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THE EFFECT OF SEX ON COLLEGE ADMISSION, WORK EVALUATION, AND JOB INTERVIEWS

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ABSTRACT

Studies have repeatedly shown that girls lead boys in general intellectual development (1, 7, 9) as well as early academic achievement (3, 5, 10, 13). On the basis of such evidence, women might anticipate preferential treatment in events related to academic performance. Women have insisted, however, that they are discriminated against in academia as elsewhere. Three experiments² were designed to investigate whether or not their contention is true. The studies attempted to determine: Are women discriminated against in college admissions? Are the creative productions of women underrated? Does the PhD candidate have equal opportunity for employment regardless of sex? The answer to these questions is compelling: The results indicate that unless a woman is of unusual ability and/or is an acknowledged success, she must expect to be treated inequitably.

AN EXPERIMENT by Walster, Cleary, and Clifford (14) tested the hypothesis that male candidates would have a better chance of being admitted to college than would comparable female candidates.

The design of the experiment was a simple one. A sample of 240 colleges was randomly selected from *Lovejoy's College Guide* (8). Applications for admission were prepared for each school. These applications for admission were identical in all respects, except that the sex and ability level of the applicant was randomly varied. Half of the time the applicant claimed to be a male; half of the time a female. One third of the Ss were described as high; one third average; and one third low in ability.

To generate the materials required for the college applications, we secured the school records of three high school seniors of different ability levels and with names that were appropriate for either a girl or boy. The sex of the candidate was manipulated by attaching an appropriate photograph to the application and to the xeroxed copy of the transcript supposedly sent by the high school. The sex code was appropriately indicated whenever it appeared.

The distinctions between the three ability levels were determined by students' actual records: The Low Ability candidate ranked 268 in a class of 414 and had a high school transcript on which this rank and appropriate course grades were recorded. He had an ACT composite score of 10 (09 in English, 18 in mathematics, 07 in social science, and 06 in natural science). His college board results were an SAT verbal score of 404, an SAT mathematics score of 382, and achievement scores of 451 in English, 442 in American history, and 356 in mathematics.

The Average Ability candidate ranked 135 in a class of 414. He had an ACT composite score of 21 (19 in English, 16 in mathematics, 26 in social science, and 22 in natural science). His college board results were an SAT verbal score of 504, an SAT score of 482 in mathematics, and achievement scores of 531 in English, 522 in American history, and 436 in mathematics.

The High Ability candidate ranked 55 in a class of 414. His ACT composite was 25 (23 in English, 22 in mathematics, 29 in social science, and 27 in natural science). His college board results were an SAT verbal score of 604, an SAT mathematics score of

582, and achievement scores of 591 in English, 58 in American history, and 526 in mathematics.

To insure that applications would be as standard as possible, a master form was prepared. This form attempted to provide answers to any question that a college might ask. Included in this application was basic information about the student's background, education, and interests. Also included were essays on his interests and hobbies, and his religious experiences. Letters of reference, appropriate for students of either sex, were prepared. These recommendations were presumably from a minister, teacher, counselor, an employer, and a neighbor. The necessary medical records were prepared by a cooperating physician.

All applications were completed by referring to the master form. Once the documents were prepared, cooperating individuals signed and notarized them when necessary.

Dependent Variable. The colleges' acceptance or rejection of the candidate was scored on a 5-point scale:

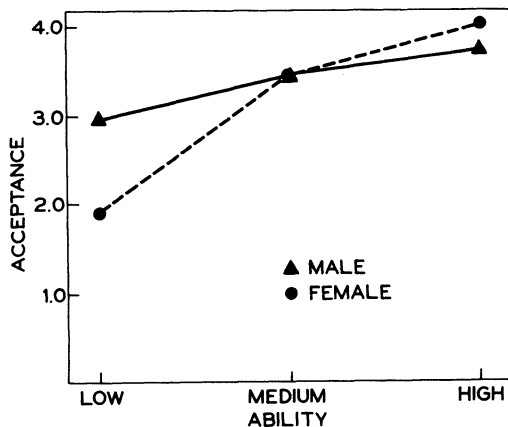
1 = Rejection; 2=Rejection with the possibility of reconsideration at a later date; 3 = Qualified acceptance in which a program or course-work adjustment was stipulated; 4 = Acceptance; and 5 = Acceptance with encouragement by a personal letter or an offer of unrequested financial aid.

Results

Figure 1 contains the results of the analysis of variance. The sex effect was in the predicted direction. Males were preferred over females, but contrary to the authors' expectation this difference was not significant ($F = 3.54, p < .06$). A significant but unexpected result was found in the joint test of interactions. At the low ability level males were preferred over fe-

FIGURE 1

THE EFFECT OF AN APPLICANT'S SEX AND ABILITY ON HIS CHANCE OF COLLEGE ADMISSION



males. At the high ability level this difference disappeared (Interaction $S = 2.39, p < .05$).

These findings have important implications. According to national norms, all three of our bogus candidates were of fairly high caliber. In the actual high school population, students are generally less qualified than were our candidates. Since discrimination was most prevalent at the lower levels, it is clear that, overall, women are undoubtedly discriminated against in college admission. The significant sex-by-ability interaction adds support to the feminist observation (and complaint) that only a truly exceptional woman can ever hope to transcend sexual stereotypes and to be judged on an objective basis.

EXPERIMENT II—THE EFFECT OF SEX ON HOW HIGHLY WORK IS EVALUATED

An experiment by Pheterson, Kiesler, and Goldberg (11) tested the hypothesis that when women attempt to accomplish something, their performance will be judged more harshly than an identical performance by males. Once the women become acknowledged successes, however, the authors predict that discrimination will disappear. They predict, then, that it is the woman who is trying to make it, rather than the woman who has already made it who will be discriminated against.

Experimental Design

Small groups of women college students were asked to evaluate eight paintings. Half of the time students were led to believe that the painting was created by a male artist; half of the time they believed it was created by a female artist. Whether the painting was an acknowledged success or not was also varied. (Half of the time students were told that the painting was a prize-winning painting. Half of the time they thought it was just an entry in a show.) Each Ss participated in each experimental condition, evaluating eight paintings sequentially. The identity of each painting was counter-balanced among Ss so that all conditions were represented for each painting.

Procedure

The Ss were 120 freshmen and sophomore women students at Connecticut College. Women were seated in a room equipped with a slide projector and screen. Each S was given a booklet and was told to read the following instructions:

Slides of eight paintings will be shown in conjunction with brief biographical sketches of the artists. After viewing the slide, turn the page and answer five evaluative questions about the painting. No personal information about your identity, talents, or tastes is required. This is a study of the artistic judgment of college students.

Students first read a fictitious biographical sketch of the first artist. Half of the sketches described a female artist, and half, a male. Their age, residence, and occupations were briefly described (identical for male or female). For example, "Bob (Barbara)

Soulman, born in 1941 in Cleveland, Ohio, teaches English in a progressive program of adult education. Painting is his(her) hobby and most creative past-time."

Cross-cutting the sex manipulation, half of the profiles described the painting as a contest entry (e.g., "She has entered this painting in a museum sponsored young artists' contest."), and half described it as a recognized winner (e.g., "This painting is the winner of the Annual Cleveland Color Competition.").

After reading the biography, the students inspected the projected painting, and then they answered some questions about their reaction to the painting. Students were asked 1.) how technically competent they would judge the artist to be, 2.) how creative he seemed to be, 3.) to assess the quality and content of his painting, 4.) to estimate the emotional impact the artist instilled in his painting, and 5.) to predict the artistic future of the artist.

Results

The results of the Pheterson and others (11) experiment show surprising consistency with those of Walster and others (14): The question regarding technical competency revealed that the sex of the artist and whether or not he had been certified a success, interacted ($F = 3.99$; $df = 1, 119$; $p < .05$). When the merit of the paintings had not yet been evaluated by professionals, a given painting was evaluated more highly when a male was said to be the artist than when the identical painting was attributed to a female artist ($t = 1.99$; $p < .05$). Once experts had put their stamp of approval on a painting and it had won a prize, it was accorded the same respect regardless of whether the artist was said to be a male or a female.

TABLE 1

MEAN COMPETENCE RATINGS AND RATINGS OF THE ARTISTIC FUTURE OF MALE AND FEMALE ARTISTS WITH WINNING OR ENTRY PAINTINGS

Competence Ratings	Sex of Artist	
	Male	Female
Winner	3.48	3.48
Entry	3.56	3.35
Ratings of Artistic Future		
Winner	2.97	3.99
Entry	3.06	2.81

The question concerning the artistic future of the artist produced results paralleling the competence data. There was a significant interaction between sex and painting status ($F = 4.52$; $df = 1, 119$; $p < .05$). A painting which had been entered in a contest was evaluated more favorably when attributed to a

male than when attributed to a female ($t = 1.92$; $p < .06$). Evaluations did not differ significantly for the winning paintings, although evaluations tended to favor the female winners.

The authors frankly admit that significance was obtained on only two of the five questions (i.e., technical competency and artistic future). However, they speculate that, "creativity is ambiguous, and may have feminine connotations." They further suggest that judging "quality" and "emotional impact" are perhaps similarly ambiguous and thus unreliable measures of sex bias. The authors' interpretation of the discrepancy is summarized in the sentence, "Bias apparently was directed toward the performer, rather than toward his or her word (.116)."

This pattern of discrimination is totally consistent with that detected in the first study. The authors argue: "The implications of this finding are far-reaching. The work of women in competition is devalued by other women." They point out, "even work that is equivalent to the work of a man will be judged inferior until it receives special distinction; and, that distinction is difficult to achieve when judgment is biased against female work in competition. According to the present data, and those of Goldberg (4) women cannot expect unbiased evaluations until they prove themselves by award, trophy, or other obvious success."

EXPERIMENT III—THE EFFECT OF SEX ON THE LIKELIHOOD OF EMPLOYMENT

Recently an announcement was made regarding an opening for an assistant or associate professorship at a major university. At the conclusion of the elegantly worded description of the position the following footnote appeared: "(This university) is guided by the principle that there shall be no differences in the treatment of persons because of race, creed, color, or national origin and that equal opportunity and access to facilities shall be available to all." One wonders whether the omission of sex was due to oversight or to foresight.

In these times of an ever-increasing surfeit of unemployed and anxious PhD's, the effect of sex on academic hiring practices becomes a question of general curiosity, if not sincere concern. The following experiment conducted by Clifford and Looft (2) was designed as a companion study to the investigation by Walster, Cleary, and Clifford (14) in which the effect of sex on college admissions was examined. As in the previously conducted study, it was predicted that male candidates would receive more interview invitations from academia than would females, and that males would be more favored at the lower level than at the higher level of ability.

Procedure

The study was conducted at a week-long meeting of the American Education Research Association. Bogus application forms were submitted to the AERA employment placement service, which operates during the convention. Applications were prepared for a high ability and an average level candidate. For each level forms were prepared in the name of both a male and a female candidate. The intended procedure was to record and score all requested contacts

initiated by prospective interviewers.

A change in procedure, however, was adopted during the second afternoon of the convention because not a single interviewer had requested an appointment with any of the eight applicants. It was therefore decided that requests for interviews would be submitted in the name of each applicant. The prospective interviewers registered with the placement service were randomly assigned to one of the four conditions; the job availabilities allowed for twenty observations for each sex at each level of ability, or a total of eighty independent observations. Interview contacts were then attempted via message forms commonly used by prospective applicants for this purpose.

Independent Variables

The application forms indicated that all potential employees had attended the same Big Ten university and received the same degrees; all were seeking employment in either academic or research institutions; all had special interests in learning and human development.

The sex variable was manipulated by the choice of names for each applicant. Last names were carefully chosen so no two bogus applications were found in close proximity in the alphabetized handbooks made available to employers. In the High ability condition the S was presented as having two published articles, one paper presentation, one article in preparation, an NDEA fellowship, and one year of teaching experience at the college level. In the average condition the applicant claimed only one paper presentation and two years' work as a teaching assistant.

Dependent Variable

The main dependent variable was the interview opportunity an applicant was offered or the response he (she) received to the requested interviews. Each of the twenty observations per cell (i.e., interview inquiries by the candidates) received one of the following scores: 0 = no reply, or a reply indicating that no interview was desired with the applicant; 1 = a request to send a vita to the interviewer; 2 = a scheduled interview indicating time and place; 4 = a scheduled interview plus a follow-up message requesting a future contact. (Obviously, the original appointment was not kept.)

It was felt that the last response category indicated such strong interest in the applicant that a double weighting was appropriate.

Results and Discussion

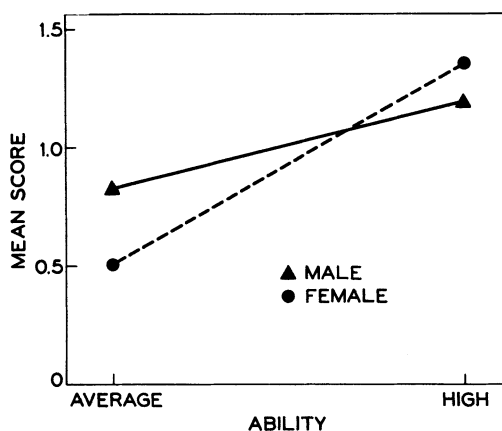
An analysis of variance was used to examine the main effects and interactions.

Figure 2 presents the mean interview opportunity for each of the four cells. The data seem to indicate that ability effect is relatively greater for the female than for the male candidate.

Contrary to expectation, the predicted Sex by Ability Interaction was not secured ($F = .99$, $df = 1/72$; $p < .32$). Thus, it can only be said that the patterning does resemble that found in the first two studies.

FIGURE 2

THE EFFECT OF SEX AND ABILITY ON AN APPLICANT'S OPPORTUNITY FOR AN INTERVIEW



Ability was the only factor which resulted in significance beyond the .05 level ($F = 6.48$; $df = 1/72$; $p < .01$).

Although there is no statistical confirmation of the authors' hypothesis in this last study, the modest interaction trend becomes important in view of the fact the authors were unable to secure the necessary N (i.e., 268 Ss would have been required to test the hypothesis with a power of .90 and a significance level of .05 (15)). The interaction trend, combined with the fact that their results are consistent with the findings of Walster and others (14) and Pheterson and others (11) led the authors to conclude: "In short, this experiment suggests that ... females of less than outstanding ability appear to be in need of vocational rehabilitation."

Conclusion

All three of these studies provide evidence that women generally have a disadvantage in higher education and professional activities. In spite of the head start displayed during the years of compulsory education, the average female can anticipate being rated second-best after that. The only possibility of escape seems to lie in superb performance or public recognition. One explanation for the professional underachievement of women has been a prejudicial evaluation of their work by men (6, 12). There seems to be evidence, however, that women are also culpable for the crimes of sex discrimination of which they are victims.

FOOTNOTES

1. This research report was supported in part by National Science Foundation grant GS 2932 and National Institute of Mental Health grant MH 16661. We would like to thank Drs. T. Anne Cleary, P. Goldberg, Sara Kiesler, William Looft, and Gail Pheterson.
2. The first and third experiments were designed to examine racial as well as sex discrimination; this summary of this set of studies, however, is restricted to a discussion of the latter.

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