In response to the growing awareness of the impact of sexist language in society, many writers and educators have begun to use either noncontrived "inclusive" pronouns ("he or she," "s/he," or "he/she"), or contrived inclusive pronouns ("tey") in place of the traditional "exclusive" pronouns (male referents only). A study was undertaken to discover the effects of inclusive/exclusive language on college students' reading comprehension, their determination of the quality of written materials (perceived human interest), and the likelihood of their adopting inclusive pronoun usage after reading materials containing it. Three hundred fifty-eight students were randomly assigned to one of three language conditions: (1) exclusive (he), (2) noncontrived inclusive (s/he), and (3) contrived inclusive (tey). After reading one of three experimental passages, the subjects were administered tests measuring comprehension, perceived human interest of the materials, and likelihood of adoption of the language form used. Analysis of data revealed no significant main or interaction effects on any of the dependent variables. The results provide partial support for the continued use of inclusive language in written materials. (FL)
The Effects of Inclusive/Exclusive Language on
Reading Comprehension, Perceived Human
Interest, and Likelihood
of Inclusive Pronoun Usage

By

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The Effects of Inclusive/Exclusive Language on Reading Comprehension, Perceived Human Interest, and Likelihood of Inclusive Pronoun Usage

Abstract

This study investigated the effects of inclusive/exclusive language on students' comprehension and human interest evaluation of written materials, and the likelihood of their adopting inclusive pronoun usage. Three hundred fifty-eight students were randomly assigned to one of three language conditions: (1) exclusive, "he," (2) non-contrived inclusive, "s/he," and (3) contrived inclusive, "tey." Following subjects' reading of one of three experimental passages, a test was administered measuring comprehension, perceived human interest, and likelihood of adoption of inclusive language forms. Analysis of the data failed to indicate significant and substantial main or interaction effects on any of the dependent variables. These results were interpreted in tentative support of continued inclusive language usage in written materials.
In recent years, much attention has focused on the impact of gender roles and sexism in American society. Pertinent discussions and research can be found in most fields, including general semantics (Cosmijian, 1972), mass communication (Busby, 1975; Mills, 1974), social psychology (Osmond & Martin, 1975), education (Lynch, 1975; Tiedt, 1976), social work (Kahn, 1975), business (Stephenson, 1975), and the publishing industry (Harper & Row, 1976; John Wiley & Sons, 1977; Scott, Foresman, & Company, 1974).

In the fields of speech and communication, several scholars outline methods by which educators can increase student sensitivity to gender roles as they affect human communication (Karre, 1976; Sprague, 1975; Trenholm & Todd-Mancillas, 1978). They suggest the development and usage of curriculum units explaining how gender roles develop and how they impact on communication transactions. They also suggest that teachers can facilitate constructive changes by modeling preferred behaviors.

An often discussed and controversial behavioral change is the substitution of traditional, masculine, third person pronouns (e.g., "he," "his," and "him") with alternative pronoun constructions (e.g., "he or she," "s/he," "him/her," and "her or his"), which advocates claim are more likely to elicit equal likelihood perceptions of male and female referents. The alternative pronouns are sometimes designated as "inclusive," meaning inclusive of both male and female referents, while the traditional generics are referred to as "exclusive," implying their perceived referencing of male target persons.
only (Burr, Dunn, & Farquhar, 1972a; Burr, Dunn, & Farquhar, 1972b; Johnson & Kelly, 1975; Kramer, Thorne, & Henley, 1978).

A few writers have argued in favor of introducing new words to the language, which like the lesser contrived inclusive constructions, are also intended to reference equally both men and women (Densmore, 1970; Miller & , 1972). For instance, Miller and Swift advocate the introduction of “tey” for “he/she,” “tsm,” for “him/her;” and “ter,” for “his/her.” Some people prefer the contrived, salient character of this latter type of inclusive alternative as a means of heightening receiver awareness of previously existing language biases against women in favor of men (Blaubergs, 1978).

Educators have responded to the inclusive/exclusive language discussion in several ways. Some have modified both their speaking and writing behaviors to include the proposed inclusive language constructions. Some have modified either their speaking or writing behavior, but not both. Lastly, many educators continue using exclusive language constructions, remaining unconvinced as to the possible negative impact of exclusive language on human communication (Alter, 1976; Etzioni, 1972).

Despite individual differences in attitude toward and usage of inclusive language, virtually every major textbook publishing company has established guidelines requiring usage of inclusive rather than exclusive language (Harper & Row, 1976; Holt, Rinehart, & Winston, 1976; John Wiley & Sons, 1977; Random House, 1975; Scott,
Unfortunately, since there is little empirical evidence available assessing the effects of inclusive language on learning and receiver perceptions, it is not possible to assert with confidence whether it is associated with unforeseen--yet damaging--consequences. For this reason, diffusion experts argue in favor of formative evaluations as means of detecting problems with innovations prior to their continued usage or modification (Gagné & Briggs, 1974; Havelock, 1973; Rogers & Shoemaker, 1971).

While it is probably premature to determine whether adoption of inclusive language brings about real changes in students' gender role attitudes and behaviors, it is necessary that formative evaluations be conducted to determine whether these new language practices adversely affect learning outcomes. At minimum, educators need to know whether inclusive language adversely affects comprehension and perceived quality of written materials. In addition, formative evaluations may yield evidence indicating which of the many suggested inclusive language practices are the preferred alternatives. It was in an effort to obtain some of this information that the present investigation was conducted.
The next section reviews pertinent research and specifies the specific research questions explored in this study.

**Literature Review**

In an exploratory study, Kidd (1971) had 68 students read 18 declarative sentences making use of traditional male generics (e.g., "The potentialities of man are infinitely varied and exciting"). After reading the sentences, students answered open-ended and forced choice questions, identifying the genders of the persons discussed in the sentences. Analysis of the data indicated significantly more frequent identification of male than female referents. These results lent suggestive—albeit extremely tentative—evidence of receivers perceiving traditional generics as more likely referring to male than female target persons.

Two investigations by Bem and Bem (1973) provide the earliest experimental evidence that traditional generics are more likely to elicit perceptions of male than female referents. In their first study, 120 high school seniors (60 men; 60 women) were divided equally into three groups, with each group reading a booklet of 12 employment advertisements. In the exclusive language condition, advertisements were written using traditional masculine generics when the jobs being described were traditionally held by men (e.g., lineman or frameman), but the advertisements were written using female referents when the jobs were ones traditionally held by women (e.g., telephone operator...
or service representative). In the inclusive language condition, job advertisements were written appealing equally to women and men.

In the sex-reversed condition, job advertisements were written appealing to the gender least frequently employed in those positions. Analysis of the data indicated that significantly more respondents were interested in applying for "opposite-sex" jobs when the advertisements were written using inclusive than exclusive language.

In their second study, Bem and Bem had 54 female college students rate 32 job advertisements taken from The Pittsburg Press. Half of the students read the job advertisements exactly as they appeared in the newspaper, with the labels "Male" and "Female" used to segregate job ads. The remaining respondents read the advertisements in an integrated format, with the job ads appealing equally to women and men. The results indicated that in the segregated condition only 46% of the respondents were likely to apply for "male interest" jobs as opposed to 86% in the integrated condition. The results of Bem and Bem's studies suggest that exclusive language may influence receivers' behavioral intentions to the advantage of men and disadvantage of women.

In Schneider and Hacker's (1973) study, 306 college students submitted newspaper and magazine photographs they thought appropriate for illustrating chapters in an introductory sociology text. Half of the students received lists of exclusive chapter titles (e.g., "Social Man," "Urban Man"), while the remaining students received lists of
Inclusive chapter titles (e.g., "Culture," "Crime and Delinquency"). In the exclusive condition, significantly more students submitted photographs depicting men only than in the inclusive language condition. These results complement Bem and Bem's findings and suggest that exclusive language may not only influence behavioral intentions but actual behaviors as well.

Shimanoff (1975) conducted a study to determine whether exclusive language is perceived as equally masculine or feminine as inclusive language. Students were divided equally into three groups of 60 each (30 men, 30 women), and each group read the statement, "A group of students had to choose a ________ to lead the group." In the exclusive condition, the blank was filled in with the word "chairman," and in the inclusive conditions with the words "chairperson" and "individual." Results indicated that students perceived the words chairperson and individual as neither significantly more nor less masculine or feminine than the word chairman, but that chairman was perceived as referring significantly more frequently to male than female referents.

Soto, Forslund, and Cole (1976) conducted the first study assessing differences in perceived comprehensibility and quality of materials using exclusive versus inclusive language. Students were divided into six groups of 24 (12 women, 12 men) and then asked to rate the comprehensibility and quality of an essay describing the education of a clinical psychologist. Two groups were exposed to exclusive
language, four groups to inclusive language. As with previous investigations, the exclusive conditions elicited perceptions of male referents significantly more frequently than were elicited in the inclusive conditions. However, there were nonsignificant differences with respect to ratings of comprehensibility and quality of composition.

Gottfredson (1976) reports the only published study failing to find evidence favoring usage of inclusive over exclusive language. Ninety-four female students responded to modified forms of the Vocational Preference Inventory (Holland, 1965) and Self Directed Search (Holland, 1972), with both instruments altered to include inclusive and exclusive language items. Analysis of the data indicated no systematic tendency for the inclusive language items to be chosen more frequently than the exclusive language items. Thus, these findings contradict the earlier Bem and Bem (1973) findings, which indicated a preference for women to more frequently express vocational interest in traditional male occupations when these occupations are labeled with inclusive rather than exclusive terms. One notes, however, that Gottfredson's subjects were recruited from a private, college-preparatory school and, therefore, may have been influenced by cultural factors quite unlike those affecting the judgment of the older and less unique sample of subjects used in the Bem and Bem studies.

In the Moulton, Robinson, and Elias (1978) study, 490 students
(226 men, 264 women) were divided into six groups. Three of the
groups were instructed to make up a story describing "a typical
student feeling isolated in ______ introductory courses." The
other three groups described a person "when ______ appearance is
unattractive." In the exclusive language conditions the blanks were
filled in with the word "his" and in the inclusive conditions with
the words "their" or "his or her." As expected, and in agreement
with previous findings, significantly more references to male persons
appeared in stories written in the exclusive than inclusive language
conditions.

Taken together, the results of the above studies lend substantial
support to the proposition that contrary to layperson intentions and
commonsense beliefs, usage of traditional masculine generics (exclu-
sive language) does not result in equal likelihood perceptions of
male and female referents; that, in fact, masculine generics result
in significantly more frequent perceptions of male than female re-
ferents (Bem & Bem, 1973; Kidd, 1971; Moulton, Robinson, & Ellis,
1978; Shimanoff, 1975; Soto, Forslund, & Cole, 1976). Only one
reported investigation has failed to find support for this proposition
(Gottfredson, 1976).

Partial support is also garnered for the propositions that,
exclusive language may bias behavior and behavioral intentions to
the economic disadvantage of women (Bem & Bem, 1973; Schneider &
Hecker, 1973), and that there are nonsignificant differences in the
perceived masculinity/femininity (Shimanoff, 1975), comprehensibility, and quality (Soto, Forslund, & Cole, 1976) of materials written using inclusive versus exclusive language. A reasonable extension of inclusive versus exclusive language research would be to further investigate the tenability of these latter propositions. Accordingly, the present investigation was undertaken to find partial answers to the following questions: 1) Does student comprehension of written materials vary significantly as a function of inclusive versus exclusive language? 2) Do students evaluate the quality of written materials significantly differently as a function of inclusive versus exclusive language? 3) Immediately after reading written materials using inclusive language, how likely are students to adopt inclusive language in their own writing?

Method

Subjects.

The subjects for this study were 358 undergraduate students (175 female and 183 male) enrolled in an introductory human communication course at a large northeastern university. Each subject participated in only one of the three experimental conditions as follows: 55 female and 50 male subjects in the exclusive language condition; 63 female and 71 male subjects in the non-contrived inclusive condition, and 57 female and 62 male subjects in the contrived inclusive condition.
Independent Variables

One assigned and one manipulated variable were used in this study, gender of subject and three variations of exclusive and inclusive language: traditional exclusive terms ("he," "him," and "his"); noncontrived inclusive terms ("s/he," "him/her," and "his/ herself"); and contrived inclusive pronouns ("tey," "tem," and "ter").

The inclusive/exclusive language conditions were operationalized by utilizing three different versions of a brief passage describing magicians. The passage, approximately one thousand words in length, was written for use at the college reading level (Fry, 1975, p. 9). This passage was selected because it was thought that few students would know much about the history of magic and because the passage included many (twenty-six) exclusive pronouns.

The original form of the passage included the use of the third person masculine pronouns, and this version of the passage was used as an operationalization of the exclusive language condition. The non-contrived inclusive and contrived inclusive language conditions were operationalized by substituting the third person masculine pronouns with non-contrived inclusive and contrived inclusive third person pronouns.

Administration Procedures and Dependent Variables

All subjects participated in this study during the same class period and in the same lecture hall. With the aid of seven proctors, the stimulus booklets were randomly distributed to all students. Students were asked not to open the booklet until instructed to do
so. Careful monitoring by the proctors ensured adherence to this and subsequent instructions.

The investigator then read a prepared list of instructions informing the subjects that they would have five minutes to read the passage, that no questions could be answered nor could participants talk among themselves during the testing period, and that they were not to turn to subsequent sections of the booklet until instructed to do so.

At the end of the five-minute period allowed for reading the passage, subjects responded to 17 multiple choice questions. The first ten questions measured comprehension and were previously developed by Fry (1975, pp. 18-22) for use in reading improvement programs. Questions 11 through 17 consisted of a modified version of a semantic differential instrument developed to measure three different dimensions of human interest in written materials: perceived comprehensibility, dynamism, and worthwhileness (Lynch, Kant & Carlson, 1967; Lynch, Nettleship & Carlson, 1968). Subjects were given five minutes to answer these questions. Subjects were then instructed to turn to the next (last) page and write a passage describing the life of a magician of the past and present. Four minutes were allotted for this task.

Data Modification and Analysis Procedures

**Comprehension:** A total number of correct responses score was used as an estimate of subjects' comprehension. The range of possible scores was from zero to ten.
Human Interest: A preliminary factor analysis was conducted to verify previous findings that the human interest instrument indeed measured three distinct dimensions of human interest: perceived comprehension, dynamism, and worthwhileness.

Analysis of variance tests were conducted to identify language condition main effects and subject gender-by-language condition interaction effects on comprehension and perceived human interest scores (Barr, Goodnight, Sall, & Helwig, 1976). Significant main effects were followed by Duncan Multiple Range Tests.

Modeling Behavior Measure: If the data met appropriate assumptions, Chi square analyses were conducted (Siegel, 1956) to identify significant differences in frequency of inclusive pronoun usage as a function of subject gender, language condition, and subject gender-by-language condition interactions.

Results

Comprehension

An analysis of variance test indicated a significant subject gender-by-language condition interaction ($F = 3.83; df = 2, 352; p < .05$). Inspection of the means indicated that in the non-contrived inclusive language condition, men obtained slightly higher comprehension scores than women ($\bar{x}$ for men = 7.42; $\bar{x}$ for women = 6.78). Conversely, in the contrived inclusive language condition, women obtained slightly higher scores than men ($\bar{x}$ for women = 7.05; $\bar{x}$ for men = 6.69). However,
these means differ so slightly from one another (neither difference
exceeds .64), that although statistically significant, the substance-
ness of these differences is questionable.

Human Interest

Prior to conducting analyses of variance tests on the three Human
Interest measures, a factor analysis was done to ensure independence
among the previously reported factors. As previously reported (Lynch,
Nettleship, & Carlson, 1968), three factors emerged: perceived Dynamism,
Comprehensibility, and Worthwhileness (see Table 1).

Insert Table 1 Here

Analyses of variance tests were conducted to identify language
condition main effects and subject gender-by-language condition inter-
action effects. Only one statistically significant finding emerged,
with the language condition having a significant effect on Comprehen-
sibleness ($F = 8.78; df = 2, 313; p < .05$). However, follow-up Duncan
Multiple Range tests failed to indicate statistically significant
differences among group means. Thus, while there was significant
"variance" in perceived comprehensibility across language conditions,
"mean" estimates of perceived comprehensibility did not
differ significantly from one another. Inspection of the means in-
dicated only slight differences in perceived comprehensibility, with
the maximum difference equal to .70, obtained by subtracting exclusive
from contrived inclusive language means.
Modeling Behavior

Table 2 depicts frequency of inclusive pronoun usage in the subjects' essays. It was not possible to conduct an overall Chi Square test for failure to meet the statistical assumption that the smallest expected frequency be no smaller than five (Siegel, 1956).

Insert Table 2 Here

A binomial test was conducted comparing male with female responses in the non-contrived inclusive language condition. This test failed to indicate a significant difference. Likewise, a Chi Square analysis of responses under the contrived inclusive language condition failed to indicate a significant difference between male and female subjects' use of inclusive pronouns.

Discussion

The results of this study may be interpreted in partial support of the continued usage of inclusive language. Failure to demonstrate substantial differences in student comprehension or evaluations of writing quality would suggest that inclusive language usage may not be associated with either of these negative consequences. However, owing to the infrequent adoption of inclusive language in student essays, neither could one argue that initial, brief exposure to inclusive language would have associated with frequent adoption of inclusive language usage.
Subsequent research efforts might attempt to replicate these results using older student or nonstudent populations and with different types of written materials. Also, as with most previous research efforts, this study used written stimulus materials. Accordingly, and in light of the fact that many teachers find it particularly awkward (or challenging) to use inclusive language in lectures and class discussions, an attempted replication using the oral medium would be a particularly interesting and meaningful replication. With the publication of attempted replications such as these, there will become available the additional information necessary to make solid decisions on the usefulness of continued adoption and modification of inclusive language.
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<td></td>
<td>I</td>
<td>II</td>
<td>III</td>
<td></td>
<td></td>
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<tr>
<td>Perceived Interestingness</td>
<td>.87</td>
<td>.08</td>
<td>.13</td>
<td></td>
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<tr>
<td>Perceived Informativeness</td>
<td>.77</td>
<td>.03</td>
<td>.16</td>
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<tr>
<td>Perceived Ease in Reading</td>
<td>.06</td>
<td>.87</td>
<td>.02</td>
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<tr>
<td>Material</td>
<td></td>
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<td></td>
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<tr>
<td>Perceived Excitability of Material</td>
<td>.72</td>
<td>.01</td>
<td>.29</td>
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<tr>
<td>Perceived Value of Material</td>
<td>.37</td>
<td>.02</td>
<td>.75</td>
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<td>Perceived Ease in Understanding Material</td>
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<td>.88</td>
<td>-.01</td>
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<tr>
<td>Perceived Importance of Material</td>
<td>.15</td>
<td>.00</td>
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</table>

These three factor solutions accounted for 73% of the total variance. Variables were retained only if the loaded .60 or higher on the primary factor and no higher than .40 on the secondary factor.
<table>
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<td>Contrived Inclusive Language</td>
<td>10</td>
<td>4</td>
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</table>

TABLE 2
Frequency of Inclusive Pronoun Usage
Reference Notes


REFERENCES


Densmore, D. Speech as the form of thought. 1970, KNOW, Inc. reprint.


