

GENDER FACTORS IN REVIEWER RECOMMENDATIONS FOR MANUSCRIPT PUBLICATION

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This study investigated whether the gender of manuscript authors affected reviewers' editorial decisions. Female and male reviewers for five behavioral journals were asked to evaluate identical manuscripts according to their usual criteria. Half the manuscripts were supposedly written by men and half by women. Male reviewers did not evaluate male- and female-authored manuscripts differently. Female reviewers accepted significantly more female-authored (62%) than male-authored (10%) manuscripts. Female-authored manuscripts were accepted significantly more often by female (62%) than by male (21%) reviewers. Information unrelated to the quality of the manuscript appears to have influenced reviewers' decisions. Implications for the journal review process are discussed.

DESCRIPTORS: decisions, gender, journals, blind review

In an often cited study dealing with differential decision making related to the gender of manuscript authors (Goldberg, 1968), college women evaluated articles written by members of several different professions. Articles supposedly written by women tended to be rated less highly than identical articles supposedly written by men. This study has since been replicated with college men as well as college women as evaluators, sometimes with the same results (Paludi & Bauer, 1983; Paludi & Strayer, 1984) and sometimes not (Levinson, Burford, Bonno, & Davis, 1975; Ward, 1981). The conflicting outcomes of these studies may be related to a variety of author and evaluator variables. One such variable is professional status. Expert women have been rated as favorably as expert men, whereas professionally unknown women have been rated less favorably than unknown men (Abramson, Goldberg, Greenberg, & Abramson, 1977; Clifford & Looft, 1971; Peck, 1978; Pheterson, Kiesler, & Goldberg, 1971). Evaluators with expert status have tended to downgrade women's efforts relative to men's more than nonexperts have (Ward, 1981). If these

findings apply to research activities, then professionally unknown women who submit manuscripts to journals for review by experts (members of editorial boards) are at special risk of rejection when the journal's policies are to make the names of authors available to reviewers.

In the present research, I examined differential evaluation of manuscripts based on the gender of the author when the reviewers were experts in behavior analysis and the authors were professionally unknown.

METHOD

Subjects

Five behavioral journals, *Behavior Modification*, *Behavior Therapy*, *Child and Family Behavior Therapy*, *Education and Treatment of Children*, and *Journal of Applied Behavior Analysis*, listed 194 different reviewers on their 1987 editorial boards. Ten reviewers were eliminated because their names weren't clearly masculine or feminine. Of those remaining, 143 were men and 41 were women. Because of the low number of women, 22 women who had been on the editorial boards of these journals in either preceding or subsequent years, but who were not listed in 1987, were added. All 63 female reviewers and 72 male reviewers (male reviewers' names were arranged

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alphabetically and every other one was selected) were requested to review manuscripts. Manuscripts mailed to seven female and two male reviewers were returned because of inaccurate addresses. Therefore, 28 manuscripts were delivered to each of the two groups of female reviewers, and 35 manuscripts were delivered to each of the two groups of male reviewers.

Materials

A manuscript describing research conducted in an elementary school was fabricated. The fabricated manuscript was based on an unpublished manuscript, written by the present author, that described research conducted in a preschool. The cover letter requested the reviewers to read the manuscript and, using the criteria they customarily used when reviewing manuscripts, to place it into one of four decision categories: (a) accept for publication, (b) accept pending revisions, (c) rewrite and resubmit, or (d) reject. The rationale for this request was that a research design class had formulated a question about the extent to which the manner of presentation of research material affected its publishability and that the present author wished to model appropriate research behavior and to provide an answer to the student's question. Reviewers were also asked to indicate whether they wished to receive a report of the outcome of the study.

Half of the reviewers of each gender received manuscripts with the same two female authors' names (Mary Jane Lewis and Cindy Owens) and half received manuscripts with the same two male authors' names (Donald Lewis and Ralph Owens). Fictional names were chosen so that the reviewers could not have been acquainted with the authors.

Thank-you letters were sent to reviewers when they returned their editorial decisions (if they had not chosen to remain anonymous). As soon as the results were analyzed, a brief description of the methods, the results, and their implications was sent to each reviewer who had indicated a desire to be informed of the outcome of the study. (The manuscript, cover letter, thank-you letter, and outcome report are available from the author.)

RESULTS

Return Rate

Table 1 shows the number and percentage of manuscripts returned with editorial decisions for each reviewer group. Only 36% ($n = 10$) of the female reviewers of male-authored manuscripts returned their manuscripts, whereas approximately 56% of reviewers across the other three reviewer groups did ($n = 16$ for female reviewers of female-authored manuscripts, $n = 19$ for male reviewers of female-authored manuscripts, and $n = 20$ for male reviewers of male-authored manuscripts). Fischer's Exact Probability Tests were used to compare the differences between each cell in this table. No significant differences in return rate were found.

Editorial Decisions

Editorial decisions, tabulated within each of the four decision categories in each of the four conditions, are shown in Table 2. Inspection of Table 2 shows both a low number of decisions in some decision categories (eight of the 16 categories had three or fewer entries), and consistency within the categories of "accept" and "accept pending revision" and within the categories of "reject" and "revise and resubmit." Accordingly, the four decision categories were combined into two categories, called "acceptances" and "rejections." Female reviewers accepted 62% of female-authored and 10% of male-authored manuscripts. Male reviewers accepted 21% of female-authored and 30% of male-authored manuscripts. Fischer's Exact Probability Tests, two-tailed, were used to assess these differences. Female reviewers accepted significantly more female-authored than male-authored manuscripts ($p < .015$), and female-authored manuscripts were accepted significantly more often by female than by male reviewers ($p < .019$). Other comparisons were not statistically significant.

Two additional analyses were conducted using different combinations of the four decision categories. First, recommendations to revise and resubmit were combined with recommendations to accept and recommendations to accept pending

Table 1
Percentage and Number of Returns by Reviewers in Each Group

Reviewer	Author	
	Female	Male
Female	57% (16 + 12 = 28)	36% (10 + 18 = 28)
Male	54% (19 + 16 = 35)	57% (20 + 15 = 35)

Note. The numbers in parentheses indicate the number of papers returned with editorial decisions plus the number not returned; this equals the total number delivered.

revisions into acceptances; only recommendations to reject were included in rejections. No statistically significant differences were found; however, differences were in the same direction as in the first analysis (i.e., female reviewers accepted 81% of female-authored and 50% of male-authored manuscripts, $p < .19$). Another analysis was conducted in which only recommendations to accept were considered to be acceptances, and recommendations to reject, to revise and resubmit, and to accept pending revisions were considered to be rejections. No differences were statistically significant. Female reviewers accepted 13% of female-authored and 10% of male-authored papers.

DISCUSSION

In this study, the editorial decisions of male reviewers were not significantly affected by the gender of the author; the editorial decisions of female

reviewers were. These results differed from Goldberg's (1968) findings in that female reviewers did not vote against female-authored manuscripts but instead appeared to vote both for female-authored manuscripts and against male-authored manuscripts.

Several methodological issues are noteworthy. The significant difference found in female reviewers' acceptance of male-authored and female-authored manuscripts should be considered in relation to the low (although not significantly so) return rate for women who evaluated male-authored manuscripts. Reviewers who returned their manuscripts might not have been representative of the entire sample of reviewers in this group. The problem of low return rate, however, does not affect the significant difference found between male and female reviewers' acceptance of female-authored papers.

A second issue is whether the reviewers took as much care with the manuscript for a graduate class project as they would have with an actual journal review. Reviewers were under no compulsion to participate in the project, and 62 did not participate. It seems likely that those reviewers who participated attempted to follow the instructions (i.e., to use the same criteria for this decision that they customarily used in making editorial recommendations). Also, whereas the overall acceptance rate might have been affected if reviewers made, for example, less rigorous decisions because this was a class project, an interaction with gender seems unlikely.

Table 2
Number and Percentage of Manuscripts Accepted in Each Decision Category by Each Reviewer Group

Reviewer		Manuscript author	
		Female	Male
Female	Accept	2 (12%)	1 (10%)
	Accept pending revisions	8 (50%)	0
	Revise and resubmit	3 (19%)	4 (40%)
	Reject	3 (19%)	5 (50%)
Male	Accept	1 (5%)	1 (5%)
	Accept pending revisions	3 (16%)	5 (25%)
	Revise and resubmit	9 (47%)	5 (25%)
	Reject	6 (32%)	9 (45%)

A third issue involves the categories included under "acceptances" and "rejections." The assumption here is that manuscripts accepted or accepted pending revision comprise the bulk of the manuscripts finally accepted by a given journal, and that manuscripts rejected or rejected with advice to rewrite and resubmit for a second, independent review comprise the bulk of manuscripts never published in that journal. If most manuscripts that are originally rejected with advice to rewrite and resubmit are, in fact, accepted after a second independent review, then the present study does not support the contention that gender bias is a problem in the final editorial decision. However, authors may feel that gender bias in the earlier stages of journal review is also a serious problem (i.e., it is better to have one's article accepted pending revision than to have to rewrite and resubmit, even if the article is accepted later).

The final methodological issue is the possibility that the review bias seen here is a function of the particular area of research described in the manuscript. Previous literature has suggested that the bias against women in male-dominated fields was stronger than the bias against women in female-dominated or neutral fields (Goldberg, 1968). In other words, bias is strongest against women seen as violating sex-role stereotypes (Basow, 1980). Because a bias against women was suspected when this study was designed, a preschool (female-dominated field) was chosen for the setting of the manuscript to minimize the possibility of a Type 1 error. However, because the bias found in this study was against men, the extent of the bias may have been exacerbated by the fact that the research was done in a female-dominated setting.

One of the reviewers of the present manuscript wrote that he was concerned about three fairness issues in the review process. One was the possibility that authors whose names are well known receive less rigorous evaluations than unknown authors. A second was the development of an "old boy" network, in which a small group of researchers mutually reinforce each other's work within the review process. A third involved the effect of sociocultural variables (such as gender). A related issue is that

of biases specific to the reviewers of a given manuscript but not held by reviewers in general. For example, a reviewer might make more rigorous decisions when the author was not liked for personal reasons. The data presented here suggest that author anonymity is a necessary condition for fairness in manuscript review.

In 1989, 75% of the reviewers, 84% of the associate editors for manuscript review, and 100% of the editors for these five journals were men. Consequently, in 1989, a bias against male-authored manuscripts by female reviewers would have had less impact than a bias against female-authored manuscripts by male reviewers. However, it is unacceptable to have any potential bias in the review process, especially if there is a mechanism for removing that bias.

The editorial policy of all five behavioral journals whose reviewers participated in this research is to keep reviewers' names from authors but to make authors' names available to reviewers. Although some authors request that their names be unavailable to reviewers, such a request is infrequent (D. E. Hursh, personal communication, April, 1989) and not always honored (J. S. Bailey, personal communication, April, 1989). Authors may be reluctant to request blind reviews because they fear the reviewers' assumption that researchers with good reputations will not do so, or because they assume that such a request will be denied. Mandatory blind review of all manuscripts would avoid this problem. Mandatory blind review has been resisted by behavioral journals for a number of years, although no rationale for this policy has been made publicly. Informally, it is sometimes stated that reviewers need to know the names of authors so that they can give more complete feedback to authors who are relatively new to the field. Why known researchers whose work is less than acceptable should not get complete feedback is unclear. It is hoped that the present findings will prompt a reconsideration of the issue of blind review.

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