yet to be learned about it), but that it was possible to study the problem in such a way that valid results could be produced. Harrison's and Passero's study, obviously, was important to this study in that the researcher used an instrument similar to Harrison's and Passero's.

Two of the five variables investigated in this study (sex of subject and type of generic term) had been previously investigated as to their relationship to student interpretation of generic terms. Age had never been studied as a variable in this context, although studies reported in the literature involved subjects at a variety of age levels. The literature did not contribute to the researcher's decision to investigate the relationship between student interpretation of generic terms and the variables student I.Q. and socioeconomic status--except by indicating that these variables had not been studied in this context before. The decision to study these variables resulted from the researcher's curiosity about the two. The researcher simply wondered whether a student's
interpretation of generic terms was related to the student's intellectual ability. Do brighter students learn and apply the grammar rule that conventional male generics include females as well as males better than students of lesser intelligence? Does the grammar rule, therefore, "work" better with them than with others? The researcher's interest in the variable socioeconomic status stems from an assumption that different experiences are had at different socioeconomic levels. Could it be those experiences which help shape a student's interpretation of generic terms?
CHAPTER III
CARRYING OUT THE STUDY

This chapter briefly restates the problem and presents the research methodology employed in its solution. This presentation includes a description of (1) the target population, (2) the sampling procedures used, (3) the sample, (4) the process of instrument development, (5) the means of data collection, and (6) the ways in which the data were treated.

Restatement of the Problem

The purposes of the study were (1) to determine the relative capability of conventional masculine and neuter generic terms to express the fact that they are intended to refer to both males and females, and (2) to investigate whether the student characteristics sex, grade in school, I.Q., and socioeconomic status are related to students' interpretation of generic terms. As is presented in detail below, research subjects of both sexes and various I.Q.'s in grades 3, 5, 7, 9, and 11 from high, middle, and low socioeconomic status suburbs were assigned at random to receive one of two forms of an instrument designed to measure their interpretation of generic terms. The forms of the
instrument measured each subject's interpretation of male or neuter generic terms by asking subjects to choose among drawings (which differed by sex) to illustrate the statements in which the generic terms appeared.

Target Population

The population involved in this study was elementary and secondary Catholic and public school students who reside or attend school in Franklin County, Ohio, suburbs. Because the suburbs, schools, and subjects involved were not randomly selected, the results of the study may be generalized only with caution.

Sampling Procedures

Cluster sampling was employed to select subjects to comprise a sample stratified on the subjects' socioeconomic status and grade in school. This sampling technique results in the selection of the largest sampling unit first and, thereafter, successively smaller units until subjects are selected. In this case, suburbs were identified first, then school districts, then schools, then classrooms, and, finally, students within those classrooms. A detailed description of the procedures follows:

1. Five Franklin County suburbs were selected on the basis of (a) their average family income for tax year 1977 and (b) the willingness of their school officials to permit their schools to
participate in the study. The income figures, the most recent available to the researcher, were provided by the Ohio Department of Education. They were compiled from Ohio state income tax returns for 1977.

One suburb (Suburb A) was considered to be a high socioeconomic status suburb for the county, having an average family income of $25,546 in 1977. Two suburbs (B and C) were considered to be middle socioeconomic suburbs. They had average family incomes of $19,578 and $17,658, respectively, in 1977. Suburbs D and E were considered to be low socioeconomic status suburbs for the county, having average family incomes of $15,012 and $13,430, respectively, in 1977.

2. The public school districts within these suburbs were asked to participate in the study. The districts in Suburbs A, C, and D agreed to participate but were unwilling to provide subjects at all five grade levels being investigated. The public school districts in Suburbs B and E were unwilling to participate at all. However, Catholic schools in Suburbs B and E (or that accepted students from those suburbs) agreed to
participate, as did Catholic schools in suburbs A and C. Thus, subjects in all grade levels under investigation at the three socioeconomic status levels being investigated would constitute the sample. (See Table 1 for a graphic explanation of what suburbs and schools provided subjects.)

3. The superintendents of the participating public school districts selected the schools they wanted to become involved in the study. Because socioeconomic status may vary among geographic areas of a suburb, the superintendents were asked to select schools whose students were most likely to have family incomes that were close to the average for the suburb.

In all but one case, there was only one Catholic school available in any one suburb. In the suburb where two Catholic schools were available, both were asked to participate but only one agreed.

4. The principals of the public schools selected by the superintendents then identified two classrooms or homerooms of subjects at the grade levels they were providing. The principal of one Catholic elementary (K-8) school also identified two classrooms at each grade level, but the
Table 1
PARTICIPATING SCHOOLS WITH CORRESPONDING SOCIOECONOMIC STATUS LEVELS AND GRADES AT WHICH THEIR STUDENTS PARTICIPATED

<table>
<thead>
<tr>
<th>Schools</th>
<th>Socioeconomic Status of Suburb</th>
<th>Grades at Which Subjects Participated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suburb A Catholic School</td>
<td>High (average family income was $25,546 in 1977)</td>
<td>3, 5, &amp; 7</td>
</tr>
<tr>
<td>Suburb A Public Schools</td>
<td>High (average family income was $25,546 in 1977)</td>
<td>7, 9, &amp; 11</td>
</tr>
<tr>
<td>Suburb B Catholic School</td>
<td>Middle (average family income was $19,578 in 1977)</td>
<td>3, 5, &amp; 7</td>
</tr>
<tr>
<td>Suburb C Catholic School</td>
<td>Middle (average family income was $17,658 in 1977)</td>
<td>3, 5, &amp; 7</td>
</tr>
<tr>
<td>Suburb C Public School</td>
<td>Middle (average family income was $17,658 in 1977)</td>
<td>9 &amp; 11</td>
</tr>
<tr>
<td>Suburb D Public Schools</td>
<td>Low (average family income was $15,012 in 1977)</td>
<td>3, 5, 7, &amp; 11</td>
</tr>
<tr>
<td>Catholic High School That Is Attended by, Among Others, Students From Suburb D*</td>
<td>Low (average family income was $15,012 in 1977)</td>
<td>9 &amp; 11</td>
</tr>
<tr>
<td>Catholic High School That Is Attended by, Among Others, Students From Suburb E*</td>
<td>Low (average family income was $13,430 in 1977)</td>
<td>9 &amp; 11</td>
</tr>
</tbody>
</table>

*Only students from suburbs D and E were provided by this Catholic high school.
two smaller Catholic elementary (K-8) schools had only one classroom available at each grade level. The participating Catholic high school was attended by students from a variety of suburbs and from the city of Columbus, Ohio. Therefore, two classrooms or homerooms composed only of ninth and eleventh grade students from Suburbs D and E could not be identified. Instead, all students in grades 9 and 11 from Suburbs D and E who attended this school were identified as potential subjects.

5. All students (approximately 800) in the selected classrooms/homerooms and those identified at the Catholic high school were asked to participate in the study.

Sample

Of the 803 students who were asked, 506 agreed to participate and received their parents' written permission. Forty-five subjects were absent on the day the instrument was administered in their school, and three subjects decided to drop out during the administration. The total number of subjects who completed instruments was 458. (Table 2 shows the number of students from each school who were asked to participate, who received permission, who were absent or dropped out, and who actually participated in the study.)
<table>
<thead>
<tr>
<th>Schools</th>
<th>No. of Students Asked to Participate</th>
<th>No. of Students Who Received Permission</th>
<th>No. of Absences/ Dropouts</th>
<th>No. Who Participated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suburb A Catholic School</td>
<td>82</td>
<td>52</td>
<td>4</td>
<td>48</td>
</tr>
<tr>
<td>Suburb A Public Schools</td>
<td>147</td>
<td>100</td>
<td>4</td>
<td>96</td>
</tr>
<tr>
<td>Totals for High SES Schools</td>
<td>229</td>
<td>152</td>
<td>8</td>
<td>144</td>
</tr>
<tr>
<td>Suburb C Catholic School</td>
<td>74</td>
<td>51</td>
<td>3</td>
<td>48</td>
</tr>
<tr>
<td>Suburb C Catholic School</td>
<td>155</td>
<td>103</td>
<td>19</td>
<td>84</td>
</tr>
<tr>
<td>Suburb C Public School</td>
<td>74</td>
<td>49</td>
<td>5</td>
<td>44</td>
</tr>
<tr>
<td>Totals for Middle SES Schools</td>
<td>303</td>
<td>203</td>
<td>27</td>
<td>176</td>
</tr>
<tr>
<td>Suburb D Public Schools</td>
<td>225</td>
<td>119</td>
<td>9</td>
<td>110</td>
</tr>
<tr>
<td>Catholic High School That Is Attended by, Among Others, Students From Suburbs D &amp; E</td>
<td>46</td>
<td>32</td>
<td>4</td>
<td>28</td>
</tr>
<tr>
<td>Totals for Low SES Schools</td>
<td>271</td>
<td>151</td>
<td>13</td>
<td>138</td>
</tr>
<tr>
<td>Totals (Regardless of SES)</td>
<td>803</td>
<td>506</td>
<td>48</td>
<td>458</td>
</tr>
</tbody>
</table>
Two hundred thirteen of the subjects were male, 245 were female. The number of low SES subjects participating in the study was 138. One hundred seventy-six middle SES subjects participated and 144 high SES subjects participated. Of the total number of subjects, 107 were third graders, 87 were fifth graders, 132 were seventh graders, 73 were ninth graders, and 59 were eleventh graders. Two hundred twenty-eight subjects completed Form 1 of the instrument and 230 completed Form 2. Table 3 graphically describes the subjects from each participating school. I.Q. scores or standard achievement test scores were available for 393 subjects. Table 4 describes the subjects by availability of I.Q. scores or standard achievement test scores.

Instrument Development

The researcher developed two forms of an instrument designed to measure this study's dependent variable, student interpretation of generic terms. (See the Appendix for copies of both forms of the instrument.) Each form of the instrument consisted of thirty short declarative statements and accompanying illustrations. This number of items was decided upon because it was estimated that even the youngest subjects participating in the study (third graders) could complete an instrument composed of thirty items within a half-hour.

Form 1 of the instrument contained statements that used neuter generic terms. Form 2 of the instrument contained
Table 3

NUMBER OF SUBJECTS FROM EACH PARTICIPATING SCHOOL
BY SEX, GRADE LEVEL, SOCIOECONOMIC STATUS, AND
FORM OF THE INSTRUMENT COMPLETED

<table>
<thead>
<tr>
<th>SES</th>
<th>School</th>
<th>Form Completed</th>
<th>Grade 3 Males</th>
<th>Grade 3 Females</th>
<th>Grade 5 Males</th>
<th>Grade 5 Females</th>
<th>Grade 7 Males</th>
<th>Grade 7 Females</th>
<th>Grade 9 Males</th>
<th>Grade 9 Females</th>
<th>Grade 11 Males</th>
<th>Grade 11 Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Suburb A Catholic School</td>
<td>Form 1</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>5</td>
<td>6</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Form 2</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>Suburb A Public Schools</td>
<td>Form 1</td>
<td>14</td>
<td>10</td>
<td>8</td>
<td>7</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Form 2</td>
<td>14</td>
<td>12</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>Totals</td>
<td>Form 1</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>5</td>
<td>20</td>
<td>12</td>
<td>8</td>
<td>7</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Form 2</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>19</td>
<td>13</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Middle</td>
<td>Suburb B Catholic School</td>
<td>Form 1</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>6</td>
<td>2</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Form 2</td>
<td>4</td>
<td>7</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td>Suburb C Catholic School</td>
<td>Form 1</td>
<td>7</td>
<td>9</td>
<td>7</td>
<td>5</td>
<td>7</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Form 2</td>
<td>10</td>
<td>7</td>
<td>8</td>
<td>4</td>
<td>7</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td>Suburb C Public School</td>
<td>Form 1</td>
<td>5</td>
<td>7</td>
<td>5</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Form 2</td>
<td>5</td>
<td>6</td>
<td>4</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td>Totals</td>
<td>Form 1</td>
<td>11</td>
<td>14</td>
<td>8</td>
<td>11</td>
<td>9</td>
<td>13</td>
<td>5</td>
<td>7</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Form 2</td>
<td>14</td>
<td>14</td>
<td>10</td>
<td>8</td>
<td>12</td>
<td>5</td>
<td>6</td>
<td>4</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>Suburb D Public Schools</td>
<td>Form 1</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>12</td>
<td>5</td>
<td>10</td>
<td>4</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Form 2</td>
<td>10</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>3</td>
<td>8</td>
<td>2</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>Catholic High School from Suburbs D and E</td>
<td>Form 1</td>
<td>2</td>
<td>7</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Form 2</td>
<td>4</td>
<td>7</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>Totals</td>
<td>Form 1</td>
<td>9</td>
<td>9</td>
<td>7</td>
<td>11</td>
<td>5</td>
<td>10</td>
<td>2</td>
<td>7</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Form 2</td>
<td>10</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>3</td>
<td>8</td>
<td>4</td>
<td>7</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>Totals (Regardless of SES)</td>
<td>Form 1</td>
<td>26</td>
<td>26</td>
<td>17</td>
<td>28</td>
<td>34</td>
<td>35</td>
<td>15</td>
<td>21</td>
<td>12</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Form 2</td>
<td>29</td>
<td>26</td>
<td>22</td>
<td>20</td>
<td>30</td>
<td>33</td>
<td>17</td>
<td>20</td>
<td>11</td>
<td>22</td>
</tr>
</tbody>
</table>
Table 4

NUMBER OF SUBJECTS BY SOCIOECONOMIC STATUS, SEX, GRADE LEVEL, FORM OF THE INSTRUMENT COMPLETED, AND AVAILABILITY OF I.Q. OR STANDARD ACHIEVEMENT TEST SCORES

<table>
<thead>
<tr>
<th></th>
<th>Grade 3</th>
<th></th>
<th>Grade 5</th>
<th></th>
<th>Grade 7</th>
<th></th>
<th>Grade 9</th>
<th></th>
<th>Grade 11</th>
<th></th>
<th>TOTALS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males</td>
<td>Females</td>
<td>TOTALS</td>
<td>Males</td>
<td>Females</td>
<td>TOTALS</td>
<td>Males</td>
<td>Females</td>
<td>TOTALS</td>
<td>Males</td>
<td>Females</td>
</tr>
<tr>
<td>Form 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO</td>
<td>6</td>
<td>0</td>
<td>16</td>
<td>0</td>
<td>2</td>
<td>18</td>
<td>0</td>
<td>2</td>
<td>16</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>IQ</td>
<td>0</td>
<td>5</td>
<td>15</td>
<td>1</td>
<td>11</td>
<td>12</td>
<td>1</td>
<td>11</td>
<td>12</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>TOT</td>
<td>16</td>
<td>16</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>Form 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO</td>
<td>5</td>
<td>3</td>
<td>18</td>
<td>1</td>
<td>3</td>
<td>14</td>
<td>0</td>
<td>1</td>
<td>10</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>IQ</td>
<td>0</td>
<td>5</td>
<td>15</td>
<td>1</td>
<td>11</td>
<td>12</td>
<td>1</td>
<td>11</td>
<td>12</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>TOT</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>HIGH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Form 1</td>
<td>11</td>
<td>0</td>
<td>11</td>
<td>3</td>
<td>22</td>
<td>22</td>
<td>3</td>
<td>8</td>
<td>9</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td>Form 2</td>
<td>10</td>
<td>4</td>
<td>14</td>
<td>1</td>
<td>9</td>
<td>18</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>TOT</td>
<td>21</td>
<td>4</td>
<td>25</td>
<td>4</td>
<td>31</td>
<td>32</td>
<td>5</td>
<td>12</td>
<td>15</td>
<td>27</td>
<td>4</td>
</tr>
<tr>
<td>MIDDLE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Form 1</td>
<td>8</td>
<td>1</td>
<td>9</td>
<td>0</td>
<td>16</td>
<td>16</td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Form 2</td>
<td>10</td>
<td>0</td>
<td>10</td>
<td>0</td>
<td>18</td>
<td>18</td>
<td>0</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>TOT</td>
<td>18</td>
<td>1</td>
<td>19</td>
<td>0</td>
<td>34</td>
<td>34</td>
<td>1</td>
<td>11</td>
<td>2</td>
<td>18</td>
<td>3</td>
</tr>
<tr>
<td>LOW</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Form 1</td>
<td>25</td>
<td>1</td>
<td>26</td>
<td>3</td>
<td>48</td>
<td>45</td>
<td>5</td>
<td>15</td>
<td>2</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td>Form 2</td>
<td>25</td>
<td>4</td>
<td>29</td>
<td>2</td>
<td>64</td>
<td>66</td>
<td>4</td>
<td>18</td>
<td>4</td>
<td>22</td>
<td>3</td>
</tr>
<tr>
<td>TOT</td>
<td>50</td>
<td>5</td>
<td>55</td>
<td>5</td>
<td>112</td>
<td>111</td>
<td>9</td>
<td>33</td>
<td>6</td>
<td>29</td>
<td>6</td>
</tr>
</tbody>
</table>

TOTALS Form 1 25 | 1 23 3 48 4 15 2 23 5 38 7 30 6 30 5 60 9 14 1 17 4 31 5 10 2 10 4 20 6 94 10 103 21 228 Form 2 25 | 4 24 2 49 6 18 4 16 4 34 8 24 6 29 4 53 10 15 2 17 3 32 5 9 2 19 3 28 5 91 18 105 16 230
statements almost identical to those on Form 1. Where Form 1 used neuter generic terms, Form 2 used male generic terms. (Several statements on both forms used neuter generics such as "students," "nobody," and "everybody." However, these statements on Form 1 contained other neuter generics also; the other generic terms in these same statements on Form 2 were male generics. For example, the counterpart statement of Form 1's "Nobody likes to lose their money" was "Nobody likes to lose his money" on Form 2.)

Several statements on Form 1 of the instrument used grammar that is often used in spoken English but that is considered improper written English. For instance, one statement read "Nobody likes to lose their money," although the word "Nobody" is considered to be a singular noun which requires that the pronoun that refers to it also be singular. The improper grammar appears where it does on Form 1 for two reasons: to make each statement on this form resemble as closely as possible its counterpart statement on Form 2 (i.e., "Nobody likes to lose his money" on Form 2), and to eliminate the use of the neuter "he/she" pronoun construction, which the researcher believed might provide subjects an obvious clue as to the purpose of the instrument.

Beneath each statement on both forms were three line-drawing illustrations, each of which illustrated the statement above it. The three drawings under a particular statement differed only in the sex of the human figures they
contained: one drawing contained males only, another contained females only, and another contained both males and females. The order in which the drawings appeared under each statement was established at random, although the order in which they appeared under a particular statement on Form 1 of the instrument was identical to the order in which they appeared under Form 2's counterpart statement. The directions to be followed by subjects completing the instrument were to read each statement and then circle the drawing under each that best showed what the statement meant. Presumably, generic terms (male or neuter) that were truly generic would encourage subjects to circle drawings that contain both males and females to illustrate the statements.

The researcher developed the statements. Four individuals reviewed the statements for both forms in an attempt to provide face validity prior to the instrument's pilot test. The individuals who provided this review were an editor, a linguist, a teacher of third graders, and a researcher who has, during a thirteen-year career of studying sex equity in education, become expert in the area of evaluating materials for bias. These individuals were asked to review the statements to make sure that they:

1. Were written clearly
2. Could be read by students in and above grade three
3. Were no more suited to subjects of one sex than the other
4. Were no more suited to subjects in one socio-economic group than the other

5. Ostensibly contained the same "meaning" across counterpart statements of the two forms

The reviewers made some suggestions regarding clarity, which were followed by the researcher.

The researcher specified the three drawings that would illustrate each statement. In hopes of increasing the subjects' interest in the instrument, the researcher specified that the illustrations would be cartoon-like. In addition, illustrations were to include Black as well as Caucasian characters. A review of literature regarding illustrations encouraged the researcher to specify drawings that were shaded and accented to appeal to older subjects, while remaining simple enough to be understood by younger subjects. An attempt was made to minimize extraneous stimuli in the illustrations. (Extraneous stimuli were considered to be those that did not contribute to the subjects' discrimination of male and female figures in the drawings.) Although the literature definitely indicates that children prefer colored illustrations, the illustrations specified were to be black and white because of the prohibitive cost of color printing. A commercial artist prepared the illustrations.

A pilot test of both forms of the instrument was conducted with twenty-eight students in grades 3-11 from schools other than those to be involved in the actual study.
Both sexes were involved in the pilot test. The I.Q.'s and socioeconomic status of the pilot test subjects were not known.

The pilot test was designed to secure responses from which to determine the inter-item reliability of each form of the instrument and to discuss the instrument with subjects after they had responded to it. The subjects were asked whether they had difficulty reading or understanding the statements and whether they had difficulty determining the sex of the humans in the drawings. While no pilot test subject reported any difficulties, the researcher became suspicious of their ability to determine the sex of one female figure that appeared in two drawings under Statement 11. Several subjects who had chosen drawings that contained both males and females to illustrate all other statements did not circle the male and female drawing under Statement 11. Before the instrument was administered in the actual study, the female character in question was made to look more obviously female.

The instrument's inter-item reliability was calculated, based on the pilot test subjects' responses, as the SPSS computer program reliability coefficient alpha (Kuder-Richardson 20). Alpha equaled .929 for Form 1 and .967 for Form 2 of the instrument.
Administration of the Instrument

Blocking on the variable sex was used to assign subjects at random to receive either Form 1 or Form 2 of the instrument. The researcher administered the instrument to subjects in their regular classrooms or homerooms in most cases. Occasionally, however, school administrators preferred that subjects receive the instrument in larger groups, which necessitated administering the instrument in a school's multipurpose room.

Subjects were not told the purpose of the instrument, merely that the researcher needed their reactions to the various statements and that the results of the study were expected to help the developers of educational materials communicate better with students.

The subjects received the form of the instrument assigned to them and were asked to read each statement and then circle the drawing beneath it that best showed what the statement meant. Subjects were permitted to ask questions about the instrument, including questions about any words they could not read or understand. The researcher was willing to explain the meaning of all words in the statements except the nouns and pronouns referring to people.

Once the instruments were completed by subjects, the researcher obtained I.Q. scores (or standard achievement test scores, if there was no recorded I.Q.) for as many of the subjects as the schools had available.
Treatment of the Data

The researcher scored each subject's instrument by assigning a value of 1 for every circled drawing-answer that included both males and females and by assigning a value of 0 for every circled drawing-answer that included males only or females only. The 1's and 0's were totaled for each instrument. Thus, each subject's score on the instrument corresponded to the number of statements he/she chose to illustrate with a drawing-answer that included both males and females. This score was considered to be a measure of the dependent variable student interpretation of generic terms.

The I.Q. scores or standard achievement test scores for 393 subjects were made available to the researcher by participating schools. There were no recorded I.Q.'s or standard achievement test scores available for 65 sample subjects. Because several of the cells for the planned analysis contained n's that were too small when the sample was considered to be 393, the researcher included the sixty-five subjects for which there were no recorded I.Q. or standard achievement test scores. Each of these sixty-five subjects was given an estimated I.Q. score which was the mean score for his/her group. That is, a subject (who had no recorded I.Q./standard achievement score) who was a third grade female from a low socioeconomic suburb was given an estimated I.Q. score equal to the mean of the recorded I.Q./standard
achievement scores for all third grade females from the low socioeconomic suburb. All I.Q./standard achievement test scores, whether estimated or recorded, were converted to standard scores ($Z$). This conversion was necessary in order to compare the scores of subjects' who had taken a variety of I.Q. and standard achievement tests.

Analysis of covariance, with I.Q./standard achievement scores used as the covariate, was used to analyze the data. The Scheffe method was used when appropriate to make post hoc comparisons. The results of this analysis answer the specific research questions that guided the study and are reported in the next chapter.
CHAPTER IV
RESULTS OF THE STUDY

This chapter describes both the treatment of the data and the findings that resulted from this study designed to (1) investigate how well masculine and neuter generic terms communicate the fact that they are intended to refer to both males and females and (2) investigate whether the student characteristics sex, grade in school, I.Q., and socioeconomic status are related to students' interpretation of generic terms. During the study, subjects of both sexes in grades 3, 5, 7, 9, and 11 and who were of high, middle, and low socioeconomic status completed an instrument assigned to measure their interpretation of generic terms. The subjects had varying I.Q.'s. Two forms of this thirty-item instrument were used: one that measured the subjects' interpretation of neuter generic terms (Form 1) and another that measured their interpretation of conventional masculine generic terms (Form 2). The subjects were blocked on sex and randomly assigned to receive either Form 1 or Form 2. The subjects' completed instruments were scored by assigning a value of 1 for every instance in which a subject interpreted a generic term as referring to both males and females and by
assigning a value of 0 for every instance in which a generic was interpreted as referring only to males or only to females. Thus, the scores on the instrument could range from 0 to 30.

Treatment of the Data

The statistical technique used to analyze the data was multiple-classification analysis of covariance (with I.Q. as the covariate), followed by use of the Scheffe method for making post hoc comparisons. Like multiple-classification analysis of variance, multiple-classification analysis of covariance allows one to study the relationship(s) between a dependent variable and two or more independent variables, as well as any relationship(s) that may exist between the dependent variable and various combinations (interactions) of the independent variables. What analysis of covariance offers that analysis of variance does not is the statistical ability to equate groups of subjects, as though they were equal on one or more independent variables.

Had the researcher been able to find adequate numbers of male and female high, middle, and low I.Q. subjects at all three levels of socioeconomic status and five grade levels under investigation, the subjects would have been blocked on I.Q. as well as sex and analysis of variance would have been used to treat the data. But such numbers were not available. Because the researcher nevertheless wanted information about the relationship between I.Q. and
and students' interpretation of generic terms, analysis of covariance was the procedure used.

This technique was used to adjust statistically the subjects' scores on the instrument by: (1) using regression analysis with I.Q. as the covariate and (2) calculating adjusted means for each subgroup of the sample. The rest of the analysis of covariance procedure is essentially analysis of variance performed on these adjusted means. The resulting F ratios test for statistical significance only the amount of variance attributable to the effects of the variables other than I.Q. However, one can still get a reasonable idea of the effects of I.Q. by examining the differences between the subjects' real means and their adjusted (predicted) means. If the differences are small, one knows that the effects of I.Q. on the subjects' interpretation of generic terms were trivial. If large differences exist between the unadjusted and adjusted means one knows that the effects of the variable I.Q. were considerable.

The Scheffe method for making post hoc comparisons was used once the multiple-classification analysis of covariance had calculated relationships between variables that were statistically significant at at least the .05 level. Post hoc comparisons enable one to discover exactly where the statistically significant differences exist between levels of the variables involved. The Scheffe method was selected
because it is a conservative technique for comparing pairs of means when the size of the n's within cells is unequal.

**Effect of I.Q.**

The analysis of covariance used to analyze the data employed the independent variable I.Q. as the covariate. Therefore, the F ratios presented in the analysis of covariance table within this chapter do not test a null hypothesis concerning the variable I.Q. Tables 5, 6, and 7, however, present both unadjusted and statistically adjusted means to demonstrate the effect I.Q. had on the subjects' scores on the instrument. That effect, as manifested by the small adjustments made to the means, is considered by the researcher to be trivial. In only one cell (middle SES, grade 5 females who completed Form 1) is the difference between unadjusted and adjusted means as large as or larger than one whole number.

**Tests of Null Hypotheses**

As explained above, multiple-classification analysis of covariance was used to test null hypotheses generated from the specific research questions (see pages 7 and 8) that guided this study. Table 8 shows the numerical results of the analysis of covariance.

The **sums of squares** figures associated with main effect variables (type of term, SES, grade, and sex) on this table represent the amount of variation that resulted from mean differences between the subgroups representing each of those
Table 5
UNADJUSTED AND ADJUSTED MEANS OF SUBJECTS WHO COMPLETED FORM 1 OF THE INSTRUMENT

<table>
<thead>
<tr>
<th>Socioeconomic Status</th>
<th>Grade 3 Means and n's by SES</th>
<th>Grade 4 Means and n's by SES</th>
<th>Grade 5 Means and n's by SES</th>
<th>Grade 6 Means and n's by SES</th>
<th>Grade 7 Means and n's by SES</th>
<th>Grade 8 Means and n's by SES</th>
<th>Grade 9 Means and n's by SES</th>
<th>Grade 10 Means and n's by SES</th>
<th>Grade 11 Means and n's by SES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Grade 3 Males</td>
<td>Females</td>
<td>Grade 4 Males</td>
<td>Females</td>
<td>Grade 5 Males</td>
<td>Females</td>
<td>Grade 6 Males</td>
<td>Females</td>
<td>Grade 7 Males</td>
</tr>
<tr>
<td></td>
<td>(6)</td>
<td>(4)</td>
<td>(10)</td>
<td>(2)</td>
<td>(5)</td>
<td>(7)</td>
<td>(20)</td>
<td>(12)</td>
<td>(32)</td>
</tr>
<tr>
<td></td>
<td>(11)</td>
<td>(3)</td>
<td>(15)</td>
<td>(8)</td>
<td>(11)</td>
<td>(9)</td>
<td>(13)</td>
<td>(22)</td>
<td>(5)</td>
</tr>
<tr>
<td></td>
<td>(9)</td>
<td>(8)</td>
<td>(17)</td>
<td>(7)</td>
<td>(13)</td>
<td>(19)</td>
<td>(9)</td>
<td>(13)</td>
<td>(22)</td>
</tr>
<tr>
<td></td>
<td>(52)</td>
<td>(55)</td>
<td>(69)</td>
<td>(36)</td>
<td>(52)</td>
<td>(69)</td>
<td>(36)</td>
<td>(36)</td>
<td></td>
</tr>
<tr>
<td>Mean and n's of all Form 1</td>
<td>22.300</td>
<td></td>
<td>22.300</td>
<td>22.300</td>
<td>22.317</td>
<td>22.317</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(228)</td>
<td></td>
<td>(228)</td>
<td>(228)</td>
<td>(228)</td>
<td>(228)</td>
<td>(228)</td>
<td>(228)</td>
<td></td>
</tr>
<tr>
<td>Grade 9 males</td>
<td>Grade 9 females</td>
<td>Grade 10 males</td>
<td>Grade 10 females</td>
<td>Mean and n's by SES males</td>
<td>Mean and n's by SES females</td>
<td>Mean and n's by SES, regardless of grade level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>----------------</td>
<td>---------------</td>
<td>-----------------</td>
<td>---------------------------</td>
<td>----------------------------</td>
<td>-----------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(7)</td>
<td>(15)</td>
<td>(7)</td>
<td>(4)</td>
<td>(7)</td>
<td>(39)</td>
<td>(71)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| (7)          | (12)           | (5)           | (9)             | (9)                       | (18)                       | (49)                              |

| 24.744       | 22.444         | 20.000        | 25.000          | 25.000                    | 24.180                     | 25.742                            |
| (7)          | (9)            | (4)           | (9)             | (10)                      | (27)                       | (43)                              |
| 24.806       | 23.486         | 20.098        | 25.241          | 23.183                    | 15.150                     | 23.393                            |

| 26.096       | 20.322         | 27.367        |                  |                           |                            |                                   |
| (21)         | (122)          | (14)          |                 |                           |                            |                                   |
| 25.381       | 20.698         | 27.534        |                  |                           |                            |                                   |

| 23.487       |                  | 24.115        |                  |                           |                            |                                   |
| (36)         |                  | (28)          |                 |                           |                            |                                   |
| 23.749       |                  | 24.155        |                  |                           |                            |                                   |

**Legend**
1. Numbers in parentheses are N's.
2. Numbers in italic type are unadjusted means.
3. Numbers in regular type are adjusted for IQ.
<table>
<thead>
<tr>
<th>Socioeconomic Status</th>
<th>Grade 3 Means and n's by SES</th>
<th>Grade 5 Means and n's by SES</th>
<th>Grade 7 Means and n's by SES</th>
<th>Grade 9 Means and n's by SES</th>
<th>Grad 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIGH</td>
<td>2.400 (5)</td>
<td>4.000 (9)</td>
<td>6.500 (8)</td>
<td>9.500 (13)</td>
<td>(1)</td>
</tr>
<tr>
<td></td>
<td>2.150 (14)</td>
<td>3.233 (8)</td>
<td>5.333 (9)</td>
<td>8.233 (13)</td>
<td></td>
</tr>
<tr>
<td>MIDDLE</td>
<td>5.500 (14)</td>
<td>4.214 (8)</td>
<td>4.147 (28)</td>
<td>4.147 (12)</td>
<td>(5)</td>
</tr>
<tr>
<td></td>
<td>5.706 (14)</td>
<td>4.866 (8)</td>
<td>4.613 (28)</td>
<td>4.613 (12)</td>
<td>(6)</td>
</tr>
<tr>
<td>LOW</td>
<td>9.500 (10)</td>
<td>8.350 (8)</td>
<td>8.250 (18)</td>
<td>8.250 (12)</td>
<td>(4)</td>
</tr>
<tr>
<td></td>
<td>9.212 (10)</td>
<td>7.876 (8)</td>
<td>7.988 (18)</td>
<td>7.988 (12)</td>
<td>(7)</td>
</tr>
<tr>
<td></td>
<td>6.344 (29)</td>
<td>6.192 (26)</td>
<td>5.900 (22)</td>
<td>5.900 (22)</td>
<td>(17, 20)</td>
</tr>
<tr>
<td></td>
<td>6.243 (29)</td>
<td>5.923 (26)</td>
<td>5.831 (22)</td>
<td>5.831 (22)</td>
<td>(17, 20)</td>
</tr>
<tr>
<td></td>
<td>2.372 (55)</td>
<td>2.461 (62)</td>
<td>2.776 (63)</td>
<td>2.776 (63)</td>
<td>(3)</td>
</tr>
<tr>
<td></td>
<td>6.091 (55)</td>
<td>5.341 (62)</td>
<td>18.862 (63)</td>
<td>18.862 (63)</td>
<td>(3)</td>
</tr>
<tr>
<td></td>
<td>12.028 (230)</td>
<td>13.073 (230)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 1

<table>
<thead>
<tr>
<th>7 Means and n's by Grade 9 SES Males Females</th>
<th>Grade 9 Means and n's by SES Males Females</th>
<th>Grade 11 Means and n's by SES Males Females</th>
<th>Means and n's by SES and Sex Regardless of Grade Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>46718.50017.144</td>
<td>10.06819.00018.60019.333</td>
<td>15.14914.63514.916</td>
<td></td>
</tr>
<tr>
<td>43718.79317.304</td>
<td>18.32419.54118.70618.641</td>
<td>15.19714.52214.841</td>
<td></td>
</tr>
<tr>
<td>79015.40012.333</td>
<td>12.75717.56615.333</td>
<td>9.2438.9159.089</td>
<td></td>
</tr>
<tr>
<td>84416.42016.309</td>
<td>14.36618.2196.322</td>
<td>5.3659.2019.278</td>
<td></td>
</tr>
<tr>
<td>66616.76016.714</td>
<td>20.58022.22217.00018.222</td>
<td>10.07916.57516.029</td>
<td></td>
</tr>
<tr>
<td>95315.94422.936</td>
<td>20.40021.68817.72518.760</td>
<td>12.53318.58116.090</td>
<td></td>
</tr>
<tr>
<td>18.96117.798</td>
<td>15.45413.227</td>
<td>Means &amp; N's by Sex Males Females</td>
<td></td>
</tr>
<tr>
<td>17.18218.262</td>
<td>15.44913.403</td>
<td>13.20112.619</td>
<td></td>
</tr>
</tbody>
</table>

#### Legend
1. Numbers in parentheses are N's.
2. Numbers in italic type are adjusted means.
3. Numbers in regular type are adjusted.
Table 7

UNADJUSTED AND ADJUSTED MEANS OF SUBJECTS WHO COMPLETED EITHER FORM OF THE INSTRUMENT

<table>
<thead>
<tr>
<th>Socioeconomic Status</th>
<th>Grade 3 Means and n's by SES</th>
<th>Grade 5 Means and n's by SES</th>
<th>Grade 7Means and n's by SES</th>
<th>Grade 9 Means and n's by SES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males</td>
<td>Females</td>
<td>Males</td>
<td>Females</td>
</tr>
<tr>
<td></td>
<td>(11)</td>
<td>(19)</td>
<td>(8)</td>
<td>(6)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(29)</td>
<td>(16)</td>
<td>(35)</td>
<td>(35)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(55)</td>
<td>(51)</td>
<td>(39)</td>
<td>(48)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>17.668</td>
<td>17.668</td>
<td>17.668</td>
<td>17.668</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Means and n's by Grade and Sex

Means and N of All Subjects (458)

17.668
## SUBJECTS WHO RUMINATE

<table>
<thead>
<tr>
<th>Grade 7 Means and n's by SES</th>
<th>Grade 9 Means and n's by SES</th>
<th>Grade 11 Means and n's by SES</th>
<th>Means and n's by SES and Sex SF S</th>
<th>Means and n's by SES, Regardless of Grade Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>(64)</td>
<td>(16)</td>
<td>(14)</td>
<td>(30)</td>
<td>(9)</td>
</tr>
<tr>
<td>(64)</td>
<td>(16)</td>
<td>(14)</td>
<td>(30)</td>
<td>(9)</td>
</tr>
<tr>
<td>(42)</td>
<td>(10)</td>
<td>(13)</td>
<td>(23)</td>
<td>(9)</td>
</tr>
<tr>
<td>(42)</td>
<td>(10)</td>
<td>(13)</td>
<td>(23)</td>
<td>(9)</td>
</tr>
<tr>
<td>(76)</td>
<td>(6)</td>
<td>(14)</td>
<td>(20)</td>
<td>(7)</td>
</tr>
<tr>
<td>(76)</td>
<td>(6)</td>
<td>(14)</td>
<td>(20)</td>
<td>(7)</td>
</tr>
<tr>
<td>(76)</td>
<td>(6)</td>
<td>(14)</td>
<td>(20)</td>
<td>(7)</td>
</tr>
<tr>
<td>(132)</td>
<td>(75)</td>
<td>(59)</td>
<td>(23)</td>
<td>(30)</td>
</tr>
</tbody>
</table>

### Legend

1. Numbers in parentheses are n's
2. Numbers in italic type are unadjusted means
3. Numbers in regular type are adjusted
TABLE 8
MULTIPLE-CLASSIFICATION ANALYSIS OF COVARIANCE OF STUDENTS' INTERPRETATION OF GENERIC TERMS

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Degrees of Freedom</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
<th>F Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covariate--IQ</td>
<td>1</td>
<td>515.468</td>
<td>515.468</td>
<td>7.996</td>
</tr>
<tr>
<td>Main Effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of Term</td>
<td>1</td>
<td>6793.609</td>
<td>6793.609</td>
<td>105.389***</td>
</tr>
<tr>
<td>Socioeconomic Status (SES)</td>
<td>2</td>
<td>558.343</td>
<td>279.172</td>
<td>4.331*</td>
</tr>
<tr>
<td>Grade</td>
<td>4</td>
<td>6065.418</td>
<td>1516.354</td>
<td>23.523***</td>
</tr>
<tr>
<td>Sex</td>
<td>1</td>
<td>377.567</td>
<td>377.567</td>
<td>5.857*</td>
</tr>
<tr>
<td>Two-way Interactions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of Term X SES</td>
<td>2</td>
<td>1359.798</td>
<td>679.899</td>
<td>10.547***</td>
</tr>
<tr>
<td>Type of Term X Grade</td>
<td>4</td>
<td>1136.700</td>
<td>284.175</td>
<td>4.408**</td>
</tr>
<tr>
<td>Type of Term X Sex</td>
<td>1</td>
<td>308.409</td>
<td>308.409</td>
<td>4.784*</td>
</tr>
<tr>
<td>SES X Grade</td>
<td>8</td>
<td>693.402</td>
<td>86.675</td>
<td>1.345</td>
</tr>
<tr>
<td>SES X Sex</td>
<td>2</td>
<td>73.230</td>
<td>36.615</td>
<td>.568</td>
</tr>
<tr>
<td>Grade X Sex</td>
<td>4</td>
<td>126.745</td>
<td>31.686</td>
<td>.492</td>
</tr>
<tr>
<td>Three-way Interactions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of Term X SES X Grade</td>
<td>8</td>
<td>641.170</td>
<td>80.146</td>
<td>1.243</td>
</tr>
<tr>
<td>Type of Term X SES X Sex</td>
<td>2</td>
<td>67.880</td>
<td>33.940</td>
<td>.527</td>
</tr>
<tr>
<td>Type of Term X Grade X Sex</td>
<td>4</td>
<td>194.067</td>
<td>48.517</td>
<td>.753</td>
</tr>
<tr>
<td>SES X Grade X Sex</td>
<td>8</td>
<td>1490.861</td>
<td>186.358</td>
<td>2.891**</td>
</tr>
<tr>
<td>Four-way Interaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of Term X SEX X Grade X Sex</td>
<td>8</td>
<td>301.840</td>
<td>37.730</td>
<td>.585</td>
</tr>
<tr>
<td>Explained</td>
<td>60</td>
<td>24650.156</td>
<td>410.836</td>
<td>6.373</td>
</tr>
<tr>
<td>Residual</td>
<td>397</td>
<td>25591.598</td>
<td>64.462</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>457</td>
<td>50241.754</td>
<td>109.938</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05; **p < .005; ***p < .0001
variables. They were computed by summing the square of every subgroup score's difference from the mean in the subgroup. The larger the difference in variation caused by the difference between the means of the subgroups representing a main effect variable, the larger the sum of squares figure associated with that main effect variable on Table 8. The sum of squares figures for each of the interactions on the table were computed by subtracting the sums of squares for the variables involved in the interaction from a sum of squares figure called the subgroup sum of squares. The remainder is the sum of squares figure on the table associated with each interaction. In each case, it reflects the amount of variation in mean scores on the instrument that one can attribute to the interaction of the variables. The mean square figures on the table associated with each variable and interaction were computed by dividing the sum of squares figures by the appropriate degrees of freedom. The residual mean square figure reflects unattributable variation (it is the "error term") and can be calculated by subtracting all the sums of squares associated with the variables and their interaction from the total sum of squares and then dividing that by the degrees of freedom associated with the residual sum of squares. This error term is the denominator of the ratio that equals F. The F figures on the table for each main effect variable and interaction were calculated by dividing the error term into the mean square for each variable or interaction. The F ratio can be
thought of as a comparison between attributable variability (the mean square figure associated with a variable or an interaction) and unattributable variability (the error term). If the figure reflecting unattributable variability (the "error" term) is equal to or larger than the figure representing attributable variability (the variable or interaction mean square), the ratio is less than 1, which cannot indicate statistical significance. F figures that are statistically significant on Table 8 resulted from F ratios in which the attributable (controlled) variability sufficiently was greater than the unattributable (uncontrolled) variability in order to reach or surpass the critical value of F.

The meaning of the numerical results on Table 8 as a test of each null hypothesis is discussed below, accompanied by graphs and the results of the Scheffe method of post hoc comparison where appropriate.

**H_{01}** There exist no significant differences between the frequency with which students interpret neuter generic terms as including both males and females and the frequency with which students interpret masculine generic terms as including both males and females. (Main effect: type of generic term)

As can be seen on Tables 5 and 6, the adjusted mean score of all subjects (n = 228) who completed Form 1 of the instrument (interpreting neuter generic terms) was 22.313; the
mean score of all (n = 230) subjects who completed Form 2 of the instrument (interpreting masculine generic terms) was 13.073. Obviously, subjects who received Form 1 (neuter generics) considerably more often interpreted those generics to include females as well as males than did the subjects who received masculine generic terms to interpret (Form 2). The difference between the mean scores on Form 1 and Form 2 is not only considerable but also statistically significant. The F ratio that resulted from the test of null hypothesis $H_{01}$ exceeded the critical value of F at the .0001 level (see Table 8). Thus, the data do not support this null hypothesis. The relationship between the independent variable type of generic term and the dependent variable student interpretation of generic terms is statistically significant at the .0001 level. In addition, these findings concerning the main effect for the variable type of term were consistent with the findings of other studies and were represented by a dramatic difference in the mean scores of subjects who completed Form 1 (neuter terms, mean = 22.313) and subjects who completed Form 2 (masculine terms, mean = 13.073).

The variable type of term had not only significant main effects but was also involved in three separate two-way interactions with the variables sex, grade in school, and socioeconomic status. The results of tests of null hypotheses $H_{05}$, $H_{06}$, and $H_{07}$ follow.
There exist no significant differences between the frequency with which high, middle, or low SES students interpret either male or neuter generic terms as including both males and females. (Interaction effect: type of generic term X socioeconomic status)

The F ratio that resulted from the test of this null hypothesis exceeded the critical value of F at the .0001 level (see Table 8). Thus, the data did not support the null hypothesis. The interaction effect of the variables type of term and socioeconomic status is statistically significant at the .0001 level. The graph in Figure 1 may help demonstrate this interaction. The points plotted on the graph are means adjusted for the effects of I.Q.

Subjects at all three levels of socioeconomic status significantly ($p < .0001$) more frequently interpreted neuter generic terms (Form 1) as including both males and females than they did masculine generic terms (Form 2). There was little real difference among the means of Form 1 subjects at all socioeconomic levels and no statistical significance at the .05 level between the means, as indicated by the Scheffe method. However, that pattern of subject response changed across socioeconomic status levels when it was masculine generic terms (Form 2) the subjects were interpreting. While low SES subjects interpreted neuter generic terms (Form 1) as including both males and females less
frequently than subjects at all other SES levels, they more frequently interpreted masculine generic terms (Form 2) as including both males and females than did Form 2 subjects at the other two socioeconomic levels. The mean of high SES subjects on Form 1 (neuter) was higher than those of subjects at the middle and low SES levels on that form. However, the high SES subjects who completed Form 2 (masculine) out-scored only the middle SES subjects at interpreting masculine generic terms as including both sexes. While the middle SES subjects who completed Form 1 scored lower than high SES subjects but higher than low SES subjects while interpreting neuter generic terms, they scored lower than both
high SES and low SES subjects when interpreting masculine
generic terms (Form 2). The Scheffe method indicates
statistically significant differences exist only between the
means of Form 2 low and middle SES subjects (p < 0.001) and
between the means of Form 2 high and middle SES subjects
(p < 0.001).

H06 There exist no significant differences between
the frequency with which third, fifth, seventh,
ninth, and eleventh grade students interpret
either male or neuter generic terms as includ­
ing both males and females. (Interaction effect:
type of generic term X grade level)

The F ratio that resulted from the test of this null
hypothesis exceeded the critical value of F at the .005
level (see Table 8). Thus, the data did not support the
null hypothesis. The interaction effect of the variables
type of term and grade level are statistically significant
at the .005 level. The graph in Figure 2 may be of help in
understanding this interaction. The points plotted in the
graph are means adjusted for the effects of I.Q.

Subjects at all grade levels significantly (p < 0.005)
more frequently interpreted neuter generic terms (Form 1)
as including both males and females than they did when in­
terpreting masculine generic terms (Form 2). In fact, the
subjects who least often interpreted neuter generic terms as
referring to both sexes (Form 1 third graders, 17.834) scored
within one point of the mean score of the subjects who most frequently interpreted masculine generic terms as referring to both males and females (Form 2 seventh graders, 18.862).

As can be seen in Figure 2, the pattern of mean scores on both instruments are similar across grade levels. Subjects in grades 3, 5, and 7 scored higher on the instrument with each successive grade, regardless of the form they completed. That is, on each form, grade 5 subjects scored higher than grade 3 subjects and grade 7 subjects scored higher than grade 5 subjects. There was a dramatic increase between grades 5 and 7 in the frequency with which Form 2 subjects interpreted masculine generic terms to include both males and females. No such dramatic increase occurs when the
subjects are interpreting neuter generic terms (Form 1). On each form, it was the subjects in grade 7 who more frequently than at any other grade level interpreted the generic terms as including both males and females. In grades 9 and 11, subjects scored lower on both forms than the subjects in grade 7. The differences among the means on Form 1 grade 7, 9, and 11 subjects are slight. However, among Form 2 subjects in grades 7, 9, and 11, the differences are slight only between the mean scores of seventh and ninth graders.

The Scheffe method indicates that the difference between the means of Form 1 seventh grade subjects and Form 1 fifth graders is statistically significant (p < .01), as is the difference between the means of Form 1 seventh grade subjects and Form 1 third grade subjects (p < .001). The difference between the means of Form 1 third graders and fifth graders is also significant (p < .01). The difference among the means of Form 1 seventh graders, ninth graders, or eleventh graders are not statistically significant at the .05 level.

Among Form 2 subjects, the report of significance is almost the same as among Form 1 subjects. The differences among the means of seventh, ninth, and eleventh grade subjects are not significant at the .05 level. However, the difference between the means of seventh grade subjects and third grade subjects are significant (p < .001), as is that between seventh graders and fifth graders (p < .001). Unlike the situation with Form 1, the difference between the
means of Form 2 third and fifth graders is not significant at the .05 level.

$H_0$ There exist no significant differences between the frequency with which male and female students interpret masculine and neuter generic terms as including both males and females. (Interaction effect: type of generic term X sex)

The F ratio that resulted from the test of this null hypothesis exceeded the critical value of $F$ at the .05 level (see Table 8). Thus, the null hypothesis was not supported by the data. The interaction effect of the variables type of term and sex are statistically significant at the .05 level. Figure 3, which plots means adjusted for the effects of I.Q., may be helpful in demonstrating this significant interaction between type of generic term and sex of subject. (The lines seem parallel because of the large size of the subgroups involved.)

The subjects, regardless of their sex, significantly more frequently interpreted neuter generic terms as including both males and females than they did masculine generic terms ($p < .05$). The difference between the scores of males and females were slight but statistically significant. Females scored significantly higher than males on both forms ($p < .05$). That is, females significantly more often than males interpreted both neuter and masculine generic terms as including both males and females.
To summarize the effects of the variable type of term as main effect and in interaction, one may say that regardless of their sex, grade level, and socioeconomic status, students significantly more often interpret neuter generic terms to include both sexes than they interpret masculine generic terms to include both sexes.

Returning now to consideration of main effect variables, null hypothesis $H_{02}$ was tested for statistical significance. $H_{02}$ There exist no significant differences between the frequency with which male students interpret generic terms as including both males and females and the frequency with which female students...
interpret generic terms as including both males and females. (Main effect: sex)

As can be seen on Table 7, the mean score of all male subjects (n = 213) who received either Form 1 or Form 2 of the instrument was 16.329. That for all female subjects (n = 245) was 18.843. Thus, female subjects interpreted generic terms as including both sexes more often than did male subjects. Although the difference in these mean scores is relatively slight, it is nonetheless statistically significant. The F ratio that resulted from the test of null hypothesis $H_{02}$ exceeded the critical value of F at the .05 level (see Table 8). Thus, the data do not support this null hypothesis. The relationship between the independent variable sex of subject and the dependent variable student interpretation of generic terms is statistically significant at the .05 level.

As explained earlier, the variable sex had not only significant main effects but was involved in a significant interaction with the variable type of term ($p<.05$). Female students significantly more frequently interpret both neuter and masculine generic terms to include both sexes than do males. The variable sex was also part of a significant three-way interaction with the variables grade and socioeconomic status. Null hypothesis $H_{08}$ was tested for significance in regard to this three-way interaction.
There exist no significant differences between the frequency with which male or female students in grades 3, 5, 7, 9, and 11 interpret generic terms as including both males and females. (Interaction effect: sex X SES X grade)

The F ratio that resulted from the test of this null hypothesis exceeded the critical value of F at the .05 level. The data, therefore, did not support this null hypothesis concerning interaction between sex, socioeconomic status, and grade level. The interaction effect of the variables sex, socioeconomic status, and grade level is significant at the .005 level. The graphs in Figures 4 and 5 show this interaction.

Figure 4

MEANS OF MALE 3RD, 5TH, 7TH, 9TH, AND 11TH GRADE SUBJECTS OF HIGH, MIDDLE, AND LOW SOCIOECONOMIC STATUS
The Scheffe method indicates statistical significance between the means of high and low SES male subjects in the third grade ($p < .05$); between the means of high and middle SES male subjects in the fifth grade ($p < .05$); and between the means of high and low SES male subjects in the fifth grade ($p < .05$). Other mean differences between SES levels shown on Figure 4 were not significant, and may have been due to chance.

![Figure 5](image)

**Figure 5**

MEANS OF FEMALE 3RD, 5TH, 7TH, 9TH, AND 11TH GRADE SUBJECTS OF HIGH, MIDDLE, AND LOW SOCIOECONOMIC STATUS

The Scheffe method indicates that the differences between the following means of female subjects are significant: between fifth grade low and middle SES subjects ($p < .001$); between fifth grade low and high SES subjects ($p < .01$);
between seventh grade low and high SES subjects (p < .05);
between seventh grade middle and high SES subjects (p < .05);
between eleventh grade high and middle SES subjects (p < .05);
and between low and middle SES subjects (p < .05). Other
differences may have been due to chance.

This three-way interaction is quite difficult to understand. In fact, it may not provide information that is really
meaningful, at least at this stage of research on student
interpretation of generic terms. It appears that the earliest
large gain in ability to interpret generic terms as referring
to both sexes occurred among high SES male subjects between
the third and fifth grades. Low SES females also made an
early large gain in their ability to interpret generic terms
as referring to both sexes between the third and fifth grades.
Most other groups of subjects made their earliest large gains
between the fifth and seventh grades. The scores of all sub-
jects other than high SES females "peaked" in the seventh
grade. That is, only high SES females interpreted generic
terms as referring to both sexes more often at other grade
levels than they did in the seventh grade.

Returning again to main effect variables, null hypothe-
sis $H_{03}$ was tested in regard to the variable grade level.

$H_{03}$ There exist no significant differences between
the frequency with which students in grades 3, 5, 7, 9, or 11 interpret generic terms to
include both males and females. (Main effect: grade level)
As can be seen on Table 7, the adjusted mean score for subjects in grade 3 was 11.798 (n = 107); for subjects in grade 5, 14.869 (n = 87); for subjects in grade 7, 22.093 (n = 132); for subjects in grade 9, 20.716 (N = 73); and for subjects in grade 11, 18.809 (n = 59). The subjects interpreted the generic terms on the instrument to include both sexes more often at each successive grade between grades 3 and 7. That is, grade 5 subjects more often interpreted the generic terms to include both sexes than did grade 3 subjects, and grade 7 subjects more often made that interpretation than did grade 5 subjects. However, the subjects' mean scores peak in grade 7. The mean score for grade 9 subjects was less than that for seventh grade subjects and grade 11 subjects scored even lower.

The F ratio calculated to test null hypothesis H₀₃ exceeded the critical value of F at the .0001 level (see Table 8). This null hypothesis is rejected on that basis. The relationship between the independent variable subject's grade in school and the dependent variable student interpretation of generic terms is statistically significant at the .0001 level.

As explained earlier, the variable grade in school was also involved in a two-way interaction with the variable type of term, significant at the .0001 level. At every grade level, students significantly more often interpret neuter generic terms as including both sexes than they interpret
masculine generic terms as including both sexes. The variable grade in school was also involved in the significant three-way interaction with the variables socioeconomic status and sex \((p < .005)\). That interaction, too, was reported earlier.

Null hypothesis \(H_{04}\) was tested for significance in regard to the main effect of the variable socioeconomic status.

\[ H_{04} \] There exist no significant differences between the frequency with which students of high, middle, or low socioeconomic status interpret generic terms to include both males and females.

(Main effect: socioeconomic status)

As presented on Table 7, the adjusted mean score of all high socioeconomic status subjects \((n = 144)\) was 18.688. Middle socioeconomic status subjects \((n = 176)\) had a mean of 15.813. The mean of low socioeconomic status subjects \((n = 138)\) was 18.972. Thus, low SES and high SES subjects interpreted the generic terms presented on the instrument as including both sexes more often than did middle SES subjects. Despite the relatively small differences among these means, those differences are statistically significant. The \(F\) ratio calculated to test null hypothesis \(H_{04}\) exceeded the critical value of \(F\) at the .05 level (see Table 8). Thus, the data do not support this null hypothesis. The relationship between the independent variable socioeconomic
status of subject and the dependent variable student interpretation of generic terms is statistically significant at the .05 level.

In addition to its significant main effects, the variable socioeconomic status, as already explained, was involved in a significant two-way interaction with the variable type of term (p < .0001). Regardless of socioeconomic status, students significantly more often interpret neuter generic terms to include both sexes than they interpret masculine generic terms in that manner. The variable socioeconomic status was also involved in a significant interaction between the variables sex and grade in school, reported earlier.

Other null hypotheses concerning possible combinations of variable interaction were tested by multiple-classification analysis of covariance. All were supported at the .05 level of significance. Those null hypotheses concerned interaction between the following combinations of variables. SES X grade level; SES X Sex; grade level X sex; type of generic term X SES X grade level; type of generic term X SES X sex; and type of generic term X grade level X sex.

An Additional Research Question

In addition to the research questions from which null hypotheses were generated for testing, the researcher was interested in answering the following question: What are the characteristics (sex, grade, I.Q., and SES) of subjects
who illustrate all statements on the instrument with drawing-answers that include only males or only females?

Of the 458 subjects, twenty-one choose to illustrate all statements on their instrument with drawing-answers that included only one sex. It was the male-only drawing-answers that these twenty-one subjects circled to illustrate each statement. (No subjects circled female-only drawing-answers throughout their instrument.) In all but two cases, these twenty-one subjects who invariably circled male-only drawing-answers were responding to Form 2 (masculine generics) of the instrument. One might suspect that the two subjects who interpreted all neuter generic terms (Form 1) to include males only were older students who had decided they knew what the researcher was looking for and deliberately tried to confound the results of the study. However, these two Form 1 students were a third grader and a fifth grader, and, because of their age, that suspicion seems less valid to the researcher. These two Form 1 students were male.

Sixty-two percent of the twenty-one students who interpreted all the generic terms as including males only were female, however (13 females, 8 males). More younger subjects than older subjects were among those who interpreted the generics in this way. Eight of the twenty-one were third graders, nine were fifth graders, one was a seventh grader, one was a ninth grader, and two were eleventh
graders. The subjects were from all three socioeconomic status levels: seven were high SES subjects, eight were middle SES subjects, and six were low SES subjects.

Eighteen of these twenty-one subjects had I.Q.'s considered average (an I.Q. equal to 100 as the Stanford-Binet is scored, or a standard Z score of 0.00) or above, and three of those had I.Q.'s equal to the highest in the entire sample (Z = 2.333). Only three of the subjects who interpreted all of the generic terms as including males only had I.Q.'s considered below average.

Table 9 shows the number of subjects in each sample group who interpreted all the generic terms as including males only.

Table 9

NUMBER OF SUBJECTS WHO INTERPRETED ALL GENERIC TERMS ON THEIR INSTRUMENTS AS INCLUDING MALES ONLY

<table>
<thead>
<tr>
<th>Socio-economic Status</th>
<th>Form Completed</th>
<th>Grade 3</th>
<th>Grade 5</th>
<th>Grade 7</th>
<th>Grade 9</th>
<th>Grade 11</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
</tr>
<tr>
<td>High</td>
<td>1</td>
<td>1</td>
<td></td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Middle</td>
<td>1</td>
<td></td>
<td></td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td></td>
<td>1</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td></td>
<td>1</td>
<td>2</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

M = Males; F = Females
CHAPTER V
SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Now that the findings of this study have been presented, it is necessary to present what conclusions may be drawn, what the findings may imply, and what recommendations reasonably may be made. First, however, the study will be briefly summarized.

Summary

Statement of the Problem. The purpose of this study was twofold: (1) To investigate how well neuter generic terms and conventional masculine generic terms communicate the fact that they are intended to refer to both males and females, and (2) To investigate whether certain student characteristics are related to students' interpretations of generic terms as including one or both sexes. The student characteristics under investigation were the subjects' sex, grade in school, I.Q., and socioeconomic status.

Research Questions/Null Hypotheses. The specific research questions that guided this study appear below.

1. Once students have read statements identical except for the type of generic term used, do
the drawing-answers they select to illustrate the statements include both males and females more of less often, depending on whether their statements used male or neuter generic terms?

2. Do male and female students select with the same frequency drawing-answers that include both males and females to illustrate the statements?

3. Do students in grades 3, 5, 7, 9, and 11 select with the same frequency drawing-answers that include both males and females to illustrate the statements?

4. Do students with different I.Q.'s select with the same frequency drawing-answers that include both males and females to illustrate the statements?

5. Do students with socioeconomic status that is high, medium, or low for their county select with the same frequency drawing-answers that include both males and females to illustrate the statements?

6. Do students with varying combinations of these characteristics (type of generic term he/she received, sex, grade in school, I.Q., and socioeconomic status) select with the same frequency
drawing-answers that include both males and females?

7. What are the characteristics (sex, grade in school, I.Q., and socioeconomic status) of students who illustrate all statements with drawing answers that include only males or only females?

Null hypotheses were generated from these research questions and tested at the .05 level of significance. Those null hypotheses were:

H₀₁ There exist no significant differences between the frequency with which students interpret neuter generic terms as including both males and females and the frequency with which students interpret masculine generic terms as including both males and females.

H₀₂ There exist no significant differences between the frequency with which male students interpret generic terms as including both males and females and the frequency with which female students interpret generic terms as including both males and females.

H₀₃ There exist no significant differences between the frequency with which students in grades 3, 5, 7, 9, and 11 interpret generic terms to include both males and females.
There exist no significant differences between the frequency with which students of high, middle, or low socioeconomic status interpret generic terms to include both males and females.

There exist no significant differences between the frequencies with which students with all possible combinations of the characteristics sex, grade in school, and socioeconomic status interpret neuter or masculine generic terms to include both males and females.

Additional Questions That Were Answered. Two of the specific research questions that guided this study were not answered by a test of null hypotheses. The first of these questions asked whether the frequency with which students interpret generic terms as referring to both males and females is related to the students' I.Q.'s. The relationship of I.Q. to student interpretation of generic terms was determined statistically through the use of analysis of covariance with I.Q. as the covariate. The second research question that did not depend upon a test of a null hypothesis inquired as to the characteristics (sex, grade in school, I.Q., and socioeconomic status) of the subjects who interpreted all generic terms as referring to persons of only one sex.

Procedures. The sample utilized in this study consisted of students in grades 3, 5, 7, 9, and 11 of Catholic and
public schools in Franklin County, Ohio. The schools were either located in suburban Franklin County school districts or the students they provided as subjects resided in a Franklin County suburb. The subjects were considered to be of either high, middle, or low socioeconomic status, depending upon the 1977 average family income of the suburb in which they resided. The 1977 average family income of the suburb in which resided subjects considered to be of high socioeconomic status was $25,546. That of the suburbs in which resided subjects considered to be of middle socioeconomic status was $19,578 and $17,658. The 1977 average family incomes of the suburbs in which resided subjects considered to be of low socioeconomic status were $15,012 and $13,430. The researcher selected these suburbs on the basis of their average family income for 1977 and the willingness of their schools to participate in the study. The superintendents and principals in the participating suburbs selected both the schools and classrooms of students. All students in those classrooms were asked to participate. Five hundred six students agreed to participate and received written parental permission to do so. Only 458 subjects actually participated in the study because forty-eight either dropped out or were absent.

Two hundred thirteen of the subjects were male, 245 were female. The number of low socioeconomic status subjects was
One hundred seventy-six subjects were considered to be of middle socioeconomic status and 144 high socioeconomic subjects participated. Of the total number of subjects, 107 were third graders, 87 were fifth graders, 132 were seventh graders, 73 were ninth graders, and 59 were eleventh graders. I.Q. scores or standard achievement test scores were available for 393 of the 458 subjects. (I.Q. scores were assigned to each of the sixty-five subjects for whom there were no school-recorded scores. The I.Q. assigned to each of these subjects was equal to the mean I.Q. calculated for subjects who had the same sex, socioeconomic status, and grade in school as each I.Q.-assigned subject.)

The subjects, at random while blocked on sex, were assigned to receive either Form 1 or Form 2 of an instrument designed to measure their interpretation of generic terms. Each form of the instrument consisted of thirty short statements that contained generic terms and drawings that illustrated the statements. The statements on Form 1 used neuter generic terms and the statements on Form 2 used conventional masculine generic terms. Otherwise, the two forms of the instrument were nearly identical. A set of three drawings appeared beneath each statement on the instrument. The three drawings beneath any one statement were identical except for the sex of the human figures within them. One drawing contained all males, another contained all females, and the other one contained both males and females. The
subjects, who were not told the purpose of the instrument, were asked to read each statement on the form of the instrument they received and to then circle the drawing under each that best showed what the statement meant. Presumably, generic terms (male or neuter) that were truly generic would encourage subjects to circle drawings that contained both males and females.

The researcher scored the instrument by assigning a value of one for every circled drawing that included both males and females and assigning a value of zero for every circled drawing that contained only males or only females. Thus, each subject's score on the instrument corresponded to the number of statements the subject chose to illustrate with a drawing that included both males and females. I.Q. or standard achievement test scores were converted to standard scores (Z) so that the scores, despite the fact that they resulted from different tests, could be compared.

Findings. The statistical technique used to analyze the data was multiple-classification analysis of covariance (with I.Q. as the covariate), followed by the Scheffe method for making post hoc comparisons. The results of that analysis may be summarized in the following manner.

1. The null hypothesis \( H_{01} \) that states there exist no significant differences between the frequency with which students interpret neuter generic terms
as including both males and females and the frequency with which students interpret masculine generic terms as including both males and females was rejected at the .0001 level of significance.

2. The null hypothesis ($H_0^2$) that states there exist no significant differences between the frequency with which male students interpret generic terms as including both males and females and the frequency with which female students interpret generic terms as including both males and females was rejected at the .05 level of significance.

3. The null hypothesis ($H_0^3$) that states there exist no significant differences between the frequency with which students in grades 3, 5, 7, 9, or 11 interpret generic terms as including both males and females was rejected at the .0001 level of significance.

4. The null hypothesis ($H_0^4$) that states there exist no significant differences between the frequency with which students of high, middle, or low socio-economic status interpret generic terms as including both males and females was rejected at the .05 level of significance.

5. The null hypothesis that states there exist no significant differences between the frequency with which students of high, middle, or low
socioeconomic status interpret either male or neuter generic terms as including both males and females was rejected at the .0001 level of statistical significance.

6. The null hypothesis that states there exist no significant differences between the frequency with which third, fifth, seventh, ninth, and eleventh grade students interpret either male or neuter generic terms as including both males and females was rejected at the .005 level of significance. Results of the Scheffe method of making post hoc comparisons were given in Chapter IV.

7. The null hypothesis that states there exist no significant differences between the frequency with which male and female students interpret masculine and neuter generic terms as including both males and females was rejected at the .05 level of significance. Results of the Scheffe method of making post hoc comparisons were given in Chapter IV.

8. The null hypothesis that states there exist no significant differences between the frequency with which male or female high, middle, or low SES students in grades 3, 5, 7, 9, and 11 interpret generic terms as including both males and
females was rejected at the .005 level of significance. Results of the Scheffe method of making post hoc comparisons were given in Chapter IV.

9. Other null hypotheses concerning the existence of significant differences that result from other possible interactions between variables were not rejected at the .05 level of significance. Those null hypotheses concerned interaction between the variables SES X grade; SES X sex; grade X sex; type of term X SES X grade; type of term X SES X sex; type of term X grade X sex; type of term X SES X grade X sex.

10. The relationship between the students' I.Q.'s and the frequency with which students interpret generic terms as including both males and females was demonstrated to be a trivial one through the use of multiple-classification analysis of covariance with I.Q. as the covariate.

11. All twenty-one subjects who interpreted every generic term on their instruments as referring to only one sex invariably interpreted the generics as referring to males only. All but two of these subjects were responding to Form 2 (masculine generics) of the instrument. Sixty-two percent of these twenty-one subjects were female (13 female,
8 males). More younger subjects than older subjects were among those who interpreted the generics this way. The subjects were fairly evenly distributed across all three socioeconomic status levels. Three of these subjects had very high I.Q.'s, three had below-average I.Q.'s. The I.Q.'s of the other fifteen subjects are considered above average.

Limitations. The study had four limitations, which are listed here for consideration in regard to the conclusions of the study that follow:

1. Because the suburbs, schools, and subjects involved were not selected completely at random, the results of the study may be generalized only with caution. The sample did, however, represent a careful selection in terms of some important variables, in order to be as representative as possible.

2. Nearly all of the subjects who participated in this study were non-minority students. Therefore, the results do not necessarily apply to minority students.

3. The measure of socioeconomic status used in the selection of subjects (residence in a suburb that
had a particular level of average family income) was a gross measure of this variable. In addition, the levels of the variables socioeconomic status were called high, middle, and low in this study, despite the fact that the 1977 average family incomes with which they were associated were not based on national averages. The figures did, however, correspond to the high, middle, and low average family incomes for Franklin County, Ohio, suburbs in 1977.

4. In some cases, the size of subsamples were quite small.

Conclusions

Bearing in mind the limitations of the study outlined above, the following conclusions were drawn.

1. Regardless of their sex, grade in school, I.Q., and socioeconomic status, students more frequently interpret neuter generic terms as referring to both sexes than they interpret masculine generic terms to include both sexes.

2. Both neuter and masculine generic terms seem to function better as generics with female than with male elementary and secondary students
3. Both masculine and neuter generic terms appear to function better as generics with older students than with students in the third and fifth grades.

4. Students seem to become more adept at interpreting both masculine and neuter generic terms as referring to both sexes as they get older—at least until they reach the seventh grade.

5. Students of differing socioeconomic status levels seem to be relatively equally adept at interpreting neuter generic terms as including both males and females. However, high and low socioeconomic status students appear to be more adept than middle socioeconomic status students at interpreting masculine generic terms as including both sexes.

6. The relationship between students' I.Q.'s and their interpretation of generic terms appears to be relatively insignificant.

7. The students who invariably interpret masculine generic terms as referring only to males are more likely to be female rather than male students and younger rather than older students.
Implications

The findings about which one may speak most confidently are those concerning the main effect of the manipulated variable type of generic term. Those findings were consistent with those of other studies, were statistically significant at the .0001 level, and were represented by a dramatic difference in the mean scores of subjects who completed Form 1 (neuter terms) and subjects who completed Form 2 (masculine terms).

The variable type of generic term also interacted with each of the three attribute variables investigated to produce statistically significant two-way interactions that were sometimes represented by considerable mean score differences. For instance, when interaction between the variables type of term and grade in school was considered, the lowest mean score among Form 1 (neuter) subjects was almost equal to the highest mean score among Form 2 (masculine) subjects.

When the significant interaction between the variables type of generic term and sex was considered, the female subjects outscored male subjects, regardless of whether they were interpreting masculine or neuter terms. The difference between male and female subjects' scores was at least to the researcher, surprisingly small.

When the scores reflecting the significant interaction between the variables type of generic term and socioeconomic status were examined, the scores of Form 1 (neuter) subjects at all three socioeconomic status levels were very similar.
The scores of Form 2 (masculine terms) subjects at all three SES levels were of course lower than these of the corresponding Form 1 subjects. In addition, it was on Form 2 (masculine terms) that any real differences showed up between the frequency with which subjects at the three levels of socioeconomic status interpreted masculine generic terms as referring to both sexes. Middle SES subjects who completed Form 2 (masculine terms) scored much lower than did either the high or low SES subjects, whose Form 2 scores were close. The differences between the score of middle SES subjects and both the high SES and low SES subjects were statistically significant.

The task remains to somehow explain the differences between these scores, outlined above, which reflect students' interpretation of generic terms. The researcher believes that the most likely explanation of the difference between the scores of all Form 1 (neuter terms) subjects and all Form 2 (masculine terms) subjects is simply that neuter generic terms are more generic. That is, neuter generic terms better communicate the fact that they are intended to refer to both males and females. It is apparently easier for a student to think that a generic term refers to females as well as males if that term does not consist of a masculine word (e.g., "man") or contain a masculine suffix (e.g., ":man").
One naturally wonders whether students, as a result of their misinterpretation of male generic terms, are likely to misinterpret instructional materials in which those terms appear. Does use of conventional masculine generic terms in terms in instructional materials about early humans, for instance, teach students that those prehistoric figures were all males by referring to them only as cavemen? The researcher believes that kind of misinterpretation does take place, although it has not, of course, been directly demonstrated.

Saying that the difference in the generic terms presented to subjects produced the differences in the frequency with which those subjects interpreted generic terms is not the same as saying the generic terms on the instrument produced or changed the subjects' whole orientation toward interpreting generic terms. The subjects surely possessed an orientation toward interpreting generic terms (presumably the same one) before and after they completed the instrument. But while the subjects were completing the instrument, the researcher was able to measure their interpretation of generic terms by presenting the randomly assigned subjects with either masculine or neuter generic terms. Many factors (such as observation of sex-segregated jobs or perhaps continual exposure to conventional masculine generic terms) probably helped shape the subjects' orientation toward interpreting generic terms. However, because the subjects were randomly assigned to receive either Form 1 or Form 2,
there is no reason to believe that the factors that shaped the orientation toward generic terms held by Form 1 subjects have been any different than those that shaped the orientation held by Form 2 subjects.

What are those factors that shape or are otherwise related to the way a student interprets generic terms? The attribute variables sex, grade in school, and socioeconomic status investigated in this study have been shown to be related to the frequency with which students interpret masculine and neuter generic terms. In considering the fact that females slightly outscored males on both forms of the instrument, one logically tries to explain those results by saying that it is of course easier for females, being female themselves, to admit the possibility that even a masculine generic term could be referring to females as well as males. It will take further analysis of the data to determine how often the generic terms on the instrument were interpreted as referring to males only. (This was not one of the questions this study was designed to answer.) The researcher, who hand-scored all 458 instruments, believes that that analysis will show that when subjects did not interpret the generics as referring to both sexes instead chose the all-male interpretation significantly more frequently than they chose the all-female interpretation. (Remember, too, that with the twenty-one subjects who chose
the same-sex interpretations throughout their instruments, it was the all-male interpretations that were chosen.)

If this further analysis does demonstrate a preponderance of all-male interpretations over all-female interpretations that is statistically significant, then the explanation given above will bring up a very important question: If subjects tended to see their choice of interpretation as actually being between the both-sex interpretation and the all-male interpretation, why is it that female subjects only slightly more often chose to interpret the generics as referring to both males and females? In other words, if female subjects considered the choices of interpretation to be either to include persons of their sex (in the both-sex picture) or to exclude persons of their sex (in the all-male picture), why was it that they only slightly more often than male subjects chose the interpretation that included persons of their own sex? Obviously, that question cannot be asked until a basis for it has been demonstrated in the further analysis of the data.

The relationship between the interaction of the variables type of generic term and grade level and student interpretation of generic terms is an interesting one. Why is it that subjects' scores become higher at each successive grade level between grades 3 and 7? Can the scores be assumed to level off or drop off by a statistically insignificant degree in grades 9 and 11? Or would the drop in scores after grade 7
have been found to be statistically significant if the sample of ninth and eleventh grade subjects had been larger? Fewer students in grades 9 and 11 participated in the study than at most other grade levels.

The researcher believes that it is not unlikely that a significant drop does indeed take place after the seventh grade among high school students. This contention is based on the fact that these subjects have gone through puberty and probably have, as a consequence, a heightened awareness of their gender as well as their sexuality. This heightened awareness of gender may be enough to make it more likely that Form 2 subjects tend to interpret the masculine generic terms quite literally and to encourage male and female Form 1 subjects to more often interpret the neuter terms as referring to their own sex.

Of course, there may be much simpler explanations that would explain such a drop if it exists. The older subjects could take the instrument less seriously than younger students. Or, as predicted by one of the teachers whose students were involved in the study, high school subjects may be more afraid of having an answer counted "wrong" than are younger students. If true, that fear would probably encourage these subjects to interpret masculine generic terms quite literally by choosing the all-male picture in response to Form 2's statements.
As to what may explain the younger students' gains on both forms between grades 3 and 7, the researcher does not know. The subjects may simply become better able to respond to tests (in this case, an instrument) as they get older. The researcher does not know at what point (if any) students are given formal instruction (as opposed to casual comments) on the grammar rule that says females as well as males are referred to by male generic terms. Could it be that that instruction is given during the sixth grade, which could account for the dramatic difference between Form 2 subjects' scores in the fifth and seventh grades?

The relationship between the interaction of the variables type of generic term and socioeconomic status and student interpretation of generic terms may be an interesting one, but any explanation to be advanced by the researcher would be purely speculative. This is especially true since the researcher considers the findings here regarding the relationship between socioeconomic status and student interpretation of generic terms to be preliminary results. Assuming that these preliminary results are borne out by subsequent studies, the question will become: What is different about the experiences of students at different levels of socioeconomic status that accounts for the difference in frequency with which they interpret generic terms as referring to both sexes?
Recommendations for Further Research

Recommendations for further investigation based on this study of interpretation of male and neuter generic terms are made in the paragraphs below. It is hoped that these recommendations will stimulate additional study of how people interpret generic terms, why, and with what effects.

It is recommended that additional research be conducted on the relationship between socioeconomic status and interpretation of generic terms. This study seems to be the first to investigate the variable socioeconomic status, and its findings in that regard can only be called preliminary. These results are interesting, however, and deserve additional investigation using a more sensitive measure of socioeconomic status than was used here. If further research bears out these findings that students at differing socioeconomic levels differ in the frequency with which they interpret generic terms as referring to both sexes, then the task will be to find out what characteristics or experiences associated with socioeconomic level are related to the students' interpretation.

It is recommended that the age range of people whose interpretation of generic terms has been studied be extended. Because this study (and Harrison's and Passero's--see Chapter II, p. 39) involved subjects as young as third graders, it is evident that at least by the time children are in the
third grade they are capable of interpreting generic terms. But it is not known at what age they acquire an understanding of and use of generic terms. What factors influence whether children develop a use of either masculine or neuter generics and whether they interpret whatever generics they use as referring to both sexes? Turning now to the other end of the age continuum, it is not known how adults (beyond college age) interpret generic terms. The ninth and eleventh graders in this study less frequently interpreted both masculine and neuter generic terms as referring to both sexes than did seventh graders, although no statistically significant differences were found between the means of students interpreting the same type of generic terms as these grade levels. Is that drop off real or does the ability to interpret generic terms as referring to both sexes continue to increase with age? One would expect that that ability does not continue to increase with age because the results of the studies involving college-age subjects conducted by Moulton, Robinson, and Elias, by Schneider and Hacker, and by Shimanoff, indicate that college students more frequently interpret neuter generic terms as referring to both sexes than they interpret masculine generics in that way.

It is recommended that this study be replicated with students from varying racial and ethnic backgrounds in order to determine whether or not their various cultures influence the students' interpretation of male and neuter generic terms.
It is recommended that research be conducted to demon-
strate whether the fact that subjects exposed to conventional
masculine terms in instructional materials are, as a result
of the students' misinterpretation of masculine generic terms,
likely to misinterpret the materials. The results of this
and previous studies certainly encourage one to expect that
such misinterpretation of instructional materials may occur
when conventional masculine generics are used. But only
studies that use measuring instruments that more closely
simulate the conditions under which students are usually
called upon to interpret generic terms can demonstrate in-
stances of misinterpretation of instructional materials.

It is recommended that the study of the relationship
between interpretation of generic terms and the "context"
in which the terms are used (begun by Moulton, Robinson, and
Elias69) be continued. For instance, the data that resulted
from the study described in this dissertation could be
analyzed to see whether students interpreted the masculine
and neuter generic terms that were occupational titles any
differently than they interpreted the generic terms that were
not related to occupations.

69Janice Moulton, George M. Robinson, and Cherin Elias,
"Sex Bias in Language Use: Neutral Pronouns that Aren't,"
It is recommended that researchers investigate what the results of this and similar studies mean in the lives of young people. This is perhaps the most important recommendation to be made here. Miller and Swift\textsuperscript{70} have written that a male child's discovery that his masculine pronouns are conventionally considered the grammatically proper generics must be an "ego-enhancing" experience for him. Is this true? And is the reverse true for the female child who realizes that her pronouns aren't good enough, that she'll usually have to be content with oblique references to herself and others of her sex? What is the relationship between a student's interpretation of generic terms and his/her sex role as measured on a scale such as the Bem Sex-Role Inventory? What is the relationship between students' interpretation of generic terms and the kinds of careers they would consider having? Are those who are interested in careers nontraditional for their sex, for instance, more likely to use neuter generics or to interpret either masculine or neuter generics as including both sexes? Since this and other studies have demonstrated the communicative ineffectiveness of conventional masculine generic terms relative to neuter generics, it may well be time to investigate the implications of that ineffectiveness.

Other Recommendations

Based on the findings of this study, the following recommendations are offered to persons other than researchers. The findings of this study have implications for almost everyone, since nearly all of us communicate orally and/or in writing and consequently use generic terms.

This and similar studies have found that masculine generic terms simply do not communicate to students the fact that both sexes are part of their referent group to the same extent that neuter generic terms communicate that fact. Therefore, it behooves parents, teachers, school administrators and counselors, developers of instructional materials, people who communicate through the mass media (including advertisers), and all others who communicate with students to substitute neuter generics for conventional masculine generics, in order to increase the likelihood that the message they intend to send is actually received.

More may well be at stake here than unambiguous communication. Although it remains to be demonstrated, the use of conventional masculine generics may contribute to a limitation of female role options or to diminished self-esteem of females. But unless or until these effects are demonstrated, the fact that conventional masculine terms do not truly function as generics should be enough to encourage speakers and writers to eliminate their use. The purported
convenience of using masculine terms as generics cannot be assumed to outweigh the advantages to communication offered by the use of neuter generic terms.

In Conclusion

This study has contributed to the research on student interpretation of generic terms by providing not only more information about the capability of neuter and masculine generic terms to communicate their "genericness," but by also providing information regarding the student characteristics sex, I.Q., grade in school, and socioeconomic status that helps explain student interpretation of generic terms.
Directions

Please read each sentence. Then circle the picture below it that best shows what the sentence means.

1. Police officers usually wear uniforms.

2. People must eat to live.
3. All students must bring their books to class.

4. Mail carriers deliver the mail.

5. If students work hard, they may get a good grade.
6. Some salespeople sell shoes.

7. Humans are the only talking animals.

8. Almost all students have an idea of what jobs they want.
9. Students may have to wait to take their turns.

10. After a fire, firefighters have to wash their trucks.

11. Dogs are sometimes called people’s best friend.
12. All people are created equal.

13. All students carried their own lunch trays.

14. Sometimes firefighters have to eat and sleep at the fire station.
15. The mail carriers are leaving the post office to deliver the mail.

16. Long ago, people lived in caves.

17. Nobody likes to lose their money.
18. All the Pilgrims had to work very hard to survive; each person's job was important.

19. Police officers learn to shoot their guns at target practice.

20. Salespeople should be friendly to their customers.
21. When students get hurt, they should tell the teacher.

22. Everybody has to do their share.

23. People's style of clothing has changed through the years.
24. Two police officers often ride together in one police car.

25. Students usually know when they have the right answer.

26. People need to exercise to stay healthy.
27. Mail carriers may meet unfriendly dogs.

28. Long ago, early humans had to learn to grow food.

29. Firefighters sometimes let children visit the fire station.
30. At this store, each salesperson has a cash register.
Directions

Please read each sentence. Then circle the picture below it that best shows what the sentence means.

1. Policemen usually wear uniforms.

2. Man must eat to live.
3. Every student must bring his books to class.

4. Mailmen deliver the mail.

5. If a student works hard, he may get a good grade.
6. Some salesmen sell shoes.

7. Man is the only talking animal.

8. Almost every student has an idea of what job he wants.
9. A student may have to wait to take his turn.

10. After a fire, firemen have to wash their trucks.

11. Dogs are sometimes called man's best friend.
12. All men are created equal.

13. Each student carried his own lunch tray.

14. Sometimes firemen have to eat and sleep at the fire station.
15. The mailmen are leaving the post office to deliver the mail.

16. Long ago, man lived in caves.

17. Nobody likes to lose his money.
18. All the Pilgrims had to work very hard to survive; each man's job was important.

19. Policemen learn to shoot their guns at target practice.

20. Salesmen should be friendly to their customers.
21. When a student gets hurt, he should tell the teacher.

22. Everybody has to do his share.

23. Man's style of clothing has changed through the years.
24. Two policemen often ride together in one police car.

25. A student usually knows when he has the right answer.

26. Man needs to exercise to stay healthy.
27. Mailmen may meet unfriendly dogs.

28. Long ago, early man had to learn to grow food.

29. Firemen sometimes let children visit the fire station.
30. At this store, each salesman has a cash register.
BIBLIOGRAPHY


Women on Words and Images. Dick and Jane as Victims.