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Generic Versus Specific Inclusion of Women in Language: Effects on Recall[1]

Mary Crawford[2] and Linda English[3]

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Considerable evidence suggests that, although "generic" terms (he, his, man, men) may be intended to refer to both women and men, they are often interpreted literally and thus function to exclude women. Two experiments tested the hypothesis that readers' sensitivity to and literal interpretation of gender references in prose can affect performance in a memory task. College-student subjects read essays that were identical except for the use of "generic" terms versus those that specifically include women (he/she, his/her, people). In Experiment I, the Generic essay form led to better recall of the essay's factual content by male subjects, while the Specific form produced better recall by females. A similar pattern was found for female subjects in Experiment 2. In both experiments, effects were stronger for good learners. Results suggest that Generic and Specific styles are more relevant to men and women, respectively, and that the observed differences in recall may be mediated by differences in interpretation and interest based on perceived relevance.

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[2]Address all correspondence to M. Crawford, Department of Psychology, West Chester University, West Chester, Pennsylvania 19383.

[3]Department of Psychology, West Chester University; Currently at Department of Psychology, Brunswick College.

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Traditionally, many linguists have maintained that the pronouns *he, his,* and *him* and the noun *man* legitimately refer to both men and women and effectively cue the reader or listener to think of both male and female people. In other words, these terms have a "generic" meaning that includes both sexes. Recently, however, some linguists and some feminists have claimed that such "generic" usage results in women being "dismissed or ignored" (Henley, 1977).

Recent linguistic and philosophical analyses (Korsmeyer, 1981; Moulton, 1981) as well as a growing body of empirical evidence (Hyde, 1982; MacKay, 1980; MacKay & Fulkerson, 1979; Martyna, 1980a; Schneider & Hacker, 1973) support Henley's (1977) argument that "generic" language may not be interpreted generically. For example, MacKay and Fulkerson (1979) measured reaction time and error rate when students were asked to judge whether sentences containing masculine pronouns could apply to women. They found an extremely high error rate, indicating that students interpret these pronouns literally rather than as inclusive of both genders.

If the "generic" use of masculine terms functions to exclude women from consideration, we might expect that it could also influence memory for facts. A great deal of recent research on constructive and reconstructive processes in memory indicates that recall is affected by the reader's interpretation, which in turn depends on the personal relevance or interest of a topic (Bransford, 1979). This view of memory predicts that since people tend to interpret "generic" terms literally, such terms will be more meaningful to males, while constructions that specifically refer to females, such as "he or she," will be more meaningful to females. Thus, males should remember material better when it has been learned in a "generic" masculine language context, and females should remember better when the material has been learned in a context that specifically includes them through replacing the generic masculine with "he and she," plural forms, etc. The purpose of the following experiments was to test these predictions by examining the effects of "Generic" (masculine) versus Specific (feminine and masculine) written language on memory for factual material in female and male students.

EXPERIMENT 1

Method

Fifty female and 28 male college students, who were enrolled in introductory courses in history and political science, volunteered as sub-

jects. Each read a 400-word essay on psychology as a profession. Twenty females and 17 males read Form G (Generic) of the essay, which was titled "The Psychologist and His Work" and used male pronouns, e.g., "The typical psychologist . . . he." Eleven males and 30 females read Form S (Specific), titled "Psychologists and Their Work," which used both female and male pronouns, e.g., "He or she may do research." Except for the unobtrusive use of Specific versus Generic constructions, the essays were identical. Subjects were given 8 minutes to read and study the essay. Forty-eight hours later, a cued recall and a multiple-choice recognition test, consisting of 11 and 10 items, respectively, were administered.

Brief excerpts from the essays and sample test items are shown in Table I.

Results and Discussion

A 2 × 2 ANOVA was performed for each of the memory measures. For the recall measure, a significant interaction of Subject Sex × Essay Form was found, $F(1, 74) = 4.32, p < .04$. As shown in Table II, male subjects had higher recall scores with Form G, while females had higher scores with the female-inclusive Form S. The main effects for sex of subject and essay form were not significant, Fs$(1, 74) < 1.0$.

On the recognition measure, female subjects scored higher, $F(1, 74) = 4.18, p < .05$, but there was no effect for essay form, $F(1, 74) = .47$. The predicted interaction between sex of subject and essay form did not reach an acceptable level of significance for the recognition measure, $F(1, 74) = 2.86, p < .09$, nor did correction of recognition scores for chance guessing alter the levels of significance for any of the effects. The trend shown in the interaction was similar to the significant interaction found with the recall measure: Female subjects had higher recognition scores with the essay form that specifically included them, while male subjects had higher scores with the Generic form.

An analysis of the performance of good and poor learners, based on a median split of scores for each group separately, showed that the form × sex interaction was as strong or stronger for good learners than for poor ones, especially on the recognition measure. Recall scores of subjects scoring at or above the median ($N = 45$) showed no effect of form, $F(1, 41) = 2.28$, a large sex effect, $F(1, 41) = 16.66, p < .0002$, and a significant form × sex interaction, $F(1, 41) = 5.36, p < .03$. For poor learners ($N = 33$), there was an effect of form, $F(1, 29) = 4.28$, $p < .05$, no effect for sex, $F(1, 29) = .53$, and a similar significant

TABLE I. Sample Paragraphs from Stimulus Essay (Experiment 1), with Alternate Forms Indicated in Parentheses, Followed by Sample Recall and Recognition Items

The Psychologist and His Work
(Psychologists and Their Work)

Doctoral psychologists are relatively young. More than 25% are under 34 and almost 75% are under 50. More than 60% of these (psychologists/men and women) work in educational institutions. They will usually conduct research as well as teach. The remaining 40% are in private practice or work for state or federal agencies, profit-making businesses and industries, or clinics and hospitals. The average doctoral psychologist has some association with a school, college, or university, although (he/he or she) may serve as a counselor, administrator, psychological tester, or investigator rather than a teacher.

The data on psychologists present a rather narrow view of who psychologists are and what they do. A person working as a psychologist may not have a doctoral degree. Particularly in such important areas of applied psychology as school psychology, counseling, and industrial and clinical psychology, (he/he or she) often does not have training beyond the master's degree.

Recall items

_____% of psychologists work in educational institutions.
The minimum education required to be a school psychologist is _____

Recognition items

A psychologist who teaches at a college or university is most likely to also
a. teach in a high school
b. write articles for the general public on psychology
c. serve as a consultant to industry
d. conduct research

What percentage of psychologists are under 34 years of age?
a. 75
b. 50
c. 25
d. 10

interaction, $F(1, 29) = 4.73$, $p < .04$. For recognition scores, good learners ($N = 51$) showed no effect for form, $F(1, 47) = .16$, a large effect for sex, $F(1, 47) = 25.15$, $p < .00001$, and a marginal form × sex interaction, $F(1, 47) = 3.91$, $p < .054$. In contrast, poor learners ($N = 27$) showed no effects for form, $F(1, 23) = .98$, or sex, $F(1, 23) = 1.64$, and no trend toward an interaction, $F(1, 23) = .06$. (The F values given here are based on analyses of raw scores; correction of recognition scores for guessing produced nearly identical results.) Table III shows that, for both recall and recognition measures, female good

TABLE II. Mean Scores on Recall and Recognition Tasks, Experiments 1 and 2[a]

	Form G	Form S
Experiment 1: Recall		
Subject's sex		
Male	6.18	4.64
Female	5.65	6.47
Experiment 1: Recognition		
Subject's sex		
Male	6.41	5.27
Female	6.60	6.77
Experiment 2: Recall		
Subject's sex		
Male	6.15	6.35
Female	5.24	7.19

[a]Highest possible scores were, for Experiment 1, 10 in the recognition and 11 in the recall test; for Experiment 2, 13 in the recall test.

TABLE III. Mean Scores on Recall and Recognition Tasks, Experiments 1 and 2, for Subjects Scoring At or Above the Median[a]

	Form G	N^b	Form S	N
Experiment 1: Recall				
Subject's sex				
Male	7.17	12	5.57	7
Female	7.91	11	8.07	15
Experiment 1: Recognition				
Subject's sex				
Male	6.93	14	6.25	8
Female	7.73	11	8.06	18
Experiment 2: Recall				
Subject's sex				
Male	8.00	11	7.70	10
Female	6.52	21	8.94	16

[a]Highest possible scores were, for Experiment 1, 10 in the recognition and 11 in the recall test; for Experiment 2, 13 in the recall test.
[b]N = number of subjects in each cell.

learners had higher scores with the Specific essay form, while male good learners had higher scores with the Generic form.

The memory effects were not due only to memory for items that

tested sentences containing pronoun changes (such as the first recall item shown in Table I). When recall and recognition items testing these specific sentences were analyzed separately from those testing sentences that were the same in both essay forms (such as the second recognition item in Table I), no significant effects were found, all Fs $(1, 74) < 2.00$. Thus, memory for the essay as a whole, rather than only for sentences containing pronouns, was affected by pronoun form.

This experiment provided direct evidence for an effect of generic versus specific reference to women on memory for factual material. Female students recalled information better when it was presented using language that specifically included women, while male subjects showed better recall with language that directly referred only to men. While the interaction effect was only slightly greater for good than for poor learners on the recall measure, it was marginally significant for good learners and nonexistent for poor learners on the recognition measure. These sex differences in memory may occur because subjects do not interpret the "generic" forms neutrally with respect to sex, but rather give them a literal interpretation; this view is consistent with evidence fron nonmemory tasks.

EXPERIMENT 2

Experiment 2 sought to extend the generality of the results obtained in Experiment 1 by replicating them with a different set of stimulus materials. The general design was similar to that of the previous experiment, except that an essay on law as a profession replaced the psychology essay.

Method

Thirty-six male and 64 female college students served as subjects as part of a course requirement in introductory psychology. Thirty-three females and 19 males read Form G of a 400-word essay, which was titled "A Lawyer and His Work" and was written in traditional generic terms. Thirty-one females and 17 males read Form S, which included specific reference to women. Except for the pronoun differences, the essays were identical. Subjects were given 8 minutes to read the essay and 48 hours later were asked to complete a 13-item cued recall test. Because signifi-

cant effects were demonstrated in Experiment 1 for recall but not for recognition, recognition testing was omitted.

Results and Discussion

As in Experiment 1, females who read the Specific essay form performed better on the recall test than those who read the Generic form (see Table II). A 2 × 2 ANOVA revealed a significant main effect for form, $F(1, 96) = 9.05$, $p < .01$, which was due largely to the superior performance of females who read Form S. The predicted interaction between sex of subject and form was marginal, $F(1, 96) = 3.69$, $p = .058$. In contrast to Experiment 1, males were relatively unaffected by essay form. The main effect for sex of subject was not significant, $F(1, 96) = .03$.

As in Experiment 1, the performance of good and poor learners (based on a median split of each group separately) revealed that the interaction of essay form and subject sex was stronger for good learners. Subjects scoring at or above the median ($N = 58$) showed no sex effect, $F(1, 54) = .49$, a large effect for form, $F(1, 54) = 20.47$, $p < .00003$, and a highly significant form × sex interaction, $F(1, 54) = 17.32$, $p < .00001$. Poor learners ($N = 42$) showed comparable effects for form, $F(1, 38) = 22.10$, $p < .00003$, and sex, $F(1, 38) = .12$, but, in contrast to good learners, only a marginal form × sex interaction, $F(1, 38) = 3.74$, $p < .06$. Inspection of the means in Table III shows that the significant form × sex interaction for good learners is due to better recall by women who read Form S and men who read Form G.

This experiment provided further evidence that "generic" versus specific reference to gender in prose affects men and women readers differently. The effect is particularly consistent for good learners, for whom interaction effects were stronger than for poor learners.

GENERAL DISCUSSION

The present experiments provide evidence that readers are sensitive to gender references in prose, and that their sensitivity affects performance in a memory task. Female subjects recall information better when it is presented in a context that specifically includes them; male subjects

recall better when a masculine pronoun context is used. Effects are larger and more consistent for good learners.

The divergent effects of pronoun type on male and female readers may occur because readers of both genders tend to interpret "generic" masculine language literally. Its personal relevance is thus less for women than for men, and the observed differences in recall are mediated by differences in interpretation and interest based on personal relevance (Bransford, 1979). This explanation is consistent with our finding that memory for the entire passage, not just for sentences containing pronouns, was affected by pronoun form. The relevance explanation also implies that differences should be greater or more reliable for women than for men with the type of stimuli used in the present experiments, since women are literally excluded by "he" while men are merely made less prominent by the substitution of "he or she" or "they." However, no consistent pattern of greater differences for women appears in our data. A better test of the personal relevance explanation would involve comparing recall for material presented in a context of exclusively masculine, mixed, or exclusively feminine pronouns.

McConnell-Ginet (1980) suggests that, because the importance of verbal form has historically been unrecognized and its nuances unattended to, it can structure our awareness without our recognition. The present experiments are consistent with McConnell-Ginet's claim. The language of our essays was not glaringly focused on gender but rather was quite unobtrusive and "natural." At debriefing, very few of our students could specify which essay form they had read, and not one was aware that pronoun type was relevant in the experiments. Yet differences in pronoun type significantly affected our subjects' ability to recall material they had read and studied.

The American Psychological Association has published guidelines for the elimination of sexist language in APA publications (APA Publication Manual Task force, 1977). However, the use of "generic" language is still common in textbooks and teaching materials. Our results, which suggest that such materials may facilitate recall for males and impede it for females, thus point to the need for further research on the effects of what Martyna (1980b) has called "he/man" language.

REFERENCES

APA Publication Manual Task Force. (1977). Guidelines for non-sexist language in APA journals: Publication Manual Change Sheet 2. *American Psychologist, 32*, 487–494.

Bransford, J. D. (1979). *Human cognition: Learning, understanding and remembering*. Belmont, California: Wadsworth.

Henley, N. M. (1977). *Body politics: Power, sex and nonverbal communication*. Englewood Cliffs, New Jersey: Prentice-Hall.

Hyde, J. S. (1982, August). *Children's understanding of sexist language*. Paper presented at the annual meeting of the American Psychological Association, Washington, D.C.

Korsmeyer, C. (1981). The hidden joke: Generic uses of masculine terminology. In M. Vetterling-Braggin (Ed.), *Sexist language: A modern philosphical Analysis*. Totowa, New Jersey: Rowan & Littlefield.

MacKay, D. (1980). Psychology, prescriptive grammar, and the pronoun problem. *American Psychologist, 35*, 444–449.

MacKay, D., & Fulkerson, D. (1979). On the comprehension and production of pronouns. *Journal of Verbal Learning and Verbal Behavior, 18*, 661–673.

Martyna, W. (1980a). The psychology of the generic masculine. In S. McConnell-Ginet, R. Borker, & N. Ferman (Eds.), *Women and language in literature and society*. New York: Praeger.

Martyna, W. (1980b) Beyond the "he/man" approach: The case for non-sexist language. *Signs: Journal of Women in Culture and Society, 5*, 482–493.

McConnell-Ginet, S. (1980). Linguistics and the feminist challenge. In S. McConnell-Ginet, R. Borker, & N. Ferman (Eds.), *Women and language in literature and society*. New York: Praeger.

Moulton, J. (1981). The myth of the neutral "man." In M. Vetterling-Braggin (Ed.), *Sexist language: A Modern philosophical analysis*. Totowa, New Jersey: Rowan & Littlefield.

Schneider, J., & Hacker, S. (1973). Sex role imagery and the use of the generic "man" in introductory texts: A case in the sociology of sociology. *American Sociologist, 8*, 12–18.