

Sex Bias in the Assessment of Patient Complaints

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This study investigates the contention that physicians have prejudicial attitudes toward female patients. One hundred twenty of 220 (58 percent) primary care physicians returned questionnaires that recorded their attitudes toward two hypothetical patients, one with a headache, one with abdominal pain. By changing only the gender of nouns and pronouns, two otherwise identical versions of each case had been constructed, one case describing a female patient, one a male patient. The physician subjects recorded their attitudes on a semantic differential scale designed to measure three dimensions of attitudes toward patients: authenticity, impression of severity of illness, and emotionality. The physicians judged the female patients to be more emotional ($P < .05$) but no less authentic or ill than the male patients.

There is little doubt that the phenomenon of sex role stereotyping exists in American society.^{1,2} It has been asserted that physicians' sex role stereotypes bias their assessments of women's medical complaints.³⁻⁸ While it may be that this sex bias does indeed exist, the few studies designed to investigate this bias have yielded inconclusive findings that may be more related to the methods used than to any underlying bias. The purpose of this study is to investigate the possibility of sex role stereotyping by assessing physicians' attitudes toward hypothetical male and female patients with identical complaints using the semantic differential technique.

Several authors have claimed that physicians regard women's medical complaints less seriously than those of men and that physicians tend to label these complaints as being psychogenic in origin.³⁻⁵ Some have hypothesized that it is primarily male physicians who hold a sex bias toward women, but studies have indicated that when compared with

male physicians, female physicians do not hold more favorable attitudes toward female patients.^{9,10} Many authors maintain sex bias exists because women are more often diagnosed as suffering from emotional illnesses,^{11,12} are more often depicted as suffering from psychiatric illness in medical advertisements,⁸ and are twice as likely to receive prescriptions for psychotropic medications.¹³ Sex role stereotyping is, however, only one explanation for these findings. It is also plausible that these differences can be explained by the types of symptoms for which women seek medical care or by the way in which they express their symptoms. Among evidence supporting this possibility are studies showing that women do report more tenseness, nervousness, insomnia, headaches, palpitations, and perspiring hands than do men.^{14,15}

In an attempt to explain sex role stereotyping, some authors have claimed that medical education reinforces the notion that women's medical complaints should be taken less seriously than those of men. Howell⁶ contends that medical school lecturers usually refer to hypothetical patients as male, except when the patient is suffering from a disease of psychogenic origin, when they are usually described as female. Howell offers no evidence in

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support of this assertion. Lennane and Lennane⁷ describe what they believe are commonly held false psychological explanations for nausea of pregnancy, dysmenorrhea, and pain in labor. They suggest that this "cloudy thinking" may be a manifestation of sex prejudice, but this assertion also goes unproven.

Researchers have compared physicians' diagnostic and management decisions when dealing with men or women patients. Armitage et al¹⁶ found evidence suggesting sex bias in physicians' diagnostic evaluations. Based on a review of the medical charts of 52 married couples, they concluded that the physicians performed more extensive evaluations of men's complaints than of women's complaints. There are two major limitations of this study. First, because this study was based on a review of medical records, it is difficult to determine whether the men's conditions were actually comparable to those of the women. Second, there were only nine physician participants, all members of the same group practice and, therefore, possibly sharing attitudes atypical of most physicians.

In a carefully constructed clinical simulation study, McCraine et al¹⁷ found no evidence of sex bias in physicians' diagnostic or management decisions. In this study 118 general practitioners evaluated two patient management problems. Physicians' decisions about identical male and female versions of the two cases were compared. Physicians were neither more likely to diagnose the female patients' symptoms as psychogenic in origin nor more likely to prescribe psychotropic medications for the female patients. McCraine, however, acknowledges that the results of his study might be an artificial result of the simulation methodology. There is, in fact, evidence that simulated patient management problems do not predict actual clinical decision making with a high degree of validity.¹⁸

It is the purpose of this study to measure stereotypic attitudes toward male and female patients. In this study, as in McCraine's, physicians were presented with standardized case vignettes in which all variables were held constant except for the sex of the patients. But rather than asking physicians to make diagnostic and therapeutic decisions based on these cases, physicians were asked to record their attitudes toward the patients on semantic differential scales.

Methods

Semantic Differential

The semantic differential technique has been widely used in social science research to measure stereotypic attitudes and has been shown to be a reliable and sensitive method.¹⁹ Respondents are presented with polar adjectives—pairs of adjectives that are opposite in meaning. Between each adjective pair is a line divided into seven areas. Respondents are asked to indicate on this line their impression of the social object being studied. The process is repeated for a large number of polar adjective pairs. To assess the construct validity of the semantic differential, factor analysis is used to group the adjective pairs into factors composed of sets of polar adjective pairs in which the responses are highly correlated. The adjective pairs composing each factor are then inspected to determine the most appropriate interpretation of the meaning of the factors.

A 19-item semantic differential was constructed to measure three dimensions of physicians' attitudes toward patients: (1) attitudes about the severity of the illness as presented, (2) attitudes about the authenticity with which the patient presented his or her complaints, and (3) attitudes about the patient's degree of emotionality. These dimensions were chosen because they encompassed most of the assertions about physicians' sex role stereotypes. Examples of case vignettes and accompanying semantic differential scales are shown in Figure 1. Factor analysis requires large numbers of subjects to yield valid results. The semantic differential was therefore administered to a group of medical students, and the results of the 208 medical student respondents were combined with those of the physician respondents for purposes of the factor analysis only. A principal components, varimax rotated factor analysis was carried out. The results of this analysis are shown in Table 1. Once the factors had been determined, the medical student responses were discarded, and only the physician responses were used for the remainder of the analyses presented in this article.

Questionnaire

Two brief (one-paragraph) case vignettes were prepared. Each described a medical problem that could have been presented by either a man or a

Figure 1. Examples of Case Vignettes and Semantic Differential

John B. is 45 years old and, at present, is unemployed. He states that he has had intermittent "aching . . . in the upper part of the belly." This aching usually occurs while at rest and "sometimes gets better" with antacids or by "drinking milk." "Spicy foods" seem to make it worse. Physical examination is entirely within normal limits. An upper gastrointestinal series is interpreted as normal.

John B. seems to me:

healthy _ _ _ _ _ : ailing
relaxed _ _ _ _ _ : tense
stable _ _ _ _ _ : changeable

Mary Ellen B. is a 26-year-old clerical worker. She states that she has had "headaches" for the last three months, occurring almost every day. She describes these headaches as "throbbing," "in the forehead area," and occurring "any time of day or night." They are associated with "dizziness" and, occasionally, with a tingling sensation across the forehead. Physical examination is entirely within normal limits.

Mary Ellen B. seems to me:

healthy _ _ _ _ _ : ailing
relaxed _ _ _ _ _ : tense
stable _ _ _ _ _ : changeable

Table 1. Principal Components, Varimax Rotated Factor Analysis for Authenticity, Illness, and Emotionality

Rotated Factor Matrix	Factor I Authenticity	Factor II Illness	Factor III Emotionality
Authentic-Inauthentic	.76101		
Acceptable-Unacceptable	.75201		
Trustworthy-Untrustworthy	.67583		
Accurate-Inaccurate	.66954		
Real-Imaginary	.59249		
Precise-Imprecise	.54032		
Unimportant-Important	.48650		
Well-Ill		.85982	
Healthy-Ailing		.78663	
True-False		.76362	
Painless-Painful		.50817	
Unimpaired-Impaired		.50049	
Trivial-Serious		.45766	
Steady-Shaky			.66396
Stable-Changeable			.56653
Relaxed-Tense			.52934
Gratified-Ungratified			.51477
Rational-Emotional			.49479
Composed-Hysterical			.48260

woman and that could reflect either a physical or an emotional illness. Two versions of each case were prepared, differing only in the gender of the nouns and pronouns used. A questionnaire was then constructed that requested a small amount of

demographic data from each of the respondents and asked them to complete a semantic differential based on their attitudes toward the patients represented by each of the two vignettes. The questionnaire was prepared in two versions: form A pre-

Table 2. Distribution of Respondents by Sex and by Hypothetical Patient

Hypothetical Patients	Respondents	
	Male	Female
Female patient—abdominal pain	46	10
Male patient—abdominal pain	51	8
Female patient—headaches	48	7
Male patient—headaches	48	9

sented a woman with abdominal pain and a man with headache; form B presented a man with abdominal pain and a woman with headache. Subjects chosen for this study were 220 physicians in full-time primary care practice; all had participated at one time as preceptors for junior medical students at Temple University. The questionnaire was mailed to each subject with a cover letter that indicated that the purpose of the study was to measure physicians' attitudes toward patients. Questionnaire form A or form B was sent to the physicians on an alternating basis using a mailing list that listed them alphabetically. In the case of a group practice, all members were sent the same questionnaire form.

Statistical Analysis

Factor scores were calculated for each of the physician subjects' attitudinal responses to a case vignette for each of the principal factors. These scores were used as dependent variables in a three-way analysis of variance, with the sex of the responding physician, the sex of the hypothetical patient, and the patient's medical complaint serving as independent variables. Results were considered significant at a level of confidence of $P < .05$.

Results

Of the 220 physicians in the sample population, 128 (58 percent) returned completed questionnaires within two months. A questionnaire was defined as completed if two conditions were met: (1) if a subject responded to all of the semantic differential scales that rated attitudes toward at least one of the two hypothetical patients, and (2) if all of the questions pertaining to demographic information were answered completely. Of the 128 respondents, there were 109 male and 19 female physicians. Sixty percent of the respondents were

family physicians, 20 percent were internists, and 17 percent were pediatricians. Ninety-seven (75.8 percent) of the respondents completed both of the cases presented on the questionnaire. The responses were equally distributed among the cases presented (Table 2). No significant differences were found in the subjects' attitudes on the dimensions of authenticity or illness. For the third dimension, emotionality, the mean scores were significantly higher for the female patients than for the male patients ($P < .05$) (Table 3); that is, the female patients were described as more emotional than the male patients. There were no significant differences in the responses of the male and female physicians.

Comment

The results suggest that physicians do, to some extent, hold different attitudes toward female patients. Presented with identical case history vignettes, they describe the female patients as more emotional. This supports the view that, in some respects, physician sex role stereotypes are similar to those more widely held in our society. This may arise from general cultural socialization. Alternatively, it may arise from clinical experience, as physicians see more female patients who are overtly emotionally expressive or complaining of emotional symptoms concurrent with other complaints. Quite possibly, sex role stereotyping by physicians is due to a combination of these and other factors. This study did not find any differences in the attitudes of male and female physicians, nor was any trend identified. If such differences exist, they may have been missed by this study, since only a small number of female physicians participated.

There is concern that women's medical problems are often overlooked because physicians tend to view women as more emotional and therefore

Table 3. Effects of Physicians' Sex, Patients' Sex, and Type of Complaint on Physician Attitudes

Three-Way Analysis of Variance Source of Variation	F	Significance of F
<i>Factor I (Authenticity)</i>		
Sex of respondent	1.425	.234
Sex of patient	.540	.463
Medical complaint	.021	.883
<i>Factor II (Illness)</i>		
Sex of respondent	.001	.972
Sex of patient	.001	.960
Medical complaint	1.832	.177
<i>Factor III (Emotionality)</i>		
Sex of respondent	.054	.817
Sex of patient	5.187	.024*
Medical complaint	1.698	.198

*P < .05

more likely to exaggerate their symptoms or to be suffering from psychiatric illness. Describing a patient as emotional, however, is not necessarily prejudicial or pejorative. There is no support in this study for the contention that women's medical complaints are taken less seriously than those of men. The physicians who took part in this study did not describe the hypothetical female patients as any less authentic or their illnesses as any less serious. This study is limited by the fact that physicians were responding to brief case history vignettes and not to real patients. Real patients are, of course, more likely to elicit affective responses including sex role stereotyping. It is possible that if this study could have been conducted using real patients rather than case history vignettes, evidence of sex bias may have been identified. This study, however, does not support this widely held contention.

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