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AN ANALYSIS OF THE COMPONENTS OF

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# AN ANALYSIS OF THE COMPONENTS OF SEX-BIASED OCCUPATIONAL BELIEFS

By

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AN ABSTRACT OF A DISSERTATION

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ABSTRACT

AN ANALYSIS OF THE COMPONENTS OF
SEX-BIASED OCCUPATIONAL BELIEFS

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This study investigated the role and trait components of sex-biased occupational attitudes. Using a repeated-measures analysis of variance design, it was found that subjects differ in terms of their agreement to statements about traits necessary for certain jobs, the possession of these traits by men and women, and the suitability of men and women for those occupational roles. Secondly, it was found that agreement regarding the suitability of women for various occupational roles was a joint function of the socioeconomic status of the job, the sex dominance of the job, and the sex of the subject.

A test of McGuire's (1960) syllogistic framework for measuring occupational attitudes indicated that agreement with job, role, and trait statements was a function of the type of job being considered. Subjects were most consistent in their agreement with female dominated jobs, and female subjects tended to agree consistently more often than did males.

It was concluded that looking at sex-biased occupational attitudes in terms of trait and role components, as well as considering

the impact of job classification on sex-biased attitudes, were viable means for understanding the phenomenon of sex discrimination in occupational settings.

Approved: _____

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# CHAPTER I

## REVIEW OF THE LITERATURE

The effects of sex stereotyping and sex discrimination have been documented in a large number of research studies (see Terborg, 1977, for a review). While Title VII of the 1964 Civil Rights Act forbids discrimination on the basis of sex, race, or religion, employment practices which preclude the integration of women into all levels of the work force still persist. Instead, "ghettos" of low-status, stereotypic female occupations (waitresses, nurse's aides, clerical aides, etc.) have become the repository for a large percentage of the female labor force (Gullahorn, 1977), and the high-status, executive positions remain a bastion of the male sex.

Although the sociopolitical and economic implications of sex discrimination are beyond the scope of this research, the psychological basis of sexually biased belief systems, as investigated within the research setting, are relevant in providing explanatory power for the phenomenon of sex discrimination.

Since this research differentiates sex typed characteristics from sex role stereotypes, I shall first explain the cognitive distinctions. While sex role stereotypes encompass the belief that it is appropriate for women to occupy only certain, limited professions or to participate in designated "female" activities, the concept of

sex typed characteristics implies that possession of various abilities or traits is contingent upon the sex of the person. The issue in the latter case, therefore, is not one of appropriateness, but one of ability. Thus, the belief that medicine is not a female's profession (sex role stereotype) differs from the belief that women are too emotional (sex typed characteristic) to be good doctors.

The studies reviewed in the following section fail to make those distinctions and often liberally exchange one term for the other. In an effort to present adequately the content of the various studies, the literature review employs the terminology that was specific to each study, regardless of its agreement or disagreement with this author's nomenclature. Thus, if the authors of a particular study purport to be measuring stereotypes, it will be reported as such.

The present research adopts a cognitive orientation in order to assess the underlying components of the beliefs which may comprise the more general sexually biased attitude. "Sex-bias" is used to label any relationship in which the distribution of the sexes is non-equivalent. In addition, it follows the recommendation of Terborg (1977) and attempts to demonstrate the cognitive differences between (a) sex-role stereotypes and (b) sex-typed characteristics as well as their respective contributions to sex bias.

The available literature demonstrates the pervasive influence of the sex of personnel in the occupational setting. Many findings illustrate the extent to which sex influences personnel decisions and prevents full integration of women into the professional job arena. More germane to the current investigation, the research indicates that both sex role stereotypes and sex typed characteristics can account

for a variety of discriminatory behaviors and attitudes; that often these two distinct concepts are confused, confounded, or ignored; and that separate manipulations of both concepts may furnish additional information on the phenomenon of sex discrimination.

The presence of sex bias, which often serves to differentiate assumed ability levels or the appropriateness of various activities on the basis of sex, can lead to certain expectations as to what behaviors, emotional expressions, or goals are appropriate for either sex. For example, Miner (1965) contends that women are expected to be concerned for others, spiritual, and artistic, whereas men are seen as being power oriented, initiating, and prestige seeking. Broverman, Vogel, Broverman, Clarkson, and Rosenkrantz (1972), in their review of the stereotype literature, report that women are perceived as less objective, logical, and competent, and as more dependent than men (Rosenkrantz, Vogel, Bee, Broverman, and Broverman, 1966). In addition, stereotypically masculine traits generally are perceived to be more desirable for adults than stereotypically feminine traits. Thus, women may be in a no-win situation in which they are viewed as different from men, and lacking in "typically" masculine traits that are considered appropriate for the adult person.

Bem (1974) has departed from the dichotomous orientation toward masculine and feminine characteristics and has developed a measure which allows individuals simultaneously to favor a variety of masculine and feminine traits. Her test (Bem Sex-Role Inventory) of androgyny measures "the relative amounts of masculinity and femininity that the person includes in her or his self description, and, as such,

it best characterizes the nature of the person's total sex role" (p. 158). With her inventory, she demonstrated that masculinity and femininity are independent dimensions and that the androgyny score (femininity scale score - masculinity scale score) is not correlated with social desirability. Bem concluded with a recommendation to depart from traditional conceptualizations of "masculinity" and "femininity" as orthogonal and to investigate the implications of greater role flexibility. However, Bem's measure of androgyny, considered by her as a role inventory, consists of a list of traits, and as such is more a measure of characteristics, rather than roles.

The behavioral correlates of sex role stereotypes were investigated by Clarkson, Vogel, Broverman, Broverman, and Rosenkrantz (1970), who found that women with higher self-concepts (in terms of competence) had fewer children. In addition, a female who perceived herself as more competent tended to combine employment with child-rearing activities. They inferred from this that women who succumbed to the stereotypic notions regarding female competence were less apt to depart from traditional behaviors than their less "constrained" female counterparts. Thus, the internalization of such stereotyped attitudes had powerful influences in terms of directing women's behaviors and providing the children of these women with role models who demonstrate the patterns of traditional female lifestyles.

The issue of dimensionality of the female stereotype was addressed by Clifton, McGrath, and Wick (1976). Using an adjective check list, they found that the notion of a general stereotype for women should be changed to a multifaceted one. Their study yielded

two distinct stereotypes, that of housewife and "bunny" (the authors' term for sex object), and a third, more diffuse stereotype which was a composite of the roles of clubwoman, career woman, and woman athlete. These latter three roles failed to emerge as a clear stereotype (as measured in terms of the adjectives that subjects selected to describe each of the roles), but they did share traits which were seen as stereotypically masculine, e.g., aggressiveness, assertiveness, independence, and competitiveness. Thus, the evidence points to a multidimensional orientation toward the female stereotype and necessitates the inclusion of modifiers to express the different kinds of female stereotypes that may be held by individuals.

Schein (1973, 1975) investigated the relationship between sex role stereotypes and requisite management traits. By asking male and female managers which descriptions were characteristic of either women, men, or managers in general, Schein assessed the degree of overlap among the three categories as well as the traits on which they differed. Men and women alike attributed more similarity between men and managers than between females and managers. There appeared to be a consensus among all managers, irrespective of their sex, that the traits necessary for management duties are typically masculine. This demonstrated acceptance on the part of both men and women of male characteristics as the "necessary" requirements for a managerial position indicates that a woman can be at a disadvantage in the managerial role unless she assumes the stereotyped male model of managerial behavior in order to be successful in the organizational setting. Whether or not the perception of "maleness" of the managerial role is a function

of the past male dominance of that position and the resulting paucity of female role models cannot be determined from these results; however, future research into areas with changing sex distributions will more accurately address the issue of perceptual bias.

Rosen and Jerdee (1973) found that sex role stereotypes affected the evaluations of male and female supervisors. Following from the research of Gilmer (1961), who found that male managers believed that female supervisors would be inferior to male supervisors, they investigated subjects' (both undergraduates and "real-world" bank supervisors) evaluations of different styles of leadership behavior for hypothetical male and female supervisors. The supervisory styles included (1) threat, (2) reward, (3) friendly-dependent, and (4) helping. Four separate analyses of variance (AOV) were done to test the effects of the sex of the hypothetical supervisor, sex of the hypothetical subordinate, and status of the subject (student or bank supervisor) on "good-bad" semantic differential ratings of the four different supervisory styles.

The results revealed no main effect for sex of the hypothetical supervisor; that is, male and female supervisors were not evaluated differently. However, when comparing across the four different supervisory styles, there was a significant interaction for the sex of the supervisor and the supervisory styles: the reward style was seen as more appropriate for male supervisors than for female. No significant differences were evidenced for the other three types of style. With respect to the "friendly-dependent" style, however, one unpredicted finding disclosed a significant difference between ratings of different sexed supervisor-subordinate pairs and same sexed pairs.

Subjects perceived the friendly-dependent approach as more appropriate for supervisors in different sexed pairs than in same sexed dyads. There was no main effect for status of subject, indicating that students and supervisors shared similar perceptions of supervisory styles.

The implications of the findings are that some stereotyping still exists, in that the "reward" style (recommendation of the subordinate for a raise) was rated more appropriate for male supervisors than for females, reflecting expectations possibly based on men's more frequently being in positions legitimizing reward or coercive power. The fact that the "friendly-dependent" approach was viewed as more appropriate for different sexed supervisor-subordinate pairs may illustrate subjects' perceptions of cross-sex games where the establishment of a friendly relationship is followed by solicitation of some form of assistance from each other.

Another study by Rosen and Jerdee (1974a) used an in-basket technique to evaluate personnel decisions of male bank supervisors regarding hypothetical female employees. The in-basket task dealt with four different personnel decisions: (1) promotion of the employee to bank manager: (2) selection of a male or female employee to attend a personnel conference; (3) resolution of a personnel problem in which a transfer or termination was requested for the problem person by the person's supervisor; and (4) approval of a leave-of-absence request for child care duties.

The results for each of the four decisions are as follows: There was a significant difference between the number of promotions offered to hypothetical male and female personnel. Thirty-two out of

forty-four male candidates (hypothetical) were promoted by the subjects; whereas only nineteen of the forty-nine females were offered promotions. With respect to career development opportunities, women were again discriminated against; when the choice for conference attendance was between a young, highly promotable male and an older, unpromotable (i.e., working at a dead-end job) female, subjects selected the male 76 percent of the time. When the sexes of the young and older employees were reversed, the promotable female was selected over the unpromotable male only 56 percent of the time.

For resolutions of personnel problems, subjects had greater confidence in the male supervisor's recommendation to terminate the problem person; subjects were more apt to prefer a transfer, rather than termination, as the mode of resolving the problem for the female supervisor. However, they generally had no trouble accepting the male supervisor's recommendation to fire the employee. This sentiment, that it is unacceptable and demeaning to be "fired" by a female, has been expressed elsewhere (Komarovsky, 1976).

Their last finding indicated that in one situation male personnel experienced the consequences of sex discrimination. In the request for a child-rearing leave of absence, subjects rated the female's request as significantly more appropriate than the male's. This finding is indicative of the cultural expectation that men are to be committed to their careers, while women, perhaps being perceived as secondary members of the work force, are assumed to have career discontinuities for childcare duties. This then becomes a Catch-22 situation whereby women are expected to require leaves for child

rearing and are therefore assigned to the more unpromotable, less important jobs because of that assumption.

Rosen and Jerdee (1973, 1974a, 1974b) have contributed to the specifications of the different realms in which sex stereotypes and discriminatory behaviors operate, given a hypothetical framework. However, aspects of their analyses (e.g., a persistent use of several univariate AOVs within a single sample, along with the failure to report the subsequent intercorrelations among their dependent measures or to attempt multivariate analyses) render some conclusions less powerful. Moreover, their continued reliance on the existence of sex role stereotypes as the explanation for differential behaviors of subjects toward male and female stimulus people, in the absence of any attempt to measure such stereotypes, again reduces the impact of their findings.

Terborg and Ilgen (1975) also criticized the research of Rosen and Jerdee (1974a) for their use of post hoc explanations (sex stereotypes) for differential behavior toward males and females. To use discriminatory behavior as the operationalization of sex stereotypes, and then to infer that a stereotypic attitude is present on the basis of that same behavior is tautological.

An attempt at a more theoretical approach to occupational sex discrimination can be found in the research of Terborg and Ilgen (1975). They examined discriminatory behavior, using in-basket simulation tasks, within three frameworks: attribution theory, equity theory and stereotypes. Undergraduate subjects simulated administrative decisions involving four hypothetical engineers,

either (1) three males and one female, or (2) four males. In the case involving the sex of the fourth stimulus person, only the first name of the male or female engineer was changed; all qualifications, characteristics, etc., remained identical. The dependent variables were two measures of access discrimination (discrimination at the entry level of the organization) which were hiring decision and starting salary; and five measures of treatment discrimination (discrimination against an employee once he or she has been hired and has been with the organization for some time period) which were delegation of work assignments, decisions regarding employee development opportunities, personnel evaluations, promotions, and allocation of bonus money. A measure of subjects' stereotypes of women in business was taken following the in-basket tasks using a 21-item Likert scale, the Women as Managers Scale (WAMS) (Peters, Terborg, and Taynor, 1974).

This measure (WAMS) consisted of statements about women's characteristics and their abilities to function in management positions. Although it appears to be a rather transparent measure of attitudes toward women, the authors' research has shown that it is related to a more general sex-biased attitude. The results supported the notion that females were discriminated against in terms of both access and treatment variables. Although there was no difference in the mean hiring rating for the male or female engineering applicant, the female received a starting salary significantly lower than the hypothetical male applicant. The female stimulus person was also assigned routine tasks more often than challenging tasks, earned significantly less after two years of working, had her performance

attributed to luck more often than to skill, and was viewed as operating under greater internal and external constraints when compared to her male counterpart.

The measure of stereotypes (WAMS) was significantly correlated with the decision to hire the female applicant as well as to the overall performance evaluation of the male. However, it was not significantly related to the other dependent measures. Although the authors failed to question the possible reactive effect of the in-basket tasks on the questionnaire responses, they still concluded that processes in addition to stereotypes affect sex discriminatory behavior and that more research on the psychological aspects which underlie these differential evaluations of males and females is needed to explore and understand the phenomenon more adequately.

Bass, Krusell, and Alexander (1971) administered a 56-item questionnaire to male managers in order to assess their attitudes toward working women. In general, the managerial subjects felt that women prefer to work for a man; women should defer to men's abilities; and men should defer to the needs of the "weaker sex." In addition, those men who were married regarded women as having no career potential. The higher-level male subjects viewed women as less dependable than did lower-level managers; and men who worked with women generally expressed less favorable attitudes than those who worked exclusively in male groups.

Although their questionnaire was of questionable psychometric adequacy, it did furnish some descriptive information on male managers' attitudes toward managerial women. It also indicated the

need to orient men as well as women to the mixed-sex work group rather than merely to place women in jobs amidst nonsupportive, or possibly resentful, males. If indeed negative attitudes toward working women persist to this extent today, then the integration of women into the work force will be impeded by such attitudes.

The belief that a "woman's place is in the home" has been modified to express the current prevalent view that a woman's place is either in the home or performing a few low-status, sex-typed jobs. An example of this is found in Oppenheimer (1968) who surveyed occupations from 1900 to 1960 in which 70 percent or more of the personnel were women. These jobs were characterized as having traditional female "roots" (e.g., sewing, serving food, caring for the sick, etc.), depending upon cheap and untrained labor, lacking any career continuity, and having very little power or authority. In addition, half of the total female labor force was concentrated in these sex-typed occupations.

Hesselbart (1977) investigated the ratings of hypothetical female or male nursing students by male and female high school students. She found that the female stimulus person was rated as more feminine, ambitious, attractive, interesting, and less emotional than the male. The sample of students also preferred the medical student over the nursing student and least preferred the male nursing student; he was rated the least attractive, least likely to be good at his job, least likely to obtain the job of his choice, and the person whom they least wanted to meet. The general conclusion was that a man entering a predominantly female occupation was viewed even more negatively than

a woman entering a male occupation, at least according to high school students. Whether this is due to the crossing of sexual barriers or status differences in the two jobs, or an interaction of the two cannot be determined in this study, since the author confounded job status with sex stereotype of the job.

The expectation that an increased number of women will be engaged in a given male-dominated occupation lowered both the prestige and the desirability of that occupation (Touhey, 1974). Cohen and Bunker (1975) found that when two hypothetical positions were vacant, subjects were more likely to recommend the female applicant for the "editorial assistant" job and the male applicant for the job of "personnel technician." Pre-tests had indicated that these jobs were perceived as being equal in status and sex-typed in the same manner as subjects perceived them. Thus, given equal statuses, subjects preferred hiring individuals on the basis of congruent sex and sex-typedness of the job combinations rather than on other characteristics.

Variables which were used for the evaluation of job applicants had a different impact on male and female candidates (Cecil, Paul, and Olins, 1973). Although males and females were described as applying for the same "white-collar job," subjects imposed their own view of the male candidate as an administrative management applicant, and the female candidate as clerical applicant. The subjects' views were post hoc determinations by the authors based on the traits which subjects perceived as being important for either the male or female applicant to have in order to be hired for the "white-collar" position. Those traits which were seen as more important for males were the abilities to be persuasive, aggressive, motivated, withstand pressure, and to

change his mind. For the female applicants, the important traits were a pleasant voice, excellent clerical skills, a high school diploma, good self-expressions, and being "immaculate in dress and person."

Gordon and Hall (1974), in a study using women graduate students, found that females' perceptions of men's stereotype of femininity could be sources of conflict for the females. They further suggested that the perceived male standard of femininity may produce difficulties for women who work in male-dominated work groups. Thus, perceptions of other's stereotypes, irrespective of their validity, can be a powerful conflict source for women and may deter their professional development.

Hamner, Kim, Baird, and Bigoness (1974) found that ratings of overall task performance were influenced by both the race and the sex of the stimulus person being rated. Using a videotaped work-sample task, undergraduate subjects rated all combinations of high-low performing males and females and blacks and whites, resulting in eight different ratings from each subject. In general, females were rated higher than males, and this difference was accentuated for high-performing ratees; black raters rated black ratees higher than white ratees, while white raters rated black ratees lower than white ratees. Although previous findings have shown a tendency to devalue female performance (e.g., Rosen and Jerdee, 1973), females in this study were rated higher than equally performing males. This reversal was attributed to the fact that the job (grocery store stockperson) was in the "unskilled labor" category, while jobs in other studies have usually been at the professional level. Thus, the authors are

suggesting a sex by job status interaction in which females "win" at the low end and lose at the high end of the work-status continuum. This sex by status interaction needs further investigation to address more definitively the effect of different job status levels on evaluations of males and females.

Sex and attractiveness of hypothetical job applicants were found to influence hiring recommendations for the job of head of a furniture department in a large department store that were made by male undergraduates as well as those of professional male interviewers (Dipboye, Fromkin, and Wiback, 1975). In general, attractive applicants were preferred over unattractive ones (a pre-tested photograph was included in each applicant's folder), males were perceived as more suitable than females, and those applicants with high scholastic standing were preferred over those with low standing. These findings indicate that both undergraduates and professional interviewers discriminated on the basis of two non job-related applicant characteristics (attractiveness and sex), in the case of a white-collar occupation. Moreover, to have demonstrated that both undergraduates and professional interviewers are subject to the same perceptual biases, not only supports the generalization of results obtained with student samples to the general population, but also causes one to be suspect of the degree of training that is theoretically part of the development of a professional interviewer.

Sex has also been found to influence leadership behavior (Megargee, 1969), managers' evaluations of employees' grievances (Rosen and Jerdee, 1975), and supervisory behavior and subordinate satisfaction (Petty and Lee, 1975). Attributions made to luck or

skill also tended to be dependent upon sex; Deaux and Emswiller (1974) found that performance on a masculine task is attributed to skill for males and to luck for females. Taynor and Deaux (1973) demonstrated that sex can influence reward allocation because it is seen as a "nonvoluntary constraint" when performing a masculine task. If a female is not expected to perform as well as a male, but she does perform as well, she will then be over-rewarded with respect to the male.

Thus, the influence of sex on evaluations and reward allocations has been demonstrated to be pervasive, and the domains in which that influence operates are varied. Moreover, other variables (e.g., job status, race, attractiveness, etc.) have been shown to interact with sex, and no clear-cut picture of the roles of various person and/or job characteristics has emerged. Thus, the literature is replete with studies of masculine or feminine traits or studies which manipulated the sex-typedness of the occupation, but apart from demonstrating that bias exists and offering a few conjectures as to why, the area lacks cohesiveness. If the emphasis were to be shifted from demonstrations of behaviors to the exploration of the underlying variables which direct the behaviors, then a more parsimonious and cognitive set of research findings may emerge.

## The Present Research

The studies reviewed dealt with experimental simulations of personnel decisions, attitude questionnaires administered in the field or in the lab, and numerous adjective check-lists which were all used to demonstrate bias attributable to sex. Because of this bias,

researchers usually invoked the existence of sex role stereotypes as the "villainous" cause of such differential response patterns. However, given either the applied nature of some of the research, or the short-sightedness of other studies, most researchers have failed to put stereotyping within a framework that would serve as a precursor to the development of a more theoretical orientation toward the problem of sex bias. Apart from Terborg and Ilgen (1975) or Deaux and her colleagues (Deaux and Emswiller, 1974; Taynor and Deaux, 1973), most studies merely took a descriptive approach to the phenomenon which has resulted in a plethora of attitudinal/behavioral data lacking conceptual organization.

Terborg (1977), in his review of the research on sex discrimination, noted the need for a new approach in the area. He pointed out that past studies have confused, overlooked, or ignored the distinction between sex role stereotypes and sex typed characteristics. The former deals with the notion that it is appropriate for females to engage in only certain activities, irrespective of abilities or desires; whereas sex typed characteristics refer to the belief that women possess certain traits, men possess certain other traits, and women just are not endowed with many traits that are requisites for certain jobs. Thus, the justification for why women should not be engineers could be that (1) engineering is "man's work and no place for a lady" if one were to invoke a role stereotype; or that (2) women lack the mathematical abilities that are necessary for good engineers, if one relied upon sex typed characteristics as the explanation or justification.

Although neither of the two beliefs has demonstrated validity, their cognitive distinctions, as well as their sensitivities to different manipulations need to be investigated. The already noted tendency in so many different studies to interchange these terms, concepts, and measurements dealing with sex role stereotypes and sex typed characteristics may be a disservice to both theoretical and applied concerns.

Syllogistic Approach

McGuire (1960) formulated a logical model for evaluating the consistency among a person's cognitions. He contended that a person's "belief space" could be determined by a set of statements which represent logically interrelated cognitions about a given belief.

The syllogistic structure typically consists of two premises, a and b, and a statement c, which is a logical conclusion following from a and b. In the event that a person agrees with c, but not a and b, McGuire designates another proposition, k, which would explain the apparent inconsistency between agreement with c and disagreement with a and b. An example of a syllogism, in the context of this research, can be given by the following statements:

(a) Good managers should be responsible.
(b) In general, men are more responsible than women.
(c) In general, men are better managers than women.

Thus, within a logical framework, agreement with a and b would imply agreement with c unless there exists an unspecified statement k whereby a person could disagree with a and b and agree with c for a reason (k) having nothing to do with the trait of responsibility. Agreement with

a and b, but not c, would imply that a person believes that characteristics are sex typed, but does not apply that to a role stereotype.

Thus, the syllogistic approach allows us to measure sex role stereotypes (as shown in statement c), sex typed traits (statement b), and job characteristics (statement a).

Experimental Design and Hypotheses

In order to assess the "components" of sexually biased occupational beliefs, several different frameworks were used.

First, to determine whether or not males and females respond differently to statements about jobs, roles, and traits (types a, c, and b), a 2 x 3 between-subjects design was used in which sex (male, female) was the between-factor, and sentence type (a, b, c) was the within factor. This design tested the following hypotheses:

> Hypothesis I: There are cognitive distinctions among the components of sexually biased beliefs.
>
> Hypothesis Ia: There are sex differences in the manner in which males and females respond to these belief statements.

Secondly, the effects of job status (SES) and sex dominance were tested in a 2 x 3 x 2 AOV design in which sex of subjects was the between factor, and sex dominance of job (male, female, or sex-neutral) and job status (low, moderate) were the within-factors. This design tested the notion that subjects' agreement with role statements (type c) was contingent upon the type of occupation mentioned in the statement. Thus, perceptions of role appropriateness may be determined by the job status and/or sex dominance of the job. Thus, the following hypotheses were tested:

Hypothesis II: Occupational status and sex dominance influence subjects' agreement to role statements.

Hypothesis IIa: There are sex differences in the manner in which subjects are influenced by these role statements.

In order to test the degree of consistency of within-syllogism agreement, a chi-square test of four patterns of agreement (agreement with a, b, and c; agreement with a and b but not c; agreement with c only; and all other agreement patterns) was done across the six levels of combinations of status and sex dominance of the occupations. This assessed the extent to which agreement varied with the different occupations, and tested the following hypothesis:

Hypothesis III: The patterns of agreement across occupations vary with the (1) status of the job and (2) the sex dominance.

# CHAPTER II

# METHOD

## Subjects

One hundred and thirty-two female and sixty-six male subjects were recruited from introductory psychology classes and received class credit for their participation.

## Measures

Measures of sex role stereotypes, sex typed traits, and perceived job characteristics consisted of five-point Likert statements to which subjects indicated the extent of their agreement or disagreement. The five response categories were (1) Strongly Agree, (2) Agree, (3) Neither Agree nor Disagree, (4) Disagree, and (5) Strongly Disagree.

Job Requisites.--The extent to which subjects felt that certain traits are necessary for certain jobs was measured by statements using the jobs and traits that were employed in the other two categories of statements. Statements in this category represent those of type a presented previously (e.g., Good doctors should be logical).

Sex Typed Traits.--The extent to which subjects believed that certain traits are possessed to a greater degree by either males or

females was measured by statements (type b) like the following:

In general, women are more ambitious than men.
In general, men are more logical than women.

Half of the statements had "women" as subjects; half had "men."

Sex Role Stereotypes.--A number of statements dealing with the relative appropriateness of either men or women for a number of different jobs served as measures of the degree of role stereotypedness (type c):

In general, women are better doctors than men.
In general, men are better nurses than women.

Again, half of the statements had "women" as subjects and half had "men."

Occupations

Occupations used in the attitude statements were combinations of pretested moderate or low status, and male, female, or sex-neutral professions. Occupations classified as "Low" or "Moderate" socio-economic status were obtained from the Duncan Socio-Economic Status Scale (Reiss, Duncan, Hatt, and North, 1971). The sex dominance of the occupations (male, female, or neutral) was obtained from the United States Bureau of the Census (1960). Those occupations having fewer than 25 percent women were classified as "male"; those with 75 percent or more women were classified as "female"; sex-neutral occupations had between 40 percent and 60 percent female composition.

Traits or Characteristics

Traits used in the attitude statements consisted of nine traits--three masculine, three feminine, and three sex-neutral. Traits

were obtained from previous research studies (Anderson, 1968; Broverman, et al., 1972; Cecil et al., 1973; and Clifton et al., 1976). (See Appendix A for the complete list of occupations and traits used in this study.)

Other Measures

After the randomized pages of role, trait, and job statements, the Women As Managers Scale (WAMS) (Peters et al., 1974), the Bem (1974) Sex Role Inventory (BSRI), and measures of age, sex, and other subject characteristics were included in the questionnaire. The WAMS, BSRI, and other demographic information were collected for use at a later time and not part of this research. Thus, they were included at the end of the questionnaire so as not to influence responses to job, trait, and role statements.

Alternate Forms

Two different forms were written for the attitude statements measuring role stereotypes (type c) and sex typed characteristics (type b). Form One consisted of a random half of both type b and c statements beginning with "In general, men are . . . ," while the other half began with "women." Form Two statements were the opposite of Form One's--"women" were substituted for "men," and "men" for "women." This was done to insure no bias due to the sex of the subject of each attitude statement as well as to determine if responses were dependent upon the sentence subject's sex.

One-half of the subjects received each form, with an equal number of male and female subjects in each half.

Administration

Questionnaire administration was conducted in group settings. The questionnaire booklet (see Appendix B) consisted of randomized pages of the three different sentence types, WAMS, BSRI, and demographic questions.

# CHAPTER III

# RESULTS

## Analysis of Forms

Both forms were recoded such that "1" indicated agreement with statements having "women" as subjects, and "5" indicated agreement with statements having "men" as subjects of the sentence. Thus, the low scores indicated a positive attitude toward women in terms of being more suitable for the various roles or possessing more of a given trait than men. Analysis of the two forms indicated that they were comparable for both the role and trait statements. Tests of these differences across forms for both role and trait statements were done using Dunn's (1961) test for multiple comparisons, thereby insuring against alpha inflation due to nonindependent *t*-tests. Table 1 presents the results of this analysis. Both *t*-tests for role and trait forms were nonsignificant, $t(196) = -.099$ and .126, respectively. Thus, both forms were combined and treated as one for the remaining analyses.

Table 1.--Comparisons Between Forms.

| | Form 1 | | Form 2 | |
|---|---|---|---|---|
| | Role | Trait | Role | Trait |
| Means | 25.57 | 46.96 | 26.17 | 44.72 |
| Standard Deviations | 2.17 | 3.25 | 2.45 | 3.40 |
| Sample Sizes | 99 | | 99 | |

Hypotheses I and Ia

A 2 x 3 analysis of variance (AOV) was done to test the effects of sex of subject and sentence type (a, b, and c) on overall responses. Table 2 presents the summary of this repeated measures analysis.

Table 2.--Analysis of Variance for Sex of Subject by Sentence Type.

| Source | MS | df | F |
|---|---|---|---|
| Sex of Subject (A) | .051475 | 1 | .736 |
| Error | .069963 | 196 | |
| Sentence Type (B) | .045194 | 2 | 55.721* |
| A x B | .620993 | 2 | 7.438* |
| Error | .083486 | 392 | |
| Total | | 593 | |

* $p < .001$

The sex by sentence type interaction (A x B) was significant, indicating that the manner in which males and females respond to job, trait, and role statements varies with sex and levels of sentence type. Tests of the simple main effects (Winer, 1971) were done for both sex and sentence type. Results for the test of the simple main effect for sentence type at both levels of sex revealed that sentence type was highly significant for males, $F(2,130) = 15.938$, $p < .001$ and for females, $F(2,262) = 47.688$, $p < .001$. The test of the simple main effect for sex at the three levels of sentence type yielded differing results. For the trait statements (type b), there was no significant effect due to sex, $F(1,196) = 1.003$. However, tests for sex at the other two levels were significant: for job statements (type a),

$F(1,196) = 4.431$, $p < .037$, and for role (type c) statements, $F(1,196) = 12.682$, $p < .001$.

Thus, this analysis indicated that males and females exhibit different patterns of agreement in terms of the syllogistic framework. They differ on agreement with the major premise (type a or job statements), fail to differ on the minor premise (type b or trait statements), and again differ on their agreement with the conclusion (type c or role statements). From the pattern of female-male means presented in Table 3 for the three sentence types, it appeared that males agree slightly more than females with statements about characteristics that are necessary for the jobs; women agree more often than do men with statements about roles; and, of course, the sexes exhibited no differences in their agreement with trait statements. The data that were analyzed consisted of scale means for all three sentence types, since each was comprised of different numbers of items. Thus, the cell means in Table 3, as scale means, indicated that on a five-point Likert scale, the mean responses were closer to neutral, rather than agree or disagree.

Table 3.--Cell Means for Two by Three Analysis of Variance.

| Sentence Type | Males (N=66) | Females (N=132) |
|---|---|---|
| Job (a) | 3.12 | 3.21 |
| Trait (b) | 2.88 | 2.87 |
| Role (c) | 3.15 | 3.01 |

Hypotheses I and Ia were supported from these findings. The significant sex by sentence type interaction indicated that both components influence agreement. Furthermore, tests of the simple main effects demonstrated that sentence type was significant at both levels of sex, and the sexes differed on all but the trait statements. The significant simple main effect test for sentence type indicated that there are differences in the manner in which subjects respond to the three sentence types (Hypothesis I), and the test of the simple main effect for sex, significant for two of the three sentence levels, supported Hypothesis Ia.

Hypotheses II and IIa

The test of the effects of sex of subject, job status, and the sex dominance of the job on overall agreement to twelve role (type c) statements was done using a 2 x 2 x 3 repeated-measures analysis of variance design, where sex was a between-subject factor, and the six combinations of job status (low, moderate) and sex dominance of the job (female, male, or sex-neutral) were the repeated measures. Since there were only two occupations at each level, cell scores were based on the sum of the responses to the two role statements at each of the six levels. The occupations used in each level are listed in Appendix A.

Table 4 presents the summary table for this analysis. The three-way interaction was significant, $F(2,392) = 6.11$, $p < .002$, indicating that agreement to role statements varied as a joint function of sex, job status, and job sex dominance. A plot of this interaction is displayed in Figure 1. The cell means for all levels of the three factors are presented in Table 5.

Table 4.--Analysis of Variance for Sex by Job Sex Dominance by Job Status.

| Source | MS | df | F |
|---|---|---|---|
| Sex of Subject (A) | 13.7883 | 1 | 12.289 * |
| Error | 1.1220 | 196 | |
| Job Status (B) | 1.4150 | 1 | 1.584 |
| A x B | 3.0408 | 1 | 3.405 |
| Error | .8931 | 196 | |
| Sex Dominance (C) | 164.2790 | 2 | 124.968 * |
| A x C | 2.5661 | 2 | 1.952 |
| Error | 1.3146 | 392 | |
| B x C | 21.6069 | 2 | 25.113 * |
| A x B x C | 5.2580 | 2 | 6.111 * |
| Error | .8604 | 392 | |
| Total | | 1187 | |

* $p < .002$

Table 5.--Cell Means for 2 x 3 x 2 Analysis of Variance.

| | Males | | Females | |
|---|---|---|---|---|
| Sex Dominance | Low Status | Moderate Status | Low Status | Moderate Status |
| Male | 7.14 | 6.56 | 6.69 | 6.45 |
| Female | 5.21 | 5.61 | 5.48 | 5.27 |
| Sex-Neutral | 6.00 | 6.82 | 5.82 | 6.27 |

Note. Lower numbers imply more agreement with women being more suitable for the occupation than are men; means are the sum of responses to two five-point Likert statements.

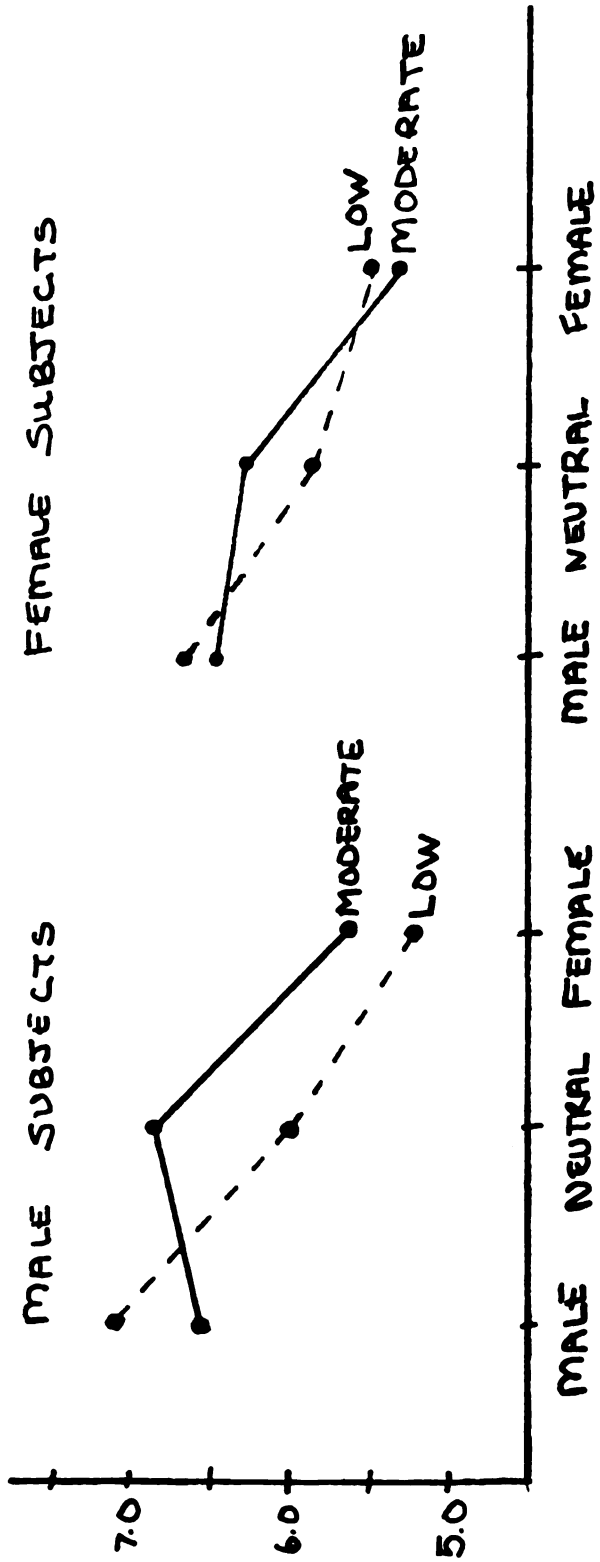


Figure 1. Plot of Cell Means Representing Three-Way Interaction.

Given the significant three-way interaction, interpretations of any two-way interactions or main effects are confounded by this significance. Therefore, in order to understand more completely the impact of the three factors on responses, tests of the simple interactions and the simple, simple main effects (Winer, 1971) were done.

Tests of the job sex dominance by job status simple interaction were significant for both levels of sex of subject, $F(2,262) = 11.81$ and $F(2,130) = 19.05$, $p < .001$, for females and males, respectively. Women were thought by all to be more suitable for male dominated, moderate-status jobs than low-status male jobs, more suitable for low-status, sex-neutral jobs, rather than moderate; males felt that women were more suitable for low-status female jobs, while female subjects felt that women were more suitable for the moderate-status jobs that were female dominated.

The sex of subject by job sex dominance simple interaction was only significant for low-status occupations, $F(2,392) = 4.98$, $p < .007$. For moderate-status occupations, the simple two-way interaction was nonsignificant; however, the main effect for job sex dominance was significant, $F(2,392) = 75.93$, $p < .001$, as was the main effect for sex of subject, $F(1,196) = 15.86$, $p < .001$. In general, men and women responded differently to the appropriateness of women for jobs of different sex dominance only at the low-status level. For moderate-status occupations, this difference was not apparent; sex and sex dominance independently influenced perceptions of appropriateness.

The simple interaction of sex by job status at the three levels of job sex dominance was significant for female dominated

jobs, $F(1,196) = 7.30$, $p < .007$; as well as for sex-neutral jobs, $F(1,196) = 4.09$, $p < .045$. For neutral occupations, male subjects agreed that women were much more suitable for the low-status occupations than for those of moderate status; while females exhibited the same general pattern, they had much less of a discrepancy in their agreement between moderate- and low-status jobs. For female dominated jobs, women reversed their agreement pattern, responding that women were more suitable for moderate-status jobs than for low-status jobs. Male subjects were the reverse. For male dominated occupations, the sex by job status interaction was nonsignificant, $F(1,196) = 3.19$. The main effects for status, $F(1,196) = 16.15$, $p < .001$, and for sex, $F(1,196) = 4.79$, $p < .03$, were both significant. Subjects felt that women were more suitable for moderate-status jobs than those of lower status, and female subjects agreed that women were more suitable for these occupations than did males.

Tests of the simple, simple main effects for job sex dominance were significant at all levels of job status-sex of subject, at $p < .001$. All jobs were perceived to be of different suitability for women, depending upon which sex has primarily filled each job.

Tests of job status at the six levels of sex of subject-job sex dominance were significant for five of the six levels: female subjects, male dominated jobs, $F(1,131) = 4.66$, $p < .033$; female subjects, sex-neutral jobs, $F(1,131) = 17.93$, $p < .001$; male subjects, female dominated jobs, $F(1,65) = 4.12$, $p < .048$; male subjects, male dominated jobs, $F(1,65) = 17.32$, $p < .001$; and male subjects, sex-neutral jobs, $F(1,65) = 29.36$, $p < .001$. The nonsignificant status effect was for female subjects, female dominated jobs,

$F(1,131) = 2.86$. Apparently, females perceived little difference in suitability of women in traditional female occupations at either status level. The mean agreement for both status levels (Table 5) indicated that female subjects agreed that women are only slightly more suitable for moderate-status jobs ($\bar{x} = 5.27$) than for low-status jobs ($\bar{x} = 5.48$). Given that these two cell means represented the sum of agreement to two role statements, dividing by two indicated that women's responses fell between agree and neutral on the five-point Likert scale. But at all other levels of sex of subject--job sex dominance, there were significant differences in the agreement with the appropriateness of women for low- vs. moderate-status occupations.

The tests of the simple, simple main effect for sex of subject at the six levels of job status--sex dominance yielded only two significant results: there were sex differences for moderate-status, sex-neutral occupations (store manager and musician), $F(1,196) = 17.88$, $p < .001$, as well as for low-status, male dominated occupations (janitor and taxi-driver), $F(1,196) = 6.58$, $p < .02$. For the moderate-status, sex-neutral occupations of store manager and musician, female subjects agreed more often that women were more suitable for these occupations than did male subjects (cell means of 6.27 vs. 6.82). For the low-status, male dominated occupations of janitor and taxi-driver, female subjects again agreed more with the suitability of women for these occupations (6.69 vs. 7.14). However, given that these means represent the sum of responses to two five-point Likert scales, division by two indicate that all subject fell slightly to the "disagree" side of neutral. So, although significant, these differences represent

differences in "degree of neutrality" more than they do a real agree-disagree difference.

The four nonsignificant simple, simple main effect tests for sex of subject were those of moderate status, female dominated jobs (elementary school teacher and social worker), $F(1,196) = 3.72$; moderate-status, male dominated jobs (insurance agent and chiropractor), $F(1,196) = .65$; low-status, sex-neutral occupations (textile weaver and shoe-factory worker), $F(1,196) = 2.04$; and low-status, female dominated occupations (hairdresser and licensed practical nurse), $F(1,196) = 2.35$.

The results of this analysis, although not unequivocal, did demonstrate support for Hypothesis II and Hypothesis IIa. Job status and sex dominance simple interactions were significant at both levels of sex of subject, offering support for Hypothesis II. Tests of the simple, simple main effect for sex of subject revealed only two significant findings of the six possible tests. Thus, Hypothesis IIa received some support, contingent upon the classification of the job.

Hypothesis III

In order to determine the extent of agreement to job, trait, and role statements (types a, b, and c, respectively) across the six different levels of job status (low and moderate) and job sex dominance (female, male, or sex-neutral), as well as to examine the utility of the syllogistic framework (McGuire, 1960) for measuring sex-biased job attitudes, a six by four chi-square test was performed. The six levels of occupations were (1) low-status, sex-neutral; (2) low-status, female dominated; (3) low-status, male dominated; (4) moderate-status,

sex-neutral; (5) moderate-status, female dominated; and (6) moderate-status, male dominated. The four levels of agreement were (1) agreement with c, but not a and b; (2) agreement with a and b, but not c; (3) agreement with a, b, and c; and (4) all other agreement patterns. The first level of agreement represented, in terms of the syllogistic framework, agreement with the conclusion, but not with the premises. The second level represented agreement with both the major (a) and minor (b) premises, but not the conclusion. The third level represented the consistent agreement pattern in which subjects agreed to the major and minor premises and the conclusion that was logically consistent with the premises. The fourth level represented an aggregation of all other agreement patterns that were inapplicable in terms of the syllogistic framework. The individual probabilities for these four agreement patterns are, respectively, (1) .144; (2) .096; (3) .064; and (4) .696, for Levels One, Two, Three, and Four.

The data were combined for both sexes, and agreement and strong agreement responses were both considered as agreement for this analysis. Six sets (six sets of a, b, and c statements) were analyzed per job level. Each set consisted of one of the two appropriate occupations at that job level and one of three traits: independent, sensitive, and loyal. This subset of traits was selected because it represented one each of masculine, feminine, and sex-neutral traits and was considered to be representative of the agreement process that was being measured. These three traits (these same traits were used at all job levels) and two occupations resulted in six syllogisms per job level, e.g.,

(a) Good social workers should be independent.

(b) In general, women are more independent than men.

(c) In general, women are better social workers than men.

The frequencies of the responses to these six syllogisms per job level were averaged to produce one entry per cell. These cell entries were not independent.

The result of the six by four chi-square test was significant, $\chi^2(15) = 366.78$, $p < .001$. Table 6 contains the average frequencies that were used to compute this statistic. Given that the row entries are nonindependent (i.e., repeated measures), interpretations of this significance must be viewed with caution.

Table 6.--Chi-Square Analysis of Job by Agreement Pattern.

| | Agreement with a | Agreement with a and b | Agreement with a, b, and c | Other |
|---|---|---|---|---|
| Job Type Expected Values | 28.51 | 19.01 | 12.67 | 137.81 |
| Low-Male | 12.17 | 33.67 | 8.50 | 143.66 |
| Mod-Male | 7.83 | 57.33 | 15.67 | 117.17 |
| Low-Female | 23.33 | 30.83 | 41.67 | 102.17 |
| Mod-Female | 16.01 | 38.33 | 44.33 | 99.33 |
| Low-Neutral | 23.17 | 20.17 | 12.00 | 142.66 |
| Mod-Neutral | 11.33 | 44.67 | 18.50 | 123.50 |

Note: Cell entries represent averages for all six sets of syllogisms within each job category; N = 198.

In order to understand where the agreement pattern varied, six one-by-four chi-square tests at the four levels of job status were done. Results for five of the six jobs were significant at $p < .001$. The only nonsignificant chi-square was found at the low-status, sex-neutral job level, $\chi^2(3) = 1.26$. Thus, for the jobs of shoe-factory worker and textile weaver, agreement patterns were close to chance levels. For the remaining five job categories, agreement patterns fluctuated. For both low- and moderate-status female dominated jobs, the syllogistic effect was strongest, with the frequency of agreement to a, b, and c being greater than agreement with a only or a and b. Subjects also tended to agree more with a and b than what was expected, and agreed much less than chance with a only or with the "other" category. For male dominated occupations at both status levels, large deviations from expected values occurred with respect to agreement with a--which was much less than predicted; and with respect to agreement with a and b--which was much more than expected.

Two separate chi-square analyses were done for each sex. These are presented in Table 7. Both chi-squares were significant: for females, $\chi^2$ (15) = 289.67, and for males, $\chi^2$ (15) = 93.51, both $p <$ .001. The syllogistic effect was strongest for agreement with the suitability of women for female dominated jobs on the part of both female and male subjects. The syllogistic pattern was weakest for male subjects responding to both male dominated and sex-neutral jobs; all values were lower than expected. For females, the only syllogistic pattern that was less than expected was agreement with low-status, male dominated jobs (janitor and taxi-driver). Thus, it

Table 7.--Separate Chi-Square Analyses for Females and Males.

| | Agreement with *a* | Agreement with *a* & *b* | Agreement with *a*, *b*, & *c* | Other |
|---|---|---|---|---|
| | | Females (N = 132) | | |
| Expected Values | 19.01 | 12.67 | 8.45 | 91.87 |
| JOB TYPE | | | | |
| Low-Male | 8.83 | 23.83 | 6.83 | 92.50 |
| Mod-Male | 4.67 | 39.50 | 12.17 | 75.67 |
| Low-Female | 13.83 | 22.67 | 28.83 | 66.67 |
| Mod-Female | 10.83 | 24.83 | 33.00 | 63.33 |
| Low-Neutral | 16.00 | 14.17 | 10.00 | 91.83 |
| Mod-Neutral | 8.17 | 31.00 | 15.17 | 77.67 |
| | | Males (N = 66) | | |
| Expected Values | 9.50 | 6.34 | 4.22 | 45.94 |
| JOB TYPE | | | | |
| Low-Male | 3.33 | 9.83 | 1.67 | 51.17 |
| Mod-Male | 3.17 | 17.83 | 3.50 | 41.50 |
| Low-Female | 9.50 | 8.17 | 12.83 | 35.50 |
| Mod-Female | 5.17 | 13.50 | 11.33 | 36.00 |
| Low-Neutral | 7.17 | 6.00 | 2.00 | 50.83 |
| Mod-Neutral | 3.17 | 13.67 | 3.33 | 45.83 |

appears that the greater response consistency (in terms of the syllogisms) is with the female subjects. In general, the analysis indicated that both men and women agree less than expected with a only; females agree more often than expected with both a and b, and males agree with a and b more than expected for all jobs except low-status, sex-neutral (shoe-factory worker and textile weaver). While women agree more than expected with a, b, and c for all but low-status male jobs, men only agree more than expected with female jobs.

Thus, Hypothesis III received support from these findings, although somewhat questionable due to the nonindependence of the data. The agreement pattern did vary with the job categories, and males and females alike tended to agree most consistently, in terms of the syllogisms, with female dominated jobs at both status levels. Females, in general, tended to agree with all jobs except those that were low-status, male dominated; whereas males only agreed with female jobs. Thus, the consistency of the agreement pattern tended to vary with job type, as predicted, with the most marked effect being with female dominated jobs. Furthermore, an unpredicted sex difference was found where females tended to agree with a, b, and c much more often than men for all job types.

Summary of Hypothesis Testing

The results of the two by three analysis of variance for sex by sentence type supported Hypothesis I and Ia, which stated that subjects respond differently to job, role, and trait statements, and that there are sex differences in these responses.

Hypothesis II and IIa received support from the 2 x 3 x 2 AOV in which subjects responded differently to jobs, depending upon their status and sex dominance, and in which there were some sex differences at some levels of job type.

The Chi-square analysis of the agreement pattern by job classification was significant, indicating that agreement varied as a function of the type of job being considered. The syllogistic effect was most pronounced for female dominated jobs of both status levels. Moreover, separate analyses for male and female subjects revealed a strong tendency on the part of females to respond more often than expected with the syllogistic response pattern for all jobs except those that were low-status, male dominated. Males only agreed with a, b, and c for female dominated jobs. Thus, Hypothesis III, that agreement patterns varied as a function of job type, received some support, although the nonindependence of the data made this support questionable. An unpredicted sex difference in agreement patterns was also found.

# CHAPTER IV

# DISCUSSION

The results of the analysis for Hypotheses I and Ia supported the utility of distinguishing between sex typed characteristics or traits and sex roles (Terborg, 1977). That subjects perceived differences between roles and traits, and that males and females differed somewhat in terms of their agreement to these attitudinal statements indicated that the more global sex biased attitude is comprised of more specific components. The next logical step would be to test the differential sensitivity of these components to manipulation in a laboratory setting.

The analysis of the role statements (tests of Hypotheses II and IIa) demonstrated that subjects had some interesting perceptions about male and female appropriateness for different occupations. The sex dominance of an occupation tended to be a powerful determinant of the degree to which subjects agreed to statements concerning the appropriateness of women over men for various occupations. Figure 1 clearly illustrated that as sex dominance changed from male, through neutral, to female, agreement increased. Thus, males and females alike were invoking the "status quo" for their responses. Another interesting finding was that, for female dominated jobs, females had no significant difference in their agreement to low- or moderate-level jobs, although

they did agree slightly more with moderate-level jobs. Males had a marginally significant difference between the two status-levels of female-dominated jobs, and furthermore, felt that women were more appropriate for low-, rather than moderate-level, female dominated jobs. The tests of the simple, simple main effect for job status demonstrated the ascribed "low status" to female occupations: women saw no difference in terms of low and moderate status levels within female dominated occupations, and males' perceived difference just reached significance (with the alpha inflation due to multiple, nonindependent tests, it is questionable whether this marginal effect is significant). Status levels were much more differentiable at the other levels of job sex dominance.

In general, the most outstanding sex differences occurred for moderate status, sex-neutral jobs and for low status, male dominated jobs. Men felt that women were less acceptable for both of these occupational levels than did female subjects. Tests of the simple, simple main effect for sex of subject failed to reach significance at the other job levels. The fact that women are more agreeable to women being in various occupations than were their male counterparts simply reaffirmed the notion that women are their own best supporters, yet women also succumbed to "status-quo" responses. Furthermore, the finding points out the need for orienting men, who have served as occupational "gate-keepers" in the past, more toward equal utilization of individuals throughout the labor force and away from the assumption of "inherent" aptitudes, abilities, or appropriateness based on chromosomal composition.

Perhaps the most significant aspect of this research lies with the finding that the sex dominance and SES classification of the job

influences to a large degree the perceived appropriateness of women in that job. The implications of this finding should caution researchers against using the classic "one-job" design for measuring any kind of occupational sex bias. That subjects do view jobs differently in terms of their sex dominance as well as their SES necessitates that a more multifaceted theory of occupational sex discrimination be developed to deal with the "parameter" aspects of the problem.

The significant test of the syllogistic effect reinforced the notion that the type of job influences subjects' responses. Both males and females agreed with the major and minor premises and the conclusion more often than expected when the job in question was female dominated. With regard to male subjects, their responses to all other job types did not fit the syllogistic pattern, i.e., their agreement to a, b, and c was less than expected by chance. For females, however, the syllogistic pattern appeared more often than expected for all other jobs except those that were low-status, male dominated. The data indicated that females' belief systems regarding the suitability of women for various occupations (except low-status, male) are more logically consistent when compared to male subjects. Although the nonindependence of the data renders the findings suggestive, the findings point to the utility of using the syllogistic framework for a less obtrusive test of the structure of biased belief systems.

This research, as does most research, raises questions along with those that it addresses. It has been demonstrated that subjects can differentiate the components of their sex-biased attitude in terms of role and trait aspects. Furthermore, the characteristics of jobs

that can differentially affect responses has been pointed out. To demonstrate the interrelationship among these components with a variety of different occupations in an attitude-change study would bolster the validity of such an approach as well as furnish the means to influence individuals' attitudes within the work setting and eliminate biases which impede the complete utilization of women into the labor force.

Finally, the lack of female dominated occupations at the high SES level precluded the possibility of testing a balanced design at three, rather than two status levels. All high-status jobs tended to be male dominated, so no high, female dominated jobs were available. Moreover, there was a problem with the selection of sex-neutral, low-status occupations. Low status tended also to imply sex typing. The jobs that were chosen for this level were that of textile weaver and shoe-factory worker--hardly very relevant to the average introductory student. These problems with job selection tend to reflect, or be reflective of, the sexual stratification of our labor force at the lower SES levels and the complete absence of female participation at the high-status end of the continuum.

Approaching sex bias in terms of the traits and roles which underlie it may provide the means for more adequate understanding of the phenomenon as well as suggest ameliorative steps. Specifying job attributes that can interact to influence attitudes forces awareness of the many subtleties involved in the general problem of sex discrimination. Thus, dealing with sex bias in terms of its multifacetedness may be the route to the resolution of occupational sex discrimination.

# APPENDICES

# APPENDIX A

## LIST OF TRAITS AND OCCUPATIONS USED IN QUESTIONNAIRE

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### TRAITS

| Masculine | Feminine | Sex-Neutral |
|---|---|---|
| independent | attractive | loyal |
| competitive | sensitive | talkative |
| masculine | feminine | dishonest |

### OCCUPATIONS

| Low-Status, Masculine | Low-Status, Feminine | Low-Status, Sex-Neutral |
|---|---|---|
| janitor | hairdresser | textile weaver |
| taxi-driver | practical nurse | shoe-factory worker |

| Moderate Status, Masculine | Moderate Status, Feminine | Moderate Status, Sex-Neutral |
|---|---|---|
| insurance agent | elementary school teacher | store manager |
| chiropractor | social worker | musician |

# APPENDIX B

## QUESTIONNAIRE (FORM 1)

APPENDIX B

Occupational Attitudes

We are interested in knowing your thoughts about certain occupations. There are no right or wrong answers to these questions. You will merely indicate the extent or degree of your agreement with each of the statements. You will circle the number of the response which best indicates your attitude about that statement.

Please use the following response categories:

1 = Strongly Agree

2 = Agree

3 = Neither agree nor disagree

4 = Disagree

5 = Strongly Disagree

Please be sure that your responses are circled under each of the attitude statements and that you answer every statement. Since there are several pages to your booklet, we ask that you answer every page and do not skip any.

Thank you very much for your participation and cooperation!

If you are interested in results from the entire group (since your responses are anonymous we cannot tell you anything about your own responses) you can contact the person below at the end of Spring Term:

Phyl Mellon
436 Baker Hall
353-8708

Remember to use these responses: (Circle the number of your response)

1 = Strongly Agree
2 = Agree
3 = Neither agree nor disagree
4 = Disagree
5 = Strongly Disagree

Good elementary school teachers should be loyal.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Good janitors should be talkative.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Good dentists should be feminine.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Good janitors should be loyal.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Good store managers should be masculine.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Good textile weavers should be attractive.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Good dentists should be talkative.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Good hairdressers should be loyal.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Good shoe-factory workers should be independent.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Good store managers should be independent.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Good elementary school teachers should be dishonest.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Good taxi-drivers should be loyal.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Good musicians should be talkative.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Good engineers should be attractive.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Good textile weavers should be talkative.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Good shoe-factory workers should be dishonest.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Good social scientists should be competitive.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Good chiropractors should be sensitive.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Good engineers should be masculine.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Good hairdressers should be sensitive.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Good taxi-drivers should be masculine.
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Good store managers should be attractive.
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Good practical nurses should be competitive.
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Good insurance agents should be feminine.
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Good textile weavers should be independent.
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1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

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1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

In general, men are better textile weavers than women.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

In general, men are more masculine than women.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

In general, men are better engineers than women.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

In general, women are better shoe-factory workers than man.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

In general, men are better hairdressers than women.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

In general, men are more dishonest than women.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

In general, women are better practical nurses than men.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

In general, women are more feminine than men.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

In general, women are better elementary school teachers than men.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

In general, women are more competitive than men.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

In general, men are better social workers than women.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

In general, men are better store managers than women.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

In general, women are more talkative than men.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

In general, men are better janitors than women.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

In general, men are more loyal than women.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

In general, women are better musicians than men.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

In general, women are better taxi-drivers than men.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

In general, men are more independent than women.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

In general, women are better dentists than men.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

In general, women are more attractive than men.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

In general, women are better chiropractors than men.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

In general, women are better social scientists than men.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

In general, men are more sensitive than women.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

In general, men are better insurance agents than woman.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

*It is less desirable for women than men to have a job that requires responsibility.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Women have the objectivity required to evaluate business situations properly.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Challenging work is more important to men than it is to women.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Men and women should be given equal opportunity for participation in management training programs.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Women have the capability to acquire the necessary skills to be successful managers.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

On average, women managers are less capable of contributing to an organization's overall goals than are men.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

It is not acceptable for women to assume leadership roles as often as men.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

The business community should someday accept women in key managerial positions.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Society should regard work by female managers as valuable as work by male managers.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

It is acceptable for women to compete with men for top executive positions.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

The possibility of pregnancy does not make women less desirable employees than men.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Women would no more allow their emotions to influence their managerial behavior than would men.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Problems associated with menstruation should not make women less desirable then men as employees.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

To be a successful executive, a woman does not have to sacrifice some of her femininity.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

On the average, a woman who stays at home all the time with her children is a better mother than a woman who works outside the home at least half-time.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Women are less capable of learning mathematical and mechanical skills than are men.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Women are not ambitious enough to be successful in the business world.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Women cannot be assertive in business situations that demand it.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Women possess the self-confidence required of a good leader.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Women are not competitive enough to be successful in the business world.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

Women cannot be aggressive in business situations that demand it.
1=Strongly Agree 2=Agree 3=Neither 4=Disagree 5=Strongly Disagree

This set of items has a slightly different response category. It consists of a seven-point rating scale on which you are to indicate the extent to which each of the items below are true of you. Please mark a number from 1 to 7 to the left of each item. Use the rating scale noted below.

/ 1 / 2 / 3 / 4 / 5 / 6 / 7 /

Never of almost never true of me — Always or almost always true of me

Remember, please give us responses of 1, 2, 3, 4, 5, 6, or 7 to the left of each item, depending upon how much you believe that item is true of you.

____ Self-reliant
____ Yielding
____ Helpful
____ Defends own beliefs
____ Cheerful
____ Moody
____ Independent
____ Shy
____ Conscientious
____ Athletic
____ Affectionate
____ Theatrical
____ Assertive
____ Flatterable
____ Happy
____ Strong personality
____ Loyal
____ Unpredictable
____ Forceful
____ Feminine
____ Reliable
____ Analytical
____ Sympathetic
____ Jealous
____ Has leadership abilities
____ Sensitive to the needs of others
____ Truthful
____ Willing to take risks
____ Understanding
____ Secretive
____ Makes decisions easily
____ Compassionate
____ Sincere
____ Self-sufficient
____ Eager to soothe hurt feelings
____ Conceited
____ Dominant
____ Soft spoken
____ Likeable
____ Masculine
____ Warm
____ Solemn
____ Willing to take a stand
____ Tender
____ Friendly
____ Aggressive
____ Gullible
____ Inefficient
____ Acts as a leader
____ Childlike
____ Adaptable
____ Individualistic
____ Does not use harsh language
____ Unsystematic
____ Competitive
____ Loves children
____ Tactful
____ Ambitious
____ Gentle
____ Conventional

Please fill in the following information:

Age: _____ years

**SEX: _____ Male

_____ Female

MAJOR: _____

Year in College _____

Father's occupation _____

Mother's occupation _____

Marital Status: _____ Single

_____ Married

_____ Divorced or Separated

_____ Widowed

What are your educational plans? Check the one which applies most to your plans.

_____ One to three years of college

_____ Graduate from college

_____ Obtain a master's degree

_____ Obtain a Ph.D., M.D., D.Ed., or other advanced degree

_____ Uncertain as to my future education

After college, what occupation do you ideally see yourself in? _____

HAND PREFERENCE: Please check the category that most accurately describes your hand preference for each task:

| Indicate hand preference: | Always left | Usually left | No Preference | Usually right | Always right |
|---|---|---|---|---|---|
| 1. To write a letter legibly | | | | | |
| 2. To throw a ball to hit a target | | | | | |
| 3. To hammer a nail into wood | | | | | |
| 4. To unscrew the lid of a jar | | | | | |

5. Is any member of your immediate family (biological parents or siblings) left-handed?

YES _____ NO _____

6. How good is your sense of direction? (Please check a number from 1 to 7 indicating the extent to which your sense of direction is poor or excellent)

/ 1 / 2 / 3 / 4 / 5 / 6 / 7 /

POOR EXCELLENT

Note: * The remaining items (excluding sex) in the questionnaire were not used in this analysis.

** Sex was used in the analysis.

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