Explorations in sex role stereotypes

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EXPLORATIONS IN SEX ROLE STEREOTYPES

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Abstract

The investigation was undertaken to examine in a broad-based exploratory fashion four of the most salient factors in contemporary sex role research (differential evaluation of the sexes, the motive to avoid success, psychological androgyny, and attitudes toward women's roles in society) in an effort to achieve synthesis in a comprehensive theory of sex role ideology. The theory advanced here rests on the supposition that pervading sex role stereotypes are uncritically accepted by males and females and readily incorporated into emergent self concepts. While the assimilation of this artificial dichotomy of masculinity and femininity is restrictive to both sexes, the problem is more acute for the female due to the underlying notion of inferiority and adversely affects attitudinal, motivational and personality dispositions.

The theory is corroborated by evidence which demonstrates the prevalence of stereotypic views in men and women varied in age, marital status, religion, educational and occupational history and its high correlation with unitarily stereotypic masculine or feminine self concepts, respectively. Dichotomized, sex appropriate self concepts are also associated with inflexible, conservative attitudes towards women's roles and behavioral potentials in society. Finally, the notion of feminine inferiority is illustrated by the devaluation of women in areas of professional expertise and motivational ambivalence and conflict concerning female achievement.

In conclusion, sex role research is criticized on its neglect of critical synthesis of empirical data,and problems with theoretical validation are discussed in terms of phenomenology and methodological variation.

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Introduction

> Sex role research, in the past, has been multi-dimensional (but not necessarily profound), misleading and often mythical in its foundations (Lipman-Blumen, 1974, p. 1).

Current sex role research has emerged as an incoherent mass of empirical data, gathered in support of independent, perhaps contradictory, sex role theories exemplifying the various social scientific approaches. Sociologists have attacked the issues from a differentiation perspective, stressing social and economic hierarchies and highlighting role theory and socialization processes. Anthropologists , by contrast, have fallen into the nature-nurture controversy concentrating upon the examination of sex roles within a cross-cultural matrix, and psychologists have been primarily divided between the proponents of sex differences *per se* (emotional, cognitive and physical traits) and attitudes about sex differences (stereotypes).

The omission of critical synthesis of descriptive and analytical data is obvious at the interdisciplinary level; however, even within the relatively specific areas of stereotype research the independent amassing of empirical evidence with apparent disregard of fundamental related research is easily discernable. It may be that research of this type is presently fashionable which induces a sense of urgency to outweigh careful consideration and systematic investigation, but whatever the reason, various facets of stereotype research appear to be developing in respective vacuums and following separate discrete paths. In short, the research has resulted in too much data and too little theory, sadly neglecting the formulation of a comprehensive sex role model.

While research in sex role stereotypes is important in its own right, particularly in the assessment of influences on personality, attitudinal

and motivational variables, it becomes more meaningful in a multidisciplinary approach to sex roles. The purpose of this thesis, then, is to examine in a broad-based exploratory fashion, four of the most salient aspects of stereotype research (differential evaluation of the sexes, the motive to avoid success, psychological androgyny, and attitudes toward women's roles in society) and to relate them in a comprehensive manner in the formulation of a model of sex role ideology. Although a great deal of work has been previously undertaken in these areas, the burgeoning mass of research has not yet been synthesized and assimilated- a necessary step before a meaningful, interdisciplinary approach to the study of sex roles may be assumed.

This research contributes only on a small scale to the development of sex role research in toto. Nevertheless, by developing internal consistency, stereotpye research may meaningfully contribute to an interdisciplinary approach and the ultimate development of appropriate, multidimensional methodologies to meet the intrinsically complex problems of sex role research.

CHAPTER 1 REVIEW OF THE LITERATURE

Sex Role Stereotypes

The existence and influence of sex role stereotypes, consensual beliefs about differing characteristics of men and women, has been documented and analyzed in historical terms, tracing the history and development of sex roles (Alcott, 1837, 1839; Graves, 1843; Hale, 1828, 1835; Lantz, Britton, Schmidt & Snyder, 1972; Peal, 1975; Sandford, 1844; Smith, 1851), sociological polemics - establishing and explaining male/female roles and the advantages and disadvantages in contemporary society (Bernard, 1971; de Beauvoir, 1952; Friedan, 1963; Jesser, 1972; Klein, 1950; Komarovsky, 1946, 1950; Seward, 1945), political dialectics - emphasizing status and power differentials between the sexes (Blackstone, 1975; Firestone, 1970; Gillespie, 1971; Holter, 1974; Millett, 1970) and descriptive psychological neologisms - highlighting restrictions and limitations of the masculine and feminine gender orientations (Bardwick, 1971; Bem & Bem, 1970; Freeman, 1970; Lipman-Blumen, 1972; McClelland, 1965; Naffziger & Naffziger, 1974; Weisstein, 1971). Regardless of veritable sex differences, stereotypes are currently widespread and reticent to change, being propagated by parents (Meyer & Sobieszek, 1972; Rubin, Provenzano & Luria, 1974), teachers (Bunt & Armstrong, 1975; Cuffaro, 1975; Dale, 1975; Davies & Meighan, 1975; Engin, Leppaluato & Fodor, 1973; Etaugh & Hughes, 1975; Harris, 1975, 1976; Ricks & Pyke, 1973; Sadker & Sadker, 1974) and the mass media (Blom, Waite, Zimet & Edge, 1972; Busby, 1974; Courtney & Whipple, 1974; DeFleur, 1964; Downing, 1974; Flora, 1971; Franzwa & Katzman, 1972; Long & Simon, 1974; Stemple & Taylor, 1974; Tedesco, 1974).

As contrasted with other disciplines the study of sex roles from a psychological perspective is characterized by a focus on the measurement and assessment of these stereotypic perceptions. In the earliest stereotype questionnaires individuals selected from extensive lists those traits which characterize men and women (Fernberger, 1948; Sheriffs & Jarrett, 1953). Results demonstrated the traditional stereotypic tendencies with men depicted as competent, intelligent and rational and women described as emotional and passive. Sheriffs & Mc Kee (1953, 1957) condensed the masculine stereotype into three components- 1) straightforward, uninhibited social style, 2) rational competence and ability and 3) active effectiveness and vigor. Feminine characteristics centered on 1) social skill and grace and 2) tenderness. It was also discovered that with reference to self evaluation men emphasize the highly desirable qualities of masculinity while women stress the unfavorable feminine characteristics.

More recent inventories as developed by Rosenkrantz, Vogel, Broverman & Broverman, (1968) and refined by Spence, Helmreich, & Stapp (1974) rely on the conceptualization of stereotypes as the degree to which men and women are believed to possess particular traits and require ratings of the typical man, woman, and self on a series of bipolar items. Results of research based on the Stereotype Questionnaire (Rosenkrantz et al., 1968) and the Personal Attributes Questionnaire (Spence et al., 1974) indicate that socially desirable male traits reflect activity, competence and lack of emotion, e.g., aggression, independence, objectivity, self confidence and competitiveness while the socially desirable female traits reflect sensitivity- gentleness, tactfulness, and tenderness. In short, the masculine traits form a competency cluster while the feminine

characteristics constitute a warmth expressiveness grouping.(Broverman, Broverman, Clarkson, Rosenkrantz & Vogel, 1970; Broverman, Vogel, Broverman, Clarkson & Rosenkrantz, 1972; Rosenkrantz et al., 1968). In addition, masculine characteristics are more highly regarded and positively valued. Rosenkrantz et al. report that 70% of those traits defined as masculine by college students were viewed as highly socially desirable as compared with 30% of the female traits. The preference for masculine characteristics and the devaluation of feminine traits has been corroborated by Broverman et al.(1972), Clifton & Firenze (1973), Fernberger (1948), Kitay (1940), MacBrayer (1960), McKee & Sheriffs (1957, 1959), Sheriffs & McKee (1957), and Williams & Bennet (1975).

It is also interesting to note that sex role prescriptions encourage discrete, separate standards of healthy personality development for men and women. Broverman et al. (1970) performed a classic study in which male and female mental health clinicians were asked to describe a mature, healthy, socially competent man, woman or adult on a series of 122 bipolar traits. Results indicated that although there were no significant differences in the ratings of male and adult, the psychologically adjusted female differed by being described as less ambitious, adventuresome, logical, rational and aggressive and depicted as more emotional and dependent. A dichotomy, then, appears between woman and person and the feminine becomes equated with child-like. These findings have been replicated by Anderson (1975) and Nowacki & Poe (1973).

Broverman et al. (1972) maintain that repeated research with the Stereotype Questionnaire has warranted four broad conclusions:

1) A strong consensus about differing characteristics of men and women exist across groups which are varied in age, sex, religion, marital status and educational level.

2) Characteristics ascribed to men are more positively valued than characteristics ascribed to women.

3) Sex role definitions are implicitly and uncritically accepted to the extent that they are incorporated into self concepts of men and women (i.e., there is an association between stereotypes of males and females and sex appropriate self concepts).

4) Individual differences in sex role concepts can be associated with certain sex role relevant behaviors and attitudes as well as specific antecedent conditions (e.g., less stereotypic views are associated with working mothers and the desire to have less children).

These conclusions are particularly important as Broverman et al. have bridged a gap making it possible to switch in emphasis from the measurement of stereotypes to the effects of their internalization and acceptance. These fundamental suppositions in sex role research provide a conceptual framework and lend theoretical coherence to apparently diverse areas of research. In particular, they furnish theoretical links between four broad areas of stereotype investigation: differential evaluation of men and women, the motive to avoid success, psychological androgyny, and attitudes towards women's roles in society.

The assertion that a strong consensus concerning the differing characteristics of men and women is widespread and that the masculine traits are more highly valued is especially relevant to research on differential evaluations. What is considered sex typical and sex appropriate can influence the appraisal of individuals' performance, ability and overall competence. Evaluative judgements which are based solely on the sex of an individual can, in a sense, be defined as prejudice, a favorable or un-

favorable judgement made prior to actual experience, and relies on the attribution of specific traits to an individual merely on the basis of his/her membership in a particular group. A review of the literature will demonstrate that females are frequently devalued in relation to males, ONLY ON THE BASIS OF SEX, even if there is no objective reason for the devaluation.

The motive to avoid success ($M-_S$) and psychological androgyny are more reliant on the supposition that sex role definitions are incorporated into self concepts. $M-_S$ has been conceptualized as a stable personality disposition acquired early in life in conjunction with sex role standards. It acts as a debilitating factor of achievement motivation in women by arousing anxiety due to the traditional dichotomy of success and femininity. Women are placed in a double bind and are forced to sacrifice either their "feminine" identity or success and autonomy; consequently, many women learn to fear success and alter their behavior in achievement-oriented situations. In this case it is clear that an acceptance and internalization of the traditional female stereotype is necessary to cause conflict and adversely affect achievement motivation.

Psychological androgyny refers to a measurement of psychological masculinity and femininity and reflects the incorporation of sex role stereotypes into self concepts. The measurement of androgyny differs from the traditional M/F scales on a conceptual level by defining masculinity/femininity as orthogonal variables as opposed to bipolar dimensions of a single trait. The theory proposes that a psychologically androgynous individual may assimilate both the socially desirable macsuline and feminine characteristics as opposed to the unitarily masculine or feminine

individuals (Bem, 1972, 1974, 1975). Research indicates that the measurement of androgyny may be a valid predictor of adaptive behavior in the same, neutral and cross sexed situations, and that highly sexed typed individuals actively avoid cross sexed behavior.

Broverman et al. (1972) also maintain that individual differences in sex role concepts are associated with certain sex role relevant behaviors and attitudes. This furnishes the link between sex role stereotypes and attitudes concerning the social roles of men and women. Assessment of these attitudes differs somewhat from research on differential evaluations in that the former is a more overt measurement stressing the cognitive component of attitudes while the latter, a more subtle appraisal, emphasizes the evaluative facet. In addition, measurement of attitudes toward men's and women's roles in society encompasses a broader range of features rather than a direct and specific comparison of competence and relative worth.

Differential Evaluation of Males and Females

Professional Ability

> ...women have been forced to accept an inferior role in society, but they have also come to believe that they are truly inferior. (Morse & Bruch, 1970, p.26).

Females' bias against females in areas of professional competence was first demonstrated by Goldberg (1968). Goldberg presented college women with a series of acadmic articles which they were asked to read and evaluate. Although the works were identical, half were allegedly male authored and half female authored. Goldberg hypothesized that

female authored articles would be relatively devalued in traditionally masculine fields but that this bias would not be apparent in feminine domains. However, works attributed to female authors were consistently devalued both in masculine endeavors such as law and city planning and feminine enterprises such as education and dietetics. Dorros & Follett (1969) obtained the same bias with male subjects, and Goldberg's findings have been replicated with both sexes by Etaugh & Rose (1975), Etaugh & Sanders (1974) and Gold (1972).

Pheterson, Keisler & Goldberg (1971) undertook a comparable experiment but employed paintings as the stimulus objects and introduced two new variables, personal history of the artist and status of the painting (entry or contest winner). Although the artist's personal history did not affect evaluations of the works, there was an interaction effect between sex of the artist and status of the painting. More specifically, entry paintings attributed to female artists were rated significantly less favorably than those attributed to male artists. This has been replicated by Deaux & Farris (1975).

These results, however, are not conclusive. Levenson, Burford, Bonno & Davis (1975) could not replicate Goldberg's results and attempts to corroborate the investigation by Pheterson et al. were also unsuccessful (Deaux & Farris, 1975).

Other studies have demonstrated the importance of additional variables, the type of subject, nature of the stimulus object, and the testing conditions. Pheterson (1969) found no promale bias in older relatively uneducated women who rated articles on child psychology and child rearing practices. Unlike Goldberg, Mischel (1970) reported that the subject of academic

articles affected the bias in evaluations. Female authored works were more highly valued in dietetics while male authored articles were preferred in law. Starer and Denmark (1974) found that testing situations can further influence evaluations. When tested in mixed sexed groups men demonstrated a preference for male authored poems while women preferred female authored works. However, individual testing revealed a preference for poems by opposite sexed authors. Starer and Denmark suggest that mixed sex testing may induce a pressure to defend one's group and positively bias evaluations; this pressure is not apparent in individual testing.

Differential Evaluation in Occupational Suitability

> As much as women want to be scientists and engineers, they want first and foremost to be womanly companions of men and mothers (Bettleheim, 1965).

Differential evaluation of occupational suitability of men and women does not appear to result in a global bias against women but rather appears to be a function of sex appropriateness and status of an occupation. In particular, women are ostensibly devalued in prestigious, male dominated professions.

Fidell (1970) empirically verified discriminatory hiring practices in academic institutions. She presented a series of resumés (sex of the applicant varied) to department heads and asked them to indicate what position, if any, the candidate might be offered. Results demonstrated differential evaluations - lower positions were offered to the candidates described as female.

Sex bias due to stereotypes is also apparent in the executive suite.

Rosen & Jerdee (1974a, b, c) demonstrated that male applicants are more frequently accepted for managerial positions than equally qualified females. In addition they are more highly evaluated on general suitability, potential for long service and fitting into the organization and were favored for promotion. Unfavorable attitudes toward female managers by male executives has been further substantiated by Bass (1971) and Bowman, Wortney, & Greyser (1965), but the antifemale bias is not confined to males as Schein(1975) demonstrated that female executives perceive managers to possess the traits, temperaments and characteristics attributed to males.

The promale bias in evaluations breaks down in those occupations which are less sex stereotyped. Brief & Wallace (1976) found that evaluations of performance in a "neutral" occupation (library administrator) was not affected by sex of the employee, and Hamner, Kim, Baird & Bigoness (1974) reported that females were rated higher in overall task performance as a grocery clerk.

Evaluative judgements, however, vary between actual and potential employers. For example, although Rosen & Jerdee reported a bias against females in managerial positions by employers, this trend was not apparent in role playing students who selected department managers (Soto & Cole, 1975). Likewise, although Fidell verified discrimination against female academics, students have been reported to view female professors as more competent, valuable and wiser and equal in prestige to male professors (Mackie, 1976). However, Ferber & Huber (1975) have demonstrated a selective bias in students- a preference for male lecturers

in science and social science and a prediliction for females in home economics.

Separating the effects of sex appropriateness (masculine-feminine) and status on the evaluations of occupational suitability is particularly difficult because the majority of high status occupations are, in fact, male dominated and the introduction of women into high status positions lowers the prestige (Touhey, 1974). The problem is compounded by evidence from Stefflre, Resinkoff & Lezotte (1968) which indicates the prestige of an individual may vary as a function of sex. Male architects and accountants were rated more prestigious that their female counterparts; however, female social workers and commercial artists were viewed more eminent than males. Differential evaluations of prestige within an occupation are not necessarily reflective of its sex appropriateness - there were no biases in the prestige ratings of individuals physicians and counsellors.

Cecil, Paul & Olins (1973) suggest that differential factors are important in the evaluation of job applicants. Consequently, even if applicants present identical resumes, the variables which promote selection differ. Females are judged on personality, appearance and skills while males are considered in terms of their ability and skill. This could explain why managers have differential expectations for men and women. Rosen & Jerdee (1974b) found that managers expect men to give priority to their jobs and women to their family which biases them in favor of selection, promotion and career development of men.

Femininity, Competency and Attribution of Success

> Both men and women tend to value many traits and activities conventionally associated with males more than those associated with females. Included among these masculine attributes are strivings for achievement and its successful attainment- in a word, competency (Spence & Helmreich, 1972, p. 210).

Differential evaluations of men and women may be dependent upon extraneous factors which cause individuals described in identical terms to be perceived differently. In particular, the male sex role stereotype is inherently compatible with the definition of success; consequently, even when a woman is described as equally successful as a man, the attribution of success varies. For example, Feldman-Sommers & Keisler (1974) found that evaluations of successful female physicians in comparison with males entailed a greater level of motivation, i.e., women try harder. The implication is clear- women find it more difficult to become successful in medicine because they are hindered by femininity.

Along these lines Taynor & Deaux (1973) have proposed an equity theory which states that individuals working under nonvoluntary constraints appear to be more deserving of reward than those operating under different limitations. Women operate within gender limitations and the possession of stereotypic traits such as emotionality, dependence and passivity. Consequently, in specific demanding situations, such as emergency circumstances, women who perform well are viewed as managing better, expending more effort and deserving more reward than their male counterparts.

Feather & Simon (1976) maintain that there are distinctly different images of masculine and feminine competence. T_h is is supported by Deaux's (1976) and Deaux & Emswiller's (1974) work on differential

attribution of success. Students were asked to evaluate a male or female stimulus person who performed superiorly on a masculine or feminine task. Although the superior performance on a masculine task by a male was attributed to internal control- skill, the same performance by a female was viewed as dependent upon external factors- luck; the reverse was not true for judgements of feminine task performances.

Although several studies indicate a general devaluation of females in relation to males, Deaux & Taynor (1973) maintain that the bias works two ways. They found that highly competent males were appraised more positively than highly competent females but that females at low levels of competence were preferred to males. This would seem to indicate that males are more severely penalized for incompetence- a-typical sex role behavior. Corroboration comes from Feather & Simon (1975) who reported a tendency for subjects to upgrade successful males in relation to unsuccessful ones while downgrading successful females in relation to unsuccessful ones.

The specific area of competency appears to be an important factor in differential evaluation although there still appears to be a certain equation of competence with masculinity and incompetence with femininity, and a strong preference for the former. Spence & Helmreich (1972) presented subjects with one of four taped versions of a female stimulus person: competent-incompetent, masculine-feminine interests, and asked subjects to rate the stimulus persons on several characteristics including likability. Results indicated a preference for the masculine-competent woman, particularly by men. This was supported by Spence, Helmreich & Stapp (1975a). Again this points to an overall preference

for the masculine sex role stereotype. Nevertheless, these results are not conclusive as a preference for a feminine-competent stimulus person has been reported by Kristal, Sanders, Spence & Helmreich (1975) and Shaffer & Wegley (1974). On the basis of these results Shaffer & Wegely suggest that competent women are attractive to the extent that they retain a feminine sex role perspective and are not strongly motivated to compete successfully with men in masculine endeavors. This receives support from Hagan & Kahn (1975) who report that men prefer to observe competent women rather than interact with them.

Does Differential Evaluation of Men and Women Constitute Prejudice?

Prejudice can be defined as an attitude which predisposes an individual to make negative judgements about persons, objects or concepts prior to objective evaluation. In some cases, then, differential evaluation of men and women does constitute prejudice. This is particularly apparent in Goldberg's research where the underlying stereotypic notion of feminine inferiority promotes distorted perception and the devaluation of professional competence in women. In absence of any objective criteria women are downgraded in relation to men.

In The Nature of Prejudice Allport maintians that antifeminism reflects the two basic ingredients of prejudice- denigration and gross overgeneralization.

> Women are viewed as a wholly different species from men, usually an inferior species. Such primary and secondary sex characteristics as exist are generally exaggerated and are inflated into imaginary distinctions that justify discrimination (p.34).

Maintenance of a specific stereotype is not enough to constitute

prejudice; it must be accompanied by an evaluative tendency. In the case of sex differences, women are believed to be passive, dependent, emotional and incompetent, and consequently, are evaluated as inferior. This type of prejudicial predisposition results in the consistent, but irrational, devaluation of women. Goldberg argues that this irrational denigration represents perceptual distortion, a third component of prejudice. As he states: "It is not the partiality itself, but the distortion born out of that partiality that defines prejudice (p. 4)."

The Motive to Avoid Success

> In order to avoid social criticism many gifted women conform to the societal values of femininity which include the belief that women are emotionally and intellectually inferior to men. Gifted girls and women learn to appear dumb(Groth, 1969, p. 2).

Horner (1968) postulated the motive to avoid success ($M\text{-}_s$), a stable personality disposition which inhibits achievement motivation in women. She hypothesized that because success and femininity are traditionally antithetical, women may experience role conflict and consequently, a debilitating anxiety when placed in achievement oriented situations. In particular, women are faced with a dilemma and may feel forced to sacrifice either their autonomy or femininity. In Horner's theoretical framework the link between $M\text{-}_s$ and sex role stereotypes is clear- the motive is developed early in life in conjunction with sex role standards. Those women who have internalized the most rigid stereotypic notions are most likely to exhibit the motive to avoid success.

A Theory of Achievement Motivation

The motive to avoid success was conceived within the Expectancy-Value theory of motivation which states that the strength of one's motivation to achieve success (T_s) is the product of the multiplicative interaction of the strength of one's motive to succeed (M_s), the expectancy of success (P_s) and the incentive value of success (I_s): $T_s = M_s * P_s * I_s$ (Atkinson & Feather, 1966). Within this framework a consistent body of data has been established on the sources, measurement and development of achievement motivation in men. But the theory is incomplete in that it neither explains sex differences nor distinguishes between competitive and noncompetitive situations. According to Horner (1974) achievement motivation is not merely a function of a) strength of motivation to succeed, and b) strength of motivation to avoid failure, but also c) strength of motivation to avoid success. Although it has been argued that fear of failure and fear of success are two dimensions of the same motive (Jackaway & Teevan, 1976), Horner views them as independent and mathmatically expresses the relationship as:

T_a	=	$(T_s$	-	$T_f)$	-	T_s
achievement motivation		motivation towards success		motivation to avoid failure		motivation to avoid success

In Horner's research the motive to avoid success appears to be a reliable predictor of behavior in achievement oriented situations. In the context of the original investigation, Horner asked males and females to respond to a sex appropriate verbal cue: "At the end of her (his) first term of finals, Ann (John) finds herself (himself) at the top

of her (his) medical school class." Females produced negative imagery in about 65% of the stories, frequently composing themes of social rejection, loss of femininity and cue denial. Men, on the other hand, responded with about 10% negative imagery. Specifically, stories were considered to demonstrate fear of success imagery (FOS) if they contained negative consequences or anticipation of negative consequences due to success, negative affect, instrumental activity away from success, denial of effort or situation, or bizarre, nonadaptive responses.

Scored in this manner, story content appears to be a valid predictor of behavioral responses in achievement oriented situations. In fact, when relating task performance to motivational assessment Horner found that $T\text{-}_s$ as opposed to T_s and T_f is the most reliable predictor of behavior. Women demonstrating FOS were tested on math and verbal skills alone and in mixed sex competition. Horner found that those subjects who were low in FOS performed significantly better under competitive circumstances than alone while the reverse was true for high FOS women. Horner inferred that the internalization of the motive to avoid success is prevalent resulting in debilitating anxiety and break down in task performance and further postulated that the motive is most prominent in highly competent women when placed in competition with men.

Fear of Success: Variation in Cues and Subjects

Horner's original cue contained three components: female success in a competitive, male dominated field. Breedlove & Cicirelli (1974) assessed $M\text{-}_s$ in response to female achievement in education and medicine and found the proportion of FOS significantly higher in the latter instance.

Lockheed (1975) discovered the proportion of FOS diminished in response to a female cue when the medical school class was described as 50% female. It appears that when an occupation is defined as deviant for women a higher percentage of FOS imagery is elicited. However, Hoffman (1974) presented students with three variations of Horner's cue- a less masculine field (child psychology), achievement communicated privately, and competition minimized. None of these variables diminished FOS. Variations in extraneous factors in the cue have also been investigated and apparently affect the proportion of FOS imagery. For example, Spence's (1974) research indicates the marital status of a female stimulus person (SP) may affect the quantity and quality of FOS imagery.

For the most part, women have been found to evince more FOS than men (Feather & Simon, 1973; Horner, 1968, 1972b; Monahan, Kuhn & Shaver 1974; Prescott, 1971), although Levine & Crumrine (1973) and Morgan & Mausner (1973) report a higher incidence of FOS in the latter. Likewise, white women appear more prone to FOS than blacks. Horner (1972b) and Weston & Mednick (1970) report less FOS imagery in black than white women. This was corroborated by Puryear & Mednick (1974) but not supported by Mednick & Puryear (1976) in a later sample. In addition, $M\text{-}_S$ was associated with militant black attitudes, particularly in those women who had no attachment to a man. These results appear to be consistent with the view of the black matriarchal society which forces women to be more autonomous. Black men, on the other hand, display a greater proportion of FOS than either white men or black women (Horner, 1972b).

Cross-cultural comparisons have yielded a higher incidence of FOS in Australian women (47%) as compared with Americans (27%) (Feather & Raphelson, 1974). It has been suggested that the more rigid sex role stereotypes maintained in Australia may be conducive to demonstration of more FOS in those women. Weinreich (in press) reported a similar proportion of FOS in a British sample (44.5%).

Investigation of the relationship between academic field and $M\text{-}_s$ has yielded contradictory results. Horner (1969) and Patty (1972) found a concentration of FOS females in traditional fields such as education and humanities. Horner reported 89% of FOS stories from women in traditional areas as opposed to 43% from those in nontradtional endeavors. However, Gearty & Milner (1975) found no relation between $M\text{-}_s$ and academic concentration, nor did Moore (1972) who tested women in law, nursing, graduate arts and sciences. $M\text{-}_s$ has been reported to be more prevalent in honor students (Horner, 1974), women of high academic ability (Hoffman, 1974; Kresojevich, 1972; Sorrentino & Short, 1974) and females attending co-educational institutions (Winchel, Fenner & Shaver, 1974).

FOS does appear to be positively correlated with age. Baruch (1975) established an increase in FOS imagery in students from fifth to tenth grades (10-15 years). This is corroborated by Horner & Rhoem (1968) with seventh and eleventh grade subjects, Kimball & Leahy (1976) with fourth to tenth grade children and Lavach & Lanier (1975) with seventh and tenth grade samples. However, Kresojevich (1972), Monahan et al. (1974) and Zuckerman & Allison (1973) have failed to replicated these findings.

FOS and Personality

Because Horner maintains that $M-_s$ is a stable personality disposition various attempts have been made to correlate FOS with specific personality traits, personal attitudes and ambitions. Midgley & Abrams (1973) found that FOS is associated with high external scores on Rotter's Internal-External Locus of Control Scale. External orientation reflects a belief in chance, luck or fate suggesting that women who fear success may attribute their success/failure to extrinsic factors rather than subject to internal control. This is supported by Thurber & Friedli (1976) who also reported a relationship between FOS and low scores on the Interpersonal Trust scale. Feather & Simon (1975) and Patty (1976) explored the effect of success and failure on the I-E locus of control. Results indicated that subjects who exhibit $M-_s$ and succeed on a task view task difficulty and luck as less important causes of the outcome than than those who fail while the reverse is true for other subjects. This more complex approach to the investigation of the relationship between attribution of locus of control and FOS appears more effective in yielding consistent results. Simple attempts to relate intrinsic/extrinsic factors to FOS have failed. For example, FOS does not directly correlate with test anxiety (Sorrentino & Short, 1974).

Patty (1972) found that although FOS women are intellectually career oriented, they lack actual dedication and commitment to achievement. They have a tendency to be concentrated in traditional fields and display feelings of inadequacy and self criticism. Parker (1972) discovered that high FOS women view home and family as most important while

low FOS women place emphasis on career orientation. Although this seems contradictory at first glance, these results neatly fit into Horner's conceptualization of $M\text{-}_S$. FOS women must view home and family as valuable in order to experience role conflict which inhibits achievement motivation. In addition, high FOS women are also characterized by their academic competence and career orientation. It is the combination of the ability and acceptance of the traditional female role which produces the achievement related anxiety. Along these lines, women who score low in FOS view themselves as more feminine (Makosky, 1972; Parker, 1972). However, contrary to expectation, Baruch (1975) found that women who score low in FOS produce higher stereotype scores while Alper (1974), Heilbrun, Kleemeir & Piccola (1974) and Tresemer & Pleck (1972) have related FOS to traditional attitudes.

In practical application to the academic setting Curtis, Zanna & Campbell (1975) reported that females displaying $M\text{-}_S$ are less satisfied with law school and very reluctant to volunteer answers in class. Along these lines, Horner (1972a) found that girls evincing FOS experienced anxiety about success and refused to divulge the fact that they were doing well academically. Sixty-seven per cent were more likely to tell their boyfriends that they had received an average than a superior mark whereas 100% of those low in FOS were more likely to report the higher grade. Schwenn (1970) suggests that the major role in the arousal of FOS is played by the girl's male peers. This is supported by Peplau (1976a) who found that a combination of FOS and traditional sex role attitudes adversely affect competitive performances against boyfriends. She suggests that although men may not affect the strength of the motive

they may induce its arousal (Peplau, 1976b).

The Motive to Avoid Success under Test Conditions

One of Horner's basic tenets is that women exhibiting $M\text{-}_s$ feel unsexed by success and experience the most anxiety in competition with men. Murphy-Berman (1975, 1976) attempted to test this underlying assumption by questioning women after they had been engaged in competitive tasks. FOS subjects did not estimate their male partners wanted to be with them less after success than failure or that their partners viewed them as less feminine after success. Nevertheless, Makosky (1972) and Parker (1972), as well as Sorrentino & Short (1974), discovered that FOS women perform optimally on a task labelled feminine.

Horner (1968, 1969, 1970, 1971, 1972a, 1972b, 1973, 1974) asserts that women who evince $M\text{-}_s$ perform worse in competition with men than against other women or working alone. This has been empirically demonstrated byAllen & Boivan (1976), Groszko & Morganstern (cited in Makosky, 1972), Hyatt, Cooper & Allen (1970), Karabenick, Marshall & Karabenick (1976), Makosky (1972) and Parker (1972). Further support is offered by Karabenick & Marshall (1974) who found that women who are high in both fear of success and fear of failure depress performance in competitive situations. Zaro (1972) reported that women who are high in FOS react more cooperatively in competitive situations than low FOS women; likewise, Bongort (1974) found high FOS women more cooperative in the prisoner's dilemma game. However, results from Althof (1973), Feather & Simon (1973), Karabenick (1972), Morgan &

Mausner (1972, 1973), and Zanna (1973) do not reflect these trends.

Critical Assessment of the Motive to Avoid Success

Horner's work has been open to the criticism that fear of success imagery has not been established as a motive. First, Tresemer (1974, 1976) maintains Horner did not adopt the conventional method of establishing and isolating a motive. Typically, projective stories from an aroused group form the basis of a scoring system which is applied to themes from a neutral group. Horner did not compare themes of aroused and neutral groups, but rather established her own criteria. Stories were scored high in FOS imagery if they exhibited negative affect, instrumental activity away from success, anticipation of negative consequences due to success, conflict about success, denial of effort or situation or bizarre, nonadaptive responses. However, Horner did place subjects in aroused situations and found the $M-_S$ is predictive of behavior. In particular, women displaying FOS imagery in stories performed significantly worse in competitive circumstances than alone.

The second major criticsm comes from those researchers who have expanded the original Horner design to allow both sexes to respond to male and female stimulus persons (SPs). Results have been inconclusive, but the majority of studies report FOS imagery most prevalent in response to a female SP (Alper, 1974; Brown, Jennings & Vanik, 1974; Feather & Simon, 1973; Feather & Raphelson, 1974; Monahan et al., 1974; Prescott, 1971; Solomon, 1975; Wellens, 1973; Winchel et al., 1975). However, Hoffman (1974), Jackaway (1974), Katz (1973), Kimball (1973), Krusell

(1973), Levine & Crumrine (1975), Robbins & Robbins (1973) and Tresemer (1974) found no siginificant difference in the proportion of FOS imagery in response to male and female SPs. (In the same fashion Bean & Levy (1976) found that both sexes produce primarily positive responses.) The former, supported by Zuckerman & Wheeler (1975) , maintain that projective techniques for the assessment of $M-_s$ may be merely tapping sex role stereotypes rather than providing a valid motivational measurement. This is because men tend to respond with very high proportions of negative imagery to female cues while females produce primarily positive stories for male cues.

Although these studies may yield interesting and informative results, in terms of motivational assessment, sex appropriateness of the SP is a crucial factor. A consistent body of data on the measurement and development of achievement motivation was derived from male subjects in response to male TAT figures (Atkinson, 1958). But responses of female subjects to male TAT figures do not conform to these patterns. French & Lesser (1964), Veroff, Wilcox & Atkinson,(1953) and Wilcox (1951) found that although achievement imagery was greater in women in response to male pictures, it did not increase in achievement oriented situations. Nor do female cues accurately measure achievement motivation in males. Veroff (1950) found that achievement imagery is low for high school males in response to female pictures and that there is little change from neutral to aroused conditions. McClelland, Atkinson, Clark & Lowell (1953) conclude that "male pictures provide a measurement of achievement motivation, female pictures do not (p.168)." They do not conclude that

the measurement of achievement motivation is merely reflective of sex role stereotypes because males respond with less achievement imagery to female cues.

The importance of a sex appropriate SP is further corroborated by Murray (1943) in his development of the TAT technique:

> Experience has shown that in the long run the stories obtained are more revealing and the validity of the interpretations is increased if most of the pictures include a person who is of the same sex as the subject (p. 2).

This has been empirically demonstrated by Wayner & Lindskold (1976)- subjects project more of their own characteristics on SPs they perceive to be similar.

Finally, there is the argument proposed by Condry & Dyer (1976) that fear of success should be considered as a situational rather than a motivational variable. This rests on the assumption that social norms imply the existence of an extrinsic social reward system- positively valuing acceptance of norms and actively punishing deviation (Festinger, 1954). In these terms fear of success is seen as realistic expectancies about the negative consequences of deviancy from a set of cultural norms for sex appropriate behavior. This is corroborated by Argot, Fisher, McDonald & O'Neil (1976) who found that females who were rejected after success or accepted after failure in competition with men performed significantly worse on subsequent tasks than those accepted after success or rejected after failure. While this argument is plausible, even favorable, in light of masses of contradictory evidence, it is not antithetical with Horner's notion of $M\text{-}_{s}$. The discrepancy lies in the tendency for Condry & Dyer to dismiss FOS as merely reflective of realistic expectancies

while Horner maintains that these expectancies are incorporated into personality dispositions and directly affect motivation.

The Motive to Avoid Success and Sex Role Stereotypes

The motive to avoid success is conceptualized as a stable personality disposition acquired early in life in conjunction with sex role standards. Although it is defined as a motive and has been empirically demonstrated as a valid predictor of behavior, it is heavily influenced by sex role stereotypes. For example, Horner hypothesizes that $M\text{-}_s$ is most apparent in high achieving women when placed in competition with men. She has inferred a debilitating anxiety- due to the incongruence of success and the female role. More specifically, a woman placed in competition with a man may feel unsexed by success or forced to choose between accomplishment or femininity. If this is true, $M\text{-}_s$ would be most prevalent in those women who embrace the traditional female stereotype and actually view success and femininity as dichotomous.

Masculinity and Femininity

> Our current system of sex role differentiation has long outlived its utility, and it now serves to prevent both men and women from developing as full and complete human beings (Bem, 1975, p. 634).

Sex role identity has been conceptualized traditionally in terms of masculinity and femininity; historically and cross-culturally, masculinity and femininty have been represented as bipolar or complementary domains of traits and behaviors. Parsons & Bales (1955) associate mas-

culinity with an instrumental orientation and a cognitive focus while femininity is related to an expressive orientation and an affective concern. Bakan (1966) refers to masculinity as an agentic perspective as opposed to femininity, a communal orientation. Both of these characterizations are akin to Broverman et al. 's (1972) conceptualization of personality traits in terms of the masculine or competence cluster and the feminine, expressive cluster.

There is a logical connection between one's sex role stereotypes, the beliefs about differing characteristics of the sexes, and one's own sex role identity, psychological masculinity/femininity. According to both Kagan (1964) and Kohlberg (1966), a highly sex typed individual is motivated to maintain the appropriate masculine or feminine image. Consequently, individual self concepts and role relevant behaviors should vary as a function of the acceptance of sex role stereotypes.

Research

Although there has been a great deal of work on the relationship of masculinity/femininity to other personality variables and dispositions, there has been relatively little research on its relation to sex role behavior. Investigations in this area have been concentrated on the choice of academic major and career selection in women. Career choice, in fact, appears to be a function of one's m/f identification. Rezler (1967) found that girls choosing atypical occupations (pioneers) were more intellectual and masculine than those pursuing traditional vocations. In addition, career oriented women score higher in masculinity, com-

petency and achievement (Rand, 1968). Sex role identification in relation to career selection appears reflective of current stereotypic notions of professions. Fleming (1972) tested graduates females in education and pharmacy. Women in education viewed themselves more feminine than their counterparts in pharmacy.

The Measurement of Masculinity and Femininity

The measurement of masculinity and femininity has posed serious problems on both the conceptual and psychometric level. The main criticism of the traditional inventories, Gough Fe Scale, Guildford-Zimmerman Masculinity Scale, MMPI, SVIB, and Terman- Miles Temperament Scale, is that they are based on the untested assumption that M/F is represented by a single, bipolar dimension (Gough, 1952, 1964, 1966; Guildford & Zimmerman, 1949; Hathaway & McKinley, 1943; Strong, 1943; Terman & Miles, 1936). Bipolarity assumes a single continuum ranging from one extreme to the other, through a zero point; behaviors defining one end point are opposite to the other and should be negatively correlated.

In M/F scale construction, assumptions of bipolarity are apparent on three levels: 1) dependence on biological sex as the appropriate criterion for an item's m/f relevance (item selection is based on the item's ability to discriminate between responses of males and females), 2) the implication that the opposite of a masculine response is indicative of a feminine one, and 3) the use of a single M/F score which places the individual on a bipolar dimension.

According to Constantinople (1974) the problem of polarity in the domain of M/F measurement is further intensified by the fact that it is viewed as the psychological correlate of a biological dimorphism- even though evidence casts doubt on the either/or monolithic approach on a basic biological level. Constantinople further criticizes the major M/F tests on two accounts- the suppositions that the M/F construct is unidimensional in nature and can adequately be measured by a single score and that it can best be defined in terms of sex differences in item responses. In the first instance she suggests that M/F is not a unitary trait and may be more accurately measured by a set of subtraits which can be related to other variables through profile scoring. The same criticism has been propounded by Lunneborg (1972). The second criticism focuses on the definition of masculinity and femininity which appears vague, ambiguous and variable between inventories. In the most general sense masculinity and femininity appear to encompass relatively enduring traits which are more or less rooted in anatomy, physiology and early experience and serve to distinguish males from females in appearance, attitudes and behavior. The reliance on the item's ability to distinguish between the responses of men and women and the emphasis placed on different dimensions of the concept adds to the ambiguity in definition. In some cases item content would appear to be logically related to an intuitive definition of M/F and in others the content seems irrelevant to any identifiable definition of the concept. This is particularly true of the strictly empirical approach which accepts any item which discriminates men from women at a particular point in time in a particular culture as a valid indicator of M/F with no assessment of centrality of that trait to an abstract definition of masculinity and femininity.

The major M/F tests can also be criticized on the obvious and stereotyped measurement of masculinity and femininity. Sex role stereotypes clearly contribute to the "fakability" of M/F measures (Bieliaukas, Miranda & Lansky, 1968; Lunneborg, 1970). Lelieuvre & Wise (1974) found that subjects were able to produce opposite sexed scores on the Gough Fe Scale. Nichols (1962) maintains that the MMPI, SVIB, Guildford & Zimmerman, Terman & Miles and Gough scales are composed of obvious responses and argues for the construction of a more subtle scale.

Attempts to develop verbal measures of M/F as distinct from standard inventory techiniques have also incorporated the notion of bipolarity. This includes the adjective check lists by Berdie (1959), and Heilbrun (1964) and Reece's (1964) semantic differential. Nonverbal projective tests have also been devised, the criteria being the ability to discriminate between men and women (Caligor, 1951; Franck & Rosen, 1949; May, 1971; Webster, 1953). However, with the exception of the Franck & Rosen Drawing Completion Test, these measurements have not been employed in a substantial number of studies. The nonverbal assessments of M/F alledgedly tap a somewhat unconscious concept of one's masculinity or femininity as contrasted with the verbal measures and produce low intercorrelations with the latter. The standard inventories, by contrast, highly intercorrelate(Barrows & Zuckerman, 1960; Heston, 1948; McCarthy, Anthony & Domino, 1970; Shepler, 1951).

The Bem Sex Role Inventory

Measurement

There has been much argument against the notion of bipolarity of masculinity and femininity in psychological literature (Baucom, 1976; Jenkin & Vroegh, 1969; Symonds, 1973). More recently, the concept of psychological androgyny, the intergration of both masculinity and femininity within a single individual has been suggested by scholars in all fields of social science (Bazin & Freeman, 1974; Block, 1973; Gelpi, 1974; Harris, 1974; Heilbrun, 1973,1976; Pleck, 1974; Secor, 1974; Spence, Helmreich & Stapp, 1974).

Along these lines, Bem (1974) has devised a Sex Role Inventory (BSRI) which is distinguishable from the traditional measurements in that the standard criticisms are met and dealt with. In particular, the BSRI treats masculinity and femininity as two independent variables. Individuals describe themselves on 60 personality characteristics (20 masculine, 20 feminine and 20 undifferentiated) on a 1-7 scale ranging from never to always true. A mean masculinity and femininity score is established, and the measurement of psychological androgyny is obtained by finding the difference between the means and converting it to a t-ratio. Subjects may then be classified as masculine, feminine or androgynous on the basis of their scores.

Because the BSRI is founded on the conception of sex typed persons as those who have internalized society's sex typed standards of desirable behavior, personality characteristics are selected as masculine or feminine on the basis of sex typed social desirability- that is characteristics qualify as masculine if they are independently judged by both

sexes to be significantly more desirable for a man than a women and vice versa. This differs from other inventories which have based the choice of personality traits on differential endorsement by males and females.

Psychometric analysis of BSRI data has been concentrated on the assessment of internal consistency and test-retest reliability and the intercorrelation with other M/F scales (Bem, 1974). Analysis of internal consistency by alpha coefficients has shown that the masculinity and femininity scores are highly reliable with $\alpha = .70$. With reference to test-retest reliability, correlations between first and second administrations for masculine, feminine and androgyny scores proved highly significant with $r = .90$. However, the BSRI is not significantly correlated with the M/F scales of the CPI or Guilford-Zimmerman.

It has been suggested that the androgyny score may be reflective of social desirability responses because both the masculine and feminine items are desirable and positively valued for adults. Although masculinity and femininity are positively correlated with social desirability, the near zero correlation between androgyny and social desirability confirms that the androgyny score is not merely tapping a social desirability response set.

The establishment and examination of normative data for the BSRI and later psychometric analysis has led Bem to the following conclusions:

1) The dimensions of masculinity and femininity are empirically and logically independent.

2) The concept of psychological androgyny is a reliable one.

3) Highly sex typed scores do not reflect a general tendency to respond in a socially desirable direction but rather a specific tendency to describe oneself in accordance with sex typed standards of behavior for men and women.

BSRI and Behavior

BSRI scores have been found to be valid predictors of sex role behavior in a number of studies. Bem & Lenney (1976) investigated activity preferences in college students where individuals were asked to choose one activity to perform from a sex role conflict pair. Activities were previously rated by male and female judges as masculine, feminine or neutral, and subjects were paid for their choices with the sex reversed choices yielding the greatest profit. Results indicated that sex typed subjects as measured by the BSRI were more likely than androgynous or sex reversed individuals to prefer an activity because of its stereotype as sex appropriate.

Later subjects actually performed three masculine, feminine and neutral activities and described their feelings about the tasks on rating scales. Sex typed individuals felt significantly worse after performing cross sexed activities than did either androgynous or sex reversed subjects. Analysis of data also yielded some interesting interaction effects. Sex typed individuals report feeling less comfortable performing cross sexed activities in the presence of an opposite sexed experimenter whereas androgynous subjects actually reported feeling more comfortable in those circumstances. Results suggest that cross sexed behavior may be motivationally problematic for sex typed individuals as they actively avoid these behaviors.

Bem (1975) also designed a study to investigate the relationship between the BSRI and masculine or "independent" behavior and feminine or "nurturant" responses. In the first instance independence was measured in terms of conformity. Subjects volunteered to participate in an experiment on humor; they were placed into individual booths equipped with microphones and earphones and shown a series of cartoons which had been prerated for funniness. Subjects heard three taped voices giving false responses in an effort to induce conformity over a series of trials. Results indicated that masculine and androgynous subjects did not differ from each other and were significantly more independent than the feminine participants. This held true for both sexes.

The investigation of nurturant behavior was presented as a study on mood, and subjects were told that they would be requested to perform several activities and rate their mood after each. After a construction task subjects were allowed to interact with a kitten. Nurturant behavior was indexed by subject contact with the kitten. Feminine and androgynous men did not differ from each other and were significantly more responsive than masculine men. However, contrary to expectations, feminine women were significantly less responsive than androgynous women with masculine women falling somewhere in between. Considering the two studies together, androgynous individuals appear optimally adaptive to both masculine and feminine behavioral situations.

Bem, Martyna & Watson (1975) pursued further investigation of the expressive domain due to the ambiguous results with female subjects. In the second study subjects were allowed to interact with a five month old baby, and responsiveness was measured (smile, touch, talk).

Again, feminine and androgynous men did not differ and were significantly more responsive than masculine men; however, no behavioral differences between women emerged. Bem hypothesized that the lack of behavioral differences may be due to the fact that subjects were required to initiate and sustain activity. Such initiation is not congruent with the feminine role; therefore, a study was devised so that the subject could behave nurturantly in a passive mode. Subjects were recruited to participate in a study of the acquaintance process and took the part of the listener while the experimental assistant played the role of the talker. After starting on impersonal background info, the assistant would become more personal describing himself/herself as a lonely transfer student. Subjects' behavior was recorded including responsiveness of facial expression, nods, comments and reactions to requests for further contact. Again, the data for males followed the same trends, but for the first time feminine females behaved most responsively.

Based on a series of experiments the following trends are evident. Androgynous men perform well in both instrumental and expressive domains while the competency of the feminine male is limited to the expressive domain and the masculine male to the instrumental realm. Behavioral patterns in women are not so simple. Androgynous women, like men, function effectively in both the instrumental and expressive spheres. Masculine women, on the other hand, maintain independence, but contrary to original expectations, are not hampered in nurturant activities. Feminine women, however, pose a problem. As expected, they are severely limited in masculine, instrumental activities. Bem hypothesizes that this inhibition is so great that it prevents initiation of

activity in general, even if the activity is sex appropriate. This would account for the low level of nurturance between feminine women and infants. It appears that feminine women "respond" rather than "behave" and are only proficient in expressivity when allowed a passive mode.. of response.

BSRI and Personality Variables

Bem (in press) has also attempted to relate the BSRI to a variety of paper and pencil questionnaires: Attitudes toward Women Scale, Internal-External Locus of Control Scale, Machiavellianism Scale, Texas Social Behavior Inventory, Self-disclosure Scale and Attitudes towards Problem Solving Scale. Responses could be differentiated only on measures of attitudes toward women and self esteem. In particular, liberal attitudes toward women on the part of men are positively related to femininity and negatively correlated with masculinity; in other words, feminine men are most liberal and masculine men are most conservative. Liberalism in women, by contrast, is not related to psychological androgyny. The pattern of results relating the BSRI to levels of self esteem matches that reported by Spence, Helmreich & Stapp (1975b). More specifically, masculine and androgynous individuals of both sexes possess higher levels of self esteem.

Psychological Androgyny and Sex Role Stereotypes

Conceptual theorizing as well as empirical evidence seem to suggest that acceptance of sex role stereotypes directly influences psychological androgyny and related behavioral traits and attitudes. According to Bem stereotypes may produce defensive trait-like consistency in behavior. Individuals are motivated to maintain a self image as masculine or

feminine which is consistent with an internalized sex role standard. To quote Bem (1972):

> The highly sex typed individual may have to constantly monitor his behavior in order to filter out anything that might be considered sex inappropriate. In contrast, because he has no sex typed image to maintain, the androgynous individual can remain sensitive to the changing constraints of the situation and engage in whatever behavior seems most appropriate at the moment, regardless of its stereotype as appropriate for one sex or the other. For the androgynous individual, the traits of masculinity and femininity simply do not exist (p. 8).

Attitudes toward Women's Roles in Society

> Men are expected to fly despite the fact that nature gave them no wings...yet women's chief function is to reproduce the species and care for their men and their houses (Morse & Bruch, 1970, p. 26).

In most research attitudes toward women have been assessed in terms of support of or activism in the Women's Liberation Movement (WLM) and have been arbitrarily divided into categories of liberalism and conservatism. Studies of this nature are more useful in delineating a perspective on women's roles in society rather than the actual measurement of attitudes. This is because researchers have not employed standard attitude scales nor produced consistent, reliable forms of questionnaires. In general, liberalism is defined by support of the basic tenets of the WLM which are frequently couched in social and political terms- equal job opportunities and remuneration, abortion on demand and child care facilities. Nevertheless, these studies are useful in relating liberalism/conservatism in the broadest sense to various personality factors, group

memberships and parental influences.

Bayer (1975) investigated the relationship between a number of demographic variables and "attitudes" towards sex roles in society. In this instance traditionalism was defined in terms of the status quo and equated with rigid sex role ideologies. Bayer reported that traditionals are more likely to be non-white, non-Jewish and come from a lower socioeconomic background. They are also likely to have been less successful in high school, have delayed entry to college and lower aspirations. These results suggest that those who have been exposed to middle class ideologies and role models will develop more liberal attitudes toward sex role expectancies.

Sex, age and educational level are three of the most consistent predictors of liberalism. Welch (1975) found that women supporting the WLM were most often young, well educated and politically liberal. Likewise, Etaugh (1973) reported that the most negative attitudes among professionals toward married, professional women were held by older, males with less advanced academic degrees. This is corroborated by Kaley (1971) who found that married, professional men have a tendency to express negative attitudes toward the dual role of the married professional woman.

Even within academic circles support of WLM varies between individuals within various scholastic disciplines. As expected, those adopting traditional sex role ideologies are motivated to maintain consistent behavioral responses and opt for the sex appropriate occupations. Empirical evidence verifies that individuals choosing sexually atypical areas of academic concentration are more supportive of WLM (Valentine,

Ettinger & Williams, 1975). Similarly, Goldschmidt, Gergen, Quigley & Gergen (1974) found that women in social sciences are more active in WLM than those in education and humanities.

Racial and personality differences are also apparent between those who do and do not support WLM. Those who show the least support score high in authoritarianism (Young, Beier & Barton, 1975) and in keeping with role consistent behavior, score higher in the conventional personality theme on the SVIB (Tipton, 1976). Furthermore, Fowler & van de Riet (1972) and Fowler, Fowler & van de Riet (1973) reported that feminists are characterized by autonomy, dominance and self confidence. Racial differences may be reflective of differences in role models between groups during the acquisition of sex role standards. Gump (1975) reported that black women define their identity with respect to the wife and mother role, home centered with a submissive position, while white women exhibit more interest in fostering autonomous careers and development.

These studies are problematic in that they are not consistent concerning attitudinal components (affective, cognitive, conative) that they purport to measure nor provide uniform, specific issues on which liberalism/conservatism is based. Tavris (1971, 1972) found that greater liberalism in women is not apparent on all issues but varies as a function of the topic. Women, for example, are frequently more conservative than men on ideological matters. A larger proportion of women maintain that women have only themselves to blame for not doing better in life and are significantly less likely to advocate group action for social change (Tavris, (1973). Men tend to be more liberal on issues that do not touch them

closely- ideologically men are sexists, women are exploited- but also share myths designed to keep social change from their own homes- children of working mothers are less well adjusted. In general it appears that the capacity of woman as worker is not questionned so much as the heinous neglect of home and family. Mason & Bumpass (1975) found a strong consensus that the traditional division of responsibility and labor is desirable and that maternal employment harms children.

Large discrepancies in attitude assessment may be a function of the attitudinal component measured. Traditionally, attitudes are operationalized into three factors, the cognitive, conative and affective. The cognitive component deals with beliefs and ~~are~~ 15 related to stereotypic notions of men and women. For example, men are believed to be competent, independent and ambitious while women are described as passive and emotional. The conative component is the "active" factor which relates to the belief. With reference to sex roles the conative factor is reflective of the attitudes concerning what men and women should or should not do. The affective component is evaluative in nature and lends emotional coloring to an attitude. Attitudes toward sex roles may vary in liberalism/conservatism as a function of the component assessed. To illustrate, Haavio-Mannila (1975) reported that women are accepted in professional positions (conative) but that both sexes state a preference for male supervisors (affective). Consciousness raising groups appear very effective in liberalizing attitudes on the cognitive level- belief in the stereotypic notions of masculinity and femininity- but have more difficulty on the affective and conative planes. Although women in these groups readily alter their perceptions of sex discrimination, they are

reticent to change their own future plans with regard to sex roles and still prefer male companions due to their distrust of women (Ruble, Croke, Frieze & Parsons, 1975).

The Queen Bee Syndrome

> My first reaction to the Women's Liberation Movement was one of disinterest. After all, what did it have to do with me? I had faced no discrimination pursuing my career... and if I wasn't complaining, I didn't see why anyone else should be. I also looked somewhat suspiciously upon the growing expressions of female anger and discontent. If women were feeling like glorified scullery maids, why didn't they get out of the kitchen? If they wanted to be treated like mature women, why did they refer to themselves as girls and act like giggly, gossipy dependent adolescents? ...If women didn't like their place in life, what were they doing there?(Lerner, 1973, p.20).

This quote typifies what Staines, Jayratne & Tavris (1974) refer to as the Queen Bee Syndrome- striking antifeminism in professional women. Countermilitancy of this nature is rooted in personal success in the system- both professional and social success- and is perpetuated by a number of self interest factors.

Successful women, members of a group frequently discriminated against, enjoy a privileged status that is unavailable to most of their peers. They have unique qualifications which allow them to maintain high ranking positions. Intrusion of additional women into the professions detract from their uniqueness; consequently, the aims of WLM are antithetical to their personal interests.

The most fascinating aspect of the Queen Bee Syndrome is the identification of these women with their male colleagues.

> The Queen Bee who is successful in a male dominated field feels little animosity toward the system that has permitted her to reach the top and little animosity toward the men who praise her for being so unique. She identifies with specific male colleagues who are her reference group rather than the diffuse concept of women as a class (Staines et al., 1974, p.57).

It is tempting to parallel this phenomenon with Allport's (1954) notion of identification with a dominant group although in the case of women, it does not constitute a pathological mechanism of ego defense. Allport provides examples of prisoners in Nazi concentration camps who identify with and imitate prison guards, flaunting power over new prisoners and assuming anti-Semitic biases. Sarnoff (1951) has also demonstrated internalization of anti-Semitism by American Jews. More recently, Friere (1973) broaches the phenomenon in social political terms in Pedagogy of the Oppressed, maintaining that perception of oneself as oppressed is impaired by submersion in oppression and that the aspiration to identify with the dominant group may become overwhelming and the role of oppressor subsumed.

Empirical evidence for the Queen Bee Syndrome is scanty but does suggest several trends. In a Psychology Today questionnaire Tavris (1971) found that professional women frequently adopt a masculine perspective on women's roles, even more so than less educated women and housewives. In keeping with their elitist self concept "Queen Bees" are most likely to believe that women have only themselves to blame for not doing better in life; they are also more likely to endorse the individual approach to countering discrimination and reject feminist groups as either a means to end discrimination or towards self awareness and development.

The Attitudes toward Women Scale

Construction

The unavailability of consistent data on attitudes toward women's roles in society is due to the absence of standardized, psychometrically sound instruments for surveying these attitudes. In an effort to remedy this situation Spence & Helmreich (1972b) have devised an Attitudes toward Women Scale (AWS) which taps the conative and evaluative components of attitudes concerning vocational, educational and intellectual roles of women; freedom and independence; dating, courtship and etiquette; sexual behavior; and marital relationships and obligations. The AWS was modelled on Kirkpatrick's Belief Pattern Scale for Measuring Attitudes toward Feminism (1936) and devised in Likert fashion, presenting 55 declarative statements to which there are four response alternatives: agree strongly, agree mildly, disagree mildly, and disagree strongly. Each item is scored 0-3, ranging from the most traditional, conservative response to the most liberal, profeminist attitude. Scores are obtained by summing the values for individual items with the possible range varying from 0-165.

Spence & Helmreich have also established normative data for the AWS based on 713 male and 768 female university students. Results indicate that the mean score for women is higher (more liberal) than for men. Normative data have also been provided by 542 parents of university students. In this sample, again, women produce more liberal scores than men. Comparisons between groups reveals lower, more conservative scores in the parental sample. In addition, significant

positive correlations were found between mother and daughter (r =+.29) and between father and son (r =+.34) and husbands and wives (r =+.49). The AWS is considered a more reliable measurement than recently developed scales (Brodsky, Elmore & Naffziger, 1976; Larsen, Cary, Chaplin, Deane, Greene, Hyde & Zigler, 1974; MacDonald, 1974) in that it has been more widely used and offers normative data.

Reasearch with the AWS

Recently, Spence & Helmreich's AWS scale, validated by Kilpatrick & Smith (1974), has been accepted as a psychometrically sound measurement of attitudes toward women's roles and has become the most widely used method of assessment, with research focusing on its relationship to demographic variables and personality factors. Etaugh (1975a) reported that liberalism on the AWS is most likely found in students who are 1) females, 2) inactive church affiliates, 3) in humanities or social sciences, 4) have high grade point averages, and 5) have grown up in large communities. In addition, whites are more liberal than blacks, and those with mothers who were employed or dissatisfied with housework are more liberal than those with satisfied, unemployed mothers. Etaugh & Gerson (1974) also reported that less traditional attitudes are expressed by females who had more years of college, low levels of family income and were not emotionally close to their fathers. This latter finding suggests that the father may play an important part in the socialization of the daughter particularly in the sense of instilling traditional notions of femininity. To a large extent, however, liberalism in attitudes toward women appears to be associated with those factors which delineate other forms of liberalism,

such as higher education, an urban background and agnosticism/atheism.

In the realm of personality research Minnigerode (1976) investigated the relationship between the AWS, BSRI, and Rotter's Internal-External Locus of Control Scale. Profeminist women scored higher in masculinity and internal control than other women. These results fit neatly into the conceptual framework of sex role identification. Those females who endorse greater flexibility in women's roles are more likely themselves to adopt socially desirable masculine characteristics. High internal scores, which reflect internal control of reinforcement, are also related to psychological masculinity; males typically score higher in internality than females. The association of profeminist attitudes in women with internal locus of control has been corroborated by Midgley & Abrams (1974) and Pawlicki & Almquist (1973).

A further investigation by Etaugh & Bowen (1976) revealed that attitudes toward women's roles in society may discriminate between choice of life style in men and women. Etaugh & Bowen found that men enrolled in universities were more conservative in their attitudes toward women than nonenrolled men matched in age. The reverse was true for females suggesting that the more traditional women actually opt out of university. The implication is clear - a high level of education and career orientation is extraneous, if not antithetical, to the female role model. For those conservative women who remain at university, choice of an appropriate discipline is a crucial factor; Stein & Weston (1977) report that women in education are more conservative than in science and social science.

Further attempts at testing the internal consistency and reliability

of the AWS has yielded promising results. Stanley, Boots & Johnson (1975) have demonstrated the cross-cultural applicability of the AWS by administration to an Australian sample. Employing teenagers and respondents from various women's groups (Women's Electoral Lobby, Methodist Ladies Fellowship, Country Women's Association and housewives) Stanley et al. found that the scale effectively differentiated the samples. Factor analysis of the shortened version of the AWS yielded four meaningful factors: puritan ethic, equality with men, family and social role, and equal freedom of action. The stability of the AWS has been corroborated by Etaugh (1975b) who reported that scores obtained from students during spring and fall semesters did not significantly differ. Lunneborg (1974) found that AWS scores can be affected by presentation of authoritative information. Students' scores become more liberal after taking a course in the psychology of sex differences.

Sex Role Stereotypes and Attitudes toward Women

The relationship between sex role stereotypes and attitudes toward women can be viewed within the overall context of attitude definition. Attitudes are composed of three components- cognitive, conative and evaluative. Sex role stereotypes form the cognitive component of the attitude, the beliefs about differing characteristics of the sexes, the attribution of distinct psychological characteristics to men and women. The actual relationship between the cognitive and conative and evaluative factors may not be simple or direct due to the influence of intervening variables. For example, although two individuals may hold the same

beliefs about sex differences, due to variations in personal experience, the evaluation of the differences may be dissimilar. Nevertheless, a theoretical framework can be maintained with a cognitive element, i.e., stereotype, forming the base of the attitude and the conative and the evaluative elements following from it. With regard to sex differences, it would be expected that those who hold the least rigid notions of masculinity/femininity would demonstrate a more liberal perspective on the evaluative and conative attitudinal components. For example, if one did not <u>believe</u> that women are passive and incompetent, he/she is more likely to endorse equal job opportunity (conative) or evaluate competent performances by women as equal to those by men (affective).

CHAPTER 2 DIFFERENTIAL EVALUATION OF MALES AND FEMALES (PROFESSIONAL EXPERTISE)

Introduction

In 1968 Goldberg demonstrated that in areas of professional expertise females are, in fact, devalued in relation to males. Goldberg presented college women with a series of academic articles which they were asked to read and critically evaluate. Although the articles were identical, half were alledgedly male authored and half female authored. Goldberg hypothesized that in traditionally masculine fields the female authored articles would be devalued in relation to male authored works but that this devaluation would not be apparent in feminine domains. However, a pervasive devaluation of women emerged- both in masculine fields such as law and city planning and in feminine professions such as dietetics and primary education. More recently, Dorros & Follett (1969) have obtained the same antifemale bias with male subjects, and the Goldberg findings have been replicated with both sexes by Etaugh & Rose (1975), Etaugh & Sanders (1974) and Gold (1972).

Pheterson, Keisler & Goldberg (1971) undertook a comparable experiment but employed paintings as the stimulus objects and introduced two new variables- personal history of the artist and status of the painting (entry or contest winner). Although the artist's personal history did not affect the ratings of the works, there was a significant interaction effect between sex of the artist and status of the painting. More specifically, entry paintings attributed to females were rated significantly less

favorably than those attributed to male artists. These findings have been corroborated by Deaux & Farris (1975).

There have been, however, failures to replicate these results (Deaux & Farris, 1975; Levenson, Burford, Bonno & Davis, 1975; Pheterson, 1969). And some studies, providing partial corroboration, have demonstrated the importance of extrinsic factors on differential evaluation. For example, Mischel (1974) in an attempt to replicate the Goldberg study, reported a preference for male authored essays in law but a more positive evaluation of female authored works in dietetics. Starer & Denmark (1974) emphasize the importance of experimental testing methods finding that females preferred poems ascribed to male authors when tested individually, but males demonstrated this preference when tested in mixed sex groups.

There is evidence to suggest that the devaluation of women in areas of professional competence is not pervasive and largely dependent upon personal characteristics of the assessors. For example, the promale bias demonstrated by university students in the critical appraisal of academic works was not apparent in older, relatively uneducated women (Pheterson, 1969). Pheterson suggests that individuals may require a certain amount of familiarity or competence in a field before they are prone to render negative appraisals of stimulus objects. Only when this initial confidence is apparent will the devaluation of women emerge.

There is further evidence to suggest that all devaluation of women may not be induced by subtle, stereotypic norms but may result from selective advantage to the assessor. Staines, Jayratne & Tavris (1974) maintain that men, in general, are prone to devalue women and that

this may be accounted for in what Allport (1954) terms exploitative advantage- prejudice allows a number of exploitative gains: economic advantage, social snobbery and a feeling of moral superiority. Staines et al. hypothesize that these gains are also available to a select group of women, in particuiar, professionals (Queen Bees) who have succeeded in traditionally masculine arenas. These women feel little animosity toward a system which has allowed them to achieve and develop the tendency to identify with their male colleagues rather than the diffuse concept of women as a class. This resembles Allport's identification with the dominant group, a form of ego defense due to out group victimization. Specifically, it entails the comprehensive assimilation of male values (dominant group), even the derogation of women - this enhances individual self esteem.

> Queen Bees denigrate the efforts of other women to make it into the system. They are highly rewarded for doing so, for being special, for looking so feminine yet thinking like a man (Staines et al., 1974, p.57).

As opposed to the Goldberg technique which subtly taps the evaluative component of attitudes toward women, Staines et al. rely on an overt indicator of cognitive, conative and evaluative components of attitudes toward sex roles. Their contentions concerning the exploitative advantage and the Queen Bee Syndrome have been corroborated by the overwhelming conservatism evinced by professional women in relation to nonprofessionals and members of women's groups, In particular, professionals hold that women have only themselves to blame for not doing better in life and that discrimination can best be overcome by working individually to improve abilities. They are also opposed to preferential

treatment of women and score high on family ideology.

Staines et al.'s investigation of antifeminism and Goldberg's examination of differential evaluation taps separate components of attitudes by discrete methodologies. Nevertheless, because both are largely dependent upon the acceptance of sex role stereotypes, the framework provided by Staines may also be useful within the context of differential evaluations. Ward (1974) examined the Queen Bee Syndrome in university women with the Goldberg design. It was hypothesized that honor students, who are recognized by continual assessment as academically outstanding, would fit the Queen Bee image, being successful in the masculine domain of scholorship. Students were asked to read and evaluate academic articles, half of which were alledgedly male authored and half female authored. Although the overall evaluative ratings by honor students were not significantly different from appraisals by other students, honor students evaluated female authors more negatively than male authors while this trend was not apparent in the control group. This appears consistent with the Queen Bee image- denigration of women by females who have achieved success in male arenas.

With this in mind, a set of experiments was designed to examine the differential evaluation of men and women in general and the applicability of the Staines hypothesis to this area in particular. Experiments investigating the denigration of women were completed with a) university males, b) academically successful university females and c) university and art students of both sexes. Because the majority of this research has been undertaken in the United States and hypotheses generated from

American sources, a sample of American students is also included. This provides a valuable comparison of British and American data, hopefully indicating that the former may aid in the development of an encompassing theory of differential evaluation, rather than being analyzed in terms of cultural differences.

Experiment I

The experiment was designed to test if the devaluation of women in areas of professional competence is a pervasive tendency in men.

> Hypothesis: Male authored articles will be more favorably evaluated than female authored articles.

Method

Subjects and Procedure. Fifty-eight male undergraduates participated in the study and were tested in small groups. Ss were told that the experiment concerned the ability of students to make critical evaluations of scholastic works. All Ss received an academic article, "The Power of a Sugar Pill," approximately 1500 words, in the field of psychology (Appendix I). Half of the articles were allegedly male authored and half female authored. Ss were instructed to assign ratings on a scale of 1(unfavorable) to 10 (favorable) on the following characteristics: style, content, persuasiveness, profundity, professionalism, and the author's status and competence in the field.

Results

Because parametric statistical analysis was utilized by Goldberg and the majority of the replication attempts, the data were analyzed by t-test for each of the items. This assumes that the 1-10 scale constitutes an equal-interval scale and data may be subjected to parametric analysis. (Explanation of equal interval scales and method of subjective estimates may be found in Torgerson, 1958).

Analysis indicates that there were no significant differences in the ratings of the articles- style, content, persuasiveness, profundity or professionalism. However, the female author was rated sugnificantly lower in status ($t = 2.0664$, s.d. $= 1.7156$, $p < .025$) and competence ($t = 1.7004$, s.d. $= 1.6215$, $p < .05$). Mean ratings and t-ratios are presented in Table 1.

Experiment II

The experiment was designed to investigate devaluation of female competence in women and more specifically, to test the Queen Bee hypothesis with the Goldberg design.

> Hypothesis: Academically successful women will devalue female authored articles in relation to male authored works, but this trend will not be apparent in other women.

Method

Subjects. Thirty three university women in social sciences participated in the experiment. Each had been previously rated by four staff members of their department as to their final examination results. With concurrance of at least three of the four raters, Ss were divided into

"bright" if they were predicted to achieve a 2/1 or a first class honors degree and "average" if they were predicted to achieve a 2/2 or third class honors degree. Although the division is arbitrary, somewhat artificial and crude, it was the most apt classification system and the most analogous to the division of honor and non-honor students as employed by Ward (1974).

Procedure. The procedure is identical with that of the previous experiment; the same academic article was utilized.

Results

A 2X2 analysis of variance (sex of author X academic level), method of unweighted means, was performed for each of the seven items. Analysis indicates that there were no significant main effects (Table 2). The predicted interaction was achieved on ratings of content ($p < .05$). Bright females evaluated female authored articles more negatively than male authored works although the reverse trend was apparent for average women (Table 3). This does not achieve overall significance (Sakoda, Cohen & Beall, 1954).

Experiment III

The experiment was undertaken to obtain a comparable American sample in the assessment of differential evaluation of men and women. Data from British samples have not supported the pervasive devalu -

ation that was evident in the original American studies performed in the late 1960's. Members of the Institute of European Studies, third year students in a variety of disciplines, spending an academic year abroad were tested to resolve if a pervasive devaluation of women is evident in an American sample, thus constituting a valid cultural difference, or if the pervasiveness has diminished over time.

Method

Subjects. Fourteen male and 16 female American university students at the University of Durham participated in the study.

Procedure. The procedure was identical to that of the two previous studies with the exception that questionnaires were circulated by internal post. The same academic article was employed.

Results

A 2X2 analysis of variance (sex of author X sex of subject) method of unweighted means, yielded no significant main or interaction effects for any of the seven items (Table 4).

Experiment IV

The experiment was designed to examine differential evaluation of men and women and more specifically to test the Queen Bee hypothesis within a broader context. In particular, Staines et al. suggest that professional men may exhibit a striking antifemale bias- an explanation is offered in terms of Allport's notion of exploitative advantage

and that these values are incorporated by female colleagues (Queen Bees). Within the context of the Pheterson et al. (1971) design, art students and university students were required to evaluate paintings. Students from St. Martin's College of Art, London, were chosen because of the high standards of excellence and competition for admission. Because of their artistic achievement both male (exploitative advantage) and female (Queen Bees) art students were expected to devalue female competence in this male dominated profession.

> Hypothesis: Art students will devalue works attributed to female artists in relation to works attributed to male artists, but this trend will not be apparent in university students.

Method

Subjects. Ninety-two university students, 60 males and 32 females, and 94 art students, 50 males and 44 females, participated in the study.

Procedure. Ss were told that the purpose of the experiment was to assess the ability to critically evaluate artistic works. Ss were asked to view and evaluate two paintings on a 1(unfavorable) to 10 (favorable) scale on the following characteristics: composition, use of color, technique, subject matter, warmth, sensitivity, originality, expressiveness, intensity, vitality, overall quality, artistic appeal, artistic competence and artistic potential. The slides were projected simultaneously: Painting I, an untitled watercolor depicting a small village, and Painting II, Girl in Blue, a female form (Appendix II). Sex of the artist was varied for both paintings. Ss were tested in groups.

Analysis. Each item for both paintings was analyzed by a 2X2X2 analysis of variance (sex of artist x sex of subject x educational institution), method of unweighted means. Previous studies employed mean ratings of a series of paintings (Deaux & Farris, 1975; Pheterson et al., 1969), but in this case each painting was analyzed separately. This is justified on two accounts. First, the paintings were randomly selected and could, therefore, function as a control factor, indicating the pervasiveness of experimental trends. Secondly, the experimental design warrants separate analysis. Subjects were required to rate both paintings; however, if painting I was attributed to a male artist, painting II was necessarily attributed to a female artist, and vice versa. Although this is not the optimal design from an experimental or statistical perspective, the more common counterbalancing technique which would result in $\frac{1}{4}$ of the subjects rendering evaluations on two female artists could alert the subjects to the nature of the experiment, particularly in light of the prevalence of male artists. Consequently, within this design a 2X2X2X2 analysis of variance (sex of artist x sex of subject x educational institution x painting) would be misleading as interaction effects with painting would be confounded by sex of artist. However, because analysis indicated that divergent evaluative trends were apparent in the case of painting I and painting II, subsequent t-tests were performed for each of the 14 items to judge if the paintings were, in fact, appraised significantly differently. Differential evaluations of paintings may be analyzed separately, but interaction effects of painting with other main factors may not be isolated due to the confounding factor of sex of artist.

Results

Results of the analysis are available in Tables 5 - 8. Painting I, the untitled watercolor, produced several main effects, the most obvious being the preference for a female artist on: composition, use of color, originality, artistic appeal and artistic potential ($p < .001$; see Sakoda et al., 1954). The other main effects indicated that art students produced lower evaluations for originality. Two interaction effects were also apparent. Both men and women preferred same sexed artists when evaluating use of color, and for vitality, art students preferred same sexed artists while university students gave higher evaluations to works attributed to opposite sexed artists.

Analysis of Painting II, Girl in Blue, yielded markedly different results; no main effects for sex of artist was apparent for any of the 14 items. Educational institution produced a series of main effects with art students giving more negative evaluations of use of color, technique, subject matter, warmth, sensitivity, originality, expressiveness, vitality, overall evaluation, artistic appeal, artistic status and artistic potential ($p < .001$), and sex of subject produced a main effect with males more positively evaluating subject matter ($p < .025$). More interesting, however, was the relatively consistent interaction effect between sex of artist and educational institution. Art students were most critical of female artists according them more negative evaluations for composition, technique, expressiveness, overall quality and artistic appeal ($p < .001$). No thirdeorder interaction effects were evident.

With these two divergent trends, a comparison of the comprehensive

evaluations of paintings was made to assess if the divergence may be reliant upon differential evaluations of the works. Results of analysis by t-test are presented in Table 9. For 12 of the 14 items, Painting I, the untitled watercolor, received lower mean ratings than Painting II, Girl in Blue. No significant differences were found for appraisals of composition or vitality.

Discussion

Differential Evaluation

Unlike the Goldberg data, results reported here do not support the notion of a pervasive devaluation of women in relation to men. Devaluative trends appear to be variable and are elicited by selective factors.

Examination of evaluations of academic articles by males reveals no overall bias against female authored works. Mean ratings of items denoting the quality of scholarship were not significantly different. Differential appraisals did occur in the ratings of the authors' status and competence. In the first instance, devaluation may represent not a prejudice, but a realistic view of the occupational hierarchies. To be specific, women do tend to fill the lower status academic positions, and "leaders" in scholarly pursuits are almost categorically male. It is not totally unwarranted to assume that although a woman may produce sound, academic material, her status, in relation to the male, will be slighted. Ratings of the authors' competence, however, do reflect a more genuine pro-male bias. Because the works were judged to be qualitatively equivalent,

the implicit conclusion should be that the authors are equally competent in the field. Females, however, are viewed as less competent. This would appear to support the age old argument that a woman must be better than a man to be judged his equal; it may be inferred, at least in this instance, that a woman must produce a superior example of scholarship to be judged equally competent. This exemplifies a very personalized prejudice- the denigration of women per se, rather than their academic accomplishments.

Data elicited from female students present a different picture. There was no support for a pervasive devaluation of women, neither in the appraisals of the article nor the author. In fact, although the results were not significant, there was a tendency for females to be more positively evaluated than males. It may be that females are less susceptible to the influence of stereotypes and are less prone to devalue women, as there are data to suggest that men maintain more stereotypic values. (Kitay, 1940; Meyer & Sobieszek, 1972). Alternatively, the favorable evaluations of female competence may represent a conscious denial of feminine inferiority and a resulting increment in positive appraisals.

The experimental hypothesis concerning the Queen Bee Syndrome, that "bright" women would devalue the female authored article, was not substantially supported. Only on one item, content, did the predicted interaction reach significance. Ratings of female authored works by "bright" women were lower than ratings of male authored works while the reverse trend was apparent for other women. The overall significance of the interaction effect, however, appears to be largely dependent on the inflated ratings of female authored works by "average" women.

These data do not substantially support the postulated Queen Bee Syndrome, but inherent methodological difficulties should not detract from its plausibility. The study was designed as a counterpart to an experiment undertaken with American undergraduates (Ward, 1974). The predominant problem with its operation in the British educational system lies in the artificial division of "bright" and "average" students. Although within the American system the division is also crude, the structure provides a more obvious classification. Students are continually assessed and receive a grade point average (GPA) which denotes their academic standing. The GPA has the advantage of being both concrete and obvious. The student is continually and consciously aware of her academic standing; if she is an honor student, she earns the privileges accompanying the standard. In this way American honor students more readily fit into the conceptual framework of the Queen Bee Syndrome-awareness and enjoyment of membership in a particular elite academic group. The classification of British students was less definitive as they were divided into groups on the prediction of their examination results, i.e., a status which they had not actually achieved. Feedback on scholastic quality was not evident and students were not able to enjoy comparable status of an elite academic group. Although these constraints were originally realized, a superior or more analogous experimental design was not apparent, and the study was initiated within the academic setting.

Although it is maintained that this theory may be ultimately supported (and is by later data), there is an antithetical position. In particular, it may be hypothesized that able women who do not conform to the negative

aspects of the feminine stereotype recognize this potential in other women and are, therefore, more prone to positively appraise females. Although this seems highly plausible, it is not supported by these data.

Failure to reproduce the widely replicated tendency of pervasive devaluation of women was investigated in terms of cultural differences. Research in this area has unequivocably been undertaken in the United States and the possibility that the bias is due to cultural disparities was examined. However, a sample of male and female American students did not demonstrate a promale bias in the evaluation of academic articles. As Levenson et al. (1974) contend, and these results corroborate, evaluations of professionals by college students of both sexes appear to be more objective than Goldberg's data suggest. If anything, the American sample appears less susceptible to a pervading antifemale bias.

Of the four studies, the most interesting results are apparent in the evaluations of paintings by art and university students. Data corroborate Deaux & Taynor's (1973) hypothesis that women are preferred at low levels of competence. In the case of the untitled watercolor, Painting I, works attributed to female artists were overwhelmingly preferred. This was not evident in the evaluations of Painting II, Girl in Blue, for which there was no significant main effect for sex of artist. Examination of the relative evaluations of the paintings indicates that Painting II was consistently rated more favorably (12 Of 14 items) than Painting I.

The Deaux-Taynor hypothesis of differential evaluation, that bias works two ways, is likely to be the most encompassing theory for the explanation of empirical evidence. In short, the theory states that

highly competent males are viewed more favorably than equally competent females but that females are preferred at low levels of competence. The crux of the matter lies in the definition of low, medium and high levels of competence. Consideration of individuals' interpretive ratings, independent of extraneous imposed standards of excellence, within the absolute range of the original scale, may provide a valid classification system. Extrapolating from the Deaux-Taynor conjecture concerning the appraisal of competence per se and applying it to the evaluations of scholastic and artistic works, empirical data may be interpreted in light of the premise that:

> 1) Works receiving low evaluations are preferred when attributed to females.
>
> 2) Works receiving average or medial evaluations do not evince differential appraisals by sex of author/artist.
>
> 3) Works receiving high evaluations are preferred when ascribed to males.

Data collected in the four studies reported here follow these trends. Academic articles and artistic works which received medial appraisals were not differentially evaluated with reference to sex of author /artist. By contrast, the untitled watercolor, which received relatively unfavorable appraisals from both art and university students, was preferred when ascribed to a female artist. Although the classification of low, medium and high may appear somewhat arbitrary in these instances, it is logically consistent with the scale construction, and data fit the trend predicted by Deaux & Taynor. (See Tables 1, 3, and 9 for mean evaluations and scale ranges.)

The results of those studies which report scale ranges and mean

evaluations also tend to corroborate the Deaux-Taynor hypothesis. Appraisals of those works which received medial ratings did not differ between attribution to males and females (Levenson et al., 1974; Mischel, 1974). Studies in which works receive more positive overall evaluations reflect a promale bias in appraisals (Goldberg, 1968; Etaugh & Rose, 1974). Unfortunately, original data are not available from the majority of studies to further validate this contention (Deaux & Farris, 1975; Dorros & Follett, 1969; Etaugh & Sanders, 1974; Pheterson, 1969; Pheterson et al., 1971; Starer & Denmark, 1974).

Evaluations of professionals per se rather than their academic or artistic output follow a similar pattern although the devaluation of women is more apparent. Women are still preferred at low levels of competence as proposed by Deaux & Taynor and evidenced by appraisals of the untitled watercolor; however, preference for male professionals is evinced at lower absolute levels of competence. More specifically, data suggest that even at more intermediate levels of competence males are appraised more positively- although this is not entirely consistent. This is supported by the more favorable evaluations of male authors in areas of status and competence by male undergraduates. The more pervasive preference for male competence is also reported by Deaux & Farris (1975), Etaugh & Sanders (1974), Goldberg (1968), and Pheterson et al. (1971).

It should also be mentioned that although the issue is not examined here, the sex appropriateness of the field may act as an important variable in the assessment of professional competence. Some studies suggest that female authors may be preferred in "feminine" spheres (Etaugh

& Sanders, 1974; Mischel, 1974), although results are not conclusive. It should be considered that the fields examined here, psychology and art, may be defined as sexually neutral in themselves, although the achievement of popular acclaim in the areas is particularly masculine.

To tentatively summarize, then, it appears that a two way bias is evident in the evaluations of men and women. Concerning appraisal of academic and/or artistic output there is a tendency for women to be preferred at low levels of competence and men to be more positively evaluated at higher levels while at intermediate levels differential appraisals are not apparent. In assessment of professional competence and status, females appear to be judged less favorably at both intermediate and high levels of expertise although preferred at low levels suggesting that women per se rather than their academic or artistic endeavors are devalued in relation to men. These trends become apparent by examining absolute mean ratings within the context of specific scale ranges. It is also important to note that this bias is constant only in cases where individuals' interpretive evaluations, independent of additional experimentally induced factors, e.g., comparative expert assessment, are examined. To illustrate, Pheterson et al. (1971) found that male artists were judged more competent than female artists when paintings were described as contest entries but not when denoted as winners. In the former case the status of the artist is ambiguous and males are assessed more positively; in the latter instance, where there is an additional expert assessment diminishing ambiguity, differential evaluation is not apparent. This is true even though the absolute ratings of the paintings in the winner vs. entry condition did not significantly differ. This serves to illustrate

the basic trend of differential evaluation may be affected by a number of extraneous variables.

The Queen Bee Syndrome

Analysis of Experiment IV, concerning the evaluations of artistic works, yielded impressive results which warrant further attention. For Painting I, the untitled watercolor, females were more positively appraised on five of the fourteen items- composition, use of color, originality, artistic appeal and artistic potential, reaching an overall significance of $p < .001$. In addition, art students were responsible for more negative evaluations of originality than university students. This is not surprising as art students would be expected to be more critical of artistic compositions. This tendency becomes even more apparent in the evaluations of Painting II, Girl in Blue, where art students produced more negative appraisals for use of color, technique, subject matter, warmth, sensitivity, originality, expressiveness, vitality, overall quality, artistic status, artistic appeal and artistic potential. A further significant main effect in the evaluation of Painting II is constituted by the appraisal of subject matter. In this instance, subject matter is more favorably appraised by males than females which is particularly interesting in light of the emphasis on the female form. Why women should choose to devalue the female form may have profound implications and be linked to the traditional female stereotype and notion of inferiority. Or as Bardwick & Douvan (1972) maintain, the ambivalent socialization process induces women to evaluate their bodies and personalities as second rate.

The most provocative results, however, concern the consistent interaction effect between sex of artist and educational institution for the evaluations of Painting II. Art students typically appraised compositions attributed to female artists less favorably than those attributed to males. This occurred for ratings of composition, technique, expressiveness, artistic appeal and artistic status. The fact that equally low ratings were given by both male and female art students is consistent with Staines et al.'s notion of the Queen Bee Syndrome. This construct is based on the contention that in keeping with contemporary sex role stereotypes, men regard women as the second sex and that these attitudes are incorporated by those women who attain recognition in masculine arenas. The Queen Bee Syndrome is confined to professional domains and is most apparent in those women who identify, with male colleagues rather than the diffuse concept of women as a class. Although Staines et al. do not present convincing evidence that men endorse negative evaluations of women or actively attempt to eliminate them from professional spheres, it would seem plausible in light of Allport's notion of exploitative advantage as well as hierarchical occupational prestige theories. The former assumes that economic, political and status gains may result from deliberate or even unconscious exploitation of minorities. The latter concentrates on the notion of status which is theoretically diminished with the entry of minority groups into prestigious professions. For example, Touhey (1974) found that the hypothetical addition of women into high status professions decreased occupational prestige and desirability. In this light, it is not surprising that male art students are more critical of female artists, or that female art students adopt these attitudes; university students, on the

other hand, are not threatened by the intrusion of female artists and can afford to render more positive evaluations.

Aronson (1972) postulates that an antifemale bias may be dependent upon social, political and economic factors.

> Prejudice can be considered to be the result of economic and political forces. According to this view, given that the resources are limited, the dominant group might attempt to exploit a minority group in order to gain material advantage (p.180).

His social-political theory is supported by the fact that women are preferred at low levels of competence. Society can afford to patronize women at this standard because only those at relatively high levels of competence secure employment and/or recognition. Preference for women at low levels of expertise can be tolerated because it has no ramifications in the realm of professionalism.

Traditional sex role stereotypes also encourage the approbation of women of mediocre ability. Men are expected to be independent, competent and ambitious. If they do not conform to these expectations, they are penalized for atypical role behavior- men are unsexed by failure. For women, expectations are lower and the stereotype connotes dependency and inconsistency. An incompetent woman, therefore, is sanctioned for appearing consistent with sex role standards. It is not surprising, then, that at low levels of competence women are more positively evaluated than men.

Implications

Within this framework, those who are most critical of feminine competence are those who feel particularly threatened by it. In a political context this may refer not merely to competition for jobs per se, but specifically competition from an inherently inferior minority. This is evidenced by male and female art students who devalue compositions attributed to female artists. The promale bias may be explained by the equation of femininity with inferiority and the unwillingness to allow a decline in occupational prestige. This holds true for men and women but the women have the additional necessity to protect their elitism in professional endeavors. The most ironic facet of the Queen Bee Syndrome is that these women, having achieved success, are in the best position to realize the potential of women and to abrogate the feminine allocation as the second sex, characterized by incompetency and lack of committment. Yet the logical generalization is ignored and women choose to augment their self esteem by acclaiming their uniqueness at the expense of other achievement oriented women.

Summary

Four studies were undertaken to examine differential evaluation of men and women. Results did not reflect a pervasive devaluation of women; however, women were selectively denigrated with reference to specific factors.

In cases of differential evaluation data indicated that:

1) Men devalued female authors in status and competence.

2) Female artists were preferred at low levels of competence.

3) At intermediate levels of perceived ability, art students denigrated works attributed to female artists although this trend was not apparent in university students.

Consideration of individual subjective interpretations of academic/artistic works within the context of specific scale ranges suggests that although differential evaluations are not apparent at intermediate levels of ability, females are more favorably appraised at low levels of competence while males are preferred at high levels. Evaluations of professionals follow the same trend although men are more likely to be preferred at intermediate stages. This was discussed in terms of Aronson's theory of economic and political gain, Allport's exploitative advantage and some mention of sex role stereotypes. In addition, excessively critical evaluations of female professionals was viewed as a function of an individual's "stake" in the particular case, and considered in terms of occupational prestige and the Queen Bee Syndrome.

TABLE 1

T-test: Evaluations of Academic Articles - Male subjects

Item	Author Sex	$\bar{X}$	s.d.	s.d.	t	df	p
Style	male	5.7931	1.9526	2.0156	0.0000	56	ns
	female	5.7931	2.0767				
Content	male	6.6896	1.6713	1.8863	0.5569	56	ns
	female	6.4137	2.0792				
Persuasiveness	male	7.0344	1.9546	1.7950	0.3657	56	ns
	female	6.8620	1.6197				
Profundity	male	5.3103	1.9658	1.8633	1.2684	56	ns
	female	4.6896	1.7547				
Professionalism	male	6.1034	2.0589	2.1126	1.0566	56	ns
	female	5.5172	2.1650				
Competence	male	6.3103	1.8343	1.6215	1.7004	56	.05
	female	5.5862	1.3762				
Status	male	4.8275	1.8912	1.7156	2.0664	56	.025
	female	3.8965	1.5200				

Note - Scale ranges from 1 (unfavourable) to 10 (favourable)

TABLE 2

Analysis of Variance: Evaluations of Academic Articles - Female subjects

Source	SS	df	MS	F	p
style					
Total	145.01738	33	-	-	-
A	0.03012	1	0.03012	0.00626	ns
B	0.03012	1	0.03012	0.00626	ns
AxB	0.51702	1	0.51702	0.10738	ns
Error	114.410	30	4.81471	-	-
content					
Total	151.39582	33	-	-	-
A	2.90574	1	2.90574	0.67952	ns
B	0.56255	1	0.56255	0.13155	ns
AxB	19.64280	1	19.64280	4.59355	.05
Error	128.285	30	4.27618	-	-
persuasiveness					
Total	186.00740	33	-	-	-
A	0.74951	1	0.74951	0.12943	ns
B	2.52465	1	2.52465	0.43599	ns
AxB	9.01324	1	9.01324	1.55651	ns
Error	173.720	30	5.79066	-	-
profundity					
Total	147.88563	33	-	-	-
A	4.15793	1	6.15793	1.42813	ns
B	4.07510	1	4.07510	0.94509	ns
AxB	10.29660	1	10.29660	2.38795	ns
Error	129.356	30	4.31188	-	-
professionalism					
Total	128.41576	33	-	-	-
A	11.2873	1	11.2873	2.90031	ns
B	0.10390	1	0.10390	0.02670	ns
AxB	0.02456	1	0.02456	0.00631	ns
Error	116.753	30	3.8917	-	-
status					
Total	114.09696	33	-	-	-
A	9.11276	1	9.11276	2.69809	ns
B	3.57431	1	3.57431	1.05827	ns
AxB	0.08489	1	0.08489	0.02513	ns
Error	101.325	30	3.37749	-	-
competence					
Total	88.40776	33	-	-	-
A	0.18648	1	0.18648	0.06463	ns
B	0.70719	1	0.70719	0.24284	ns
AxB	0.14929	1	0.14929	0.05126	ns
Error	87.3648	30	2.91216	-	-

Note - A = author sex

B = academic group

TABLE 3

Mean Evaluations of Academic Articles -
Female subjects

Item	Author Sex	Group Bright	Group Average
Style	male	5.14	5.45
	female	5.33	5.14
*Content	male	6.29	5.00
	female	5.33	7.14
Persuasiveness	male	5.86	5.36
	female	5.11	6.71
Profundity	male	4.14	3.73
	female	3.89	5.71
Professionalism	male	4.14	4.27
	female	5.33	5.43
Status	male	4.71	5.27
	female	5.67	6.43
Competence	male	4.57	5.00
	female	4.56	4.71

* $p \leq .05$

Role - Scale ranges from 1 (unfavourable) to 10 (favourable)

TABLE 4

Analysis of Variance: Evaluations of Academic Articles - American sample

Source	SS	df	MS	F	p
style					
Total	124.89068	29	-	-	-
A	1.55128	1	1.55128	0.38667	ns
B	5.12820	1	5.12820	1.17907	ns
AxB	5.12820	1	5.12820	1.17907	-
Error	113.083	26	4.34935	-	-
content					
Total	143.99005	29	-	-	-
A	0.15705	1	0.15705	0.02851	ns
B	0.08013	1	0.08013	0.01455	ns
AxB	0.38782	1	0.38782	0.07041	ns
Error	143.208	26	5.50800	-	-
persuasiveness					
Total	177.15992	29	-	-	-
A	0.32051	1	0.32051	0.05110	ns
B	13.1282	1	13.12820	2.09300	ns
AxB	0.62821	1	0.62821	0.10015	ns
Error	163.083	26	6.27244	-	-
profundity					
Total	115.99005	29	-	-	-
A	0.08013	1	0.08013	0.01908	ns
B	2.69551	1	2.69551	0.64174	ns
AxB	3.92628	1	3.92628	0.93476	ns
Error	109.208	26	4.20031	-	-
professionalism					
Total	148.40182	29	-	-	-
A	9.34415	1	9.34415	1.88008	ns
B	4.15384	1	4.15384	0.83559	ns
AxB	5.65383	1	5.65383	1.13733	ns
Error	129.250	26	4.97115	-	-
status					
Total	183.69228	29	-	-	-
A	6.49038	1	6.49038	1.00223	ns
B	2.33654	1	2.33654	0.36080	ns
AxB	6.49036	1	6.49036	1.00222	ns
Error	168.375	26	6.47595	-	-
competence					
Total	231.78490	29	-	-	-
A	3.08013	1	3.08013	0.38234	ns
B	5.38782	1	5.38782	0.66829	ns
AxB	2.69550	1	2.69550	0.33459	ns
Error	209.458	26	8.05608	-	-

Note - Factors: A = Author sex

B = Subject sex

TABLE 5

Analysis of Variance: Evaluations of Untitled Watercolour

Source	SS	df	MS	F	p
composition					
Total	366.56758	181	-	-	-
A	8.13730	1	8.13730	4.12630	.05
B	0.88007	1	0.88007	0.43545	ns
C	0.78231	1	0.78231	0.38708	ns
AxB	1.20085	1	1.20085	0.59417	ns
AxC	0.15103	1	0.15103	0.07473	ns
BxC	1.90535	1	1.90535	0.94276	ns
AxBxC	1.85067	1	1.85067	0.91570	ns
Error	351.660	174	2.02104	-	-
use of colour					
Total	414.22529	181	-	-	-
A	12.7294	1	12.7294	5.75200	.025
B	2.19447	1	2.19447	0.99161	ns
C	0.14216	1	0.14216	0.06424	ns
AxB	14.0362	1	14.0362	6.34247	.025
AxC	0.02221	1	0.02221	0.01004	ns
BxC	0.00036	1	0.00036	0.00016	ns
AxBxC	0.03049	1	0.03049	0.01378	ns
Error	385.070	174	2.21304	-	-
technique					
Total	4829.334	181	-	-	-
A	5.42380	1	5.42380	2.24825	ns
B	0.21794	1	0.21794	0.13179	ns
C	0.71493	1	0.71493	0.29635	ns
AxB	0.87630	1	0.87630	0.36324	ns
AxC	0.58786	1	0.58786	0.24140	ns
BxC	1.58236	1	1.58236	0.65819	ns
AxBxC	0.16385	1	0.16385	0.06792	-
Error	4819.767	174	2.41245	-	-
subject matter					
Total	371.90615	181	-	-	-
A	3.22759	1	3.22759	1.59004	ns
B	4.72274	1	4.72274	2.32661	ns
C	0.00147	1	0.00147	0.00072	ns
AxB	3.54163	1	3.54163	1.74475	ns
AxC	0.22245	1	0.22245	0.10959	ns
BxC	0.92784	1	0.92784	0.45709	ns
AxBxC	6.06243	1	6.06243	2.98659	ns
Error	353.200	174	2.02988	-	-
warmth					
Total	477.75129	181	-	-	-
A	0.40529	1	0.40529	0.18277	ns
B	0.25093	1	0.25093	0.09459	ns
C	0.68629	1	0.68629	0.25869	ns
AxB	0.58632	1	0.58632	0.22101	ns
AxC	0.18359	1	0.18359	0.06920	ns
BxC	0.91686	1	0.91686	0.34560	ns
AxBxC	3.54177	1	3.54177	1.33503	ns
Error	461.613	174	2.65295	-	-

TABLE 5 (continued)

Source	SS	df	MS	F	p
			sensitivity		
Total	352.93184	181	-	-	-
A	1.03648	1	1.03648	0.53120	ns
B	1.18279	1	1.18279	0.60619	ns
C	1.23384	1	1.23384	0.63235	ns
AxB	2.18952	1	2.18952	1.12215	ns
AxC	0.00832	1	0.00832	0.00426	ns
BxC	5.99851	1	5.99851	3.07429	ns
AxBxC	1.77538	1	1.77538	0.90990	ns
Error	339.507	174	1.95119	-	-
			originality		
Total	333.12666	181	-	-	-
A	10.4266	1	10.4266	5.91824	.025
B	0.00320	1	0.00320	0.00182	ns
C	10.7354	1	10.7354	6.09359	.025
AxB	2.38229	1	2.38229	1.35224	ns
AxC	1.28366	1	1.28366	0.72862	ns
BxC	1.34061	1	1.34061	0.74094	ns
AxBxC	0.40590	1	0.40590	0.23039	ns
Error	306.549	174	1.76178	-	-
			expressiveness		
Total	487.24828	181	-	-	-
A	0.19927	1	0.19927	0.07221	ns
B	0.28340	1	0.28340	0.10270	ns
C	0.14873	1	0.14873	0.05390	ns
AxB	3.21921	1	3.21921	1.16460	ns
AxC	3.08428	1	3.08428	1.11770	ns
BxC	0.10271	1	0.10271	0.03722	ns
AxBxC	0.05368	1	0.05368	0.01945	ns
Error	480.157	174	2.75949	-	-
			intensity		
Total	397.17053	181	-	-	-
A	1.59774	1	1.59774	0.70751	ns
B	0.98170	1	0.98170	0.43471	ns
C	0.41949	1	0.41949	0.18576	ns
AxB	0.05472	1	0.05472	0.02423	ns
AxC	0.01171	1	0.01171	0.00518	ns
BxC	0.38931	1	0.38931	0.17239	ns
AxBxC	0.77886	1	0.77886	0.34489	ns
Error	392.937	174	2.25826	-	-
			vitality		
Total	501.03963	181	-	-	-
A	4.09813	1	4.09813	1.48618	ns
B	0.15468	1	0.15468	0.05610	ns
C	1.38586	1	1.38586	0.50258	ns
AxB	0.56104	1	0.56104	0.20346	ns
AxC	2.69500	1	2.69500	0.97734	ns
BxC	0.19832	1	0.19832	0.07192	ns
AxBxC	12.1426	1	12.1426	4.40348	.05
Error	479.804	174	2.75749	-	-

TABLE 5 (continued)

overall evaluation

Source	SS	df	MS	F	p
Total	336.42664	181	-	-	-
A	6.66356	1	6.66356	3.54280	ns
B	0.25850	1	0.25850	0.13744	ns
C	0.78139	1	0.78139	0.41544	ns
AxB	0.27213	1	0.27213	0.14468	ns
AxC	0.75818	1	0.75818	0.40311	ns
BxC	0.28563	1	0.28563	0.15186	ns
AxBxC	0.13525	1	0.13525	0.07191	ns
Error	327.272	174	1.88087	-	-

appeal

Total	435.36079	181	-	-	-
A	11.4666	1	11.4666	4.92287	.05
B	0.00245	1	0.00245	0.00105	ns
C	6.63492	1	6.63492	2.84835	ns
AxB	8.73944	1	8.73944	3.75182	ns
AxC	1.19203	1	1.19203	0.51174	ns
BxC	0.08324	1	0.08324	0.03574	ns
AxBxC	1.92911	1	1.92911	0.82816	ns
Error	405.313	174	2.32939	-	-

status

Total	422.26952	181	-	-	-
A	2.74234	1	2.74234	1.16709	ns
B	0.79352	1	0.79352	0.33771	ns
C	0.00004	1	0.00004	0.00002	ns
AxB	0.96798	1	0.96798	0.41195	ns
AxC	2.76795	1	2.76795	1.17799	ns
BxC	3.88090	1	3.88090	1.65164	ns
AxBxC	2.26379	1	2.26379	0.96343	ns
Error	408.853	174	2.34973	-	-

artistic potential

Total	452.49976	181	-	-	-
A	18.4085	1	18.4085	7.48201	.01
B	0.28046	1	0.28046	0.11399	ns
C	1.44573	1	1.44573	0.58761	ns
AxB	3.25714	1	3.25714	1.32384	ns
AxC	0.00343	1	0.00343	0.00140	ns
BxC	0.45304	1	0.45304	0.18414	ns
AxBxC	0.54846	1	0.54846	0.22292	ns
Error	428.103	174	2.46026	-	-

Note - Factors: A = Artist sex

B = Subject sex

C = Educational institution

TABLE 6

Analysis of Variance: Evaluations of Girl in Blue

Source	SS	df	MS	F	p
composition					
Total	384.53688	185	-	-	-
A	0.66856	1	0.66856	0.33288	ns
B	5.03923	1	5.03923	2.50908	ns
C	6.67233	1	6.67233	0.32221	ns
AxB	0.26529	1	0.26529	0.13209	ns
AxC	9.91564	1	9.91564	4.93709	.05
BxC	0.18487	1	0.18487	0.09205	ns
AxBxC	4.29596	1	4.29596	2.13900	ns
Error	357.495	178	2.00840	-	-
use of colour					
Total	461.0976	185	-	-	-
A	6.66373	1	6.66373	2.74164	ns
B	0.19964	1	0.19964	0.08214	ns
C	11.7780	1	11.7780	4.84580	.05
AxB	0.14775	1	0.14775	0.06079	ns
AxC	5.50439	1	5.50439	2.26466	ns
BxC	0.21202	1	0.21202	0.01723	ns
AxBxC	3.95107	1	3.95107	1.62557	ns
Error	432.641	178	2.43057	-	-
technique					
Total	470.40612	185	-	-	-
A	1.96868	1	1.96868	0.83068	ns
B	0.14117	1	0.14117	0.05957	ns
C	16.5220	1	16.5220	6.97138	.025
AxB	6.96015	1	6.96015	2.93680	ns
AxC	15.0987	1	15.0987	6.37084	.025
BxC	2.47202	1	2.47202	1.04305	ns
AxBxC	5.38748	1	5.38748	2.27322	ns
Error	421.856	178	2.36998	-	-
subject matter					
Total	434.0039	185	-	-	-
A	1.91832	1	1.91832	0.89696	ns
B	11.8571	1	11.8571	5.54410	.025
C	27.2388	1	27.2388	12.7362	.001
AxB	2.78276	1	2.78276	1.30116	ns
AxC	8.17647	1	8.17647	3.82313	ns
BxC	0.38078	1	0.38078	0.17805	ns
AxBxC	0.96469	1	0.96469	0.45107	ns
Error	380.685	178	2.13868	-	-
warmth					
Total	530.19566	185	-	-	-
A	0.05816	1	0.05816	0.02212	ns
B	1.62221	1	1.62221	0.61696	ns
C	48.8526	1	48.8526	18.5798	.001
AxB	1.51814	1	1.51814	0.57738	ns
AxC	4.03333	1	4.03333	1.53397	ns
BxC	3.02481	1	3.02481	1.15041	ns
AxBxC	3.06421	1	3.06421	1.16539	ns
Error	468.0222	178	2.62934	-	-

TABLE 6 (continued)

Source	SS	df	MS	F	p
			sensitivity		
Total	585.04273	185	-	-	-
A	0.35025	1	0.35025	0.11780	ns
B	7.13071	1	7.13071	2.39838	ns
C	37.1566	1	37.1566	12.4975	.001
AxB	2.99290	1	2.99290	1.00665	ns
AxC	0.89970	1	0.89970	0.30261	ns
BxC	4.95050	1	4.95050	1.66508	ns
AxBxC	2.34407	1	2.34407	0.78842	ns
Error	529.218	178	2.97313	-	-
			originality		
Total	390.2039	185	-	-	-
A	3.07085	1	3.07085	1.55497	ns
B	0.21702	1	0.21702	0.10989	ns
C	34.2408	1	34.2408	17.3383	.001
AxB	0.61523	1	0.61523	0.31153	ns
AxC	0.17015	1	0.17015	0.08616	ns
BxC	0.05624	1	0.05624	0.02848	ns
AxBxC	0.30862	1	0.30862	0.15628	ns
Error	351.525	178	1.97486	-	-
			expressiveness		
Total	499.61945	185	-	-	-
A	0.21121	1	0.21121	0.08425	ns
B	6.66998	1	6.66998	2.66054	ns
C	31.6182	1	31.6182	12.6120	.001
AxB	0.52148	1	0.52148	0.20801	ns
AxC	11.8225	1	11.8225	4.71580	.05
BxC	1.80542	1	1.80542	0.72015	ns
AxBxC	0.72466	1	0.72466	0.28905	ns
Error	446.246	178	2.50700	-	-
			intensity		
Total	543.3424	185	-	-	-
A	2.58399	1	2.58399	0.95572	ns
B	4.56235	1	4.56235	1.68744	ns
C	8.99255	1	8.99255	3.32600	ns
AxB	3.58952	1	3.58952	1.32763	ns
AxC	7.22620	1	7.22620	2.67270	ns
BxC	3.31215	1	3.31215	1.22504	ns
AxBxC	1.54788	1	1.54788	0.57250	ns
Error	481.261	178	2.70371	-	-
			vitality		
Total	46.74884	185	-	-	-
A	0.57310	1	0.57310	0.34773	ns
B	2.77047	1	2.77047	1.19759	ns
C	15.9627	1	15.9627	6.90022	.025
AxB	7.18330	1	7.18330	3.10513	ns
AxC	7.55354	1	7.55354	3.26518	ns
BxC	8.10329	1	8.10329	3.50282	ns
AxBxC	0.48465	1	0.48465	0.20950	ns
Error	4.11779	178	2.31336	-	-

TABLE 6 (continued)

overall evaluation

Source	SS	df	MS	F	p
Total	412.86793	185	-	-	-
A	0.71152	1	0.71152	0.35535	ns
B	1.59352	1	1.59352	0.79588	ns
C	36.9963	1	36.9963	18.4771	.001
AxB	1.08347	1	1.08347	0.54115	ns
AxC	8.61807	1	8.61807	4.30412	.05
BxC	5.11670	1	5.11670	2.55542	ns
AxBxC	2.34135	1	2.34135	1.16934	ns
Error	356.407	178	2.00229	-	-

appeal

Total	136.4463	185	-	-	-
A	6.89168	1	6.89168	2.38830	ns
B	0.44474	1	0.44474	0.15413	ns
C	88.5397	1	88.5397	30.6833	.001
AxB	1.41154	1	1.41154	0.48917	ns
AxB	21.6275	1	21.6275	7.49497	.01
BxC	8.32802	1	8.32802	2.88606	ns
AxBxC	4.06676	1	4.06676	1.40933	ns
Error	5.13636	178	2.88560	-	-

status

Total	484.95868	185	-	-	-
A	7.07456	1	7.07456	2.78346	ns
B	0.07897	1	0.07897	0.03107	ns
C	19.5246	1	19.5246	7.68186	.01
AxB	1.66841	1	1.66841	0.65643	ns
AxC	2.34773	1	2.34773	0.92370	ns
BxC	0.00473	1	0.00473	0.00186	ns
AxBxC	1.84668	1	1.84668	0.72657	ns
Error	452.413	178	2.54165	-	-

artistic potential

Total	495.0843	185	-	-	-
A	1.04067	1	1.04067	0.39903	ns
B	0.89580	1	0.89580	0.34348	ns
C	19.2247	1	19.2247	7.81144	.01
AxB	0.18592	1	0.18592	0.07129	ns
AxC	0.32649	1	0.32649	0.12519	ns
BxC	7.49802	1	7.49802	2.87501	ns
AxBxC	1.68970	1	1.68970	0.64789	ns
Error	464.223	178	2.60800	-	-

Note - Factors: A = Artist sex

B = Subject sex

C = Educational institution

TABLE 7

Evaluations of Artistic Works: Means of Significant Main Effects

Painting	Item	Factor	Level	$\bar{X}$
Untitled watercolour	composition	A	I	3.19320
			II	3.63061
	use of colour	A	I	3.08151
			II	3.62859
	originality	A	I	1.95405
			II	2.44918
	appeal	A	I	2.27972
			II	2.79896
	artistic potential	A	I	3.04172
			II	3.69962
	originality	C	III	1.95041
			IV	2.45282
Girl in Blue	use of colour	C	III	3.98480
			IV	4.50607
	technique	C	III	3.48537
			IV	4.10287
	subject matter	C	III	3.00772
			IV	3.80058
	warmth	C	III	4.00140
			IV	2.93958
	sensitivity	C	III	4.20713
			IV	3.28111
	originality	C	III	3.05339
			IV	2.57353
	expressiveness	C	III	3.02439
			IV	3.87863
	vitality	C	III	2.56907
			IV	3.17405
	potential	C	III	3.99651
			IV	4.25767
	status	C	III	3.69944
			IV	4.37071
	appeal	C	III	2.57764
			IV	4.00711
	overall evaluation	C	III	3.06132
			IV	3.98535
	subject matter	B	I	3.66571
			II	3.14259

Note - Factors: A = Artist sex
B = Subject sex
C = Educational institution

Levels: I = male
II = female
III = St. Martin's Art College
IV = University of Durham

Scale ranges from 1 (unfavourable) to 7 (favourable)

TABLE 8

Evaluations of Artistic Works: Means of Significant Second Order Interaction Effects

Painting	Item	Artist Sex	Factor: Educational institution St. Martin's	Durham
Girl in Blue	composition	M	3.63624	3.55028
		F	3.28209	4.15287
	technique	M	3.67394	3.70114
		F	3.29679	4.50460
	expressiveness	M	3.25066	3.58254
		F	2.79813	4.17471
	overall evaluation	M	3.22024	3.69829
		F	2.91241	4.27241
	appeal	M	2.73148	3.45446
		F	2.42380	4.55977

			Subject sex M	F
Untitled watercolour	use of colour	M	3.28517	2.90784
		F	3.22778	4.02941

Note - Scale ranges from 1 (unfavourable) to 7 (favourable)

TABLE 9

T-test: Evaluations of Untitled Watercolour and Girl in Blue

Item	Painting	$\bar{X}$	SD	SD	T	df	p*
composition	A	3.5000	1.409	1.860	1.04	181	ns
	B	3.6429	1.456				
use of colour	A	3.4835	1.533	2.112	4.18	181	.001
	B	4.1374	1.611				
technique	A	3.3077	1.503	2.219	3.54	181	.001
	B	3.8571	1.612				
subject matter	A	3.0000	1.437	1.997	3.42	181	.001
	B	3.5055	1.537				
warmth	A	3.0989	1.552	2.269	3.01	181	.003
	B	3.6044	1.742				
sensitivity	A	2.6758	1.390	2.275	6.55	181	.001
	B	3.7802	1.816				
originality	A	2.2473	1.350	1.735	2.61	181	.01
	B	2.5824	1.483				
expressiveness	A	3.0934	1.614	2.151	3.17	181	.002
	B	3.5989	1.662				
intensity	A	2.6538	1.504	2.114	3.51	181	.001
	B	3.2033	1.644				
vitality	A	2.8681	1.626	2.138	1.53	181	ns
	B	3.1099	1.608				
overall evaluation	A	3.0165	1.348	1.964	4.08	181	.001
	B	3.6099	1.507				
appeal	A	2.5549	1.543	2.458	4.55	181	.001
	B	3.3846	1.870				
status	A	3.4121	1.545	1.957	4.17	181	.001
	B	4.0165	1.606				
artistic potential	A	3.4121	1.601	2.026	3.70	181	.001
	B	3.9610	1.618				

Note - Scale ranges from 1 (unfavourable) to 7 (favourable)

Paintings - A = Untitled watercolour
B = Girl in Blue

* two tailed

CHAPTER 3 DIFFERENTIAL EVALUATION OF MALES AND FEMALES (OCCUPATIONAL SUITABILITY)

Introduction

Examination of sex stratification in the labor force highlights differential evaluation of men and women with regard to social structure. Although women compose 40.6% of the labor force, they are concentrated in three industries- distributive trades, scientific and professional occupations (teachers and nurses) and miscellaneous services (catering), and possess only 73.5% the earning power of men (Department of Employment, 1977). In addition, women are confined predominantly to low status positions accounting for only 17.2% of management, 21.1% of industrial supervisors and 10.6% of professionals (Census, 1971). While a portion of this difference may be explained by the fact that women are channeled into a few occupations and are less likely to remain in the labor force and work shorter hours, a residual remains to be explained.

Ferber & Huber (1975) cite three social explanations for the persistence of structural inequality between the sexes- economic profit, psychological benefit and subordinate justification. The economic and psychological explanations parallel what Allport terms the exploitative advantage, economic, political, sexual and status gains resulting from overt discrimination. First, sexual discrimination is obviously profitable. Both the managers who pay women less than comparably educated men and the male professionals and blue collar workers whose jobs are protected by legal or customary rules that exclude women benefit from this economic exploitation. Alternatively, discrimination can be viewed as psychologically

profitable functioning as an ego crutch for insecure personalities by delimiting a lower status group, which by contrast, may contribute to enhancement of prestige and augmentation of self esteem of the dominant group, This explanation is particularly popular because the onus for discrimination is shifted to an amorphous collectivity, and education, an effective but dilatory process, is proposed as the most efficacious remedy, thus resulting in delayed social change. The third alternative rests on the supposition that the attitudes of the minority group explain their subordinate predicament. Although this explanation, which Allport terms the earned reputation theory, is incomplete in that it ignores social pressures which influence the subordinate group's attitudes, superficially, it can be very compelling. For example, evidence from Horner who maintains that women are motivated to avoid success and from Goldberg who has demonstrated a tendency for women to devalue females in relation to males would suggest that this may be the most appropriate explanation for sexual discrimination- the implication being that women are, in fact, inferior and have accepted their station. Although each explanation, in turn, appears highly plausible, its appropriateness varies as a function of a particular instance of discrimination.

Discrimination may be distinguished from prejudice in that it implies <u>action</u> rather than an attitudinal predisposition. More specifically, discrimination may be defined as "any conduct based on a distinction made on grounds of natural or social categories which have no relation to either the individual capacities or merits or concrete behavior of the individual person (Allport, 1954, p. 52)." If sex stratification in the profes-

sions reflect a promale bias, this exemplifies discrimination rather than prejudice as it directly involves explicit legislated or customary policies designed to restrict women rather than covert attitudes about them. Prejudice can only be inferred from discrimination, although it is possible to detect the former without the latter and vice versa. Empirical investigations of discrimination are more easliy achieved as behavioral responses can be isolated and quantified as contrasted with attitudes which are not as obviously definable or measurable, and studies of discriminatory patterns may ultimately provide valuable information about factors affecting prejudice.

Results of studies concentrated on differential assessment of men and women in occupational suitability may be expected to follow the trends of evaluations of male and female professionals in that individuals, in the context of sex roles, rather than their professional accomplishments are appraised. This would suggest a strong tendency for males to be more positively evaluated except at either low levels of competence or in low status, unskilled jobs. However, sex appropriateness of occupation could also appear as an important factor, and although research in this field is not abundant, empirical evidence suggests that women are most frequently denigrated in highly prestigious, masculine professions.

Fidell (1970) verified sex discrimination in hiring practices for academic psychology. Resumés of ten hypothetical psychologists were forwarded to departmental chairpersons in over 200 universities who were asked to judge, as part of a longitudinal study of careers in psychology, the probability of each applicant receiving a full time position within their department. Fidell found that candidates described as female

were offered lower positions than when depicted as male. The modal level of offer for women was assistant professor as contrasted with associate professor for men. Likewise, Rosen & Jerdee (1973; 1974a, b,c) reported that average male applicants are more frequently accepted as managers and are more highly evaluated on general suitability than females.

Brief & Wallace (1976) maintain that a sex bias against women is not apparent in neutral sex typed occupations. Designing an evaluative study, they found that male and female library administrators were not appraised significantly differently on employee performance. Brief and Wallace argue that studies on differential evaluations in occupational suitability should be focused on the job sex typing phenomenon rather than general, person centered sex stereotypes. This gains support from Nilson (1976) who found that individuals who violate role expectations in occupational choice are accorded lower social standing than those who conform.

As with sex appropriateness, occupational prestige plays a large part in the evaluation of vocational suitability. Hamner, Kim, Baird & Bigoness (1974) reported that female grocery clerks were more favorably assessed on task performance than males. With these results they postulate that the position "is a low level unskilled task which a male could be expected to hold, and when the female performs equally well on the task, she is seen as being a better performer than the male (p.709)." This is consistent with Bose's (1973) findings that women are accorded greater status in low paid, blue collar jobs while the reverse is true in highly male typed, prestigious positions.

In the light of this evidence three studies were designed to examine, in a broad context, differential evaluation of men and women in occupational suitability. The studies focus on the effects of sex appropriateness and prestige on differential evaluation and touch on the distinction between evaluative and conative (potential discrimination) components of prejudice in the appraisal of prospective employees.

Experiment V

The experiment was designed to investigate differential evaluation of men and women as potential employees with specific reference to sex typing of occupations.

> Hypothesis: Candidates (with average qualifications) will be more negatively appraised when described as female, particularly in male dominated occupations.

Method

Subjects. One hundred questionnaires were distributed and 44 Open University students, 23 males and 21 females, attending a social science summer school session returned completed copies. The subjects ranged in age from 24-58, median age 34.5, and were varied in educational, occupational and religious backgrounds.

Materials. The questionnaire presented a brief description (scope and required training) of six occupations: architect, hairdresser, university lecturer, social worker, baker and mathmatician (adapted from Priestley, 1973). Because the hypothesis centered on the denigration of women in male dominated professions, two examples, architect and mathmatician,

were included. However, other occupations (defined a priori) were included for comparative purposes: feminine profession- social worker, more neutral profession- lecturer, low status female occupation- hairdresser, and low status male occupation- baker. In addition, a brief resumé of an "average" candidate described as either male or female was presented for each occupation. To check for possible effects of serial positioning, occupations were presented in a standard (architect, hairdresser, lecturer, social worker, baker and mathmatician) and reverse order (Appendix III).

Procedure. Ss were informed that the purpose of the experiment was to obtain opinions concerning qualifications for different occupations and were instructed to read the resumés of each candidate and rate him/her on a 1(low) to 7(high) scale as a prospective employee. In each case the S assumed the role of personnel manager. In addition, Ss were requested to appraise each occupation as feminine-masculine on a 1-7 scale. Ss completed the questionnaires at their own convenience and returned them before the end of the summer school session.

Results

Initially data were analyzed in a 2x2 (applicant sex x order) analysis of variance, method of unweighted means , to check for effects of serial positioning on evaluations of applicants. Analysis revealed no significant main or interaction effects (Table 10). Consequently, order was collapsed as a factor and the main analysis, 2x2 (sex of applicant x sex of subject) analysis of variance, method of unweighted means was

performed (Table 11). Results indicated a preference for female lecturers ($p < .025$) who received a mean evaluation of 6.48701 as compared with the males' rating of 5.54167. In addition, a seemingly spurious tendency that females more positively evaluated bakers ($p < .05$) occurred. Mean ratings of applicants are available in Table 12.

Mean ratings of occupations in terms of masculinity/femininity are presented in Table 13. A Pearson correlation was performed to assess the relationship between the evaluations of male and female candidates and the sex appropriateness of the field (Table 14). An indication of more positive evaluations of an employee with sex appropriateness of occupation would be evinced by a significant positive correlation for males and negative for females. Male hairdressers were evaluated more positively by those who viewed this as a sex appropriate occupation ($p < .002$). Conversely, females were appraised more positively in the fields of hairdressing ($p < .02$) and social work ($p < .04$) the less feminine the occupation was viewed.

Experiment VI

The absence of a promale bias in the assessment of occupational suitability consequently prompted an expansion of Experiment V and an attempt to apply the Deaux-Taynor "bias works two ways" theory to this specific measurement of differential evaluation. In particular the influence of the level of qualification on the assessment of prospective employees was investigated.

> Hypothesis: In keeping with the Deaux-Taynor theory, females will be preferred at low levels of competence but males will be more positively evaluated at high levels of qualifications.

Method

Subjects. Sixty questionnaires were distributed and thirty-eight women, members of a local mother and toddlers play group participated in the study, returning questionnaires at their convenience.

Materials and Procedure. The questionnaire contained a brief description (scope and required training) of 12 occupations: geologist, interior designer, teacher of the handicapped, economist, telephonist, dental hygienist, architect, lecturer, baker, hairdresser, social worker and mathematician (adapted from Priestley, 1973; see Appendix III). In conjunction with each occupational description were the resumés of three prospective employees. Ss were instructed to rate each candidate on a 1(low) to 7(high) scale on three characteristics- employability, status and likability. Employability was defined as "the suitability of a candidate for employment in a specific field," and status was described as "the occupational prestige the candidate is likely to achieve in the field." It was suggested that both are dependent upon the applicant's educational and occupational history. Likability was taken to refer to the subjects' attraction or affective inclinations toward the candidate.

The resumés were purposely constructed to present a low, medium and highly qualified applicant in each profession. On seven occupations (geologist, interior designer, architect, lecturer, baker and mathematician) one female applicant was presented appearing ~~either~~ as the low, medium or highly qualified applicant. On five occupations (teacher, telephonist, hairdresser, dental hygienist and social worker) the male applicant appeared

at one of the three levels of qualification. This resulted in three forms of the questionnaire to allow both male and female applicants to appear at each level of qualification.

Resumés were identical with the exception of the variation of sex of the applicant. The order of presentation of low, medium and highly qualified applicants was varied between occupations. Personal attributes such as age, marital status, and number of children were varied, though not systematically, over level of qualification through professions..

Ss were told that the purpose of the study was to obtain opinions concerning qualifications for different occupations and were instructed to rate each candidate on the three previously mentioned characteristics. In addition, Ss were requested to rank the 12 occupations in terms of prestige from the most to least prestigious.

Analysis. The data were analyzed by a two factor, mixed design analysis of variance, method of unweighted means, for each occupation. The 3x3 design consisted of levels (repeated factor) by sex allocation. The levels factor is defined by the degree of qualification (low, medium, high) and sex allocation refers to the position of the minority sex within the levels. For example, in male dominated professions sex allocation can be designated by 1)MMF (female high level of qualification), 2) MFM (female, medium level of qualification) and 3) FMM (female, low level of qualification). Likewise, in female dominated professions, sex allocation would be delimited by 1) FFM, 2) FMF or 3)MFF. Consequently, any resulting significant main effect for sex allocation implies a sex x level effect. Likewise, a level x sex allocation interaction infers a main effect for sex

of applicant.

Results

Results are presented in Table 15. Ratings of status and employability were significant by levels for all 12 occupations. Distinctions between low, medium and high levels of qualification occurred in the expected order for geologist, architect, mathematician, dental hygienist, hairdresser, teacher, lecturer, economist, interior designer, and baker. However, in the evaluative ratings of status of candidates described as social workers the a priori expected medial applicant was not distinguishable from the high ($X_m = 5.447$, $X_h = 5.421$), and for telephonist the medial applicant was evaluated less positively than the least qualified ($X_m = 4.079$, $X_l = 4.342$). See Table 16.

Male geologists ($X = 4.9333$) were preferred to females ($X = 3.7297$) in employability as indicated by a sex allocation x level interaction effect ($p < .025$). In addition, male economists ($X = 5.3026$) were rated marginally higher in status than females ($X = 4.9729$, $p < .06$).

For the position of lecturer there was a main effect for sex allocation implying a sex x level interaction. For employability females were preferred at high levels of competence ($X_f = 6.200$, $X_m = 5.6842$), but were devalued at intermediate levels ($X_f = 4.250$, $X_m = 5.4285$) and were appraised similarly at low levels ($X_f = 4.6153$, $X_m = 4.666$). For status a similar trend occurred with females being more positively evaluated at high levels ($X_f = 6.130$, $X_m = 5.6363$), devalued at intermediate levels ($X_f = 4.444$, $X_m = 5.2142$) but preferred at low levels ($X_f = 5.000$, $X_m = 4.4583$).

In general, Ss reported the greatest liking for the most qualified applicants. This was apparent in evaluations of telephonist ($p<.001$), baker ($p<.002$), architect ($p<.001$), hairdresser ($p<.001$) dental hygienist ($p<.05$, teacher ($p<.001$) and interior designer ($p<.001$). For geologist, however, the intermediate candidate was preferred ($p<.025$). No differences emerged in likability ratings of economist, lecturer, social worker or mathmatician by levels. In addition, female dental hygienists ($\bar{X} = 4.6901$) were preferred to males ($\bar{X} = 4.2432$), but male economists were liked more than females ($\bar{X}_m = 4.6756$, $\bar{X}_f = 4.270$).

The mean rank order of occupational prestige emerged as follows: architect (2.5), lecturer (3.3), economist (3.7), geologist (4.3), mathmatician (4.6), social worker (6.1), teacher (6.3), interior designer (6.9), dental hygienist (8.7), baker (10.4), hairdresser (10.8) and telephonist (10.9).

Experiment VII

Results of the previous experiments did not reveal a pervasive devaluation of females in occupational suitability. Although male candidates were more positively assessed in two areas, geologist and economist, this trend was not consistently apparent in male dominated, prestigious fields. The most surprising result, and the only one which reflects a favorable bias toward women, was the preference for female university lecturers. With this in mind a third experiment was designed which emphasized the conative rather than the evaluative component of attitudes toward working women, and thereby, attempted to examine the previous

biases as potentially artifactual.

Pilot Study

Method

Subjects. Thirty-one first year psychology students completed the preliminary questionnaire within a practical class.

Materials and Procedure. A pilot questionnaire was devised which instructed Ss to evaluate three applicants, sex unspecified, X, Y, and Z in four occupations on a 1 (low) to 7 (high) scale on the basis of a brief resumé. The resumés were constructed with the intention of presenting two equally qualified applicants and a third less qualified candidate, so that the resumés could be employed in the main experimental investigation. The four occupations were chosen on the basis of previous experimental results. In particular, two occupations which had previously induced a sexual bias were selected (geologist, lecturer) as well as a stereotypically male and female profession which did not evince a bias (architect, social worker).

Results

Table 17 presents the results of a one way analysis of variance which was performed on the evaluative ratings of resumés for each occupation. In each case the F ratio indicated a significantly different evaluation of candidates: geologist ($p < .025$), social worker ($p < .025$), lecturer ($p < .025$), and architect ($p < .001$).

A t-test for multiple comparisons was then performed indicating

that two of the three applicants were not differentially evaluated but that both were more favorably appraised than the third (Table 18). This provided the necessary material for the experimental study.

Experiment

Method

Subjects. Thirty two male and 32 female undergraduates participated in the study. The majority of students completed the questionnaire in a practical class. The remaining students, who were sought to equalize the numbers, received the questionnaires in practical classes but returned them to E at their convenience. Half of the males and half of the females completed form A of the questionnaire and half of each completed form B (Appendix III).

Materials and Procedure. Ss received a questionnaire containing the resumés of three candidates, pre rated by the original group, in four occupations (geologist, social worker, lecturer and architect). Ss were instructed to role play a personnel manager, to select one of the three candidates for employment and to state the reasons for the selection. Two forms of the questionnaire was administered; one half described one of the previous highly qualified applicants as male and the other as female while the sex of the highly qualified applicants was reversed on the complementary form. The third candidate, who served as a "buffer" to undermine an obvious choice between male and female, was always described as male. This design differs from previous experimentation

in that it forces Ss to choose an employee rather than allowing for independent evaluations. In this sense the design emphasizes the conative component of attitudes toward working women rather than the evaluative factor.

Results

Data were analyzed by a binomial test for significance of a proportion separately for male and female Ss (Bruning & Kinitz, 1968). This test relies on the underlying assumption that of the two highly qualified applicants males should be chosen 50% of the time. Consequently, for purposes of this analysis, data are lost in those instances that the least qualified applicant is chosen. In this analysis z scores are derived from the formula $z = \frac{p - P}{\sqrt{\frac{P(1-p)}{N}}}$ when p = observed proportion, P = the expected proportion and N = number of cases. Tables 19 and 20 present z scores and frequency of responses, respectively.

A preference for female lecturers was not apparent but the analysis indicates that there was an overwhelming preference for male geologists by female Ss. ($p < .005$). No significant differences in the frequency of choice for males or females in either social work or architecture occurred.

Although most Ss stressed their perception of educational and occupational experience as the prime factors influencing choice of employee, some interesting discrepancies emerged. First, the minority who chose the "buffer" candidate attributed the bright youth image to him inferring that although he was younger and less experienced, he had more

promise. Marriage and family emerged as a positive influence for the choice of male candidates, the implication centering on the augmented stability and increased acceptance of responsibility. However, marriage was considered as a liability for women except in the field of social work where child rearing was viewed as lending insight into domestic problems. In only one instance was women's equality mentioned, and in that case by a male S_ who supported selective preference for women to achieve occupational equality of the sexes.

Discussion

As with the evaluation of professional expertise the results of these studies do not indicate a pervasive devaluation of women in occupational suitability. Although previous findings would suggest that devaluation of women in occupational suitability is highly probable due to the emphatic assessment of the individual rather than professional achievement, results do not support this premise. More specifically, results of experiment VI (evaluations of candidates depicted as architects, social workers, bakers, hairdressers, lecturers and mathmaticians) ran counter to the argument maintained in Chapter Two.- that at high levels of competence males are preferred to females. Although, in this instance, resumés were designed to portray an "average" candidate in various occupations, applicants received very favorable evaluations with mean ratings ranging from 5.00 to 6.02 on a 1-7 scale (Table 12). Nevertheless, even with such positive appraisals, in no instance was the male more favorably assessed than the female, even in traditionally masculine professions. And contrary

to expectations, female lecturers were more positively evaluated than males.

Experiment VI, which was designed as an expansion of experiment V, also largely failed to yield a promale bias. Over 12 occupations- geologist, interior designer, teacher, economist, telephonist, dental hygienist, architect, lecturer, baker, hairdresser, social worker and mathmatician- males were rated as more suitable employees than females in geology and as possessing more status as economists. For the most part introduction of level of qualification as a main factor to investigate Deaux & Taynor's "bias works two ways" supposition did not influence evaluations of male and female applicants. Although evaluative ratings did distinctly delimit a low, medium and highly qualified applicant, the prediction that males would be preferred at high levels of expertise and females at low levels of competence was not supported. In fact, contrary to this hypothesis, highly qualified female lecturers were preferred to equally qualified males in both employability and status; the reverse was true at intermediate levels of qualification.

Examination of those occupations which did produce more favorable evaluations of males reveals a concentration in those fields which appear both male dominated and prestigious. Although the preference for male geologists as employees and male economists in status attainment does not constitute overall statistical significance as defined by Saltoda et al. (1954), the very nature of the professions warrants special comment. Both appear to be male dominated, but more importantly, highly prestigious, as indicated by their rank order in the prestige hierarchy. It is not surprising that women should be devalued in these fields, what

is surprising is that the devaluation is not consistent in professions with similar characteristics, for example, architecture or mathematics.

Because female geologists and economists received more negative evaluations than males the resumés were analyzed for factors which may have specifically contributed to the devaluation of women. For example, later experimentation indicated that marriage and family may act as liabilities. For geologist, only one candidate was described as married, which is unlikely to be responsible for the overall devaluation of female geologists. However, the synopsis of the profession does suggest that physical toughness is required for field work, and this may have induced a promale bias on the basis of strengfh and physical stamina. Reasons for women's more negative evaluation in status as economists are not so apparent, particularly due to the fact that differential appraisal was not manifest in the assessment of employability.

In the light of previous results and a realistic look at the composition of the contemporary labor force, the promale bias in occupational suitability is very slight indeed. It is postulated that the failure to replicate previous experimental trends may be largely due to the subject sample. The two prime studies which demonstrated discrimination against women were undertaken as field studies. Fidell verified discriminatory practices in hiring for academic positions by sampling departmental chairpersons. Likewise, Rosen & Jerdee concluded that males are favored in selection, promotion and career development decisions by questionning executive managers. Alternatively, Soto & Cole found no bias in personnel selection when students were requested to role play departmental managers, nor did Brief & Wallace who instructed students to exercise

supervisory abilities in the evaluation of library administrators. It may be that subjects who participated in the experiments reported here being older and relatively less educated, may be unwilling to devalue occupational candidates in general and consequently, do not assume a promale bias.

This supposition can be supported by evidence presented in Chapter Two. To illustrate, a small promale bias was present in university students when evaluating academic articles. Students, who are familiar with discerning assessment of scholastic works, do not hesitate to criticize academic compositions. Similarly, art students, well schooled in artistic endeavors, evinced a preference for paintings attributed to male artists, a bias which was not prevalent in university students. It seems probable that familiarity, competence and/or experience in an area is required before selective devaluation occurs. This is supported by Pheterson (1969) who found no promale bias in the evaluation of academic articles by relatively uneducated women and by Deaux & Taynor (1975) who reported a more positive appraisal of male candidates to study abroad than equally qualified females by university students.

Perhaps the most surprising result is the rather consistent preference for female lecturers apparent in experiments V and VI. The profession is largely male dominated and has been appraised as highly prestigious; the results are even more unusual when it is considered that a similar profemale bias did not emerge in evaluations of teachers. Two potential explanations are probable, but neither can be delimited as the sole cause.

The first explanation focuses not on theory of sex role stereotypes but on experimenter demand characteristics and social desirability factors.

Both Orne (1962) and Reicken (1962) have demonstrated that subjects make special efforts to please the experimenter or confirm the perceived hypothesis. In these studies the experimenter was known to subjects as either a course tutor or as a research psychologist at the local university. Sex of the experimenter could, therefore, likely influence subjects' evaluations of female lecturers. More specifically, in a conscious or unconscious effort to please the experimenter subjects may have more positively appraised female academics.

The alternative explanation centers on sex role stereotypes and concern Taynor & Deaux's (1973) equity theory. Mackie (1976) has reported that female professors were perceived as more competent than male instructors by university students. Although she does not provide a detailed explanation she suggests that the findings may be interpreted in light of Epstein's (1970) supposition that routine accomplishments of a highly visible minority may be positively exaggerated. Similarly, these results may be explained in terms of Taynor and Deaux's equity theory, i.e., that individuals performing tasks under nonvoluntary constraints are viewed as more deserving of reward. For example, Taynor & Deaux empirically demonstrated that women performing successfully in an emergency situation were rated more positively, judged to expend more effort and merited greater reward. The implication in this instance is that women who achieve in spite of their sex are more highly regarded than men.

Initially this theory appears contradictory to the "bias works two ways" phenomenon (preference for females at low levels of ability and for males at high levels of competence). However, examination of question-

naire formats sheds light on this apparent contradiction. In the original set of experiments subjects were given no specific information concerning the artists and authors, Inferring from the perceived quality of academic and artistic compositions, subjects reflected a tendency to devalue females in status and competence at high levels of qualification but to prefer them at low levels. This trend is consistent with traditional sex role ideology- men are suited to success and women are excused for failure. In this instance, the ambiguity shrouding the artist /author enhances the tendency to favor males. However, in the second set of experiments where female lecturers are preferred, subjects were allowed to become more familiar with the ratees, and attention was drawn to the unambiguous presentation of the individuals achievements. In this case subjects became more aware of the females' achievements, in spite of nonvoluntary restraints, and reward them accordingly. Consequently, females are preferred at high levels of competence. Still, this explanation does not clarify why this trend is only apparent in lecturing. It can only be postulated that by comparison to the other professions ranked as prestigious subjects are more willing to concede sexual equality in this one which is composed of more women than perhaps architecture, geology or mathmatics.

Experiment VII was designed to examine attitudes toward working women from a different perspective shifting the emphasis from the evaluative to conative component of attitudes. In this study the subjects were required to select a set of candidates for employment, forcing a direct choice between male and female. as opposed to the independent evaluation of each applicant. For three of the four occupations the same trends emerged

as with the evaluative studies- male geologists were preferred to females, but male and female social workers and architects were chosen with equal frequency. However, the preference for female lecturers which was strongly evidenced in the evaluative studies was not apparent in this instance.

It is, of course, possible that a sample of sophisticated university students were not perceptive to experimenter demands as the adult population who participated in the original studies and did not view pleasing a female experimenter as rewarding. Alternatively, the preference for female lecturers may be considered artifactual, only emerging in evaluative assessments. There is a third possibility which can only be deemed speculative- that is, there exists a blatant discrepancy between the conative and evaluative components of attitudes. This, however, rests on the untestable assumption that subjects in this experiment, as others, experienced more positive perceptions of females, but that this did not affect their dispositions toward hiring them. Although this proposition is experimentally unverified, it has the most interesting implications- that prejudice does not necessarily result in discrimination, and that although female competence is acknowledged, it may have little effect on professional attainment.

Finally, a mention of interpersonal attraction should be made. Previous research by Spence, Helmreich & Stapp (1975a), who allowed students to view videotaped versions of male and female stimulus persons, demonstrated that the opposite sex was found more attractive overall but for females, the competent stimulus person with masculine interests was preferred to the feminine counterpart. Spence et al.'s results sug-

gest that although males may be liked more by female sujbects, a masculine sex role orientation or a high level of competence should not decrease the liking of a female professional. Alternatively, it may be intuitively hypothesized that males or females in atypical occupations may be defined as deviant and liked less than their traditional colleagues. Spence's findings are supported in that generally subjects did prefer the most qualified candidates. However, sex appropriateness of the occupation did appear to affect attraction towards the hypothetical candidates. Male economists were preferred to females, but female dental hygienists were liked more than males. Although females are not censured for competence as postulated by Horner, it appears that individuals of both sexes may be socially penalized for choosing sexually atypical professions.

Implications

The discrepancy between reality, the composition of the labor force, and the attitudes reflected in these questionnaires appears difficult to reconcile. Although low percentages of women in high status occupations might be taken to demonstrate that women are uninterested or incapable in demanding positions, these attitudes are not inferred by questionnaire responses.

If this method of measurement is accurately assessing attitudes, results indicate that prejudice against working women is not a pervasive factor but mostly characteristic of select groups, in particular, those who have the active opportunity to practice discrimination (Fidell, 1970; Rosen & Jerdee, 1973, 1974). Very little differential evaluation of men

and women in terms of occupational suitability was present in these experiments. However, sex appropriateness and occupational prestige did appear as important factors influencing differential appraisals with females being more negatively assessed in highly prestigious, male dominated professions.

The results of the first seven experiments taken as a whole indicate that ambiguity and level of competence interact in the evaluation of males and females. With sustained ambiguity, evaluative tendencies reflect the "bias works two ways" phenomenon, with females being preferred at low levels of competence and males more positively appraised at higher levels (Chapter Two). However, when dimunition of ambiguity concerning professional achievement occurs, the equity theory accounts for the results. Familiarized with the female's accomplishments, achieved in spite of nonvoluntary restraints, subjects reward her accordingly by more positive evaluations at high levels of competence. These theories may initially appear contradictory but constitute plausible explanations of the findings resulting from disparate experimental methodologies.

Essentially, then, may factors can modify differential evaluation of men and women. Sex appropriateness and prestige of endeavors, amount of ambiguity, level of competence, subject sample and measurement techniques may all influence the assessment of prejudice against women.

Summary

Three studies were designed to assess differential evaluation of men and women in terms of occupational suitability. A pervasive promale

bias was not apparent although males were preferred in some, though not all, of the male dominated, prestigious professions (geology, economy). It was postulated that the absence of a strong promale bias may be related to the subject sample, who as older and less experimentally sophisticated adults, may be unwilling to devalue job applicants in general.

Surprisingly, a preference for female lecturers emerged in the two evaluative studies, although it was not apparent in the final experiment in which subjects were required to select an employee. It could be that in the first instances subjects more positively evaluated female lecturers in an effort to please the experimenter, known to them as a tutor or research psychologist. Alternatively, these results may suggest that the preference is artifactual, highlighting the discrepancy between the evaluative and conative components of attitudes.

The preference for female lecturers at high levels of qualification, results countering the hypothesis supported in Chapter Two, was explained by the equity theory. In particular, women who achieve professional status, working against nonvoluntary restraints, are seen as more deserving of reward. The equity theory, in contrast with the "bias works two ways" phenomenon, is evident in instances of diminished ambiguity.

Finally, interpersonal attraction was briefly examined. Results indicated that although women are not censured for competence per se, they may be socially penalized for pursuing sexually deviant occupations. In the same way, sex appropriateness of profession influences attraction towards men.

TABLE 10

Analysis of Variance: Evaluations of Occupational Suitability - Effects of order

Source	SS	df	MS	F	p
Architect					
Total	55.74357	43	-	-	-
A	1.88758	1	1.88758	1.45697	ns
B	1.51111	1	1.51111	1.16638	ns
AxB	0.52288	1	0.52288	0.40360	ns
Error	51.8220	40	1.29555	-	-
Lecturer					
Total	75.07686	43	-	-	-
A	8.36601	1	8.36601	5.43642	.025
B	5.02483	1	5.02483	3.26525	ns
AxB	0.13072	1	0.13072	0.08495	ns
Error	61.5553	40	1.53888	-	-
Social worker					
Total	36.73319	43	-	-	-
A	0.01176	1	0.01176	0.01355	ns
B	1.98823	1	1.98823	2.28972	ns
AxB	0.000002	1	0.000002	0.000002	ns
Error	34.7332	40	0.868331	-	-
Hairdresser					
Total	86.22903	43	-	-	-
A	0.60425	1	0.60425	0.31125	ns
B	7.85130	1	7.85130	4.04442	ns
AxB	0.11798	1	0.11798	0.06077	ns
Error	77.6555	40	1.94139	-	-
Baker					
Total	105.45327	43	-	-	-
A	2.76601	1	2.76601	1.11733	ns
B	0.13072	1	0.13072	0.05280	ns
AxB	3.53464	1	3.53464	1.42782	ns
Error	99.0219	40	2.47555	-	-
Mathematician					
Total		43	-	-	-
A	0.44739	1	0.44739	0.18300	ns
B	0.11797	1	0.11797	0.04826	ns
AxB	5.60817	1	5.60817	2.29400	ns
Error	97.7886	40	2.44471	-	-

Note - Factors: A = Applicant sex

B = Order of presentation

TABLE 11

Analysis of Variance: Evaluations of Occupational Suitability

Architect

Source	SS	df	MS	F	p
Total	52.50936	43	-	-	-
A	1.98278	1	1.98278	1.71420	ns
B	2.80729	1	2.80729	2.42703	ns
AxB	1.48139	1	1.48139	1.28073	ns
Error	46.2679	40	1.15668	-	-

Lecturer

Total	76.16464	43	-	-	-
A	0.10318	1	0.10318	0.06173	ns
B	9.20066	1	9.20066	5.50461	.025
AxB	0.00290	1	0.00290	0.00174	ns
Error	66.8579	40	1.67145	-	-

Social worker

Total	35.94807	43	-	-	-
A	0.17509	1	0.17509	0.20077	ns
B	0.05173	1	0.05173	0.05932	ns
AxB	0.83725	1	0.83725	0.96004	ns
Error	34.8840	1	0.87210	-	-

Hairdresser

Total	86.24055	43	-	-	-
A	0.17948	1	0.17948	0.08386	ns
B	0.33228	1	0.33228	0.15526	ns
AxB	0.12059	1	0.12059	0.05634	ns
Error	85.6082	40	2.14021	-	-

Baker

Total	101.93519	43	-	-	-
A	9.54081	1	9.54081	4.22893	.05
B	0.85001	1	0.85001	0.37676	ns
AxB	1.30127	1	1.30127	0.57678	ns
Error	90.2431	40	2.25608	-	-

Mathematician

Total	104.01253	43		-	-
A	6.31205	1	6.31205	2.70765	ns
B	1.97301	1	1.97301	0.84636	ns
AxB	2.47997	1	2.47997	1.06382	ns
Error	93.2475	40	2.33119	-	-

Note - Factors: A = Subject sex

B = Applicant sex

TABLE 12

Mean Ratings of Candidates

Occupation	Ratings		
	Total $\bar{X}$	$\bar{X}$ Male employees	$\bar{X}$ Female employees
Architect	5.85200	6.11309	5.59091
Lecturer	6.01434	5.54167	6.48701
Social Worker	6.02949	5.99405	6.06493
Hairdresser	5.24459	5.17857	5.15476
Baker	5.69724	5.55357	5.84091
Mathematician	5.00135	5.22024	4.87247

Note - Scale ranges from 1 (unfavourable) to 7 (favourable)

TABLE 13

Mean Ratings: Perceived Masculinity/Femininity of Occupations

Occupations	Subject Sex	
	Female	Male
Architect	4.619	4.471
Hairdresser	3.381	2.739
Lecturer	4.095	4.217
Social Worker	3.571	3.783
Baker	4.619	5.087
Mathematician	4.714	4.609

Note - 1 = feminine, 7 = masculine

TABLE 14

Correlations between Masculinity/Femininity Ratings and Evaluations of Candidates in Occupational Suitability

	Applicant Sex			
	Male		Female	
	r	p	f	p
Architect	0.1458	ns	0.0990	ns
Social Worker	0.0721	ns	0.4029	.04
Lecturer	0.0902	ns	0.2083	ns
Hairdresser	0.6349	.002	0.4221	.02
Baker	0.0444	ns	0.0	ns
Mathematician	-0.1324	ns	0.1319	ns

Note - Original scales:

Evaluations of candidates - 1 (unfavourable)
7 (favourable)

M/F ratings - 1 = feminine
7 = masculine

TABLE 15

Analysis of Variance: Evaluations of Occupational Suitability

Employability

Source	SS	df	MS	F	p
Geologist					
Total	338.784	113	-	-	-
A	5.108	2	2.555	1.124	ns
$Error_b$	79.560	35	2.273	-	-
B	92.244	2	46.122	23.342	.001
AxB	23.554	4	5.889	2.980	.025
$Error_w$	138.318	70	1.976	-	-
Interior Designer					
Total	184.6490	113	-	-	-
A	1.506	2	0.753	0.423	ns
$Error_b$	62.270	35	1.779	-	-
B	60.884	2	30.442	38.151	.001
AxB	4.134	4	1.033	1.295	ns
$Error_w$	55.855	20	o.798	-	-
Teacher					
Total	377.595	113	-	-	-
A	11.704	2	5.852	2.282	ns
$Error_b$	89.767	35	2.565	-	-
B	161.758	2	80.879	50.764	.001
AxB	2.839	4	0.710	0.445	ns
$Error_w$	111.527	70	1.593	-	-
Economist					
Total	196.613	113	-	-	-
A	0.919	2	0.460	0.319	ns
$Error_b$	50.432	35	1.441	-	-
B	100.571	2	50.285	87.439	.001
AxB	4.434	4	1.108	1.927	ns
$Error_w$	40.257	70	0.575	-	-
Telephonist					
Total	198.799	113	-	-	-
A	12.148	2	6.014	2.669	ns
$Error_b$	19.659	35	2.276	-	-
B	78.322	2	39.166	31.570	.001
AxB	1.816	4	0.454	0.366	ns
$Error_w$	86.844	70	1.241	-	-
Dental Hygienist					
Total	152.786	113	-	-	-
A	0.081	2	0.041	0.020	ns
$Error_b$	71.744	35	2.050	-	-
B	22.900	2	11.450	14.287	.001
AxB	1.961	4	0.490	0.612	ns
$Error_w$	56.099	70	0.801	-	-

TABLE 15 (continued)

Employability

Source	SS	df	MS	F	p
Architect					
Total	238.775	113	-	-	-
A	2.116	2	1.058	0.469	ns
$Error_b$	78.962	35	2.256	-	-
B	99.253	2	49.627	61.397	.001
AxB	1.863	4	0.466	0.576	ns
$Error_w$	56.581	70	0.808	-	-
Lecturer					
Total	193.802	113	-	-	-
A	30.237	2	15.118	5.503	.01
$Error_b$	96.158	35	2.747	-	-
B	22.625	2	11.313	18.136	.001
AxB	1.118	4	0.279	0.448	ns
$Error_w$	43.667	70	0.624	-	-
Baker					
Total	165.533	113	-	-	-
A	1.129	2	0.564	0.240	ns
$Error_b$	82.313	35	2.352	-	-
B	48.680	2	24.340	55.081	.001
AxB	2.478	4	0.619	1.402	ns
$Error_w$	30.933	70	0.442	-	-
Hairdresser					
Total	202.126	113	-	-	-
A	2.074	2	1.037	0.386	ns
$Error_b$	93.962	35	2.685	-	-
B	63.455	2	31.727	54.732	.001
AxB	2.057	4	0.514	0.887	ns
$Error_w$	40.578	70	0.580	-	-
Social Worker					
Total	187.879	113	-	-	-
A	3.155	2	1.578	0.698	ns
$Error_b$	79.135	35	2.261	-	-
B	58.332	2	29.166	45.600	.001
AxB	2.485	4	0.621	0.971	ns
$Error_w$	44.772	70	0.640	-	-
Mathematician					
Total	211.532	113	-	-	-
A	0.483	2	0.241	0.089	ns
$Error_b$	95.135	35	2.718	-	-
B	42.707	2	21.353	21.432	.001
AxB	3.464	4	0.866	0.869	ns
$Error_w$	69.743	70	0.996	-	-

TABLE 15 (continued)

Status

Source	SS	df	MS	F	p
Geologist					
Total	251.799	113	-	-	-
A	4.721	2	2.361	1.235	ns
$Error_b$	66.896	35	1.911	-	-
B	96.152	2	48.076	43.099	.001
AxB	5.945	4	1.487	1.333	ns
$Error_w$	78.084	70	1.115	-	-
Interior Designer					
Total	256.046	113	-	-	-
A	1.257	2	0.629	0.196	ns
$Error_b$	112.211	35	3.206	-	-
B	89.389	2	44.695	59.699	.001
AxB	0.783	4	0.196	0.261	ns
$Error_w$	52.406	70	0.749	-	-
Teacher					
Total	311.149	113	-	-	-
A	4.625	2	2.312	0.856	ns
$Error_b$	94.578	35	2.702	-	-
B	100.923	2	50.462	32.381	.001
AxB	1.936	4	0.484	0.311	ns
$Error_w$	109.087	70	1.558	-	-
Economist					
Total	206.692	113	-	-	-
A	4.127	2	2.063	1.283	ns
$Error_b$	56.304	35	1.609	-	-
B	82.495	2	41.248	51.384	.001
AxB	7.575	4	1.894	2.359	.06
$Error_w$	56.191	70	0.803	-	-
Telephonist					
Total	308.256	113	-	-	-
A	11.937	2	5.969	1.715	ns
$Error_b$	121.800	35	3.480	-	-
B	99.517	2	49.759	50.398	.001
AxB	5.891	4	1.473	1.492	ns
$Error_w$	69.111	70	0.987	-	-
Dental Hygienist					
Total	195.656	113	-	-	-
A	3.458	2	1.729	0.527	ns
$Error_b$	114.851	35	3.281	-	-
B	22.963	2	11.481	15.194	.001
AxB	1.487	4	0.372	0.492	ns
$Error_w$	52.897	70	0.756	-	-

TABLE 15 (continued)

Status

Source	SS	df	MS	F	p
Architect					
Total	220.606	113	-	-	-
A	3.978	2	1.989	0.808	ns
$Error_b$	86.118	35	2.461	-	-
B	78.999	2	39.500	55.359	.001
AxB	1.564	4	0.391	0.548	ns
$Error_w$	49.947	70	0.714	-	-
Lecturer					
Total	184.056	113	-	-	-
A	18.152	2	9.076	3.252	.05
$Error_b$	97.682	35	2.791	-	-
B	24.257	2	12.129	19.571	.001
AxB	0.583	4	0.146	0.235	ns
$Error_w$	43.382	70	0.620	-	-
Baker					
Total	223.848	113	-	-	-
A	4.461	2	2.231	0.517	ns
$Error_b$	150.888	35	4.311	-	-
B	24.442	2	12.221	19.897	.001
AxB	1.063	4	0.266	0.433	ns
$Error_w$	42.994	70	0.614	-	-
Hairdresser					
Total	263.284	113	-	-	-
A	5.7555	2	2.877	0.612	ns
$Error_b$	164.434	35	4.698	-	-
B	50.512	2	25.256	43.720	.001
AxB	2.145	4	0.536	0.928	ns
$Error_w$	40.437	70	0.578	-	-
Social Worker					
Total	202.206	113	-	-	-
A	2.255	2	1.128	0.368	ns
$Error_b$	107.234	35	3.064	-	-
B	45.103	2	22.552	36.815	.001
AxB	4.735	4	1.184	1.932	ns
$Error_w$	42.879	70	0.613	-	-
Mathematician					
Total	225.136	113	-	-	-
A	2.662	2	1.331	0.364	ns
$Error_b$	127.838	35	3.653	-	-
B	22.538	2	11.269	11.547	.001
AxB	3.780	4	0.945	0.968	ns
$Error_w$	68.317	70	0.976	-	-

TABLE 15 (continued)

Likability

Source	SS	df	MS	F	p
Geologist					
Total	245.901	113	-	-	-
A	4.718	2	2.359	1.002	ns
$Error_b$	82.401	35	2.354	-	-
B	15.337	2	7.668	3.990	.025
AxB	8.925	4	2.231	1.161	ns
$Error_w$	134.520	70	1.922	-	-
Interior Designer					
Total	236.312	113	-	-	-
A	15.945	2	7.982	1.834	ns
$Error_b$	152.300	35	4.351	-	-
B	10.430	2	5.215	7.165	.001
AxB	6.668	4	1.667	2.290	ns
$Error_w$	50.949	70	0.728	-	-
Teacher					
Total	310.220	113	-	-	-
A	17.839	2	8.919	1.863	ns
$Error_b$	167.555	35	4.787	-	-
B	26.587	2	13.294	9.676	.001
AxB	2.065	4	0.516	0.376	ns
$Error_w$	96.174	70	1.374	-	-
Economist					
Total	208.505	113	-	-	-
A	7.866	2	2.933	1.018	ns
$Error_b$	135.186	35	3.862	-	-
B	1.872	2	0.936	1.188	ns
AxB	8.427	4	2.107	2.674	.05
$Error_w$	55.154	70	0.788	-	-
Telephonist					
Total	237.695	113	-	-	-
A	8.178	2	4.089	1.079	ns
$Error_b$	132.644	35	3.790	-	-
B	27.893	2	13.946	14.335	.001
AxB	0.877	4	0.219	0.223	ns
$Error_w$	68.103	70	0.973	-	-
Dental Hygienist					
Total	248.771	113	-	-	-
A	9.298	2	4.649	0.885	ns
$Error_b$	183.766	35	5.250	-	-
B	3.612	2	1.806	3.092	.05
AxB	11.208	4	2.802	4.797	.002
$Error_w$	40.887	70	0.584	-	-

TABLE 15 (continued)

Likability

Source	SS	df	MS	F	p
Architect					
Total	245.614	113	-	-	-
A	7.603	2	3.801	0.780	ns
$Error_b$	170.531	35	4.872	-	-
B	16.149	2	8.075	12.043	.001
AxB	1.398	4	0.350	0.521	ns
$Error_w$	46.933	70	0.670	-	-
Lecturer					
Total	196.790	113	-	-	-
A	8.248	2	4.124	0.942	ns
$Error_b$	153.176	35	4.376	-	-
B	1.697	2	0.849	1.783	ns
AxB	0.362	4	0.090	0.190	ns
$Error_w$	33.307	70	0.476	-	-
Baker					
Total	237.322	113	-	-	-
A	4.754	2	2.377	0.509	ns
$Error_b$	163.322	35	4.466	-	-
B	10.548	2	5.274	6.907	.002
AxB	5.250	4	1.313	1.719	ns
$Error_w$	53.3448	70	0.764	-	-
Hairdresser					
Total	247.280	113	-	-	-
A	19.757	2	9.878	1.938	ns
$Error_b$	178.433	35	5.098	-	-
B	10.322	2	5.161	10.307	.001
AxB	3.718	4	0.929	1.856	ns
$Error_w$	35.050	70	0.501	-	-
Social Worker					
Total	220.780	113	-	-	-
A	7.287	2	3.644	0.798	ns
$Error_b$	159.843	35	4.567	-	-
B	2.965	2	1.483	2.138	ns
AxB	2.102	4	0.525	0.758	ns
$Error_w$	48.538	70	0.693	-	-
Mathematician					
Total	234.834	113	-	-	-
A	6.787	2	3.394	0.690	ns
$Error_b$	172.172	35	4.919	-	-
B	0.682	2	0.341	0.437	ns
AxB	0.532	4	0.133	0.170	ns
$Error_w$	54.661	70	0.781	-	-

Note - Factors: A = Sex allocation
B = Level of qualification

TABLE 16

Mean Ratings of Candidates: Level of Qualification

Occupation	Item	Level		
		Low	Medium	High
Geologist	Employability	3.342	4.597	5.632
	Status	3.289	4.658	5.684
Interior Designer	Employability	1.447	5.842	6.263
	Status	3.842	5.368	6.026
Teacher	Employability	3.474	3.605	6.105
	Status	3.711	3.763	5.789
Economist	Employability	3.921	5.526	6.211
	Status	3.974	5.447	6.079
Telephonist	Employability	4.342	4.079	6.000
	Status	3.163	3.789	5.868
Dental Hygienist	Employability	4.500	5.395	5.605
	Status	4.053	4.974	5.132
Architect	Employability	4.105	5.105	6.211
	Status	4.184	4.500	5.132
Lecturer	Employability	4.711	5.184	5.842
	Status	4.658	5.026	5.816
Baker	Employability	4.289	5.474	5.895
	Status	4.316	5.132	5.500
Hairdresser	Employability	4.026	5.105	5.868
	Status	3.763	4.711	5.421
Social Worker	Employability	4.105	5.500	5.763
	Status	4.000	5.447	5.421
Mathematician	Employability	4.342	4.895	5.789
	Status	4.553	4.763	5.553

Note - Scale ranges from 1 (unfavourable) to 7 (favourable)

TABLE 17

One Way Analysis of Variance: Level of Qualification

Architect

Source	SS	df	MS	F	p
Total	173.5699	92	-	-	-
Between	42.8602	2	21.4301	14.7559	.001
Within	130.7097	90	1.4523	-	-

Social Worker

Source	SS	df	MS	F	p
Total	107.8925	92	-	-	-
Between	9.1828	2	4.5914	4.1865	.025
Within	98.7097	90	1.0967	-	-

Lecturer

Source	SS	df	MS	F	p
Total	227.8280	92	-	-	-
Between	63.3763	2	31.6881	17.3424	.001
Within	164.4517	90	1.8272	-	-

Geologist

Source	SS	df	MS	F	p
Total	156.4517	92	-	-	-
Between	15.2904	2	7.6452	4.8745	.025
Within	141.1613	90	1.5684	-	-

TABLE 18

T-test for Multiple Comparisons: Evaluations of Candidates

Architect

Candidate	$\bar{X}$	Difference	Comparison	p
X	5.3870	1.6451	X-Y	.001
Y	3.7419	1.0322	Y-Z	.005
Z	4.7741	.6129	X-Z	ns

Critical difference $\geq$ .6322, $p \leq .05$

Social Worker

Candidate	$\bar{X}$	Difference	Comparison	p
X	5.3225	.6129	X-Y	.05
Y	4.7096	-.7094	Y-Z	.01
Z	5.4193	-.0968	X-Z	ns

Critical difference $\geq$ .5320, $p \leq .05$

Lecturer

Candidate	$\bar{X}$	Difference	Comparison	p
X	5.2258	-.5806	X-Y	ns
Y	5.8064	1.9677	Y-Z	.001
Z	3.8387	1.3871	X-Z	.001

Critical difference $\geq$ .6866, $p \leq .05$

Geologist

Candidate	$\bar{X}$	Difference	Comparison	p
X	5.5483	.9677	X-Y	.01
Y	4.5806	.6774	Y-Z	.05
Z	5.2580	.2903	X-Z	ns

Critical difference $\geq$ .6360, $p \leq .05$

Note - Scale ranges from 1 (unfavourable) to 7 (favourable)

TABLE 19

Binomial - Z scores for Test of Significance of a Proportion

Occupation	Subjects			
	Males		Females	
	Z	p	Z	p
Geologist	0.00	ns	3.0297	.005
Social Worker	0.100	ns	.5583	ns
Lecturer	-.9309	ns	-0.1789	ns
Architect	1.0989	ns	-0.8956	ns

TABLE 20

Frequency of Choices: Selection of Employees

Occupation	Subjects					
	Male			Female		
	Frequency of Responses			Frequency of Responses		
	Male	Female	Other	Male	Female	Other
Geologist	10	10	12	22	6	4
Social Worker	13	12	7	16	13	3
Lecturer	12	17	3	15	16	1
Architect	18	12	2	13	18	1

Note - Male refers to the highly qualified male candidate. Female refers to the highly qualified female candidate and other refers to choice of buffer candidate or no response.

CHAPTER 4 THE MOTIVE TO AVOID SUCCESS

Introduction

The acceptance and assimilation of traditional sex role stereotypes affect a wide variety of behavioral and attitudinal dispositions. Uncritical incorporation of these role models promotes differential parental expectations of children (Aberle & Naegeler, 1952), assessment of intellectual ability in educational settings (Bunt & Armstrong, 1975), and criteria of mental health (Broverman et al., 1972). It is also directly related to attitudes toward societal roles (Jordan-Viola, Fassberg & Viola, 1976), occupational choice (Almquist, 1974), and role conflict in women (Komarovsky, 1946). More recently, Horner (1968) has hypothesized that sex role stereotypes may affect achievement motivation in women by inducing a debilitating anxiety in achievement oriented situations, in particular, that women learn to avoid success due to the anticipation of negative consequences, e.g., loss of femininity or social desirability. This hypothesis rests on the assumption that society, which stresses achievement, autonomy and personal fulfilment, views success and femininity as two desirable but mutually exclusive ends.

Briefly, the motive to avoid success is couched in Atkinson & Feather's (1966) Expectancy-Value theory of motivation which states that the strength of one's motivation to achieve success is a product of the multiplicative interaction of the strength of the motive to succeed, the expectancy of success and the incentive value of success. Nevertheless, the Expectancy-Value theory is incomplete in that it neither explains sex differences

(achievement motivation in women does not conform to the same patterns as men) nor distinguishes between competitive and non-competitive situations. Therefore, the introduction of the motive to avoid success adds to the completeness of the theory and effectively aids in the assessment of achievement motivation in women.

Horner maintains that the motive to avoid success ($M-_s$) is a stable personality disposition acquired early in life in conjunction with sex role standards. The motive is most apparent in highly able women, particularly in competitive circumstances with men. Horner describes the motive as a "negative inhibitory tendency acting against the expression of the positive tendency to achieve success (Horner, 1968, p.23)." These conjectures arise from the development of a projective assessment of fear of success and the examination of men and women in achievement oriented situations. More specifically, Horner found that 65.5% of female subjects responded with negative imagery to an achievement arousal cue with a sex appropriate stimulus person as contrasted with 9.1% of male subjects. Furthermore, women who composed negative themes, frequently focusing on concern for femininity or social desirability, and indicating a motive to avoid success performed significantly worse on a series of math and verbal tasks when tested in competition with men than when tested alone while the reverse was true for those women who did not evince FOS (fear of success) imagery. Over a series of experiments Horner found that FOS imagery emerges as a valid predictor of achievement oriented behavioral responses in women.

Although Horner has gathered a consistent and impressive body of data on the sources, measurement and development of the motive to

avoid success, most studies have concentrated on fear of success imagery rather than component analysis of achievement motivation in women. Some argue that the projective assessment of $M-_s$ is merely tapping sex role stereotypes as FOS imagery is most prevalent in response to a female stimulus person (Alper, 1974; Brown et al., 1974; Feather & Raphelson, 1974; Monahan et al., 1974; Solomon, 1975; Wellens, 1973; Winchel et al., 1974). Horner's conceptualization of $M-_s$ does, in fact, highlight the importance of sex role stereotypes in a developmental context as an inducement to conflict concerning success; however, the confirmed relationship between FOS imagery and behavioral responses argues against its relegation solely to the measurement of sex role stereotypes. Those in favor of the stereotype interpretation place great emphasis on the consistently large proportion of FOS imagery elicited from male subjects in response to a female SP, but ignore the fact that sex appropriateness of SP is a crucial factor in the assessment of achievement motivation. The consistent body of data concerning the measurement and development of nAch was derived from male subjects in response to male TAT figures (Atkinson, 1958). But responses of female subjects to male TAT figures do not conform to the same patterns (French & Lesser, 1964; Veroff et al., 1953; Wilcox, 1951) nor do female cues accurately assess achievement motivation in males (Veroff, 1950). If the analysis of achievement motivation is based on identification and projection as suggested by Atkinson (1958), presentation of the same sexed SP would be most appropriate in facilitating this process. By contrast, reliance on extrinsic factors. e.g., stereotypes, is more probable when responding to an opposite sexed

SP. In short, FOS imagery in response to a cross sexed SP should be expected to reflectssex role stereotypes, but only responses to same sexed SPs should be considered indicative of motivational influences.

Horner has postulated that $M\text{-}_s$ is most apparent in high ability women when placed in direct competition with men and has devised projective cues to reflect these components by stressing female success in a competitive, male dominated field. Responses to variations in cues do appear to follow expected trends. Breedlove & Cicirelli (1974) found that the percentage of FOS resonses is higher for cues focusing on medicine than for those concerning education. Describing a medical school class as 50% female and thus decreasing its deviancy in terms of feminine occupational choice, also diminishes the proportion of FOS responses (Lockheed, 1975).

That FOS is strongly associated with traditional sex role stereotypes has been implicitly demonstrated by studies focusing on personal factors such as age, race and sex role ideology. For example, FOS becomes clearly apparent in girls about age twelve, highlighting adolescent awareness of sex roles, and then increases with age (Baruch, 1973, 1975; Lavach & Lanier, 1975). In addition, FOS is less prevalent in blacks than whites (Puryear & Mednick, 1974; Weston & Mednick, 1970) corroborating the notion of black matriarchal society and the image of the autonomous black female. Finally, Patty (1972) reports that FOS women score high on family ideology while non-FOS women emphasize career orientation.

Horner's conjecture that FOS is most apparent in high achieving women placed in competition with men is supported by its prevalence in honor

students (Horner, 1974) and women attending co-educational institutions (Winchel et al., 1974). In fact, acceptance of conventional sex role stereotypes and M^-_s appear to affect choice of academic field with FOS females concentrated in traditional endeavors (Horner, 1969; Patty, 1972). Empirical evidence suggests a strong relationship between sex role stereotypes and FOS and lends implicit support to Horner's supposition that the motive represents a personality disposition originating early in life in conjunction with sex role standards. If this is true, M^-_s may be related to other attitudinal and behavioral responses which are linked to sex role stereotypes, in particular, cognitive, conative and affective components of attitudes toward women in society.

Research on attitudes toward women reveals that characteristics associated with liberalism on these issues reflect those related to general liberalism- age, education, political ideology and atheism/agnostism (Staines et al., 1974). Etaugh (1975) employing the Spence & Helmreich Attitudes toward Women Scale (AWS) found that liberalism was most prevalent in females, inactive church affiliates, those with more years of college and those from large communities. Other factors associated with liberalism appear dichotomous with those related to FOS- profeminists score high in masculinity (Minnigerode, 1976), and characteristically choose sexually atypical areas of academic concentration (Valentine et al., 1975). As Horner suggests that women evincing M^-_s may change their academic concentration to more traditional fields, Etaugh & Bowen (1976) maintain that the more traditional women actually leave university. This is inferred from the fact that enrolled university men are more conser-

vative than their non-enrolled counterparts while the reverse is true for women.

It may be hypothesized, therefore, that due to the pervading sex role stereotypes, that a direct relationship exists between $M\text{-}_s$ and attitudes toward women's roles in society. In particular, it is expected that conservative women are more likely to evince the $M\text{-}_s$ than liberal ones. More specifically, women accepting traditional notions of femininity are most apt to encounter conflict over success and consequently experience debilitating anxiety in achievement oriented situations. Likewise, rigid beliefs about masculinity/femininity (cognition) may induce a more conservative perspective on evaluative and conative attitudinal components. In this way, $M\text{-}_s$ may be related both to conservative attitudes toward sex roles and the propensity towards differential evaluation of men and women.

Three experiments were designed to assess the influence of stereotypes on the prevalence of FOS imagery and to investigate the relationship between the motive to avoid success, attitudes toward women in society and differential evaluation of males and females. It was expected that the prevalence of FOS imagery would alter in stereotypic fashion in response to cue variation and that the incidence of FOS imagery would be related to conservative attitudes toward women and devaluation of females in relation to males.

Experiment VIII

The experiment was designed to examine alterations in FOS prevalence

in response to cue variation.

> Hypotheses: 1) In response to a female SP, both sexes will produce a higher proportion of negative imagery to success in a male dominated field than a female dominated field, and 2) Male responses to a female SP (opposite sex) will be more reflective of stereotypes and evince a greater proportion of negative imagery than females' responses.

Method

Subjects. One hundred students, 44 males and 56 females participated in the study in a practical class.

Materials and Procedure. Ss were asked to compose a story in response to one of two written cues- Mary graduated at the top of her nursing school class (female dominated profession) or Mary graduated at the top of her medical school class (male dominated profession). Ss were instructed to respond with what initially came to mind and were timed for five minutes by E who collected the questionnaires at the end of the experimental session.

Scoring. Scoring of FOS imagery was done independently by two judges, one male and one female,(80% initial agreement) and based on the original Horner criteria (1968). Stories were scored motive present if they exhibited: negative consequences because of success, anticipation of negative consequences due to success, negative affect, instrumental activity away from success, denial of effort or situation or bizarre, nonadaptive responses. Stories which did not incur original agreement were discussed by judges and a classification reached; one story was discarded due to lack of agreement.

Results

Table 21 presents the frequency of FOS imagery. The overall X^2 over four conditions proved nonsignificant (X^2 =6.043, d.f. 3). Contrary to the hypothesis, proportions of FOS imagery in response to medical and nursing school cues were similar, 58.4% and 59.5%, respectively. This appears to be primarily due to the inflated proportion of FOS imagery evidenced by males in response to the nursing school cue. Males did respond with more FOS imagery than females (X^2 =8.32, d.f. 1, $p < .05$), and females followed the predicted trend by evincing more FOS imagery in response to the medical school cue (54.8% as contrasted with 40%).

Experiment IX

The experiment was designed to assess FOS imagery in women and to examine the hypothetical relationship between FOS and the evaluation of males and females in occupational suitability.

> Hypothesis: Women exhibiting $M-_s$ as evidenced by FOS imagery will more negatively evaluate female applicants as potential employees than non-FOS women, but this differential evaluation will not be apparent in appraisals of male candidates.

Method

Subjects. Fifty-five female undergraduate students participated in the study.

Materials and Procedure. The questionnaire consisted of two parts. In the first section Ss responded to the written cue: "At the end of her final

year, Ann received the only first class honors degree in botany." Horner's original cue was altered to obtain responses on a variety of cues while maintaining meaningfulness to British students. The prime components were retained- female success in a competitive, male dominated field.

Ss also received brief resumés of four candidates, two males and two females, whom they were asked to evaluate as potential employees on a 1 (low) to 5 (high) scale (Appendix III). As the design and the hypothesis emphasized the devaluation of women in relation to $M-_s$ rather than differential evaluation of men and women, male candidates were always described as geologists and business managers while females were depicted as lecturers and computer programmers. Relatively male dominated professions were chosen to highlight sex role deviancy.

Ss were tested in small groups.

Scoring. The same method described in the previous experiment was employed for scoring for FOS imagery. Judges reached 85.2% initial agreement; three questionnaires were voided- two because of failure to reach agreement on classification and one because the subject recognized the purpose of the experiment.

Results

FOS imagery was present in 57.7% of the stories. Stories most frequently focused on anticipation of negative consequences in terms of loss of femininity and social desirability.

A 2X4 (FOS x applicant) mixed design analysis of variance, method

of unweighted means was performed (Table 22). Analyis indicates that subjects evincing FOS consistenther evaluated potential employees more negatively than those who did not evince FOS ($p < .05$). The mean ratings are presented in Table 23. However, the FOF x applicant interaction effect was not significant, failing to confirm the hypothesis that female, but not male, candidates would be more negatively appraised by FOS Ss.

Experiment X

The experiment was designed to examine variations in FOS imagery in relation to sex of SP and sex of subject and to investigate the relationship between FOS, evaluations of men and women in occupational suitability and attitudes toward women's roles in society.

> Hypotheses:1) A female SP in a male dominated field will elicit a greater proportion of FOS imagery from both sexes than a male SP, 2) Responses to opposite sexed SPs will reflect stronger stereotypic influences with the greatest proportion of FOS imagery occurring with males responding to a female SP and the least elicited from females in response to a male SP, 3) FOS responses to a female SP will be associated with more negative evaluations of female employees and more conservative responses on the AWS scale. and 4) FOS imagery elicited from male SPs will be related to devaluation of male candidates.

Method

Subjects One hundred and sixty-two science students, 77 females and 85 males participated in the study.

Procedure and Materials. The questionnaire consisted of three parts. Initially, students were requested to complete a story in response to the

cue: " Ann (John) received the only first class honors degree in engineering." As with the previous experiment, the cue was altered to augment meaningfulness to British students while retaining the prime components. Ss were allowed five minutes to complete this section.

In the second part, Ss were required to study the resumés of two applicants, one male and one female, in a series of four occupations- business manager, university lecturer, primary teacher and computer programmer- and to rate each on a 1 (low) to 5 (high) scale on qualifications, employability and employee performance. The resumes were designed to present average to highly qualified applicants; because of the design emphasis, sex of applicant was not varied(Appendix III).

Finally the Ss completed the shortened version of the Spence & Helmreich Attitudes toward Women scale (Appendix IV). The inventory, modeled on a Likert scale, contains 25 declarative statements concerning vocational, educational and intellectual roles of women; freedom and independence; dating, courtship and etiquette; sexual behavior, marital relationships and obligations. Ss express their agreement /disagreement (strong or mild) with each item and responses are scored from 0 (conservative) to 3 (liberal), making the total scoring range 0-75. Ss were informed that there were no right or wrong answers and that the scale was designed to assess opinions concerning attitudes towards women's roles in society.

All Ss completed the questionnaire within practical class sessions.

Scoring The scoring procedure was identical with that described in the previous studies. Ninety per cent initial agreement was attained by the judges.

Results

Percentages of occurance of FOS imagery are presented in Table 24. The greatest proportion of FOS was elicited by a female SP with male respondents (67.5%). This was followed by females responding to a female SP (52.9%), male Ss with a male SP (40%) and female Ss with a male SP (38.6%). These results support the hypothesis that Ss respond in more stereotypic fashion to an opposite sexed SP- males increase negative imagery while females diminish it. In addition, a greater proportion of FOS imagery was elicited from females responding to a sex appropriate cue than males. Results of X^2 analysis over conditions are presented in Table 25 ($p < .025$).

FOS imagery was not clearly or consistently related to either evaluations of job applicants or attitudes toward women. For the former a 2X2X2X2 (FOS x sex of SP x sex of S x applicant) mixed design, method of unweighted means, analysis of variance was performed (Table 26). Significant main effects were primarily due to differential evaluations of candidates. For computer programmer, candidate A (female) was consistently preferred to B (male)- qualifications ($p < .001$), potential ($p < .001$) and employee performance ($p < .001$). For the position of lecturer, candidate A (male) was more positively evaluated on qualifications ($p < .001$) as was candidate A (male) for a managerial position ($p < .001$). Although in the field of primary education the female candidate (A) was more positively assessed for qualifications ($p < .01$), the male candidate was preferred as a potential employee ($p < .01$). Other main effects focused on differential evaluations by Ss with females more positively appraising

candidates in primary education ($p < .01$) and males more positively assessing candidates in higher education ($p < .05$). Finally, Ss responding to a male SP devalued candidates for managerial positions in comparison with those responding to a female SP ($p < .01$).

Various significant interaction effects also emerged. In evaluations of candidates as computer programmers, Ss preferred the same sexed applicants ($p < .05$). In addition, female Ss who evinced FOS imagery in response to a female SP evaluated male managers more favorably than those who produced FOS stories to a male SP ($p < .025$). Finally, for primary teachers, in the FOS condition, females responding to a sex appropriate cue more negatively appraised the applicants described as females; responding to a male SP, males denigrated the male candidates. The reverse was true in the non-FOS condition.

Table 27 reports the 2X2X2 (FOS x SP sex x S sex) analysis of variance, method of unweighted means, for the AWS scale responses. Presence of FOS imagery had no apparent effect on AWS scores. The only main effect emerging was that women are more liberal than men ($p < .001$).

Finally, an attempt was made to examine the relationship between AWS scores and the evaluations of females in occupational suitability. Analysis by Pearson product-moment correlation revealed that there was a significant positive correlation between AWS scores and appraisals of women- $+.2369$ for females ($p < .02$) and $+.2078$ for males ($p < .03$). More liberal scores on the AWS are related to more positive evaluations of women (Table 28).

Experiment X Follow up

Rationale

Because the resumés in Experiment X were designed with the intention of presenting fairly equally qualified candidates but the results of data analysis yielded consistent differential appraisals, a follow up study was undertaken to investigate a possible sexual bias in candidate evaluation. The method, procedure and materials were identical to those employed in the previous experiment except that Ss evaluated candidates A and B in a sex unspecified condition. In this way differential evaluation may be attributed either to perceived differences in qualifications or more influenced by sex of the candidate. Twenty-three Ss completed the questionnaire in a practical class.

Results

Responses were analyzed by t-test and results are presented in Table 29. Consistent with the results of the previous experiment, candidate A was more positively evaluated than candidate B in management ($p < .05$) and in lecturing ($p < .005$). Likewise, in the sex unspecified condition A candidate was preferred to B in qualfications ($p < .005$) and employability ($p < .005$) in computer programming. However, contrary to the previous results, for primary teaching candidate B was preferred in qualifications ($p < .05$) while there was no differential appraisal of the candidates on performance. Comparisons of means of the sex specified and sex unspecified conditions are presented in Table 30.

In addition, differential evaluations emerged in the sex unspecified condition which were not apparent in the previous experiment. In particular, a preference was established for candidate B (previously described as female) for performance as business manager ($p < .01$) and employability as university lecturer ($p < .025$). These results suggest that when directly comparing women to men, positive assessment of the former may be diminished. However, there is also evidence to suggest that sex appropriateness of the occupation may influence evaluations of candidates. This is supported by appraisals of primary school teachers; candidate A (described as female) was preferred in the main experiment while candidate B (previously described as male) was more favorably appraised in the sex unspecified condition.

Discussion

FOS Imagery

The occurence of FOS imagery reported in these studies may be subjected to a variety of interpretations; however, consideration of M^-_S within the broader context of achievement motivation and analysis of the type of negative imagery presented prompts the explanation that FOS is not merely reflective of sex role stereotypes but aids in the assessment of n Ach (need achievement) in both sexes. If the stereotype interpretation were valid, similar percentages and types of FOS imagery should be expected from males and females, with a greater occurance of negative

imagery elicited by a female SP. Alternatively, if males are believed to be more traditional in their sex role ideology as some evidence suggests, it may be expected that in response to a female SP they would evince a greater proportion of FOS imagery; however, responding in a more stereotypic fashion would also infer a smaller manifestation of negative imagery by men than by women in response to a male SP. However, empirical evidence does not consistently follow these trends. Female SPs do elicit more FOS imagery from males than females as demonstrated by responses to engineering, medical and nursing cues, but responses to male SPs do not significantly differ.

The occurance of FOS imagery in experiment X implicitly favors the motivational interpretation and stresses the fundamental importance of a sex appropriate SP. As predicted by Horner, FOS is more apparent in females than males (52.9%, 40%, respectively) in response to a same sexed SP (engineering cue). However, responses to opposite sexed SPs, due to inherent constraints placed on identification and projection, appear more reliant on extrinsic factors, i.e., stereotypes, with males increasing FOS imagery in response to a female SP (67.5%) and females decreasing negative imagery in response to a male SP (38.6%). The impetus for this interpretation derives from original work on achievement motivation which indicates that sex appropriateness of SP is a crucial factor in the assessment of nAch (Murray, 1943). Although male responses to male TAT figures have yielded a reliable measurement of achievement motivation (Atkinson, 1958), female cues do not elicit the same nAch patterns (Veroff, 1950). Female responses to male TAT

figures also deviate from the expected norms (French & Lesser, 1964; Veroff et al., 1953; Wilcox, 1951). It must be stressed that the argument presented here in favor of FOS as a motivational assessor must be considered only tentative as FOS has not been systematically related to behavioral responses in achievement oriented circumstances.

Horner does not deny the importance of sex role standards in the development of $M-_S$. In fact, her original work suggests that women experience a debilitating anxiety in achievement oriented situations due to the anticipation of negative consequences- consequences specifically linked to the traditional notion of femininity. Conflict centering on the false dichotomy of success and femininity and themes highlighting dimunition of social desirability are routinely apparent in women's projective responses, Negative and ambivalent imagery elicited from males focuses more on the meaning, nature and value of success. However, in marked contrast, males' negative imagery in response to a female SP assumes a different character frequently reflecting hostile or overtly sexual overtones with the heroine occasionally meeting an untimely death (Monahan et al., 1974).

In this study (experiment X) the FOS content markedly differed in stories composed in response to male and female SPs. As would be expected, the majority of female FOS themes elicited by female SPs (engineering cue) emphasized concern over femininity and social desirability (63%). Eleven per cent of the compositions focused on the meaning and value of success whereas only six per cent were constituted by bizarre nonadaptive responses. In response to a female SP, males predominantly composed bizarre scenarios with the heroine frequently meeting death and mutilation (30%), followed by theme diminishing femininity (26%).

FOS stories elicited by male SPs most frequently dwelt on instrumental activity away from success after a series of occupational rejections (33% for male Ss, 31% for female Ss). Males also thematically questioned the value of success (20%) as did females (38%), but males were more likely to depict "John" as a social reject (27%) than females (6%). Bizarre, nonadaptive responses were minimized in both males and females, 15% and 13%, respectively. Differences in FOS content of this nature tend to discredit the stereotype interpretation of $M-_s$ as more similar frequency distributions of FOS content between males and females would be required to index a pervasive stereotype influence. Instead, subjects evidence valid, realistic concern over success when responding to a sex appropriate SP, females highlight role conflict and males stress occupational opportunities; responses to opposite sexed SPs reflect different patterns- males tend to react with bizarre, nonadaptive responses and females emphasize the questionable value of success.

Table 31 presents results of previous studies examining FOS imagery. Difficulties obviously arise when attempting to derive a comprehensive theory about FOS imagery and the $M-_s$ in light of such inconsistent data. It may be suggested that wide discrepancies in the reported occurance of FOS is largely dependent upon the dubious reliability of the measurement. Entwisle (1972) suggests that the homogeneity reliability of fantasy based measures of achievement motivation is only .30 to .40, and validity problems have been stressed by Moore (1972, 1974) and Wellens (1973). Because Horner offers no extensive manual and only a present/absent scoring system, large amounts of subjectivity come into play. It becomes unclear, then, if differences among studies arise from

treatment effects or the unreliabilty of measures. Although two studies have found a high correspondence of FOS imagery over cues (Hoffman, 1974; Krusell, 1973), others have reported negative results (Alper, 1974; Morgan & Mausner, 1973; Shinn, 1970; Tresemer, 1974). Robbins & Robbins (1973) have demonstrated that female judges score FOS more frequently than males. Consequently, in the light of this evidence, taken as a whole, only a tentative hypothesis concerning FOS imagery and achievement motivation can be offered.

Previous research (Breedlove & Cicirelli, 1974; Lockheed, 1975) reveals that FOS responses to female SPs diminish when success is apparent in sexually appropriate endeavors (feminine professions). This is consistent with Horner's notion that $M\text{-}_S$ in women is most frequently observed in direct competition with men. However, analysis of data collected from male and female subjects in response to female achievement in medical and nursing professions lends only partial support to this contention (experiment VIII). There was no overall significant difference between the proportion of FOS elicited by medical and nursing school cues (58.4%, 59.5%). Female responses exemplified the expected trend with FOS imagery diminishing from 54.8% in medicine to 40% in nursing; however, male responses followed a reverse pattern increasing from 63.6% to 81.1%. It could be interpreted that FOS imagery in this case accurately assesses the $M\text{-}_S$ in women - the proportion of negative imagery in response to a sexually atypical endeavor falls within the range of 52.9% to 57.7% established by engineering and botany cues while responses elicited from a sex appropriate success condition are decreased to 40%. The failure of males' responses to reflect this stereotypic pattern

is difficult to explain, but considered with the consistently greater proportion of FOS imagery elicited, may be indicative of an indiscriminantly negative affect toward feminine success.

FOS, Differential Evaluations and Attitudes toward Women in Society

Horner maintains that women learn to fear success due to anticipation of negative consequences, including role conflict, based on the sex role ideology acquired during socialization. Because within this framework success and femininity are viewed as mutually exclusive, it is expected that women evincing FOS would more negatively appraise females in occupational suitability by denigrating their ability, stressing role conflict and projecting unfavorable consequences. Differential appraisal of male candidates was not expected to relate to FOS in women. However, analysis of data (experiment IX) revealed that FOS women more negatively evaluated all candidates, males and females, as managers, lecturers, computer programmers and geologists than non-FOS women. It is tempting to infer that FOS women project an indiscriminantly negative attitude toward success as evidenced by stringent evaluations of potential employees, although it is just as probable that a simple and direct relationship between FOS imagery and occupational appraisals will not be readily apparent and that $M\text{-}_s$ must be considered in the broader context of the Expectancy-Value theory of motivation and related to measures of the motivation to succeed (T_s) and the motivation to avoid failure ($T\text{-}_f$). This is implicitly supported by earlier work on achievement motivation

which concentrates on the relation of nAch to various behavioral and attitudinal responses (McClelland et al., 1953). Positive correlations have been established for nAch with college grades and aspirations; differences have also been found in perceptual and thought processes with those high in nAch perceiving in more anticipatory and generalized terms and better recalling incompleted tasks. The emphasis here should be placed on the definition of nAch which incorporates both the motive to succeed and the motive to avoid failure ($T_a = T_s - T\text{-}_f$); the measures have not been independently related to other variables. Perhaps the attempts to relate FOS to the evaluations of potential employees, appraisals which may reflect achievement orientation, should be formulated within the broad context of achievement motivation and related to T_s and $T\text{-}_f$, particularly in light of the fact that FOS has previously failed to be related to career aspirations (Baruch, 1973; Pappo, 1972; Peplau, 1976), academic group norms (Moore, 1972) or social class and parental education (Wellens, 1973).

Analysis of data collected in experiment X also failed to demonstrate a consistent relationship between FOS and evaluations of potential employees. No significant differences emerged in the appraisals of candidates as managers, teachers, computer programmers and lecturers by FOS and non-FOS subjects, nor did any meaningful interaction effects occur. The unexpected absence of a systematic relationship between FOS and occupational appraisals again supports the consideration of $M\text{-}_s$ in relation to the other components of achievement motivation.

Horner maintains that $M\text{-}_s$ is acquired in conjunction with sex role learning. Since the cognitive component of attitudes toward sex differences, in particular, the traditional notion of femininity, is at the root of much of

the anxiety over success, it would be expected that those women exhibiting $M\text{-}_s$ would be most conservative in their attitudes toward women's roles in society. A relationship of the stereotypically negative imagery elicited from males by a female SP and conservative attitudes toward women may also be inferred. However, 2x2x2 analysis of variance (FOS x SP sex x S sex) yielded no significant main or interaction effects with sex of SP or presence of FOS, although significant positive correlations for liberalism on the AWS and positive evaluations of females as potential employees was established. Nevertheless, women were found to be more liberal than men. The problem here may rest on the construction of the AWS scale which assesses (cognitive) conative and affective components of attitudes toward women. As Fishbein (1967) maintains, these three attitudinal components may not always be highly correlated, Consequently, although women evincing FOS and women who score conservatively on the AWS may hold the same beliefs about the nature of femininity, inclusion of evaluative and conative appraisals of women may prevent the demonstrable relationship between FOS and the inventory scores. Alternatively, the failure may rest on the projective testing technique or reflect an overly simplified approach, Depner & O'Leary (1976) were unable to relate FOS to gender role and with the exception of Alper (1974), Heilbrun, Kleemier & Piccola (1974) and Tresemer & Pleck (1972), most studies have failed to relate FOS to sex role ideology (Moore, 1974; Peplau, 1976; Tangri, 1969: Unger & Krooth, 1974: Wellens, 2973; Zanna, 1973).

Finally, mention should be made of the differential evaluation of candidates which emerged in experiment X and its follow up study. Al-

though appraisals in the sex unspecified condition largely conformed to those in the sex specified condition, some discrepancies were apparent. The empirical evidence suggests that sex of the applicant may alter the initial evaluations of candidates in a stereotypic fashion. For example, candidates described as male and female were not evaluated significantly differently for employment as managers and lecturers, but in the sex unspecified condition the latter candidates were preferred. This implies that appraisals of women may be relatively lowered when in direct competition with men. Likewise, a female candidate was more positively evaluated for the position of primary school teacher while the ratings in the sex unspecified condition reflected a preference for the opposite applicant (previously described as male). These results suggest that sex stereotyping of an occupation may influence evaluations of applicants but do not support a pervasive devaluation of women.

Implications

Inherent methodological problems, particularly with the scoring of M^{-}_{s}, may induce widely discrepant results and augment difficulties in interpretation and comprehensive theorizing. Data presented here argue for the consideration of M^{-}_{s} in its complete motivational context. Because FOS imagery has not been systematically related to behavioral responses, this solution may be considered tentative, but it is strongly suggested that valid measurements of M^{-}_{s} may only be elicited by sex appropriate stimulus persons and that responses to opposite sexed SPs are heavily influenced by traditional stereotypes.

Failures to establish a systematic relationship between FOS and evaluations of women in terms of occupational suitability as well as attitudes toward women's roles in society may reflect a naive and simplistic approach to the issue. As the former may be achievement related, McClelland et al.'s example of examining nAch in toto rather than segmented components should be followed. In the latter case, a comprehensive measurement of attitudes toward women may distort the appearance of an underlying relationship between cognitions of women evincing FOS and those scoring conservatively on the AWS.

Summary

Three experiments were designed to investigate FOS imagery in terms of cue and stimulus person variation and to relate it to the evaluation of women in occupational suitability and general attitudes toward women's roles in society. Results revealed that women evince more FOS than men when responding to the same sexed SP; when responding to an opposite sexed SP, FOS imagery alters in stereotypic fashion with males increasing negative imagery and females decreasing it. When a female SP is employed and the cue varied to concern success in a feminine profession, FOS responses in women diminish while FOS responses in men increase. Although there is some evidence which suggests that women evincing FOS view achievement of both sexes in negative terms a consistent relationship between FOS and evaluations of employment candidates and/or attitudes toward women was not established. Methodological difficulties are highlighted, and consideration of $M-_s$ in its complete motivational context is recommended.

TABLE 21

Occurrence of FOS Imagery

	Sex of Subject									
	Male					Female				
	N_T	FOS/Present N	%	FOS/Absent N	%	N_T	FOS/Present N	%	FOS/Absent N	%
Medical	22	14	63.6	8	36.4	31	17	54.8	14	45.2
Nursing	22	18	81.8	4	18.2	25	10	40	15	60

TABLE 22

Analysis of Variance: Evaluations of Occupational Suitability

Source	SS	df	MS	F	p
Total	217.979	207	-	-	-
A	5.214	1	5.214	4.309	.05
$Error_b$	60.493	50	1.210	-	-
B	75.883	3	25.294	50.429	.001
AxB	1.152	3	0.384	0.766	ns
$Error_w$	75.237	150	0.502	-	-

Note - Factors: A = FOS
B = Applicant

TABLE 23

Mean Ratings of Candidates: Occupational Suitability

Occupation	FOS Present	FOS Absent
Lecturer (F)	3.833	4.136
Programmer (F)	2.567	2.909
Geologist (M)	4.167	4.273
Manager (M)	2.833	3.364

Note - Scale ranges from 1 (unfavourable) to 5 (favourable)

TABLE 24

Occurrence of FOS Imagery

Sex of Subject	Stimulus Person: Ann N_T	Ann %	John N_T	John %
Females	38	52.9%	39	38.6%
Males	40	67.5%	45	40.0%

TABLE 25

ψ^2: Occurrence of FOS

ψ^2	df	p	C
9.8924	3	.025	.2398

TABLE 26

Analysis of Variance: Evaluations of Occupational Suitability

Programmer

Source	SS	df	MS	F	p	
Total	260.329	323	-	-	-	
A	0.071	1	0.071	0.117	ns	
B	0.292	1	0.292	0.483	ns	
AxB	0.638	1	0.638	1.056	ns	
C	0.421	1	0.421	0.696	ns	
AxC	0.013	1	0.013	0.021	ns	
BxC	0.013	1	0.013	0.022	ns	
AxBxC	0.791	1	0.791	1.308	ns	
$Error_b$	93.105	154	0.605	-	-	
D	110.655	1	110.655	327.268	001	Qualification
AxD	0.019	1	0.019	0.058	ns	
BxD	0.458	1	0.458	1.354	ns	
AxBxD	1.238	1	1.238	3.661	ns	
CxD	0.388	1	0.388	1.147	ns	
AxCxD	0.065	1	0.065	0.193	ns	
BxCxD	0.069	1	0.069	0.205	ns	
AxBxCxD	0.023	1	0.023	0.069	ns	
$Error_w$	52.070	154	0.338	-	-	
Total	277.070	323	-	-	-	
A	0.275	1	0.275	0.500	ns	
B	0.820	1	0.820	1.489	ns	
AxB	0.390	1	0.390	0.708	ns	
C	0.126	1	0.126	0 229	ns	
AxC	0.008	1	0.008	0.014	ns	
BxC	0.012	1	0.012	0.022	ns	
AxBxC	0.223	1	0.223	0.405	ns	
$Error_b$	84.871	154	0.551	-	-	
D	98.824	1	98.824	168.114	001	Potential
AxD	0.063	1	0.063	0.107	ns	
BxD	0.666	1	0.663	1.134	ns	
AxBxD	0.007	1	0.007	0.012	ns	
CxD	0.039	1	0.039	0.066	ns	
AxCxD	0.274	1	0.274	0.466	ns	
BxCxD	0.019	1	0.019	0.032	ns	
AxBxCxD	0.126	1	0.126	0.215	ns	
$Error_w$	90.527	154	0.588	-	-	
Total	250.509	323	-	-	-	
A	2.128	1	2.128	3.575	ns	
B	0.891	1	0.891	1.497	ns	
AxB	0.098	1	0.098	0.164	ns	
C	0.024	1	0.024	0.041	ns	
AxC	0.003	1	0.003	0.005	ns	
BxC	1.356	1	1.356	2.278	ns	
AxBxC	0.267	1	0.267	0.449	ns	
$Error_b$	91.664	154	0.595	-	-	
D	65.622	1	65.622	119.308	001	Performance
AxD	0.056	1	0.056	0.101	ns	
BxD	0.001	1	0.001	0.002	ns	
AxBxD	0.166	1	0.166	0.303	ns	
CxD	2.390	1	2.390	4.345	05	
AxCxD	1.072	1	1.072	1.949	ns	
BxCxD	0.037	1	0.037	0.067	ns	
AxBxCxD	0.031	1	0.031	0.055	ns	
$Error_w$	84.703	154	0.550	-	-	

TABLE 26 (continued)

Source	SS	df	MS	F	p	
			Teacher			
Total	163.86	323	-	-	-	
A	0.126	1	0.126	0.194	ns	
B	0.590	1	0.590	0.913	ns	
AxB	0.897	1	0.897	1.388	ns	
C	4.123	1	4.123	6.378	.01	
AxC	0.172	1	0.172	0.266	ns	
BxC	0.009	1	0.009	0.014	ns	
AxBxC	2.241	1	2.241	3.466	ns	
$Error_b$	99.559	154	0.646	-	-	
D	2.626	1	2.626	7.600	.01	Qualification
AxD	0.060	1	0.060	0.175	ns	
BxD	0.000	1	0.000	0.000	ns	
AxBxD	0.005	1	0.005	0.013	ns	
CxD	0.005	1	0.005	0.013	ns	
AxCxD	0.000	1	0.000	0.000	ns	
BxCxD	0.121	1	0.121	0.350	ns	
AxBxCxD	0.107	1	0.107	0.309	ns	
$Error_w$	53.219	154	0.346	-	-	
Total	158.850	323	-	-	-	
A	0.418	1	0.418	0.834	ns	
B	0.539	1	0.539	1.075	ns	
AxB	0.005	1	0.005	0.009	ns	
C	1.213	1	1.213	2.420	ns	
AxC	0.028	1	0.028	0.056	ns	
BxC	0.172	1	0.172	0.343	ns	
AxBxC	0.716	1	0.716	1.428	ns	
$Error_b$	77.215	154	0.500	-	-	
D	0.009	1	0.009	0.025	ns	Potential
AxD	0.023	1	0.023	0.063	ns	
BxD	0.028	1	0.028	0.076	ns	
AxBxD	0.316	1	0.316	0.863	ns	
CxD	0.916	1	0.916	2.500	ns	
AxCxD	0.544	1	0.544	1.485	ns	
BxCxD	0.056	1	0.056	0.152	ns	
AxBxCxD	0.242	1	0.242	0.660	ns	
$Error_w$	56.410	154	0.366	-	-	
Total	177.081	323	-	-	-	
A	0.019	1	0.019	0.025	ns	
B	0.539	1	0.539	0.717	ns	
AxB	0.121	1	0.121	0.161	ns	
C	0.084	1	0.084	0.111	ns	
AxC	0.205	1	0.205	0.272	ns	
BxC	0.009	1	0.009	0.012	ns	
AxBxC	4.346	1	4.346	5.781	.025	
$Error_b$	115.789	154	0.752	-	-	
D	2.194	1	2.194	6.402	.01	Performance
AxD	0.023	1	0.023	0.068	ns	
BxD	0.019	1	0.019	0.054	ns	
AxBxD	0.042	1	0.042	0.122	ns	
CxD	0.827	1	0.827	2.414	ns	
AxCxD	0.014	1	0.014	0.041	ns	
BxCxD	0.070	1	0.070	0.203	ns	
AxBxCxD	0.005	1	0.005	0.014	ns	
$Error_w$	52.781	154	0.343	-	-	

Note - Factors: A = FOS C = Subject sex
B = SP sex D = Applicant

TABLE 26 (continued)

Business Manager

Source	SS	df	MS	F	p	
Total	198.017	323	-	-	-	
A	0.003	1	0.003	0.004	ns	
B	1.209	1	1.209	1.811	ns	
AxB	0.627	1	0.627	0.940	ns	
C	2.436	1	2.436	3.651	ns	
AxC	0.719	1	0.719	1.077	ns	
BxC	0.275	1	0.275	0.412	ns	
AxBxC	0.228	1	0.228	0.342	ns	
$Error_b$	102.750	154	0.667	-	-	
D	6.520	1	6.520	12.454	.001	Qualification
AxD	0.048	1	0.048	0.092	ns	
BxD	0.203	1	0.203	0.387	ns	
AxBxD	0.535	1	0.535	1.022	ns	
CxD	0.070	1	0.070	0.134	ns	
AxCxD	0.003	1	0.003	0.005	ns	
BxCxD	0.451	1	0.451	0.862	ns	
AxBxCxD	1.311	1	1.311	2.503	ns	
$Error_w$	80.629	154	0.524	-	-	
Total	230.146	323	-	-	-	
A	0.024	1	0.024	0.028	ns	
B	2.970	1	2.970	3.448	ns	
AxB	0.282	1	0.282	0.327	ns	
C	0.479	1	0.479	0.556	ns	
AxC	0.073	1	0.073	0.084	ns	
BxC	0.025	1	0.025	0.029	ns	
AxBxC	5.102	1	5.102	5.922	.025	
$Error_b$	132.657	154	0.861	-	-	
D	0.927	1	0.927	1.674	ns	Potential
AxD	0.318	1	0.318	0.574	ns	
BxD	1.653	1	1.653	2.988	ns	
AxBxD	0.201	1	0.201	0.364	ns	
CxD	0.006	1	0.006	0.010	ns	
AxCxD	0.000	1	0.000	0.000	ns	
BxCxD	0.062	1	0.062	0.112	ns	
AxBxCxD	0.135	1	0.135	0.244	ns	
$Error_w$	85.232	154	0.553	-	-	
Total	184.648	323	-	-	-	
A	0.251	1	0.251	0.376	ns	
B	4.654	1	4.654	6.983	.01	
AxB	0.450	1	0.450	0.675	ns	
C	0.025	1	0.025	0.037	ns	
AxC	1.461	1	1.461	2.192	ns	
BxC	0.467	1	0.467	0.701	ns	
AxBxC	0.476	1	0.476	0.715	ns	
$Error_b$	102.629	154	0.666	-	-	
D	1.316	1	1.316	2.839	ns	Performance
AxD	0.012	1	0.012	0.026	ns	
BxD	0.499	1	0.499	1.077	ns	
AxBxD	0.709	1	0.709	1.530	ns	
CxD	0.006	1	0.006	0.013	ns	
AxCxD	0.134	1	0.134	0.288	ns	
BxCxD	0.084	1	0.084	0.181	ns	
AxBxCxD	0.084	1	0.084	0.181	ns	
$Error_w$	71.391	154	0.464	-	-	

TABLE 26 (continued)

Lecturer

Source	SS	df	MS	F	p	
Total	210.520	323	-	-	-	
A	0.033	1	0.033	0.042	ns	
B	0.009	1	0.009	0.012	ns	
AxB	2.343	1	2.343	3.004	ns	
C	0.321	1	0.321	0.411	ns	
AxC	0.502	1	0.502	0.644	ns	
BxC	0.070	1	0.070	0.089	ns	
AxBxC	1.571	1	1.571	2.015	ns	
$Error_b$	120.090	154	0.780	-	-	
D	18.906	1	18.906	46.587	.001	Qualification
AxD	0.516	1	0.516	1.272	ns	
BxD	0.116	1	0.116	0.286	ns	
AxBxD	0.0	1	0.0	0.0	ns	
CxD	0.809	1	0.809	1.993	ns	
AxCxD	0.232	1	0.232	0.573	ns	
BxCxD	1.060	1	1.060	2.612	ns	
AxBxCxD	1.446	1	1.446	3.562	ns	
$Error_w$	62.496	154	0.406	-	-	
Total	252.637	323	-	-	-	
A	0.957	1	0.957	1.340	ns	
B	0.001	1	0.001	0.001	ns	
AxB	0.565	1	0.565	0.792	ns	
C	0.037	1	0.037	0.051	ns	
AxC	0.001	1	0.001	0.001	ns	
BxC	0.815	1	0.815	1.141	ns	
AxBxC	0.009	1	0.009	0.012	ns	
$Error_b$	109.930	154	0.714	-	-	
D	0.911	1	0.911	1.045	ns	Potential
AxD	0.123	1	0.123	0.142	ns	
BxD	0.001	1	0.001	0.001	ns	
AxBxD	0.348	1	0.348	0.399	ns	
CxD	1.796	1	1.796	2.059	ns	
AxCxD	1.861	1	1.861	2.133	ns	
BxCxD	0.513	1	0.513	0.588	ns	
AxBxCxD	0.425	1	0.425	0.487	ns	
$Error_w$	134.344	154	0.872	-	-	
Total	267.977	323	-	-	-	
A	1.632	1	1.632	1.641	ns	
B	0.081	1	0.081	0.082	ns	
AxB	1.818	1	1.818	1.828	ns	
C	3.945	1	3.945	3.968	.05	
AxC	2.463	1	2.463	2.477	ns	
BxC	0.090	1	0.090	0.090	ns	
AxBxC	0.135	1	0.135	0.136	ns	
$Error_b$	153.113	154	0.994	-	-	
D	1.875	1	1.875	2.909	ns	Performance
AxD	0.008	1	0.008	0.013	ns	
BxD	0.217	1	0.217	0.337	ns	
AxBxD	0.494	1	0.494	0.766	ns	
CxD	0.416	1	0.416	0.646	ns	
AxCxD	1.662	1	1.662	2.580	ns	
BxCxD	0.768	1	0.768	1.192	ns	
AxBxCxD	0.037	1	0.037	0.058	ns	
$Error_w$	99.223	154	0.644	-	-	

TABLE 27

Analysis of Variance: Attitudes towards Women Scale

Source	SS	df	MS	F	p
Total	20280.2676	158	-	-	-
A	10.7525	1	10.7525	0.0912	ns
B	2148.43	1	2148.43	18.2267	.001
C	50.1325	1	50.1325	0.4253	ns
AxB	248.576	1	248.576	2.1089	ns
AxC	5.4282	1	5.4282	0.0461	ns
BxC	7.7844	1	7.7844	0.0660	ns
AxBxC	10.3643	1	10.3643	0.0879	ns
S	17798.8	151	117.873	-	-

Note - Factors: A = SP sex
B = Subject sex
C = FOS

TABLE 28

Correlations between Ratings of Female Applicants and Attitudes towards Women Scale

Subjects	$\bar{X}$ AWS	$\bar{X}$ Rating	Correlation	p
Male	47.2024	3.9908	+.2078	.03
Female	54.4933	4.0036	+.2369	.02

Note - AWS scores range from 0 (conservative) to 75 (loberal).

Ratings of applicants range from 1 (unfavourable) to 7 (favourable).

TABLE 29

T test: Ratings of Candidates

Occupation	Item	Candidate	$\bar{X}$	sd	df	sd	t	p*
	qualification	A(male)	3.6957	0.822	22	0.775	2.15	.05
		B(female)	3.3478	1.071				
Manager	potential	A	4.0435	0.976	22	0.825	0.25	ns
		B	4.0870	0.668				
	performance	A	3.5652	0.843	22	1.076	2.71	.01
		B	4.1739	0.887				
	qualification	A(female)	3.4783	0.846	22	0.992	2.10	.05
		B(male)	3.9130	1.083				
Teacher	potential	A	4.0000	1.168	22	1.037	2.01	ns
		B	4.4348	0.590				
	performance	A	4.1304	1.058	22	0.926	1.58	ns
		B	4.4348	0.662				
	qualification	A(male)	4.6522	0.573	22	1.107	4.52	.001
		B(female)	3.6087	0.988				
Lecturer	potential	A	3.6522	1.112	22	0.898	-2.55	.025
		B	4.1304	0.869				
	performance	A	3.8696	0.968	22	1.692	0.12	ns
		B	3.8261	1.072				
	qualification	A(female)	3.9130	0.596	22	0.689	5.15	.0005
		B(male)	3.1739	0.717				
Programmer	potential	A	4.0870	0.515	22	0.790	3.17	.005
		B	3.5652	0.662				
	performance	A	4.1739	0.717	22	0.822	1.78	ns
		B	3.8696	0.626				

Note - Scale ranges from 1 (unfavourable) to 5 (favourable)

* two tailed

TABLE 30

Mean Ratings of Applicants

Occupation	Item	Candidate	Condition: Sex specified	Condition: Sex unspecified
Business Manager	qualification	A(male)	3.969	3.696
		B(female)	3.685	3.348
	employability	A	3.580	4.044
		B	3.469	4.087
	performance	A	3.815	3.565
		B	3.957	4.174
Teacher	qualification	A(female)	4.407	3.478
		B(male)	4.216	3.913
	employability	A	4.099	4.000
		B	4.068	4.438
	performance	A	4.057	4.130
		B	4.198	4.435
Lecturer	qualification	A(male)	4.475	4.652
		B(female)	3.981	3.609
	employability	A	3.722	3.652
		B	3.642	4.130
	performance	A	3.593	3.870
		B	3.784	3.826
Programmer	qualification	A(female)	4.352	3.913
		B(male)	3.167	3.174
	employability	A	4.160	4.087
		B	3.019	3.565
	performance	A	4.049	4.174
		B	3.111	3.870

Scale ranges from 1 (unfavourable) to 5 (favourable)

TABLE 31

% of FOS Imagery: Male Dominated Fields

	Subject sex	Sex of SP Female	Male
Horner, 1968	F	66	-
	M	-	9
Feather & Simon, 1973	F	35	-
	M	-	25
Brown et al., 1974	F	17	20
	M	46	25
	F (HS)	42	18
	M (HS)	38	18
Feather & Raphelson, 1974	F (AM)	27	23
	M (AM)	49	30
	F (AUS)	47	20
	M (AUS)	51	28
Hoffman, 1974	F	62	-
	M	-	76
Jackaway, 1974	F	31	24
	M	28	33
Monahan et al., 1974	F	51	30
	M	68	21
Spence, 1974	F	35	-
	M	42	-
Winchel et al., 1974	F	25	12
	M	29	11
Levine & Crumrine, 1975	F	73	73
	M	76	69

All studies performed with university students except where denoted: HS (high school). Feather & Raphelson contrasted American and Australian students.

CHAPTER 5 SEX ROLE STEREOTYPES, DIFFERENTIAL EVALUATIONS OF MEN AND WOMEN, FEAR OF SUCCESS, PSYCHOLOGICAL ANDROGYNY AND ATTITUDES TOWARD WOMEN

Introduction

Classically, psychologists have uncritically accepted sex roles as an integral and essential part of personality development and function. This assumption is based on the premise that contemporary sex roles stem from a biological dimorphism, which tempered by cultural influences, provides divergent role models for men and women. From this perspective, sex roles are held to be both natural and desirable. More recently, however, it has been argued that this superfluous dichotomizing of sex roles restricts the range of behaviors available to the individual and acts as a constraint on human development.

Both theoretical and empirical definitions of masculinity and femininity convey an underlying notion of bipolarity. Parsons & Bales (1955) refer to masculinity as an instrumental, cognitive approach while femininity is defined within an expressive, affective domain. Likewise, Bakan (1966) equates masculinity with an agentic and femininity with a communal perspective. This approach is reflected on an empirical level with Sheriffs and McKee's (1957) use of the adjective check list and Rosenkrantz et al.'s (1968) construction of the Sex Role Stereotype Questionnaire (SRSQ). The former illustrates that men are conceptualized in terms of activity and efficiency while women are emphatically perceived in terms of social graces and skills. Distribution and analysis of the SRSQ reveal

a consistent tendency to ignore "woman" per se and to describe her merely as the opposite of man. Men are typically envisioned as capable, strong, assertive, aggressive and objective, possessing those highly valued characteristics which form a competency cluster. Women are allotted some positively valued, though less socially desirable, qualities which compose a warmth-expressiveness cluster- sensitivity, generosity and tenderness- although they are as frequently characterized as incompetent, weak and over emotional. The two clusters are antithetical with the masculine attributes being more positively valued and highly regarded.

More recently, psychologists have introduced the concept of psychological androgyny which is grounded in the supposition that masculinity and femininity are not dichotomous and may be expressed psychometrically as orthogonal factors. In particular, Bem (1974) has constructed a Sex Role Inventory (BSRI) which is distinguished from previous masculinity/femininity measures in that the two modes are conceptualized independently. Procedurally individuals describe themselves on masculine and feminine traits, a mean of each obtained and a comparison made. Subjects may be classified as masculine, feminine or androgynous on the basis of their descriptive scores.

Identification in terms of psychological androgyny may have profound behavioral implications. Bem (1975) found that highly sex typed individuals have limited role concepts and actively avoid cross sexed behavior. In keeping with stereotypic notions, psychologically masculine individuals appear competent only in instrumental, independent modalities while feminine individuals are limited to passive expression in the nurturant

domain. By contrast, androgynous individuals, as defined by psychometric analysis, are equally competent in both spheres; these trends apply to both sexes. In such instances, the marked disparity between the androgynous individual who is able to incorporate the socially desirable characteristics of masculinity and femininity and the limited flexibility of the unitarily masculine or feminine individual clearly demonstrates the behavioral constraints induced by traditional sex role stereotypes.

Nevertheless, both the persistence (Fernberger, 1948) and the widely held acceptance (Broverman et al., 1972) of sex role stereotypes has been empirically demonstrated. Men and women differing in age, marital status, religion, educational and occupational backgrounds continue to idealize and incorporate traditional sex role stereotypes even though they have been empirically demonstrated to adversely affect both self concept (Cosentino & Heilbrun, 1968; Gray, 1957; Harford, Willis & Deabler, 1967) and intellectual functioning (Kagan & Freeman, 1963; Maccoby, 1966).

Although both sexes are constrained by traditional sex role stereotypes, women's position appears somewhat more acute due to the underlying notion of inferiority and the greater social desirability of the masculine characteristics. (Kitay, 1940; MacBrayer, 2960; McKee & Sheriffs, 1957, 1959; Rosenkrantz et al., 1968). In addition, acceptance of traditional stereotypes implies an artificial dichotomy between women and person as demonstrated by Broverman et al. (1970). Mental health clinicians were asked to describe a mature, healthy socially competent man, woman or adult on the SRSQ. Although the clinicians' ratings of healthy adult and male did not differ, the female was perceived as significantly less

adjusted by adult standards. In other words, mature women differ from competent adults by being more submissve, more dependent, less adventuresome and less competitive. These findings have been replicated in Australia by Anderson (1975).

The implication is clear- maintenance of a healthy personality is achieved by the incorporation of negative personality traits. As developmental psychologists Kagan (1964) and Kohlberg (1966) have stressed, during socialization, individuals become motivated to keep their behavior consistent with an internalized sex role standard. Maintenance of a masculine or feminine image is accomplished by suppression of inappropriate behavior. Bardwick & Douvan (1972) maintain that due to the ambivalence in socialization women emerge psychologically depleted.

> Too many women evaluate their bodies, personality qualities and roles as second rate. When male criteria are the norms against which female performance, qualities and goals are measured, then women are not equal. The essence of the derogation lies in the evolution of the masculine as the yardstick against which everything is measured. Since the sexes are different, women are defined as not men and that means not good, inferior. It is important to understand that women in this culture have internalized these self-destructive values (p.55).

This contention has received empirical support from the demonstration of the more positive evaluation of masculine traits and the implied dichotomy of woman and adult. It has also been examined psycho-sociologically by Freeman (1970) who likens the feminine personality traits to those of other oppressed groups by emphasizing passivity and dependence and by Klein (1950) who holds that the stereotype of femininity is defined in limited, archetypal terms and only viewed in relation to the masculine. The notion of the second sex has been popularized by con-

temporary authors such as de Beauvoir (1953), Friedan (1963), and Greer (1971). Nevertheless, the uncritical acceptance, incorporation and idealization of the traditional feminine role model has been postulated to adversely affect achievement motivation (Horner, 1968), self esteem (Cherniss, 1972), self concept (Jordan-Viola et al., 1976), to limit sex role adaptability (Bem, 1974) and to induce prejudice against women (Goldberg, 1968).

Although the theoretical implications are clear, a relatively small proportion of work has been undertaken to examine the relationship between these variables and to ultimately connect them with sex role stereotypes. The majority of the research has centered on personality traits or taken a sociological bend by emphasizing personal history factors. Empirical evidence has indicated that women professing liberal attitudes on feminist issues allow themselves greater flexibility in role adaptability by incorporating socially desirable traits of both the masculine and the feminine modes (Cherniss, 1972; Fowler, Fowler & van de Riet, 1973; Fowler & van de Riet, 1972; Jordan-Viola et al., 1976; Neilsen & Doyle, 1975). The same adaptability has been attributed to career women and role innovators who score high in masculinity, autonomy and competence (McKenzie, 1972; Rand, 1971; Rezler, 1967; Tangri, 1972).

Still, liberal or feminist attitudes may not relate directly or simplistically to sex role stereotypes. Although Minnigerode (1976) reported a low incidence of stereotyping in women associated with liberal attitudes, Kravetz (1976) found that sex role concepts of neither WLM members nor control women sampled corresponded to traditional sex role stereo-

types but were more heavily influenced by the social desirability of particular traits. The operational definition and measurement of liberal attitudes in these cases may be a critical factor as Welch (1975) maintains that support of WLM does not necessarily infer an indiscriminant backing of a coherent cause, and Kirkpartick (1936) found that feminist attitudes on domestic, political and economic status were not internally consistent nor highly correlated.

Attempts to relate $M-_S$ directly to sex role stereotypes have been less frequent and predominantly unfruitful (Depner & O'Leary, 1976; Moore, 1974; Peplau, 1976; Tangri, 1969; Unger & Krooth, 1974; Wellens, 1973; Zanna, 1973). However, Makosky (1972) and Patty (1972) reported that women evincing fear of success perform better on tasks labelled feminine while the reverse is true for other women. In addition, Horner (1969) and Patty (1972) found a concentration of FOS women in traditional fields but surprisingly, Baruch (1975) reported that women exhibiting FOS were less stereotyped than non-FOS women. The reverse trend was reported by Alper (1974), Heilbrun, et al. (1974) and Tresemer & Pleck (1972).

Until now, no evidence directly relating prejudice against women (in the evaluative mode) to sex role stereotypes has emerged in the literature. It is Goldberg's contention, however, that the perceptual distortion in the evaluation of female expertise is directly dependent upon the traditional sex role stereotypes and the underlying notion of inferiority of women.

With the theoretical implications clear and the deficit of relevant

research apparent two studies were designed to examine the relationship between sex role stereotypes, psychological androgyny, differential evaluation of the sexes, attitudes towards women's roles in society, fear of success and personal history.

Experiment XI

The experiment was designed to examine attitudes toward differing characteristics of the sexes and to assess the relationship to differential evaluation of the sexes, attitudes toward women in society and psychological androgyny.

Method

Subjects. Fifty-six Open University students, 26 females and 30 males ranging in age from 22-52 (median age 31) and varied in educational, occupational, religious and family background participated in the study.

Materials and Procedure. In addition to tapping personal information (age, sex, marital status, number of children, religion, education and occupation) the questionnaire was divided into four parts- two of the original Goldberg articles, the Bem Sex Role Inventory (BSRI), Spence & Helmreich's Attitudes toward Women Scale (AWS) and Rosenkrantz et al.'s Sex Role Stereotype Questionnaire (SRSQ). See Appendices I and IV.

In the first instance Ss were required to read and critically evaluate two academic articles, one concerning primary education (feminine) and the other focusing on city planning (masculine). Ss appraised each on

the Goldberg criteria : general value, professional value, style, professional competence, agreement, profundity, persuasiveness, overall evaluation and author's status in the field on a 1(high) to 5 (low) scale. Sex of the author was varied in both cases.

The BSRI directs Ss to describe themselves on a series of 60 personality traits (20 masculine, 20 feminine, and 20 undifferentiated) on a 1 (never) to 7 (always) frequency scale. The mean masculinity score is then subtracted from the mean femininity score, yielding an index of psychological androgyny. Negative scores reflect masculinity, positive scores femininity, although results from -1.00 to 1.00 are usually classified as androgynous (Bem & Korula, 1974).

The AWS (shortened version) consists of 25 declarative statements concerning vocational, educational and intellectual roles of women; freedom and independence; sexual behavior; and marital relationships and obligations. Ss indicate their agreement/disagreement (mild or strong) with each statement and responses are scored from 0 (conservative) to 3 (liberal), making the total scoring range 0-75.

Ss were instructed to complete the questionnaires individually and to return them to E before the end of the summer school session. Of the 120 distributed, 56 questionnaires were returned.

Results

Establishment of stereotypic items was calculated by z scores as suggested by Rosenkrantz (1970). $z = \frac{X \pm NP}{NPQ}$ when X=number of subjects who score M>F for a given item (or F<M), N=total number

of Ss, P =Q =0.5 and X =+0.5 or - 0.5 if X <NP or >NP, respectively. The results are presented in Table 32 and may be compared with the original SRSQ data in Appendix V.

Thirty two per cent of the items did not differentiate women from men: unrealistic, idealistic, interested in generalities, never thinks before acting, ungrateful, minds when things are not clear, reckless, helpful to others, competent, sneaky, kind, willing to accept change, not aware of others' feelings, intelligent, gives up easily, never does things without being told, sloppy, intellectual, careless, poor sense of humor, calm, prefers groups, restless, uncomfortable when people express their feelings, sociable, unconventional and compulsive. The following traits were judged to be more characteristic of men: aggressive, rational, independent, consistent, unemotional, objective, likes math and science, strict, strong personality, rough, hides emotions, competitive skilled in business, adventurous, outgoing, almost always acts as a leader, loud, self confident, ambitious, frequently takes extreme positions, does not express tender feelings easily, never conceited about appearance, forward, unaffectionate and unfeminine. And the following characteristics are believed to typifiy women: impractical, easily influenced, talkative, submissive, excitable in major and minor crises, passive, able to devote self to others, tactful, illogical, home oriented, does not know the ways of the world, feelings easily hurt, religious, interested in own appearance, has difficulties in making decisions, cries easily, always worried, feels inferior, sees self as running the show, uncomfortable about aggression, understanding, needs security, unable to separate feelings from ideas,

dependent, enjoys art and literature, avoids new experience, does not think that men are superior to women, unassertive and unmasculine.

The stereotype scores for each subject are obtained by establishing the mean rating or sigma score ($X - \bar{X}/6$) for males, females and self on both the male and female socially desirable items (MVM, MVF, MVS, FVM, FVF, FVS). In this instance, mean ratings revealed that men hold more stereotypic views than women ($t = 5.0122$, s.d. $= 3.17$, d.f. $= 45$, $p < .001$). Analysis of differential acceptance of sex role stereotypes was also performed for the following:

Marital status: married or single, separated, divorced

Religion: affiliated or non affiliated

Education: Level I- not more than one A level
Level II- multiple A levels and/or technical college and professional exams
Level III- teacher training college or university

Occupation: Level I-(housewife) blue collar
Level II- white collar
Level III- professional

The former analysis, differential subscription to sex role stereotypes over religious and marital status, was performed with the non-parametric Mann Whitney U due to the large inequality of sample size and small numbers of unmarried and religious, unaffiliated respondents. Results presented in Table 33 indicate that single men view themselves as more socially desirable in both the masculine ($p < .002$) and feminine modes ($p < .05$). Religious (church affiliates) women see themselves as more stereotypically feminine ($p < .02$), but a similar trend is not apparent in men.

Mean stereotypic ratings are employed in the latter analysis and a one way analysis of variance is utilized (Table 34). In general, neither

educational nor occupational level emerged as perdictors of sex role stereotyping or self concept. However, white collar males did view themselves less stereotypically masculine on male valued traits than did blue collar workers or professionals ($p < .05$).

Analysis of responses on the AWS scale reveals that women ($\bar{X}$ = 60,1923) are significantly more liberal than men ($\bar{X}$ = 52.8667, t = 2.6304, $p < .01$). Scores were also analyzed over marital and religious status and occupational and educational background. Although occupational level appeared unrelated to AWS scores in both sexes, lower levels of education appeared to be related to conservatism in men (Level I = 37,33, Level II = 55.79, Level III = 53.25). See Table 35. Differences in attitudes between married/single and affiliated/nonaffiliated church members as analyzed by Mann Whitney U revealed that single ($p < .05$), nonaffiliate ($p < .025$) women express more liberal attitudes toward feminist issues. No differences were apparent in men (Table 36).

Androgyny scores were analyzed similarly. Table 37 demonstrates that marital and religious status appear to be unrelated to psychological androgyny, nor did educational and occupational background emerge as valid predictors of self concept in terms of masculinity and femininity (Table 38).

Evaluations of academic articles were analyzed by a 2X2 (sex of author x sex of subject) analysis of variance, method of unweighted means (Table 39). No significant main or interaction effects for either the education or city planning article emerged; the means are presented in Table 40. Because of the tentative support of the Queen Bee Syndrome in Chapter Two, evaluations of female authored articles by women varying

in educational and occupational professionalism were examined. Results indicate that women at the highest level of education gave the most critical evaluation ($\bar{X}$ = 2.54), followed by Level I women ($\bar{X}$ = 2.33) and then Level II females ($\bar{X}$ = 1.56). See Tables 41 and 42. This trend is in perfect correspondence with Staines et al.'s prediction that that the most critical assessors of women are the traditionals (less educated, conservative role models) and the Queen Bees (highly educated professionals). This tendency is not apparent in the appraisals of male authored works (Table 43).

Finally, a Pearson correlation was performed for the following variables: age, number of children, androgyny scores, AWS scores, responses on the SRSQ (MVM, MVF, MVS, FVM, FVF, FVS) and evaluations of academic articles (male, author, city planning (MAM), female author, city planning (FAM), male author, education (MAF) and female author, education (FAF)). Analysis was performed separately for men and women, and results are presented in Tables 44 and 45.

Analysis of male data reveals that age was negatively correlated with liberal scores on the AWS ($p < .01$). Stereotypic descriptions of both sexes and self concept also appeared related to AWS scores; a highly stereotyped conception of masculinity ($p < .003$), and femininity ($p < .045$) was associated with conservative AWS scores as was the exclusion of socially desirable feminine traits in self description ($p < .04$). Some internal consistency in the SRSQ concerning stereotypes and self concept was also apparent with appraisals of males on male ($p < .05$) and female ($p < .001$) valued traits positively correlating with self description on

these items. Correlations between androgyny scores and relevant factors of the SRSQ credits the validity of these measuremental techniques; self appraisal on the former correlates highly (+.7916) with self report on the SRSQ's male valued items.

Evaluations of academic articles appear to be associated with some personal factors; a greater number of children is related to a more favorable appraisal of authors in sexually atypical fields. And finally, conservative AWS scores are associated with favorable evaluations of male authors in city planning.

Responses to the SRSQ also reflected attitudinal consistency in women. Stereotypic notions of males (male valued traits)were positively related to stereotypic views of women ($p < .004$) and self concept ($p < .001$) on the female valued items. But women viewed males primarily in terms of social desirability rather than sex role stereotypes- appraisals of males on male and female valued items were positively related ($p < .02$). Self concept, as delimited by the SRSQ, was also related to attitudes toward women and androgyny scores. Liberal AWS attitudes were associated with a positive self concept on male valued traits ($p < .04$). Those classified as feminine on the BSRI held more stereotypic views of males ($p < .01$) and had a more feminine self concept on the SRSQ (on both male ($p < .01$) and female ($p < .05$) valued items). Traditional feminine self concepts on both the BSRI ($p < .05$) and the SRSQ ($p < .01$) were associated with conservative attitudes toward women; appraisals of males on female valued traits were also negatively correlated with AWS scores ($p < .05$)

As with men, age was negatively correlated with AWS scores. With

reference to evaluations of academic articles, more favorable appraisals of female authors in primary education was associated with a feminine self concept ($p < .04$) and surprisingly, the acceptance of male valued traits in women ($p < .05$) on the SRSQ.

Experiment XII

The experiment was similar to the previous study and though less extensive, was designed to incorporate a measurement of fear of success and examine this in relation to psychological androgyny, attitudes toward women and personal history.

Method

Subjects. Forty-four Open University students, 23 males and 21 females, ranging in age from 24-58, median age 34.5, participated in the study. Ss were present at a one week social science summer school course.

Materials and Procedure. The questionnaire tapped personal information (age, marital status, number of children, sex, religion, educational and occupational history) and contained measurements of fear of success, psychological androgyny and attitudes toward women. For assessment of FOS Ss responded to one of four cues. "Ann (John) graduated at the top of her (his) medical school class," or "Ann (John) graduated at the top of her (his) nursing school class." Psychological androgyny and attitudes toward women were assessed by the Bem Sex Role Inventory and the shortened version of the Spence & Helmreich Attitudes toward Women

Scale, respectively.

Ss were instructed to complete the questionnaire individually and return them to E before the end of the summer school session. Of the 150 distributed, 44 usable questionnaires were returned.

Results

Independent judges (using the Horner(1968) criteria) reached 93% initial agreement on the initial classification of fear of success (FOS) imagery. (Table 46). Due to the low return rate of questionnaires, examination of FOS in relation to other variables is severely limited and for the most part, only trends may be suggested. The small N per cells prevented the use of X^2 to analyze sex of SP, sex of subject and sex appropriateness of field (Cochran, 1954), but multiple tests for significant differences between proportions (sex of SP, sex appropriateness of field) yielded no significant results (Table 47). FOS imagery was elicited with equal frequency from males and females ($z = 1.3073$, n.s.).

Examination of FOS in relation to personal history was seriously limited and analysis over educational and occupational levels, due to the small sample, was not performed. Test for significant differences between proportions was employed to assess FOS in relation to marital and religious status. A significant difference in the occurance of FOS in affiliated and nonaffiliated church members was not apparent in males or females ($z = .3943$, $z = .5165$, respectively). However, married women evinced more FOS than unmarrieds ($z = 1.9522$, $p < .05$); this trend was not apparent in men. A point biserial correlation revealed that occurance

of FOS imagery is unrelated to age or number of children (Table 48).

A 2X2 (FOS x SP sex) analysis of variance, method of unweighted means, for both androgyny and AWS scores was performed (Tables 49 and 50). Because of the small N's, sex of subject and sex appropriateness of field were collapsed as factors, but no significant mean or interaction effects emerged in the analysis.

Psychological androgyny ratios were analyzed over educational and occupational levels by a one way analysis of variance (classification explained in the table notes). For neither men nor women did these factors emerge as predictors of self concept in terms of masculinity/femininity (Tables 51 and 52). Nor were differential androgyny scores apparent between marrieds/unmarrieds or affiliated/nonaffiliated church members (Table 53). However, the sexes view themselves differently and in stereotypic fashion (Table 54).

AWS scores were analyzed similarly- a one way analysis of variance over educational and occupational levels and t-test for differential scorings by marrieds/unmarrieds and affiliated/nonaffiliated church members. For women, educational level was not related to AWS scores, but the occupational factor reflected significant differences with professionals appearing most conservative ($\bar{X} = 50.9$), blue and white collar workers more liberal ($\bar{X} = 66.67$) and housewives falling in between ($\bar{X} = 59.2$)- p .025. See Tables 55 and 56. For men, a similar trend was apparent over both educational and occupational levels with professionals and college educated men being most conservative ($p < .05$ and $< .01$, respectively); educational levels I and II did not appear to be differentiated on AWS scores, but

blue collar workers appear somewhat more liberal than white collar employees. Marital status does not appear to be related to liberalism on the AWS, but church affiliation in women is indicative of conservative scores ($p < .025$). See Table 57.

No significant differences on the AWS emerged between women and men ($\bar{X}_w = 57.4$, $\bar{X}_m = 55.6$; $t = .5317$, d.f. $= 40$, s.d. 10.7073), although psychological androgyny in both sexes appeared marginally related to attitudes toward women, with androgynous Ss reflecting the most liberal scores followed by masculine, then feminine individuals (Tables 58 and 59).

Finally, a Pearson product moment correlation was performed separately for men and women on the following variables : age, number of children, BSRI and AWS scores. Personal factors were not related to either BSRI or AWS scores; age was positively correlated with number of children (Table 60).

Discussion

Although the results are not conclusive, in general they demonstrate the relationship between sex role stereotypes and related attitudes, self concepts and behavioral predispositions. On the most basic level, uncritical acceptance and idealization of sex role stereotypes appear to be incorporated into the self concepts of both men and women. This is supported from data from both the Broverman et al. Sex Role Stereotype Questionnaire (SRSQ) and the Bem Sex Role Inventory (BSRI). Although masculinity/femininity are defined and conceptualized differently in the

two scales, a high degree of attitudinal consistency is yielded by data analysis. For example, the more feminine women perceive themselves on the BSRI, the more stereotypic their perception of males and the more feminine their self concept as measured by the SRSQ. Likewise, the more masculine men view themselves on the former, the more stereotypic their self descriptions on the latter.

Acceptance or rejection of traditional sex role stereotypes is of prime importance in the development of attitudes toward women's roles in society. In particular, individuals who are critical of traditional notions of masculinity and femininity and who readily incorporate the socially desirable characteristics of both modalities are also willing to allow women a broader scope in social and economic opportunities. Although men, in general, cling more tenaciously to sex role stereotypes and profess more conservative attitudes toward women, acceptance of stereotypic ideals rather than sex of individual appears a more valid predictor of attitudes toward feminist issues. Analysis of SRSQ responses revealed that the more stereotypic description of males (male valued traits) and females (female valued traits), the more conservative the AWS scores for men.

. Self concept is also a crucial factor in attitudinal prediction. A low acceptance of cross sexed socially desirable traits in self concept is associated with conservative AWS scores, and analysis of the BSRI indicated that androgynous individuals are more liberal than either the unitarily masculine or feminine subject.

Neither maintenance of traditional sex role stereotypes nor self

concept in terms of masculinity/femininity appear to be reliably or consistently predicted by personal history. Androgyny scores were not related to age, marital status, number of children, religion, education, or occupational background. SRSQ responses, however, revealed that religious women view themselves as more feminine- this is not surprising in that religiousity is frequently associated with salient conservatism and traditionalism. For males, occupational level was related to sex role identification with blue collar workers viewing themselves more masculine than their white collar counterparts. Because blue collar workers rely more on physical strength and stamina, the "natural man" image, an inflated sense of masculinity is not unexpected. Also, blue collar workers may have experienced fewer educational opportunities, a factor which has been previously associated with increased stereotyping (Staines et al., 1974).

Personal factors appear to be more relevant in the assessment of attitudes towards women's roles in society. Liberals tend to be young, female, unmarried and atheist/agnostic. For women, occupational status appears as an important predictor of feminist attitudes with professionals evincing the most conservative perspective, blue and white collar workers the most liberal and housewives falling between. A similar trend was apparent in men with professional and college educated males emerging as the least liberal. This evidence lends direct support to Staines et al.'s notion of the Queen Bee Syndrome, a hypothetical construct based on the supposition that in view of self interests and threat of dimunition of occupational prestige, male professionals impose active restraints on women entering and striving in high status positions. Professional women,

likewise, adopt the ideals of their male colleagues, lose all identification with women as a class and exhibit an antifeminist bias. But the professional woman is hypothesized to feel threatened on two levels- in terms of occupational prestige and sexual elitism. Men and women sampled here exhibit these tendencies; professionals are more conservative in their attitudes toward women than blue or white collar workers. But Staines et al. also delimit a second type of conservative woman, one cast in the traditional wife and mother mould who desires to protect the comfortable conventionality of the female role. Again, this supposition is supported by present data. Housewives are more similar to professional women in their conservatism and far less liberal than blue and white collar workers. As Staines et al. maintain:

> While these traditional women are quite different from Queen Bees in life style and in the priority they place on on work, they share a fear that the women's movement will jeopardize their respective standards of success. Together these groups form a countermilitant coalition to keep the status quo; the Queen Bee wants to protect her uniqueness in a man's world, the traditional woman wants to protect her comfortable conventionality in a woman's world (p.60).

Differential evaluation of academic articles in city planning and primary education conformed to patterns predicted by previous research. In particular, male and female authored articles were not appraised significantly differently. It is suggested that due to a certain naivete and unfamiliarity with critical evaluation of scholastic works, Open University students are somewhat reluctant to render negative assessments of compositions; consequently, differential evaluations will not emerge. In support of the Queen Bee Syndrome, however, was the differential evaluation of female authored articles by women varying

in educational levels. Women at the highest level of education (university or teacher training college) evaluated female authored articles more negatively than others, but this trend was not apparent in the appraisals of male authored works.

Analysis of the motive to avoid success in relation to other variables reflected more disappointing results. FOS was not associated with conservatism on the AWS as predicted , nor a highly stereotyped self concept as measured by the BSRI. FOS was not consistently related to personal history with the exception that it was more apparent in married than unmarried women. The explanation for this may be couched in the former's option for the traditional role, suggesting a greater anxiety over successful women in atypical endeavors. This is supported by Patty (1972) who found that FOS women score high on family ideology.

Attempts to directly associate FOS with sex role stereotypes may reflect a naive or simplistic approach to the examination of achievement motivation. As Condry & Dyer (1976) maintain, studies of $M-_s$ have been most successful in delimiting the factors that do not relate to FOS, and it is highly likely that other variables, as yet undefined, may affect the association of FOS and sex role stereotyping. Alternatively, the possibility exists that the intrinsic association between sex role stereotyping and FOS is not adequately appraised by crude measuremental techniques. The use of projective tests, objective rating scales and Likert scales in the measurement of FOS, sex role stereotyping and psychological androgyny, and attitudes toward women, respectively, may complicate the issue. This is supported by research by Spence, Helm-

reich & Stapp (1975a) which demonstrated that evaluations of likability and competence in relation to sex role stereotypes reflected discrepant trends in the projective and standard rating condition. Whatever the interpretation, attempts to relate FOS to the most salient factors in sex role research- stereotyping, differential evaluation of the sexes, psychological androgyny, and attitudes toward women in society- have been unsuccessful.

Implications

The acceptance of sex role stereotypes as an essential part of healthy personality development may affect attitudinal and behavioral responses on a variety of levels. Data presented here support Broverman et al. 's (1972) suggestion that stereotypes are uncritically accepted and incorporated as sex role standards into individual self concepts. Traditional role models have been associated with conservative and restrictive attitudes toward women and limited sex role adaptability. Although both sexes are constrained by their sex role stereotypes, viewing themselves primarily in terms of masculinity/femininity rather than social desirability, women may suffer more due to the underlying notion of inferiority.

Summary

Two experiments were designed to examine the relationship between salient factors in sex role research- sex role stereotyping, psychological

androgyny, differential evaluation of males and females, and attitudes toward women in society. The strongest and most consistently emerging relationship was the association of sex role stereotyping and self concept. In particular, those accepting the traditional sex roles are most prone to describe themselves in a "sex appropriate" manner. Incorporation of traditional stereotypes also appeared to be related to conservative attitudes toward women.

For the most part factors in personal history did not emerge as valid predictors of sex role related variables except that liberal attitudes toward women were often found in young, unmarried females professing atheism/agnosticism. Women, on the whole, were more liberal than men. Although academic articles were not differentially evaluated when attributed to male or female authors, analysis of appraisals of female authored compositions by women over educational level gave some support to the Staines et al. Queen Bee Syndrome, with professional women evincing the most critical assessments. The same trend was apparent in responses to the AWS scale in both males and females.

FOS was not consistently related to other variables. This was discussed in terms of measuremental difficulties.

TABLE 32

Analysis of SRSQ

Item	Male Subjects z score	p	Female Subjects z score	p	Overall z score	p	Direction
1. aggressive	4.9029	.0001	3.0554	.002	5.8220	.0001	M
2. rational	3.7262	.0002	2.6189	.03	4.6579	.0001	M
3. impractical*	-2.5495	.01	0.0	ns	-2.0378	.04	W
4. independent	4.5107	.0001	2.6189	.03	5.2402	.0001	M
5. consistent	2.1573	.03	0.8730	ns	2.3290	.02	M
6. unemotional*	4.5107	.0001	2.6189	.03	5.2402	.0001	M
7. unrealistic*	-1.7651	ns	0.0	ns	0.0	ns	
8. idealistic	-0.5884	ns	0.0	ns	0.2911	ns	
9. hides emotions*	4.5107	.0001	3.928	.0001	6.1135	.0001	M
10. objective	2.5495	.01	2.1825	.03	3.4934	.0005	M
11. interested in generalities	1.3728	ns	0.0	ns	1.1645	ns	
12. never thinks before acting*	-2.1573	.03	0.0	ns	-1.7467	ns	W
13. easily influenced*	-2.9418	.003	-2.1825	.03	-3.7846	.0002	W
14. talkative	-3.7262	.0002	1.7460	ns	-4.0757	.001	W
15. ungrateful*	0.1961	ns	1.3095	ns	1.1645	ns	
16. minds when things are not clear	1.3728	ns	0.4365	ns	1.4558	ns	
17. submissive*	-4.5107	.0001	-3.0554	.002	-5.8224	.001	W
18. likes math and science	3.3340	.001	3.0554	.002	4.6579	.0001	M
19. reckless*	-0.9806	ns	3.0554	.002	0.8734	ns	M
20. excitable in major crises*	-4.5107	.001	-0.8730	ns	-2.6201	.008	W
21. excitably in minor crises*	-3.7262	.0002	0.0	ns	-2.9104	.004	W
22. strict	2.5495	.01	0.8730	ns	2.6201	.008	M
23. strong personality	1.3728	ns	1.3095	ns	2.0378	.04	M
24. passive*	-2.5495	.01	-0.8730	ns	-2.6201	.008	W
25. able to devote self to others	-2.5495	.01	-0.8730	ns	-2.6201	.008	W
26. tactful	-2.1573	.03	-3.0554	.002	-3.7840	.002	W
27. rough*	3.3340	.001	3.4919	.0006	4.9490	.0001	M
28. not helpful to others*	0.1961	ns	2.1825	.03	1.7467	ns	
29. competitive	4.1185	.0001	2.1825	.03	4.6579	.0001	M
30. illogical*	-4.1185	.0001	-3.0554	.002	-4.9491	.0001	W
31. competent	0.9806	ns	0.0	ns	0.2911	ns	
32. home oriented*	-4.1185	.0001	-2.1825	.03	-4.9491	.0001	W
33. skilled in business	2.9418	.003	2.1825	.03	3.7846	.0002	M
34. sneaky*	-0.9806	ns	-0.4365	ns	-0.2911	ns	
35. does not know ways of world*	-4.1185	.0001	-1.3095	ns	-4.0757	.0001	W
36. kind	-0.9806	ns	0.0	ns	-0.5822	ns	
37. willing to accept change	0.5884	ns	0.0	ns	-0.2911	ns	
38. feelings easily hurt*	-3.3340	.001	0.0	ns	-2.6201	.008	W
39. adventurous	2.3340	.001	0.8730	ns	3.2023	.001	M
40. not aware of others feelings*	1.3728	ns	0.8730	ns	1.7467	ns	
41. religious	-2.9418	.003	-0.8730	ns	-2.9112	.003	W
42. intelligent	0.5884	ns	0.0	ns	-1.1645	ns	
43. interested in own appearance	-4.1185	.0001	-0.8730	ns	-3.7846	.0002	W
44. difficulty in making decisions*	-2.9418	.003	-1.746	ns	-3.4934	.0005	W
45. never gives up easily	1.7651	ns	0.0	ns	0.8734	ns	
46. out-going	2.1573	.03	1.7460	ns	2.9112	.004	M
47. never does things without being told*	-0.5884	ns	0.8730	ns	-0.2911	ns	
48. cries easily*	-4.9029	.0001	-3.0554	.002	-5.8224	.0001	W
49. almost always acts as a leader	4.1185	.0001	1.3095	ns	4.0757	.0001	M
50. always worried*	-2.9418	.003	0.0	ns	-2.3290	.02	W
51. sloppy*	1.3728	ns	1.3095	ns	0.5822	ns	
52. loud*	1.3728	ns	1.7460	ns	2.3290	.02	M
53. intellectual	0.5884	ns	0.0	ns	0.0	ns	
54. careless*	-0.1961	ns	2.1825	.03	1.1645	ns	M
55. self confident	1.7651	ns	1.7460	ns	2.6201	.008	M
56. feels inferior*	-3.2000	.001	-1.3095	ns	-3.0564	.002	W
57. sees self as running show	-2.9418	.003	-1.7460	ns	-3.4934	.0005	W

TABLE 32 (continued)

Item	Male Subjects z score	p	Female Subjects z score	p	Overall z score	p	Direction
58. uncomfortable about aggression*	-3.3340	.001	-2.6189	.03	-4.3668	.0001	W
59. poor sense of humour*	2.1573	.03	0.0	ns	-0.5822	ns	W
60. understanding	-1.3728	ns	-1.7460	ns	-2.3290	.02	W
61. calm*	1.3728	ns	0.0	ns	0.8734	ns	W
62. prefers groups*	-0.1961	ns	-0.4365	ns	-0.1456	ns	
63. need security*	3.6000	.003	-1.3095	ns	-4.2760	.0001	W
64. ambitious	2.8000	.005	1.7460	ns	2.9255	.002	M
65. frequently takes extreme position	0.8000	ns	2.1825	.03	2.2117	.02	M
66. unable to separate feelings from ideas*	-2.4000	.01	-2.6189	.03	-3.6862	.003	W
67. dependent*	-3.200	.001	-2.1825	.03	-3.9811	.0001	W
68. enjoys art and literature	2.4000	.01	-3.0554	.002	-2.8015	.005	W
69. avoids new experience*	2.8000	.005	-1.3095	ns	-3.0964	.002	W
70. restless	0.8000	ns	0.0		0.7372	ns	
71. not uncomfortable when people express feelings	-1.0208	ns	-1.7460	ns	-2.0914	ns	
72. does not express tender feelings easily*	3.2000	.001	1.7460	ns	3.6862	.0003	M
73. never conceited about appearance	2.0000	.05	0.8730	ns	2.2117	.02	M
74. forward	2.0000	.05	2.1825	.03	3.0964	.0002	M
75. does not think men are superior to women?	-2.4000	.01	-1.3095	ns	-2.8015	.005	W
76. not sociable*	-0.5884	ns	0.4365	ns	-0.2911	ns	
77. unaffectionate*	2.9418	.003	0.8730	ns	2.9112	.004	M
78. unconventional	-0.3922	ns	0.0	ns	0.0	ns	
79. unmasculine?	-4.8000	.0001	-3.9284	.0001	6.1135	.0001	W
80. unfeminine?	4.8000	.0001	3.4919	.0006	5.8224	.0001	M
81. unassertive*	-2.9418	.003	-1.7460	ns	-3.4934	.0005	W
82. not compulsive	0.5884	ns	0.8730	ns	1.1645	ns	

Note - * indicates social desirability of opposite pole

TABLE 33

Mann Whitney U: SRSQ

Subject Sex	Condition	Items											
		MVM		MVF		MVS		FVM		FVF		FVS	
		U	p	U	p	U	p	U	p	U	p	U	p
Males	Religious status	59	ns	55	ns	61	ns	65	ns	60.5	ns	61	ns
	Marital status	Z=.312	ns	Z=1.186	ns	Z=3.056	.002*	Z=1.565	ns	Z=0.374	ns	Z=2.109	.05**
Females	Religious status	44	ns	31	ns	31	ns	35	ns	47	ns	38	ns
	Marital status	46	ns	57	ns	46	ns	46	ns	40	ns	20	.02***

Note - In those instances where N $\geq$ 20, U scores are transformed to critical Z ratios (Bruning & Kinitz, 1968).

MVM = description of male, male valued trait
MVF = description of female, male valued trait
MVS = description of self, male valued trait
FVM = description of male, female valued trait
FVF = description of female, female valued trait
FVS = description of self, female valued trait

* single men view themselves as incorporating more socially desirable feminine traits than married men.

** single men view themselves as incorporating more socially desirable masculine traits than married men.

*** religious women view themselves as more feminine than non-religious.

TABLE 34

Analysis of Variance: SRSQ
Educational and Occupational Levels

Women/Occupation

MVM

Source	SS	df	MS	F	p
Total	2218.1744	21	-	-	-
Between	11.6163	2	5.8082	0.0526	ns
Within	2206.5581	19	110.3279	-	-

MVF

Total	147.1654	21	-	-	-
Between	20.1528	2	10.0764	1.5867	ns
Within	127.0126	19	6.3500	-	-

MVS

Total	1046.0487	21	-	-	-
Between	148.8974	2	74.4487	1.6597	ns
Within	897.1513	19	44.8516	-	-

FVM

Total	522.1880	21	-	-	-
Between	12.4146	2	6.2073	0.2435	ns
Within	509.7734	19	25.4887	-	-

FVF

Total	334.9915	21	-	-	-
Between	4.3931	2	2.19655	0.1329	ns
Within	330.5984	19	16.5299	-	-

FVS

Total	279.3359	21	-	-	-
Between	10.8793	2	5.43965	0.4053	ns
Within	268.4566	19	13.4228	-	-

TABLE 34 (continued)

Women/Education

MVM

Source	SS	df	MS	F	p
Total	157.330	22	-	-	-
Between	4.560	2	2.280	0.2984	ns
Within	152.770	20	7.640	-	-

MVF

Total	660.0208	22	-	-	-
Between	16.5555	2	8.2778	0.2573	ns
Within	643.4663	20	32.1733	-	-

MVS

Total	1046.5987	22	-	-	-
Between	126.5421	2	63.271	1.3754	ns
Within	920.0566	20	46.0028	46.0028	-

FVM

Total	414.1842	22	-	-	-
Between	51.1049	2	25.5525	1.4075	ns
Within	363.0793	20	18.154	-	-

FVF

Total	558.6704	22	-	-	-
Between	1.0837	2	0.54185	0.0194	ns
Within	557.5867	20	27.8793	-	-

FVS

Total	279.3354	22	-	-	-
Between	15.7934	2	7.8967	0.5993	ns
Within	43.000	20	13.1771	-	-

TABLE 34 (continued)

Men/Occupation

MVM

Source	SS	df	MS	F	p
Total	287.47	25	-	-	-
Between	8.650	2	4.325	0.360	ns
Within	278.782	23	12.120	-	-

MVF

Total	541.050	25	-	-	-
Between	39.450	2	19.725	0.8697	ns
Within	521.60	23	0.2268	-	-

MVS

Total	422.400	24	-	-	-
Between	16.410	2	8.205	0.440	ns
Within	405.990	22	18.450	-	-

FVM

Total	235.629	25	-	-	-
Between	1.5807	2	0.79041	0.081	ns
Within	234.0483	23	10.1760	-	-

FVF

Total	360.9268	25	-	-	-
Between	57.2132	2	28.6066	2.1659	ns
Within	303.7136	23	13.2049	-	-

FVS

Total	204.0605	24	-	-	-
Between	17.042	2	0.8521	1.0024	ns
Within	187.0185	22	8.5008	-	-

TABLE 34 (continued)

Men/Education

MVM

Source	SS	df	MS	F	p
Total	377.6693	25	-	-	-
Between	30.8206	2	15.4103	1.0219	ns
Within	346.8487	23	15.0804	-	-

MVF

Total	563.3028	25	-	-	-
Between	36.5822	2	187.7911	0.8215	ns
Within	526.1206	23	22.8748	-	-

MVS

Total	422.4003	24	-	-	-
Between	100.8537	2	50.4269	3.4502	.05
Within	321.5466	22	14.6158	-	-

FVM

Total	185.0334	25	-	-	-
Between	1.0320	2	0.5160	0.0645	ns
Within	184.0014	23	8.0001	-	-

FVF

Total	432.0261	25	-	-	-
Between	32.3982	2	16.1991	0.9323	ns
Within	399.6279	23	17.3251	-	-

FVS

Total	227.2905	24	-	-	-
Between	1.0671	2	0.53355	0.0972	ns
Within	226.2224	22	10.2829	-	-

Note - Occupation: Level I = (housewife) blue collar
Level II = white collar
Level III = professional

Education : Level I = not more than one A level
Level II = multiple A levels, technical college, and/or professional exams
Level III = teacher's training college or university.

TABLE 35

One Way Analysis of Variance: AWS Scores - over Educational and Occupational Levels

Women/Occupation

Source	SS	df	MS	F	p
Total	2520.039	25	-	-	-
Between	202.753	2	101.376	1.0062	ns
Within	2317.286	23	100.752	-	-

Women/Education

Total	2368.500	25	-	-	-
Between	134.834	2	67.467	0.695	ns
Within	2233.666	23	97.116	-	-

Men/Occupation

Total	2894.138	28	-	-	-
Between	168.320	2	84.60	0.8028	ns
Within	2725.818	26	104.839	-	-

Men/Education

Total	3316.138	28	-	-	-
Between	844.864	2	422.432	4.44	.025
Within	2471.274	26	95.049	-	ns -

TABLE 36

Mann Whitney U: Attitudes toward Women Scale

Factor	Sex of Subject			
	Male		Female	
	U	p	U	p
Religion	56.5	ns	27	.025
Marital status	z=.123	ns	33	.05

Note - Married, church affiliates are more conservative

TABLE 37

Mann Whitney U: BSRI

Factor	Sex of Subject: Male U	Male p	Female U	Female p
Religion	58.5	ns	58.5	ns
Marital status	z=1.7077	ns	61	ns

TABLE 38

Analysis of Variance: BSRI - Educational and Occupational Level

Source	SS	df	MS	F	p
Women/Education					
Total	2368.500	25	-	-	-
Between	134.834	2	67.467	0.695	ns
Within	2233.666	23	97.116	-	-
Women/Occupation					
Total	42.386	25	-	-	-
Between	6.582	2	3.291	2.112	ns
Within	35.804	23	1.558	-	-
Men/Occupation					
Total	21.991	23	-	-	-
Between	3.914	2	1.957	2.273	ns
Within	18.078	21	0.861	-	-

Note - Because of the educational background of male respondants completing the BSRI scores would not be easily classified into the Level I-III educational scheme; therefore, a t-test was done on Level I and II compared to Level III, but revealed no significant differences (t = 1.5387, df 26).

TABLE 39

Analysis of Variance: Evaluations of Academic Articles

City Planning

Source	SS	df	MS	F	p
Total	1.4797	51	-	-	-
A	0.3315	1	0.3315	1.1852	ns
B	0.1344	1	0.1344	0.4805	ns
AxB	0.6712	1	0.6712	2.3997	ns
Error	13.4256	48	0.2797	-	-

Education

Total	1.6563	51	-	-	-
A	0.0111	1	0.0111	0.0441	ns
B	0.0195	1	0.0195	0.0782	ns
AxB	1.3763	1	1.3763	4.0096	ns
Error	0.2494	48	-	-	-

Note - Factors: A = Subject sex
B = Author sex

TABLE 40

Mean Ratings of Academic Articles

Field	Sex of Subject	Sex of Author	
		Male	Female
City planning	Male	2.42	2.69
	Female	2.41	2.46
Education	Male	2.39	2.65
	Female	2.68	2.30

Note - Lower means represent higher evaluations; scale ranges from 1-5.

TABLE 41

One way Analysis of Variance: Evaluations of Female Authors over Subjects' Educational and Occupational History

Source	SS	df	MS	F	p
Men/Occupation					
Total	11.6945	29	-	-	-
Between	0.0736	2	0.0368	0.0855	ns
Within	11.6209	27	0.4304	-	-
Men/Education					
Total	21.4489	29	-	-	-
Between	0.3279	2	0.1640	0.2088	ns
Within	21.1210	27	0.7856	-	-
Women/Occupation					
Total	7.8649	23	-	-	-
Between	0.7354	2	0.3677	1.1345	ns
Within	7.1295	21	0.3240	-	-
Women/Education					
Total	1.9773	23	-	-	-
Between	0.2906	2	0.1453	4.4434	.025
Within	0.6867	21	0.0327	-	-

TABLE 42

Mean Ratings of Female Authored Works

Subject	Educational Level I	II	III
Females	2.33	1.56	2.54

Note - lower means represent more positive ratings

Educational Level: I = O level, 1 A level.
II = Multiple A levels, and/or technical college.
III = College or university.

TABLE 43

Analysis of Variance: Evaluations of male authors

Women/Education

Source	SS	df	MS	F	p
Total	5.8002	24	-	-	-
Between	0.0147	2	0.0074	0.0314	ns
Within	5.7855	22	0.2630	-	-

TABLE 44

Pearson Correlation

Females

	Age	Child	Andros	AWS	MVM	MVF	FVM	FVF	MVS	FVS	MAM	FAM	FAF	MAF
Age	1.0000	0.4920	0.1459	-0.5123	-0.0135	0.1381	0.3395	-0.2867	0.1358	0.2840	-0.3486	-0.0930	0.4557	0.0941
	(0)	(27)	(26)	(26)	(22)	(22)	(22)	(22)	(22)	(22)	(12)	(13)	(12)	(13)
	S=0.001	S=0.009	S=0.477	S=0.007	S=0.952	S=0.540	S=0.122	S=0.196	S=0.547	S=0.200	S=0.267	S=0.763	S=0.137	S=0.760
Child	0.4920	1.0000	0.1551	-0.2357	0.2044	0.1261	-0.1110	0.0514	0.1653	0.5301	-0.5122	-0.2715	-0.0608	-0.1903
	(27)	(0)	(26)	(26)	(22)	(22)	(22)	(22)	(22)	(22)	(12)	(13)	(12)	(13)
	S=0.009	S=0.001	S=0.449	S=0.246	S=0.362	S=0.576	S=0.623	S=0.820	S=0.462	S=0.011	S=0.088	S=0.352	S=0.851	S=0.532
Andros	0.1459	0.1551	1.0000	-0.3807	0.5383	0.0997	0.3347	0.0618	-0.8024	0.4245	0.1995	0.1853	-0.1872	0.0573
	(26)	(26)	(0)	(26)	(21)	(21)	(21)	(21)	(21)	(21)	(12)	(13)	(12)	(13)
	S=0.477	S=0.449	S=0.001	S=0.055	S=0.012	S=0.667	S=0.138	S=0.790	S=0.001	S=0.055	S=0.534	S=0.544	S=0.560	S=0.852
AWS	-0.5123	-0.2357	-0.3807	1.0000	-0.1471	0.0762	-0.4288	-0.0343	0.4499	-0.2152	-0.0161	-0.1231	-0.5097	-0.3515
	(26)	(26)	(26)	(0)	(21)	(21)	(21)	(21)	(21)	(21)	(12)	(13)	(12)	(13)
	S=0.007	S=0.246	S=0.055	S=0.001	S=0.525	S=0.743	S=0.052	S=0.883	S=0.041	S=0.349	S=0.960	S=0.689	S=0.091	S=0.239
MVM	-0.0135	0.2044	0.5383	-0.1471	1.0000	0.0771	0.4747	0.5823	-0.3949	0.7327	0.5555	-0.0213	-0.6169	0.4290
	(22)	(22)	(21)	(21)	(0)	(22)	(22)	(22)	(22)	(22)	(10)	(11)	(10)	(11)
	S=0.952	S=0.362	S=0.012	S=0.525	S=0.001	S=0.733	S=0.026	S=0.004	S=0.069	S=0.001	S=0.093	S=0.950	S=0.057	S=0.188
MVF	0.1381	0.1261	0.0997	0.0762	0.0771	1.0000	0.5854	-0.1782	0.2719	0.4014	-0.2991	0.4509	-0.6250	-0.1687
	(22)	(22)	(21)	(21)	(22)	(0)	(22)	(22)	(22)	(22)	(10)	(11)	(10)	(11)
	S=0.540	S=0.576	S=0.667	S=0.743	S=0.733	S=0.001	S=0.004	S=0.428	S=0.221	S=0.064	S=0.401	S=0.164	S=0.053	S=0.620
FVM	0.3395	-0.1110	0.3347	-0.4288	0.4747	0.5854	1.0000	0.2108	-0.1538	0.4749	0.1539	0.4825	-0.3261	0.1790
	(22)	(22)	(21)	(21)	(22)	(22)	(0)	(22)	(22)	(22)	(10)	(11)	(10)	(11)
	S=0.122	S=0.623	S=0.138	S=0.052	S=0.026	S=0.004	S=0.001	S=0.346	S=0.494	S=0.026	S=0.671	S=0.133	S=0.358	S=0.598
FVF	-0.2867	0.0514	0.0618	-0.0343	0.5823	-0.1782	0.2108	1.0000	-0.1428	0.2886	0.4119	-0.0781	-0.1513	0.3231
	(22)	(22)	(21)	(21)	(22)	(22)	(22)	(0)	(22)	(22)	(10)	(11)	(10)	(11)
	S=0.196	S=0.820	S=0.790	S=0.883	S=0.004	S=0.428	S=0.346	S=0.001	S=0.526	S=0.193	S=0.237	S=0.820	S=0.677	S=0.332
MVS	0.1358	0.1653	-0.8024	0.4499	-0.3949	0.2719	-0.1538	-0.1428	1.0000	-0.0586	-0.2794	-0.2421	-0.0467	-0.4054
	(22)	(22)	(21)	(21)	(22)	(22)	(22)	(22)	(0)	(22)	(10)	(11)	(10)	(11)
	S=0.547	S=0.462	S=0.001	S=0.041	S=0.069	S=0.221	S=0.494	S=0.526	S=0.001	S=0.796	S=0.434	S=0.473	S=0.898	S=0.216
FVS	0.2840	0.5301	0.4245	-0.2152	0.7327	0.4014	0.4749	0.2886	-0.0586	1.0000	0.0296	-0.1148	-0.6446	0.3664
	(22)	(22)	(21)	(21)	(22)	(22)	(22)	(22)	(22)	(0)	(10)	(11)	(10)	(11)
	S=0.200	S=0.011	S=0.055	S=0.349	S=0.001	S=0.064	S=0.026	S=0.193	S=0.796	S=0.001	S=0.935	S=0.737	S=0.044	S=0.268

TABLE 44 (continued)

	Age	Child	Andros	AWS	MVM	MVF	FVM	FVF	MVS	FVS	MAM	FAM	FAF	MAF
MAM	-0.3486	-0.5132	0.1995	-0.0161	0.5595	-0.2991	0.1539	0.4119	-0.2794	0.0296	1.0000	99.0000	0.2855	99.0000
	(12)	(12)	(12)	(12)	(10)	(10)	(10)	(10)	(10)	(10)	(0)	(0)	(12)	(0)
	S=0.267	S=0.088	S=0.534	S=0.960	S=0.093	S=0.401	S=0.671	S=0.237	S=0.434	S=0.935	S=0.001	S=*****	S=0.368	S=*****
FAM	-0.0930	-0.2815	0.1853	-0.1231	-0.0213	0.4509	0.4825	-0.0781	-0.2421	-0.1148	99.0000	1.0000	99.0000	0.2002
	(13)	(13)	(13)	(13)	(11)	(11)	(11)	(11)	(11)	(11)	(0)	(0)	(0)	(13)
	S=0.763	S=0.352	S=0.544	S=0.689	S=0.950	S=0.164	S=0.133	S=0.820	S=0.473	S=0.737	S=*****	S=0.001	S=*****	S=0.512
FAF	0.4557	-0.0608	-0.1872	-0.5097	-0.6169	-0.6250	-0.3261	-0.1513	-0.0467	-0.6446	0.2855	99.0000	1.0000	99.0000
	(12)	(12)	(12)	(12)	(10)	(10)	(10)	(10)	(10)	(10)	(12)	(0)	(0)	(0)
	S=0.137	S=0.851	S=0.560	S=0.091	S=0.057	S=0.053	S=0.358	S=0.677	S=0.898	S=0.044	S=0.368	S=*****	S=0.001	S=*****
MAF	0.0941	-0.1909	0.0573	-0.3515	0.4290	-0.1687	0.1790	0.3231	-0.4054	0.3664	99.0000	0.2002	99.0000	1.0000
	(13)	(13)	(13)	(13)	(11)	(11)	(11)	(11)	(11)	(11)	(0)	(13)	(0)	(0)
	S=0.760	S=0.532	S=0.852	S=0.239	S=0.188	S=0.620	S=0.598	S=0.332	S=0.216	S=0.268	S=*****	S=0.512	S=*****	S=0.001

Note - High scores on AWS indicate liberalism
High scores on androgyny scale indicate femininity
High scores on evaluations of academic articles indicate a poor appraisal
High scores on SRSQ (MVM, MVF, FVM, FVF, MVS, FVS) indicate greater stereotyping

MAM = Male author, male field
FAM = Female author, male field
FAF = Female author, female field
MAF = Male author, female field

TABLE 45

Males

	Age	Child	Andrcs	AWS	MVM	MVF	FVM	FVF	MVS	FVS	MAM	FAM	FAF	MAF
Age	1.0000	0.6200	-0.0750	-0.4713	0.2280	-0.1549	0.0667	0.0933	0.0083	-0.1506	-0.4759	-0.1884	0.1305	-0.2465
	(0)	(30)	(27)	(29)	(26)	(26)	(26)	(26)	(25)	(25)	(17)	(12)	(17)	(12)
	S=0.001	S=0.001	S=0.710	S=0.010	S=0.263	S=0.450	S=0.746	S=0.650	S=0.969	S=0.473	S=0.053	S=0.558	S=0.617	S=0.440
Child	0.6200	1.0000	0.1117	-0.3262	0.0145	-0.1004	-0.1555	0.1225	-0.2383	-0.0271	-0.1900	-0.5638	-0.1655	-0.5629
	(30)	(0)	(27)	(29)	(26)	(26)	(26)	(26)	(25)	(25)	(17)	(12)	(17)	(12)
	S=0.001	S=0.001	S=0.579	S=0.084	S=0.944	S=0.626	S=0.448	S=0.551	S=0.251	S=0.898	S=0.465	S=0.056	S=0.525	S=0.057
Andros	-0.0750	0.1117	1.0000	0.1258	-0.1644	-0.1762	0.1216	0.0505	-0.7916	0.3589	0.1898	-0.4824	0.0064	-0.6049
	(27)	(27)	(0)	(27)	(23)	(23)	(23)	(23)	(22)	(22)	(16)	(11)	(16)	(11)
	S=0.710	S=0.579	S=0.001	S=0.532	S=0.453	S=0.421	S=0.580	S=0.819	S=0.001	S=0.101	S=0.481	S=0.133	S=0.981	S=0.049
AWS	-0.4713	-0.3262	0.1258	1.0000	-0.5637	0.2974	-0.0801	-0.4048	-0.1206	0.0586	0.5881	0.0477	-0.1358	0.2345
	(29)	(29)	(27)	(0)	(25)	(25)	(25)	(25)	(24)	(24)	(16)	(12)	(16)	(12)
	S=0.010	S=0.084	S=0.532	S=0.001	S=0.003	S=0.149	S=0.704	S=0.045	S=0.574	S=0.785	S=0.017	S=0.883	S=0.616	S=0.463
MVM	0.2280	0.0145	-0.1644	-0.5637	1.0000	0.0916	0.0307	0.3194	0.3957	-0.0787	-0.3999	-0.1745	0.3832	-0.0094
	(26)	(26)	(23)	(25)	(0)	(26)	(26)	(26)	(25)	(25)	(14)	(11)	(14)	(11)
	S=0.263	S=0.944	S=0.453	S=0.003	S=0.001	S=0.656	S=0.882	S=0.112	S=0.050	S=0.709	S=0.157	S=0.608	S=0.176	S=0.978
MVF	-0.1549	-0.1004	-0.1762	0.2974	0.0916	1.0000	0.2599	-0.4411	0.3146	0.2148	0.3053	-0.1627	-0.1419	0.5329
	(26)	(26)	(23)	(25)	(26)	(0)	(26)	(26)	(25)	(25)	(14)	(11)	(14)	(11)
	S=0.450	S=0.626	S=0.421	S=0.149	S=0.656	S=0.001	S=0.200	S=0.024	S=0.126	S=0.302	S=0.288	S=0.633	S=0.629	S=0.091
FVM	0.0667	-0.1555	0.1216	-0.0801	0.0307	0.2599	1.0000	-0.1276	-0.0009	0.6708	-0.1730	0.2234	0.0556	-0.0521
	(26)	(26)	(23)	(25)	(26)	(26)	(0)	(26)	(25)	(25)	(14)	(11)	(14)	(11)
	S=0.746	S=0.448	S=0.580	S=0.704	S=0.862	S=0.200	S=0.001	S=0.534	S=0.997	S=0.001	S=0.554	S=0.509	S=0.850	S=0.879
FVF	0.0933	0.1225	0.0505	-0.4048	0.3194	-0.4411	-0.1276	1.0000	0.1659	0.0317	-0.5029	-0.1017	-0.2974	-0.5213
	(26)	(26)	(23)	(25)	(26)	(26)	(26)	(0)	(25)	(25)	(14)	(11)	(14)	(11)
	S=0.650	S=0.551	S=0.819	S=0.045	S=0.112	S=0.024	S=0.534	S=0.001	S=0.428	S=0.880	S=0.067	S=0.766	S=0.339	S=0.100
MVS	0.0083	-0.2383	-0.7916	-0.1206	0.3957	0.3146	-0.0009	0.1659	1.0000	-0.0792	-0.4817	0.4299	0.1855	0.4573
	(25)	(25)	(22)	(24)	(25)	(25)	(25)	(25)	(0)	(25)	(13)	(11)	(13)	(11)
	S=0.969	S=0.251	S=0.001	S=0.574	S=0.050	S=0.126	S=0.997	S=0.428	S=0.001	S=0.707	S=0.096	S=0.187	S=0.544	S=0.157
FVS	-0.1506	-0.0271	0.3589	0.0586	-0.0787	0.2148	0.6708	0.0317	-0.0792	1.0000	-0.1710	-0.2972	-0.1402	-0.1260
	(25)	(25)	(22)	(24)	(25)	(25)	(25)	(25)	(25)	(0)	(13)	(11)	(13)	(11)
	S=0.473	S=0.898	S=0.101	S=0.785	S=0.709	S=0.302	S=0.001	S=0.880	S=0.707	S=0.001	S=0.576	S=0.375	S=0.648	S=0.712

TABLE 45 (continued)

	Age	Child	Andros	AWS	MVM	MVF	FVM	FVF	MVS	FVS	MAM	FAM	FAF	MAF
MAM	-0.4769	-0.1900	0.1898	0.5881	-0.3999	0.3053	-0.1730	-0.5029	-0.4817	-0.1710	1.0000	99.0000	-0.1202	99.0000
	(17)	(17)	(16)	(16)	(14)	(14)	(14)	(14)	(13)	(13)	(0)	(0)	(17)	(0)
	S=0.053	S=0.465	S=0.481	S=0.017	S=0.157	S=0.288	S=0.554	S=0.067	S=0.096	S=0.576	S=0.001	S=*****	S=0.646	S=*****
FAM	-0.1884	-0.5638	-0.4824	0.0477	-0.1745	-0.1627	0.2234	-0.1017	0.4299	-0.2972	99.0000	1.0000	99.0000	0.4258
	(12)	(12)	(11)	(12)	(11)	(11)	(11)	(11)	(11)	(11)	(0)	(0)	(0)	(12)
	S=0.558	S=0.056	S=0.133	S=0.883	S=0.608	S=0.633	S=0.509	S=0.766	S=0.187	S=0.375	S=*****	S=0.001	S=*****	S=0.168
FAF	0.1305	-0.1655	0.0064	-0.1358	0.3832	-0.1419	0.0556	-0.2764	0.1855	-0.1402	-0.1202	99.0000	1.0000	99.0000
	(17)	(17)	(16)	(16)	(14)	(14)	(14)	(14)	(13)	(13)	(17)	(0)	(0)	(0)
	S=0.617	S=0.525	S=0.981	S=0.616	S=0.176	S=0.629	S=0.850	S=0.339	S=0.544	S=0.648	S=0.646	S=*****	S=0.001	S=*****
MAF	-0.2465	-0.5629	-0.6049	0.2345	-0.0094	0.5329	-0.0521	-0.5213	0.4573	-0.1260	99.0000	0.4258	99.0000	1.0000
	(12)	(12)	(11)	(12)	(11)	(11)	(11)	(11)	(11)	(11)	(0)	(12)	(0)	(0)
	S=0.440	S=0.057	S=0.049	S=0.463	S=0.978	S=0.091	S=0.879	S=0.100	S=0.157	S=0.712	S=*****	S=0.168	S=*****	S=0.001

Note - High scores on AWS indicate liberalism
High scores on androgyny scale indicate femininity
High scores on evaluations of academic articles indicate a poor appraisal
High scores on SRSQ (MVM, MVF, FVM, FVF, MVS, FVS) indicate greater stereotyping

MAM = Male author, male field
FAM = Female author, male field
FAF = Female author, female field
MAF = Male author, female field

TABLE 46

% of FOS Imagery

Cue person	Cue: Medical						Cue: Nursing					
	$\%_T$	N_T	$\%_F$	N_F	$\%_M$	N_M	$\%_T$	N_T	$\%_F$	N_F	$\%_M$	N_M
Mary	61.5	13	100	2	54.4	11	61.5	13	42.8	7	83.3	6
John	63.6	11	50	6	80	5	50	6	5	40	100	1

TABLE 47

Z scores: Test for significant differences between proportions

Cues	Female medical	Male medical	Female nursing	Male Nursing
Female medical	*	0.1060	0	0.4719
Male medical	0.1060	*	0.1060	0.1722
Female nursing	0	0.1060	*	0.4719
Male nursing	0.4719	0.1722	0.4719	*

TABLE 48

Point Biserial Correlation: FOS with Age and Number of Children

Item	Correlation	t	df	p
age	-.0137	0.09	40	ns
Number of children	.1793	1.17	41	ns

TABLE 49

Analysis of Variance: BSRI

Source	SS	df	MS	F	p
Total	58.42139	42	-	-	-
A	0.99116	1	0.99116	0.06794	ns
B	0.48164	1	0.48164	0.33018	ns
AxB	0.05840	1	0.05840	0.04003	ns
SxAxB	56.8902	39	1.45872	-	-

Note - Factors: A = FOS
B = SP Sex

TABLE 50

Analysis of Variance: AWS Scale

Source					
Total	7279.9004	42	-	-	-
A	628.584	1	628.584	3.68793	ns
B	1.73032	1	1.78032	0.01015	ns
AxB	2.28613	1	2.28613	0.01341	ns
SxAxB	6647.30	39	170.444	-	-

Note - Factors: A = FOS
B = SP Sex

TABLE 51

One Way Analysis of Variance: Androgyny Scores - Educational and Occupational Level

Women/Education

Source	SS	df	MS	F	p
Total	17.0956	20	-	-	-
Between	3.4481	2	1.7240	2.2741	ns
Within	13.6475	18	0.7581	-	-

Women/Occupation

Total	17.0121	19	-	-	-
Between	3.0230	2	1.5115	1.8370	ns
Within	13.9891	17	0.8228	-	-

Men/Education

Total	33.2288	22	-	-	-
Between	1.0054	2	0.05027	0.0312	ns
Within	32.2234	20	1.6111	-	-

Men/Occupation

Total	30.2829	20	-	-	-
Between	3.9421	2	1.9710	1.3469	ns
Within	26.3408	18	1.4633	-	-

Education: Level I = O level
Level II = A level and/or technical college
Level III = College or university

Occupation: for males - Level I = blue collar
Level II = white collar
Level III = professional

*for females - Level I = housewife
Level II = blue and white
Level III = professional

(* Due to sample, blue and white collar women grouped together - this differs from division in previous experiments).

TABLE 52

Mean Androgyny Scores

Sex	Factor: Education Level*			Factor: Occupation Level*		
	I	II	III	I	II	III
Females	-0.390	0.725	0.323	-1.75	0.083	0.659
Males	-0.517	-1.071	-0.714	0.480	-1.625	-0.840

* see table 51

Note - negative scores reflect a masculine self image

TABLE 53

T-test and Mean Androgyny Scores

Sex	Factor: Marital status					Religion				
	$\bar{X}_M$	$\bar{X}_S$	t	df	p	$\bar{X}_R$	$\bar{X}_N$	t	df	p
Females	0.1914	0.4071	0.4950	19	ns	0.3100	0.3400	0.0747	19	ns
Males	*	-	-	-	-	0.604	0.8467	1.0176	21	ns

Note - M = married
S = single/separated/divorced
R = church affiliated
N = no affiliation

* As only one unmarried man completed the questionnaire, this was not computed

TABLE 54

T-test: Androgyny Scores of Men and Women

Females $\bar{X}$	Males $\bar{X}$	sd	df	t	p
0.0268	-0.8326	1.0992	42	-3.3174	.005*

* one tail

Note - Scores may range from -7 to +7.

TABLE 55

One Way Analysis of Variance: AWS Scores - Educational and Occupational Background

Women/Education

Source	SS	df	MS	F	p
Total	2470.9526	20	-	-	-
Between	127.6190	2	63.8095	0.4901	ns
Within	2343.3334	18	130.1851	-	-

Women/Occupation

Total	2470.9524	20	-	-	-
Between	953.9190	2	476.9595	5.6592	.025
Within	1517.0334	18	84.2796	-	-

Men/Education

Total	2115.3182	21	-	-	-
Between	702.7514	2	351.3757	4.7262	.05
Within	1412.5668	19	74.3456	-	-

Men/Occupation

Total	2115.3182	21	-	-	-
Between	8.1686	2	408.4305	5.9764	.01
Within	1298.4572	19	68.3393	-	-

TABLE 56

Mean AWS Scores

	Factor					
	Educational Level			Occupational Level		
	I	II	III	I	II	III
Females	61.000	54.167	57.500	59.200	66.667	50.900
Males	60.667	60.8333	49.400	64.400	58.143	49.400

Note - Scores ranged from 0 (conservative) to 75 (liberal). Classificationary levels as previously described. (See Table 51).

TABLE 57

T-test: AWS Scores - Marital and Religious Status

	Factor									
	Marital Status					Religion				
	$\bar{X}_M$	$\bar{X}_S$	t	df	p	$\bar{X}_R$	$\bar{X}_N$	t	df	p
Females	57.071	58.000	0.176	19	ns	52.385	65.500	3.1618	19	.025
Males	*					55.286	56.125	0.1842	20	ns

* not computed

Scores range from 0 (conservative) to 75 (liberal)

TABLE 58

One Way Analysis of Variance: AWS - Scores over Androgyny Classification

Source	SS	df	MS	F	p
Total	3839.9688	31	-	-	-
Between	69.3314	2	345.6657	3.1836	>.05<.1

Note - Subjects were divided into masculine, feminine and androgynous groups.

TABLE 59

AWS Scores

Androgyny Level		
Masculine	Androgynous	Feminine
52.8571	60.9230	49.000

Note - Scores classified as androgynous ranged from -1.00 - t 1.00
These scores were classified as masculine if < -1.00 and feminine if > 1.00

TABLE 60

Pearson Correlation

Women

	Age	Androgyny	AWS	Number of children
Age	*	-0.2275	-0.2470	0.6967**
Androgyny	-0.2275	*	0.2932	-0.2043
AWS	-0.2470	-0.2932	*	-0.2762
Number of children	0.6967	-0.2 043	-0.2762	*

** = $p \leq .001$

Men

		Androgyny	AWS	Number of children
Age	*	-0.2406	0.2663	0.4038**
Androgyny	-0.2406	*	0.1694	0.1440
AWS	0.2663	0.1694	*	0.0089
Number of children	0.4038**	0.1440	0.0089	*

** = $\leq .05$

CHAPTER 6 SEX ROLE IDEOLOGY AND PROFESSIONAL WOMEN

Introduction

As a comparative rarity the well educated, professional woman has consistently attracted the attention of social scientists in a number of disciplines. She has been observed, analyzed and discussed; her minority status has been highlighted in medicine (Kosa & Coker, 1965; Lopate, 1968; Matthews, 1970; Williams, 1971), law (Epstein, 1971a), science (Roe, 1966; Shapely, 1975; White, 1970) and academics (Alperson, 1975; Davis, 1969; Graham, 1970; Lewin & Duncan, 1971). Her comparative rarity has been accounted for in terms of role conflict (Bailyn, 1964; Nadelson & Notman, 1972; Poloma, 1972; Rossi, 1965; Tangri, 1969), psychological ambivalence (Bardwick & Douvan, 1972; Epstein, 1971b; Graham, 1970; Rossi, 1967) and social barriers (Dement, 1962; Morse & Bruch, 1970; White, 1970; Williams, 1971). But despite all this, the professional woman, contravening traditional sex role standards, remains a tantalizing enigma.

Although the popular image of the professional woman has altered somewhat over the past decades, the underlying assumption that women with genuine career interests are rare and maladjusted still lingers (Helson, 1972), and the alledged dichotomy between the sensual and the scientific role is clearly emphasized (Campbell, 1971).

Psychological research on career women has been concentrated in two main areas- personality traits and attitudes toward women's roles in society. In the first instance, although the popular image may be

associated with a variety of negative or excessively masculine traits, research suggests that professional women readily incorporate the socially desirable features stereotypically attributed to both sexes. Bachtold & Werner (1970,1971) reported that professional female psychologists are more intelligent, dominant, flexible, adventuresome, inner-directed, confident, sensitive and self sufficient than women in general. This is corroborated by O'Leary & Braun (1972) who found that female PhD.'s are more dominant, imaginative, radical and self sufficient than female peers or male colleagues and Bachtold (1976) who reported that career women are brighter and more assertive than non working women. Although career and non-career women have been differentiated on a number of variables, such as emotional adjustment, value on personal achievement, religious beliefs , expectancies for children (Gybers, Johnson & Gust, 1965), work orientation and parental concomitants (Nagely, 1971), career orientation has not been directly correlated with masculinity (Munley, 1974). However, several studies have substantiated a strong relationship between career orientation and liberal attitudes toward women's roles in society (Munley, 1974; Nagely, 1971; Rosen, 1974).

On the whole, psychological sex role research has prompted two discrepant images of professional women. In the first instance, professionals are epitomized as young, and well educated, with liberal attitudes toward politics and religion. These women are also characterized by adhering to liberal, radical or even militant attitudes toward women's roles in society. In addition, their critical evaluation of sex role stereotypes is viewed as indicative of a fully developed androgynous self concept and incorporation of a variety of socially desirable personality traits

regardless of traditional sex role attribution. There is reason to hypothesize, however, despite the adoption of modernistic sex role ideology, that younger women may be more prone to anxiety due to ambiguity in role definition. For example, Bachtold & Werner (1970, 1971) found that younger professionals possessed greater capacity and drive but were more insecure than their older counterparts.

The image of the older professional emerges quite differently. In particular, it has been suggested by both Staines et al.(1974) and O'Leary & Braun (1972) that unlike their younger colleagues, older women may be uninvolved, unconcerned or even against the aims of the women's movement.

> Female PhD.'s are not as likely to be ardent women's liberationists as are women who have not been as successful academically, since they do not see themselves as having been defeated in a man's world (O'Leary & Braun, 1972, p. 278).

Staines et al. further ellaborate on this issue by stressing that older women who have attained status without the help of a movement view their achievements as a function of their ability and competence rather than tokenism. The aims of the women's movement, then, may be at odds with personal interests- large increases of female professionals may diminish occupational prestige in general and detract from self esteem in particular. Staines et al. also postulate that older professionals (Queen Bees) are overly concerned with projection of a feminine image in order to compensate for their "masculine" success. Their research indicates that Queen Bees score very high on family ideology and maintain conservative views about marital duties, responsibilities and child rearing.

Although discrepant images have emerged, the majority of professional women share a common denominator- the ability to cope with the traditional limitations, inconsistencies and incongruities of sex role stereotypes- and in this way may provide valuable information towards the formulation of a comprehensive theory of sex role ideology. An experiment was undertaken, therefore, to examine professional women on the most salient factors of contemporary sex role research and to assess the if differences between older and younger groups are directional or gradational.

> Hypotheses:1) Younger women will exhibit more liberal attitudes toward women, evince more favorable evaluations of women in areas of professional expertise and manifest a more androgynous self concept, 2) In keeping with the Bachtold & Werner data, younger professionals will evidence greater anxiety and demonstrate a greater proportion of FOS, and 3) Older women will be typified by conservative attitudes toward women, devaluation of females in relation to males, feminine self concepts and low proportions of FOS imagery.

Experiment XIII

The original study was planned to examine members of various women's groups and compare and contrast sex role ideology. Support and cooperation was offered locally by Women's Aid, Housewives Register, a Women's Liberation Group, course members of Women in Socialism, Business and Professional Women's Association, British Federation of University Women and nationally by women on the British Sociological Association's register of women working in sociology and related disciplines and the British Psychological Society's register of members of the proposed sex role division. However, after five months, sufficient response was obtained

only from the latter four groups. Results reported here must be considered within the context of a weakened design and restricted sample, and interpretations should be cautious. Nevertheless, some of the empirical trends are interesting and informative and warrant attention.

Method

Subjects. Ss were divided into two groups- Group I was composed of 86 women on the British Sociological Association's register of women working in sociology and related disciplines and women on the British Psychological Society's register of prospective members of the proposed sex role division. The majority of these women were engaged in academic or applied psychology or sociology. Twenty-three per cent possessed doctoral degrees, 36% had earned master's degrees and 41% held bachelor's degrees (with 20% of these currently engaged in higher research). The group was young (median age 31) and largely agnostic or atheist (only 15% claimed church affiliation). Forty- eight per cent of the respondants were married.

The second group consisted of 17 women, members of either the British Federation of University Women or the Business & Professional Women's Association. Twelve per cent of the women held PhD.'s as compared to 12% with master's degrees, 35% with bachelor's degrees and 41% with professional qualifications (largely teaching and nursing). Occupations were varied and included business, academics, law and nursing although about $\frac{1}{3}$ of the respondants were teachers. The median age was 60.5, the majority of women were married (70%) and maintained

church affiliation (88%).

Materials. The questionnaire was composed of four parts: the shortened version of the Spence & Helmreich Attitudes toward Women Scale (AWS), Bem's Sex Role Inventory (BSRI) to assess psychological androgyny, a projective cue for tapping FOS imagery and two academic articles which Ss were asked to read and evaluate (Appendix I). Ss also provided information on age, marital status, number of children, religious affiliation, educational and occupational history.

Fear of success was investigated in response to the cue: " Dr. Mary Milton was made acting head of the medical school in the professor's absence." Alteration from a student/academic endeavor to an employment position was made to increase cue relevance for professional women. The traditional criteria by Horner was utilized to delineate FOS imagery.

To induce coherence in an obviously sex role related questionnaire academic articles concerning feminist issues were selected for the test of differential evaluation of males and females. Compositions were adapted from "Women's Lib- Rational or Socially Pathological?" (McNeil, 1972) and "The Rise of Women's Liberation," retitled "Racism and Male Supremacy," (Dixon, 1972). In both instances sex of the author was varied, and Ss appraised the work on a 1(high) to 5 (low) scale on initial agreement, persuasiveness, value, style, profundity, overall evaluation, professional status and competence.

Procedure. One hundred and fifty questionnaires were posted to professional women in the BSA and BPS. Of these, 86 usable questionnaires were returned.

Forty questionnaires were distributed in monthly meetings to members of the B&P and BFUW. Seventeen questionnaires were returned.

Ss completed the questionnaires at their own convenience, but were instructed to allow themselves no more than five minutes for the projective session. All questionnaires were returned by post.

Results

Comparisons between groups were made by t-test for androgyny and AWS socres and by test for significant difference between proportions for occurance of FOS imagery (Bruning & Kinitz, 1968). Results indicate that older women, members of the B&P and BFUW, view themselves as more feminine and have more conservative attitudes toward women's roles in society than members of the BSA and BPS ($p < .001$; Table 61). As predicted BPS/BSA members exhibit more FOS imagery, 52.4% as compared with 33.3% of the BP/BFUW women, but this difference is not significant ($z = 1.209$). Parenthetically, judges reached initial agreement of 86.4% for classification of FOS.

Analysis of the evaluations of academic articles was performed by 2X2X2 mixed design analysis of variance, method of unweighted means with sex allocation of author (male/female or female /male) and subject group (BPS/BSA or BP/BFUW) serving as the between group factors and academic article (Women's Lib (A) or Racism and Male Supremacy (B)) defined as the within group factor. This is similar to the nesting design described in Chapter Three; a main effect for sex allocation, therefore, implies a sex of author x article interaction while an interaction

for sex allocation x article implies a main effect for sex of author. Results are presented in Table 62. Analysis indicates and overwhelming preference for article B (Racism and Male Supremacy) which was more positively evaluated on initial agreement ($p < .001$), persuasiveness ($p < .001$), value ($p < .002$), overall appraisal ($p < .025$) and status of author ($p < .005$). In addition, BP/BFUW women appraised the articles as more persuasive than their younger counterparts ($p < .01$). Only one significant interachion effect emerged- BSA/BPS women credited the author of article A with more competence than the author of article B while the reverse was true for BFUW/BP women ($p < .01$). Means are presented in Table 63.

Analyses concerning personal history factors were performed separately for each group. Pearson correlations for age, number of children, AWS and androgyny scores are presented in Table 64. For the BFUW/BP group femininity is negatively related to liberal scores on the AWS scale ($p < .01$), but this relationship is not apparent for younger women. In both groups age and number of children are unrelated to AWS or androgyny scores, Analysis by t-test (Table 65) indicates that AWS and androgyny scores can not be differentiated on the basis of marital status; the religious affiliation factor was omitted from analysis due to the highly disproportionate number of nonaffiliates in Group I and affiliates in Group II. A one way analysis of variance was utilized to assess AWS and androgyny scores over level of education . The classification and results are presented in Tables 66 and 67; F ratios were not significant.

Analysis by t-test demonstrated that AWS and androgyny scores could not be differentiated on the basis of occurance of FOS imagery in either

group .(Table 68). Nor is FOS related to age in either the BPS/BSA women (point biserial correlation =.102) or the BFUW/BP group (point biserial correlation = -.0465). X^2 was performed for marital status and FOS in the BSA/BPS group but results were insignficant (X^2 = 2.333, d.f. =1, phi = .189); sample size in the BFUW/BP was too small to perform X^2 for the older women. FOS was also examined in relation to educational level in Group I (PhD., M.A./M.Sc., B.A./B.Sc.) but again results were insignificant (X^2 = 2.6036, d.f. =2, phi = .214); sample size of Group II prevented a similar analysis.

Discussion

Data reported here lend support to attitudinal, motivational and personality discrepancies between older and younger professional women, but interpretation of these differences must be cautiously scrutinized. In particular, it must be carefully considered if discrete images are divergent and antithetical or if differences are merely a question of degree.

In some respects members of the British Federation of University Women and the Business and Professional Women's Association do emerge as Queen Bees by exhibiting more conservative attitudes towards women's roles in society and maintaining unitarily feminine images. Nevertheless, their mean score of 55.7 on the AWS (scale ranges from 0-75) is hardly reflective of the countermilitancy suggested by Staines et al. and is more comparable to scores of university students and even more liberal than Spence & Helmreich's (1972b) sample of mothers of college students ($\bar{X}$ = 41.9). It could be that this relative conservatism is basically associated with

age and not illustrative of the countermilitancy postulated by Staines. This seems plausible in that older women also appear more religiously conservative, boasting of 88% church affiliation as contrasted with 15% of the younger group.

> Age brings resistance to change because the individual has a longer investment in the traditional ways and because of the personal difficulty in changing deeply ingrained habits and beliefs (Staines et al., 1974, p. 55).

Because older women do not demonstrate an absolute conservatism in their attitudes toward women, but merely appear less liberal than their younger counterparts, age differences appears to be the most plausible explanation of this discrepancy. However, attribution of more specific social factors to the development of the Queen Bee Syndrome should not completely be ignored. Older professionals have attained unique achievement in a man's world- without the help of a woman's movement. Success attributed to individual ability as opposed to feminist politics may enhance self esteem while inducing rejection of basic assumptions, in particular, suppositions about victimization in socialization. Conservatism, then, may not be merely reflective of age differences but also political manipulation; this hypothesis, however, is untestable within the context of this experiment.

Staines et al. also maintain that Queen Bees attempt to live as "'super women" and are eager to achieve within the traditional wife and mother role as well as within the career context. Their survey revealed that the great majority of married professionals do all or most of the housework and child care and accept this as

the appropriate division of labor. Overall, professional women score high on an index of family ideology; Staines et al. postulate that this, as their dissociation with the feminists, reflects an attempt to reiterate femininity in compensation for sexually atypical success. Data presented here do support Staines' contention in that older professionals emerge as unitarily feminine while younger women score within the androgyny range on the BSRI (classification devised by Bem & Korula, 1974). It is also interesting to note that 70% of the older professionals as contrasted with only 48% of the younger women had married suggesting that the former group may more readily accept the traditional female role; however, this finding may be confounded by age.

It has been implied by Staines that the Queen Bee feels relatively secure in her feminine self concept; she is overtly praised by male colleagues for "looking so feminine, yet thinking like a man." Any aspersions which may be cast on her femininity are countered by augmented achievement in the traditional wife and mother role. As would be expected, then, older women evince less FOS (33% compared to 52%) than younger women; they have more effectively learned to reconcile the classical dichotomy of success and femininity, possibly by viewing themselves as exceptional.

This is supported by research by Bachtold & Werner (1970, 1971) who reported that older women who have reached the peak of their attainment are more secure in their roles and maintain a capacity for continual growth. Older professionals who entered their careers as comparative rarities, were not viewed as threatening by their male colleagues and

were not subject to the same prejudices and pressures as their younger counterparts. Bachtold and Werner surmise that a younger generation of professional psychologists sustained their careers despite strong societal pressures and that their achievement may have penalized them by enhancing inadequacy and insecurity concerning their identity as women.

Differential evaluation of males and females with reference to the academic articles was not apparent in either group. The most obvious implication is that professional women are not constrained by subtle notions of feminine inferiority which may influence the appraisal of female expertise. Alternatively, it may be suggested that contrary to earlier results, professional women are not so overtly critical of their aspiring sisters as previously hypothesized and that a sex bias does not exist. While both of these suppositions are plausible, the nature and content of the academic works should be noted in relation to the evaluation of male and female authors. Both compositions are focused on feminist issues- a comparison of racism and sexism and an analysis of the women's movement in relation to mental health. Results reported here may be influenced by the underlying assumption that women are intrinsically better qualified to philosophize on these issues than men. For example, Benson (1972) has illustrated that women's studies courses are predominantly taught by women not only because they have largely originated the idea but also because many argue that men are not qualified to do so. If this is true, presuppositions about initial competence may affect appraisals, augmenting favorable evaluations of women, and thus, equalizing the assessment of expertise.

Parenthetically, it is interesting to note the overwhelming preference for the second article (Racism and Sexism) on initial agreement, persuasiveness, value, overall appraisal and status of the author. This is not surprising in light of the central theses of the compositions. The focal issue in "Women's Lib- Rational or Socially Pathological" is that:

> It is clear for many of the members of women's liberation traditional concepts of proper male-female role relationships are no longer acceptable. A by-product of this rejection of cultural values seems to have been an increase in paranoid thinking among women who have newly found themselves an unaccustomed part of a militant minority group (McNeil, 1972, p. 318).

While "Racism and Male Supremacy" contends that:

> The ideology of male chauvinism can only be understood when it is perceived as a form of racism based on stereotypes drawn from the deep belief in the biological inferiority of women. The very stereotypes that express the society's belief in the biological inferiority of women are images used to justify oppression. The nature of woman is depicted as dependent, incapable of reasonable thought, child-like in its simplicity and warmth, martyred in the role of mother, and mystical in the role of sexual partner (Dixon, 1972, p. 188).

Finally, personal history variables were not related to attitudes toward women, psychological androgyny or fear of success imagery, although in the BFUW/BP group femininity was associated with conservative attitudes toward women. In this instance, it is most probable that group membership, rather than individual background, emerges as a more reliable predictor of sex role ideology and that variance within groups cannot be consistently related to salient factors in personal history.

It should be noted, in conclusion, that these interpretations may only be considered tentative due to the nature of the samples. Differences between groups have been discussed in terms of older vs. younger

professionals. However, because the samples were not occupationally matched, discrepancies may be reliant upon such factors as career choice in general. For example, there is a tendency for social scientists to be more active in the women's movement than education or humanities students (Goldschmidt et al., 1974). Likewise, personality differences emerge between different types of career women. Bachtold reports that politicians are strikingly sociable, conscientious and self controlled compared to artists who are characterized by spontaneity and impulsiveness, scientists who emerge as reserved, serious and tough minded, and psychologists who are depicted as flexible and liberal. As a more comprehensive comparison including older and younger non-professionals was not feasible in light of poor questionnaire returns, these data must be cautiously scrutinized.

Implications

Although attitudinal, personality and motivational differences did emerge between younger and older professionals, the discrepancies appear more a question of degree than direction. Older women do maintain more conservative attitudes toward women's roles in society than their younger counterparts although their AWS scores in absolute terms connote moderate liberalism and cannot be considered reflective of the countermilitancy characterizing the Queen Bee Syndrome. But older women appear more restricted in their sex role ideology and to a large extent seem reticent to incorporate socially desirable "masculine" personality traits; they score high in femininity as contrasted with younger profes-

sionals who manifest a more androgynous self concept. Nevertheless, wheter due to age, experience or ideology, older professionals demonstrate greater security in the feminine role and for the most part, have effectively resolved the classical dichotomy between success and femininity; this is illustrated by a diminished occurance of fear of success.

All in all, the contention that professional women fall into two distinct and antithetical groups in terms of attitudes, personality and motivation is not supported. In fact, it becomes apparent that professional women share a prime common denominator- the contravention of traditional sex role standards. Related sex role ideology may differ between older and younger professionals, but perspectives are not incompatible, and overt inconsistencies appear more a function of magnitude than orientation.

Summary

The study was undertaken to examine two groups of professional women in relation to popular notions of divergent and antithetical perspectives in terms of personality, achievement motivation and general attitudes toward women. In keeping with contemporary suppositions (O'Leary & Braun, 1972; Staines et al, 1974) it was hypothesized that older women (Queen Bees) would retain more conservative sex role attitudes, be more critical of women in professional endeavors and view themselves more feminine than their younger counterparts. However, it was also hypothesized that older women would be more secure in their feminine identity and evince less fear of success. Women from the British Sociological Association, British Psychological Society, British

Federation of University Women and Business and Professional Women's Association completed a questionnaire containing the Spence & Helmreich Attitudes toward Women Scale, the Bem Sex Role Inventory, a projective cue designed to assess fear of success responses and two academic articles concerning feminist issues for critical evaluation (sex of author varied) as well as providing details on personal history (age, marital status, number of children, religious affiliation, educational and occupational history). For the most part the hypotheses were confirmed. Older women (BFUW/BP) maintained more conservative attitudes and viewed themselves more feminine than their younger colleagues (BSA/BPS). Older professionals also evinced less FOS although the difference was not significant. Differential evaluations of males and females in relation to academic articles did not emerge, nor were factors in personal history related to attitudes, personality traits or achievement motivation. It was concluded that discrepancies in these salient factors of sex role ideology between younger and older professionals is a question of degree rather than direction.

TABLE 61

T-test: AWS and BSRI Scores

Scale	Group	$\bar{X}$	sd	n	sd	df	t	p*
AWS	BFUW/BP	55.6875	9.5618	16	5.6506	89	9.4636	.001
	BSA/BPS	70.4133	4.4575	75				
Androgyny	BFUW/BP	-0.7282	0.6870	17	0.8568	99	4.0098	.001
	BSA/BPS	-0.1855	0.8858	84				

Note - AWS Scale ranges from 0-75
Androgyny - negative scores connote femininity.

* two tailed probability

TABLE 62

Analysis of Variance: Evaluations of Academic Articles

Source	SS	df	MS	F	p
Agreement					
Total	178.687	191	-	-	-
A	0.152	1	0.152	0.164	ns
B	2.750	1	2.750	2.969	ns
AxB	0.030	1	0.030	0.032	ns
$Error_b$	85.214	92	0.926	-	-
C	9.769	1	9.769	11.647	.001
AxC	1.709	1	1.709	2.038	ns
BxC	1.834	1	1.834	2.187	ns
AxBxC	0.068	1	0.068	0.081	ns
$Error_w$	77.161	92	0.839	-	-
Persuasiveness					
Total	170.044	191	-	-	-
A	0.782	1	0.782	0.729	ns
B	7.724	1	7.724	7.206	.01
AxB	0.860	1	0.860	0.802	ns
$Error_b$	98.612	92	1.072	-	-
C	6.315	1	6.315	11.007	.001
AxC	0.048	1	0.048	0.083	ns
BxC	2.168	1	2.168	3.779	ns
AxBxC	0.755	1	0.755	1.315	ns
$Error_w$	52.780	92	0.574	-	-
Value					
Total	200.812	191	-	-	-
A	0.236	1	0.236	0.216	ns
B	2.650	1	2.650	2.429	ns
AxB	1.265	1	1.265	1.160	ns
$Error_b$	100.393	92	1.091	-	-
C	9.584	1	9.584	10.337	.002
AxC	0.011	1	0.011	0.012	ns
BxC	1.354	1	1.354	1.460	ns
AxBxC	0.019	1	0.019	0.020	ns
$Error_w$	85.300	92	0.927	-	-
Style					
Total	193.045	191	-	-	-
A	0.884	1	0.884	0.747	ns
B	0.495	1	0.495	0.418	ns
AxB	0.047	1	0.047	0.039	ns
$Error_b$	109.891	92	1.184	-	-
C	1.119	1	1.119	1.354	ns
AxC	1.406	1	1.406	1.701	ns
BxC	1.245	1	1.245	1.507	ns
AxBxC	2.934	1	2.934	3.550	ns
$Error_w$	76.024	92	0.826	-	-

TABLE 62 (continued)

Source	SS	df	MS	F	p
Profundity					
Total	832.541	191	-	-	-
A	1.031	1	1.031	0.665	ns
B	3.962	1	3.962	2.558	ns
AxB	0.155	1	0.155	0.100	ns
$Error_b$	142.485	92	1.549	-	-
C	1.228	1	1.228	1.391	ns
AxC	1.169	1	1.169	1.324	ns
BxC	0.180	1	0.180	0.203	ns
AxBxC	1.107	1	1.107	1.254	ns
$Error_w$	81.224	92	0.883	-	-
Overall Evaluation					
Total	217.817	191	-	-	-
A	0.334	1	0.334	0.223	ns
B	0.334	1	0.334	0.223	ns
AxB	0.290	1	0.290	0.193	ns
$Error_b$	137.962	92	1.500	-	-
C	4.210	1	4.210	5.255	.025
AxC	0.005	1	0.005	0.006	ns
BxC	0.527	1	0.527	0.658	ns
AxBxC	0.452	1	0.452	0.564	ns
$Error_w$	73.703	92	0.801	-	-
Status					
Total	186.417	191	-	-	-
A	0.560	1	0.560	0.400	ns
B	0.034	1	0.034	0.024	ns
AxB	1.420	1	1.420	1.014	ns
$Error_b$	128.768	92	1.400	-	-
C	4.269	1	4.269	8.159	.005
AxC	1.590	1	1.590	3.039	ns
BxC	1.626	1	1.626	3.107	ns
AxBxC	0.009	1	0.009	0.017	ns
$Error_w$	48.141	92	0.523	-	-
Competence					
Total	252.584	191	-	-	-
A	0.347	1	0.347	0.194	ns
B	1.015	1	1.015	0.568	ns
AxB	0.113	1	0.113	0.063	ns
$Error_b$	164.494	92	1.788	-	-
C	0.037	1	0.037	0.043	ns
AxC	0.048	1	0.048	0.056	ns
BxC	6.273	1	6.273	7.287	.01
AxBxC	1.058	1	1.058	1.229	ns
$Error_w$	79.199	92	0.861	-	-

Note - Factors: A = Sex allocation
B = Group
C = Article

TABLE 63

Mean Evaluations of Academic Articles: Significant Effects

Factor	Item	X_A	X_B
Article	agreement	3.177	2.469
(A = Pathology	persuasiveness	4.302	3.958
B = Racism)	value	3.396	2.635
	overall evaluation	2.896	2.542
	status	2.510	2.344
Group	persuasiveness	4.225	3.656
(A = BFUW/BP			
B = BPS/BSA			
Group x Article	competence	**2.487	**2.887
(A = Pathology		*2.750	*2.187
B = Racism			
* = BFUW/BP			
** = BSA/BPS			

Note - Scale ranges from 1 (favourable) to 5 (unfavourable)

TABLE 64

Pearson Correlation (BFUW/BP)

	Age	Number of children	AWS	Androgyny
Age	*	0.0780 ns	-0.2019 ns	0.0595 ns
Number of children	0.0780 ns	*	-0.0347 ns	-0.3259 ns
ATW	-0.2019 ns	-0.0347 ns	*	-0.6272 .007
Androgyny	0.0595 ns	-0.3259 ns	-0.6217 .007	*

N = 17

Correlation (BPS/BSA)

	Age	Number of children	AWS	Androgyny
Age	*	0.5057 .001	-0.0952 ns	0.0073 ns
Number of children	0.5057 .001	*	-0.0928 ns	0.0351 ns
AWS	-0.0952 ns	-0.0928 ns	*	-0.0909 ns
Androgyny	0.0073 ns	0.0351 ns	-0.0909 ns	*

N = 85

TABLE 65

T-test: BSRI and AWS scores - marital and religious status

Group	Scale	Condition	$\bar{X}$	sd	n	t	df	sd	p
BPS/BSA	Androgyny	Married	-0.1183	0.9298	40	-0.2752	82	0.8915	ns
		Single	-0.0647	0.8552	44				
	AWS	Married	70.3947	4.4026	38	0.1666	75	4.4583	ns
		Single	70.5641	4.5119	39				
BFUW/BP	Androgyny	Marital	0.6287	0.7112	12	0.9296	15	0.6897	ns
		Single	0.9700	0.6270	5				
	Single	Marital	56.5454	10.7459	11	0.5191	15	9.8056	ns
		Single	53.8000	6.9065	6				

TABLE 66

Analysis of Variance: AWS and BSRI Scores over Education*

BPS/BSA

AWS

Source	SS	df	MS	F	p
Total	1368.8116	68	-	-	-
Between	82.6352	2	41.3176	2.1202	ns
Within	1286.1764	66	19.4875	-	-

BSRI

Total	60.1390	75	-	-	-
Between	0.3123	2	0.1564	0.1906	ns
Within	59.8762	73	0.8202	-	-

BFUW/BP

AWS

Source	SS	df	MS	F	p
Total	1371.4375	15	-	-	-
Between	168.9375	2	84.4687	0.9131	ns
Within	1202.5000	13	92.5000	-	-

BSRI

Total	8.4235	16	-	-	-
Between	0.1707	2	0.0853	0.1447	ns
Within	8.2528	14	0.5894	-	-

* See Table 67

TABLE 67

Mean AWS and BSRI Scores: Over Educational Attainment

Group	Scale	Level I	Level II	Level III
BSA/BPS	AWS	68.9090	70.7200	71.5909
	BSRI	-0.1431	-0.0172	-0.1555
BFUW/BP	AWS	58.500	58.00	51.500
	BSRI	0.8500	0.5833	0.6942

Note - BSA/BPS : Level I = Ph.D.
Level II = MA/M.Sc.
Level III = BA/B.Sc.

BFUW/BP : Level I = Ph.D. or MA
Level II = BA/B.Sc.
Level III = Professional Qualifications

TABLE 68

T tests: BSRI and AWS Scores

Group	Scale	Condition	$\bar{X}$	sd	n	sd	df	t	p
BPS/BSA	AWS	FOS	70.1818	5.0958	33	4.8830	57	-0.1883	ns
		NON	70.3846	4.5964	26				
	Androgyny	FOS	-0.1390	0.7311	32	0.3485	60	0.8840	ns
		NON	-0.2173	1.0224	30				
BFUW/BP	AWS	FOS	53.7500	8.4211	4	-9.7813	10	0.4591	ns
		NON	56.5000	10.3094	8				
	Androgyny	FOS	0.8375	0.4497	4	0.5640	10	0.1157	ns
		NON	0.8775	0.6065	8				

CHAPTER 7 A NOTE ON RESPONSE DISTORTION

Introduction

Problems in Attitude Measurement

> Attitude scales should be regarded as only the roughest approximation of the way in which attitudes exist in the mental life of individuals (Allport, 1967, p.11).

Attitude theory and measurement has been criticized on a number of methodological considerations- definition, conceptualization, quantification and scale construction. More recently, the "social psychology" of attitude measurement has become a central issue and the focus has shifted to the relationship between attitudes and behavioral derivatives and projected responses compared to undistorted predispositions.

Although attitude measurement, in general, is subject to inherent methodological difficulties, Jones & Sigall (1971) maintain that rating scales are particularly problematic being heavily influenced by experimenter demand and evaluation apprehension. The former rests on the assumption that subjects are eager to please the experimenter and confirm the perceived hypothesis; this has been empirically demonstrated by Orne (1962) and Reicken (1962). By contrast, evaluation apprehension is based on the supposition that subjects desire to be appraised by the experimenter as normal, mature and perceptive (Rosenberg, 1965; Sigall, Aronson & VanHoose, 1970). This is explained in a more general sense by Goffman (1959):

> Thus when the individual presents himself before others the performance will tend to incorporate and exemplify

> the officially accredited values of the society, more so, in fact, than does his behavior as a whole (p.53).

Meehl & Hathaway (1946) were the first to note that personality measurement is particularly susceptible to response faking and allows both the conscious distortion of scores and unconscious self deception and role playing on the part of the subject. Edwards (1957) and Crowne & Marlowe (1964) maintain that the nature of responses on personality and attitude scales is affected by perceived social approval. In particular, several studies have demonstrated that endorsement of specific personality traits by individuals varies as a function of social desirability (Edwards, 1953; Hanley, 1956; Kenney, 1956; Navron & Stauffacher, 1954; Rosen, 1956). Edwards (1957) concludes:

> If a characteristic is prevalent or dominant in a group, it will perhaps be judged desirable. If this is the case, we might expect statements relating to desirable traits to be endorsed more frequently than those relating to undesirable traits. It is also possible that the trait indicated by a statement with a high social desirability scale value is not prevalent or dominant in a group, but that the subject responding to the statement is trying consciously or unconsciously to give a good impression (pp. 85-86).

In light of this conclusion it seems reasonable to assume that contemporary research on sex roles and attitudes toward women is particularly susceptible to contamination by the influence of social desirability; this tendency is highlighted by the current fashion of expressing liberal attitudes towards minority groups in general and women in particular.

The Bogus Pipeline Paradigm

Jones & Sigall (1971) have devoted much attention to the bias of social

desirability and have developed a new paradigm (Bogus Pipeline) for diminishing its influence in the measurement of affect and attitude. By implementing a pseudo physiological monitoring device and convincing subjects that the apparatus records the direction and amplitude of an initial emotive response, the prediction by subjects of the device's measurement may be considered uncontaminated by response bias. In short, the Bogus Pipeline (BP) technique is based on the simple premise that no one wants to be second guessed by a machine.

Jones & Sigall (1973) maintain that the BP paradigm is primarily effective in the measurement of the affective component of attitudes and elicits response patterns which differ from those of paper and pencil rating techniques. In particular, more negative projections of racial stereotypes (Pavlos, 1972; Schlenker, Bonoma, Hutchinson & Burns, 1976; Sigall & Page, 1971), racial attitudes (Pavlos, 1973) and evaluations of women in areas of professional expertise (Hough & Allen, 1975) emerge in these testing conditions. The BP paradigm has also been effectively utilized in the realm of interpersonal dynamics, and evidence suggests that subjects are more likely to reveal negative affect and decreased attraction towards obnoxious experimental confederates (Cherry, Byrne & Mitchell, 1976; Jones & Wein, 1972; Sigall & Page, 1972). Even opponents of the BP technique who argue against its general practicality, give credit to its heightened sensitivity in attitude assessment (Ostrom, 1973).

An experiment was designed, therefore, to investigate the influence of response distortion (social desirability) in subtle and overt attitudes toward women. The ultimate aim of this investigation was to shed light

on the reliability of previous experimental method and interpretation of sex role data.

Experiment XIV

Method

Subjects and Design. Eighty undergraduate women participated in the study. Each S completed two measures of attitudes toward women - the Spence-Helmreich Attitudes toward Women Scale, an overt assessment of conative and evaluative attitudinal components, and a brief rating scale related to alledgedly male or female authored articles (The Power of a Sugar Pill - Appendix I) which represented a more subtle appraisal of the evaluative element. Half of the Ss were led to believe that an additional, independent physiological measurement of responses was monitored while the other half received no mention of this measurement.

Apparatus. The apparatus resembled that described by Sigall & Page (1971) and consisted of three instruments, a large console standing about $3\frac{1}{2}$ feet high, a smaller metal box labelled EMG output and an impressive array of electrical junk with multiple switches and flashing lights. The third component was described as a small computer (Appendix VI).

Ss were seated in an adjustable chair before the console which displayed a semi-circular scale ranging from - 2 to +2. At each end of the scale was situated a small slot into which various labels could be fitted (agree/disagree or high/low). A steering wheel with a pointer was extended from the console and could be locked in an upright position or

free to turn along the scale.

The smaller box labelled EMG output displaying the same 5 point geometric scale was placed atop the console. The box was adorned with flashing lights and switches and was conspicuously connected to the larger electrical array. The EMG component possessed detachable skin electrodes and was linked by cable to the adjacent room where EMG output was controlled by rheostat. A hidden microphone was also extended from the experimental chamber to the adjacent room.

Procedure. All Ss were conducted individually to an experimental antechamber where they were instructed by E to complete in private a 5 item attitude inventory (Appendix VI). Although all Ss completed this inventory to insure procedural similarity, the responses were only required for those Ss assigned to the BP condition. Ss indicated their agreement/disagreement on a five point scale on relatively innocuous socio-political statements chosen to diminish any overt influences of social desirability. After completion, E returned and escorted S to the experimental room leaving the questionnaire in the antechamber.

The EMG Condition. Ss were informed that the experiment consisted of two parts- the critical evaluation of an academic article and completion of a short attitude scale. After commenting on the difficulties of response distortion in psychological measurement techniques, E introduced the apparatus as an adapted electromylograph (EMG) which enabled a more direct, accurate and physiological measurement of attitudes.

Ss were attached by electrodes to the appartatus and told to study

the 5 point scale displayed on the console. It was then explained that although the steering wheel was locked in an upright position, the EMG would record the initial reaction tendency to turn the wheel, indicating the S's response to a given statement. Consequently, the measurement of electrical potentials in muscle groups was taken as an undistorted response to attitudinal predispositions. It was further explained that EMG output was not affected by gross muscle movements.

E informed S that because individuals differ in baseline activity, the EMG must be validated and adjusted before each experimental session. Actually, the validation procedure was only necessary to convince S that the EMG did effectively function as a lie detector. The preliminary questionnaire was employed for validation with E instructing S to grip the wheel and concentrate on a response after each statement was read. With agree (+2) and disagree (- 2) labels inserted, the apparatus was switched on, and E commenced with the first statement when the "computer's" lights began to flash. Meanwhile, an accomplice in the adjacent room with the original completed questionnaire at her disposal, manipulated the correct responses in turn. Prior to the fourth item S was encouraged to "fool" the EMG and consciously concentrate on an incorrect response. After the fifth item the questionnaire was retrieved from the antechamber by E and exhibited to S who found perfect correspondence between EMG readings (recorded in the validation process) and the original responses.

To commence the experiment proper S was instructed to read an academic article keeping in mind that she would be asked to appraise it on a variety of characteristics. Upon completion, E informed S that

that she was interested in "to what extent people are in touch with their most basic responses," and for that reason, requested her to predict the EMG output. High/low labels were inserted at the scale ends, and the EMG meter was turned toward E. S was told to present her initial, undistorted reaction and at the end of the experiment, she would be allowed to compare her predictions to the physiological recordings.

S was then asked to evaluate the article on style, content, persuasiveness, profundity, author's status in the field and author's competence. E recorded each prediction and pretended to record the EMG output.

After the completion, the labels were altered to agree (+2) and disagree (-2), and the same procedure was employed for the AWS scale with E reading each statement and recording S's responses. All Ss were thoroughly debriefed after the experimental session.

The Rating Condition. In this condition the electrodes were detached, the "computer's" lights turned off and the wheel free to turn. E informed S that the apparatus was employed only to obtain greater attention and concentration with regard to rating scales. (Sigall & Page maintain that in accordance with Byrne (1969) that responses indicated by simple, physical manipulations do not differ from paper and pencil measures.)

S was then requested to respond to the questionnaire items by turning the pointer to the appropriate scale index and stating the corresponding number; the five item questionnaire, previously completed, was used for a short practice session. In the rating condition, S also completed both questionnaires and was encouraged to report her undistorted initial reaction. Ss were debriefed upon completion of the experimental session.

Results

Analysis of evaluations of academic articles was performed by a 2X2 analysis of variance (sex of author x condition) for each item (Table 69). Results indicated that male authors were more favorably appraised on persuasiveness ($\bar{X}_m$ = 1.425, $\bar{X}_f$ =1.050), but no other main or interaction effects emerged. Analysis of AWS scores by t-test revealed no significant differences between conditions (Table 70).

Discussion

The most obvious interpretation of these data asserts that attitude measurement of this nature is not subject to the quantity of response distortion previously expected. Although trends emerged in the predicted direction with women in the BP evincing more negative (conservative) attitudes than in the rating condition, the differences were not significant. Before the postulation of diminished influence of social desirability may be accepted, however, several criticisms should be considered.

First, the nature of the scale construction may have imposed specific unanticipated limitations. Console classifications ranged from - 2 to +2 with 0 as a midpoint. Although this is apparently the most appropriate construction for the agree/disagree pattern of the AWS scale, it could create artificial constraints on the evaluations of academic articles. Ss may feel reticent to render negative appraisals. This is evidenced by the fact that mean overall evaluations of the six factors ranged form 0.375 to 1.410, and corroborated by Jones & Sigall's (1971) contention that negative halves of bipolar scales are seldomly

used. Because only positive means emerged in this study, it may be suggested that a small variance was induced by the scaling technique and that results may have differed if a conventional 1-5 scale had been employed.

Although in keeping with the Jones & Sigall (1971) methodology, the experiment may be criticized on the neglect of formal manipulation checks. In no instance was it apparent that the S was overtly suspicious of the apparatus, and in the debriefing sessions, Ss frequently volunteered the unsolicited information that they had unquestionably accepted the device's purported capabilities. However, there is no concrete assurance that this was consistently the case. In addition, it is possible that the E's rather youthful appearance may have detracted from the overall seriousness of the experiment.

Finally, a more general criticism of the Bogus Pipeline must be considered. Brigham, Bloom, Gunn & Torok (1974) were unable to replicate results indicating differential evaluations of blacks in the BP and rating conditions. They argue that "responses in conventional measurement situations, even regarding topics of considerable social sensitivity, may be subject to less intentional bias than often assumed." However, they also suggest that the motivation to avoid being second guessed by a machine may not be as strong as originally proposed.

Although methodological criticisms should not be ignored, the majority of research with the Bogus Pipeline has revealed affective and evaluative discrepancies on rating scales reflecting the influences of social desirability and that consistent differences emerge in the experimental and control conditions. If the effectiveness of the BP paradigm is

accepted, it can only be assumed that response distortion due to social desirability does not significantly alter measurement of attitudes toward women. This conclusion, however, should be considered tentative and limited in application to the scales employed in this experiment.

Implications

This thesis has largely dealt with sex role stereotypes and related sex role ideology. Because it centers on the quantification of social phenomena it is necessarily subject to criticism of quantitative methodology. Although its crudeness can be argued on the most basic conceptual level, research of this nature is more frequently criticized on the extraneous factors which influence individuals' attitudinal responses. One of the most striking criticisms of this type is that responses are heavily biased by the influences of social desirability.

However, implementation of the BP paradigm in an effort to assess the influence of social desirability on overt and subtle measurements of attitudes toward women revealed no significant differences between experimental and control groups. Results indicate that the influence of social desirability in measurement of this type may not be as strong as expected and that responses are not subject to substantial external biases. Although this interpretation is subject to criticism, it may be cautiously assumed that the scales employed here reflect a relatively accurate assessment of sex role attitudes and data should be interpretated from this perspective.

Summary

in view of current criticisms of attitude measurement a study was undertaken to assess the influence of social desirability on overt and subtle measurements of attitudes towards women within the context of the Jones & Sigall (1971) Bogus Pipeline Paradigm. In short, Ss are first convinced that a pseudo physiological device is capable of measuring their most basic attitudinal responses and are then asked to predict the device's recordings. When these responses are compared with those of Ss in a control rating condition, it is assumed that the evidence of more negative affective responses in the former condition reflects a diminished bias of social desirability.

Eighty university women completed an overt measurement of attitudes toward women (AWS) and a subtle assessment concerning the evaluation of women in areas of professional expertise (appraisal of an academic article alledgedly male or female authored) in either the BP or control rating condition. Results indicated no significant differences in ratings over conditions. Although the experiment is subject to several criticisms, it was suggested that these scales may not be strongly influenced by social desirability.

TABLE 69

Analysis of Variance: Evaluations of Academic Articles

Source	SS	df	MS	F	p
Style					
A	0.44999	1	0.44999	0.63216	ns
B	0.19999	1	0.19999	0.28096	ns
AxB	0.44999	1	0.44999	0.63216	ns
S	54.09950	76	0.71183	-	-
Content					
A	0.01250	1	0.01250	0.02222	ns
B	0.01250	1	0.01250	0.02222	ns
AxB	0.61250	1	0.61250	1.08889	ns
S	42.7497	76	0.56249	-	-
Persuasiveness					
A	2.81250	1	2.81250	5.1568	.05
B	0.11250	1	0.11250	0.20627	ns
AxB	0.11250	1	0.11250	0.20627	ns
S	41.4497	76	0.54539	-	-
Profundity					
A	0.05000	1	0.05000	0.05706	ns
B	0.05000	1	0.05000	0.05706	ns
AxB	0.04999	1	0.04999	0.05705	ns
S	66.6000	76	0.87632	-	-
Professionalism					
A	0.19999	1	0.19999	0.20736	ns
B	0.44999	1	0.44999	0.46637	ns
AxB	0.0000004	1	0.0000004	0.0000004	ns
S	73.2995	76	0.96446	-	-
Competence					
A	1.01250	1	1.01250	1.71956	ns
B	1.01250	1	1.01250	1.71956	ns
AxB	0.11249	1	0.11249	0.19106	ns
S	44.7496	76	0.58881	-	-
Status					
A	1.25000	1	1.25000	1.53723	ns
B	0.44999	1	0.44999	0.55340	ns
AxB	0.050002	1	0.050002	0.06149	ns
S	61.7993	76	0.81314	-	-

Note - A = Author sex (male/female)
B = Condition (Bogus Pipeline/Control)

TABLE 70

T-test: Attitudes Towards Women Scale

Condition	$\bar{X}$	SD	df	T	SD	df	p
EMG	53.7750	7.7409	40	1.5082	9.4141	78	ns
Rating	56.9500	10.8319	40				

Note - Scores range from 0 (conservative) to 75 (liberal)

CHAPTER 8 CAN THERE BE A COMPREHENSIVE THEORY OF SEX ROLES?

Theoretical Model

From an historical perspective classical psychologists have encouraged the acceptance of sex roles as an integral and essential part of personality development and functioning. This assumption is based on the premise that contemporary sex roles stem from a biological dimorphism, which tempered by cultural influences, provides divergent role models for males and females. From this perspective sex roles are held to be both natural and desirable.

There is, however, little evidence to support the contention that the traditional division of sex roles is conducive to healthy personality development. In addition to channelling individuals into superfluous, narrowly defined roles and limiting behavioral potentials, uncritical acceptance and assimilation of stereotypes has been demonstrated to negatively affect self concept by augmenting anxiety and diminishing self esteem (Gray, 1957; Harford, Deabler & Willis, 1967). Incorporation of stereotypic notions of masculinity and femininity may also impair intellectual development; superior intellectual functioning is most frequently associated with cross-sexed typing in both males and females (Kagan & Freeman, 1963; Maccoby, 1966).

Nevertheless, empirical investigations have repeatedly verified

that a strong consensus about differing characteristics of men and women exists across groups differing in age, marital status, religion, educational and occupational background. This is crucial in light of socialization theories which stress that individuals become motivated to achieve behavioral consistency with an internalized sex role standard. Because maintenance of a masculine or feminine image is accomplished by suppression of inappropriate enterprises and activities, identification in terms of psychological androgyny may have profound behavioral implications. It has been empirically demonstrated, for example, that individuals with a unitarily masculine gender orientation appear competent only in the instrumental modality while feminine individuals are limited to expression in the nurturant domain (Bem, 1972, 1975).

Dichotomization of sex roles may negatively affect both sexes by imposing unnecessary restraints and limitations, but the problem is somewhat more acute for women due to the underlying notion of inferiority. Both theoretical and empirical definitions of masculinity and femininity convey an expression of bipolarity- the instrumental, cognitive vs. the expressive, affective approach, the agentic vs. the communal perspective. At the operational level there is a tendency to ignore woman per se and to define her as the opposite of man. Men are envisioned as capable, strong, assertive, aggressive and objective possessing those highly valued characteristics which form a competency cluster. Women are alloted some positively valued, though less socially desirable, qualities which compose a warmth-expressiveness cluster-sensitivity, generosity and tenderness- although they are as frequently characterized

as incompetent, weak and over emotional. The two clusters are antithetical with the masculine attributes being more highly regarded and positively valued. The traditional assumption of bipolarity promotes disparate criteria of healthy personality development and constructs an artificial dichotomy between woman and person.

> Too many women evaluate their bodies, personality qualities and roles as second rate. When male criteria are the norms against which female performance, qualities or goals are measured, then women are not equal. The essence of the derogation lies in the evolution of the masculine as the yardstick against which everything is measured. Since the sexes are different, women are defined as not men and that means not good, inferior. It is important to understand that women in this culture have internalized these self destructive values (Bardwick & Douvan, 1972, p. 55).

Internalization of the "second sex" image may adversely affect women in a variety of ways. In general, the assimilation of subordinate group characteristics may be compared to the dimunition of self esteem found in blacks (Clark & Clark, 1947), Jews (Sarnoff, 1951) and politically oppressed groups (Friere, 1973). In particular, it influences evaluations of women in areas of professional expertise, achievement motivation, psychological gender orientaion and attitudes toward women's roles in society.

Maintenance of traditional sex role stereotypes frequently induces perceptual distortion with females being more negatively regarded than male counterparts.

> Do women automatically view their differences from men as deficiencies? The evidence is that they do and this opens the door to antifemale prejudice. For if someone concludes that women are inferior, his perceptions of women - their personalities, behaviors, abilities and accomplishments - will tend to be lowered by his low expectations of women.... Women are prejudiced against female professionals and regardless of actual accomplishments of these professionals, will firmly refuse to recognize them as the equals of their male

colleagues (Goldberg, 1968, pp. 29-30).

Internalization of self destructive values based on the superficial dichotomy of success and femininity induces anxiety in achievement oriented situations. Women may feel placed in a double bind and prompted to relinquish their autonomy or femininity.

> In order to feel or appear more feminine women disguise their abilities and withdraw from the mainstream of thought, nontraditional aspiration and achievement in our society (Horner, 1972b, p. 64).

Assimilation of traditional sex role stereotypes promotes a unitarily feminine self concept, limiting behavioral potential in general and hindering the development of the instrumental modality in particular.

> The major effect of femininity in women-untempered by a sufficient level of masculinity- may not be to inhibit instrumental or masculine behaviors per se but to inhibit any behavior at all in a situation where the "appropriate" behavior is left ambiguous or unspecified... Hence, when it is unclear whether a particular behavior will yield a positive outcome, feminine women become inhibited (Bem, 1975, pp. 15-16).

And finally, it is the internalization of outmoded stereotypes which influences attitudes about women's potential and appropriate roles in society.

> Women (are) in the conflictual position of having to decide whether to exhibit those positive characteristics considered desirable for men or adults, and thus have their femininity questioned, that is be deviant in terms of being a woman, or to behave in the prescribed feminine manner and accept second class adult status (Broverman et al., 1970, p. 6).

A comprehensive theory of sex role ideology, then, rests on the assumption that both men and women uncritically accept traditional stereotypes and readily assimilate divergent role models. Because

masculinity and femininity are conceived of as unidimensional and bipolar a superficial dichotomy is imposed inducing specific behavioral limitations. In particular, the masculine is equated with an instrumental modality while the feminine is envisioned in affective terms. While both sexes are restricted by narrowly defined role models, constraints imposed on women are more problematic in that a second sex notion is propagated by traditional concepts of femininity. The male and female stereotypes are antithetical with the male characteristics being more socially desirable and positively valued. The incorporation of the subordinate role implied by the feminine stereotype negatively affects personality, motivational and attitudinal dispositions in women. In particular, sex role stereotypes encourage behavioral deficiencies by exclusion of the socially desirable "masculine" traits, devaluation of women in areas of professional expertise, a motive to avoid success in achievement oriented situations and restrictive attitudes towards women's roles in society.

Empirical Validation

The theory of sex role ideology proposed here encompasses four of the most salient aspects of contemporary sex role research- differential evaluation of males and females, the motive to avoid success, psychological androgyny and attitudes toward women's roles in society. The substantiation of the negative effects of outmoded traditionalism is not difficult, but the consolidation of factors and the establishment of consistent, predictable relationships are somewhat more problematic.

In this respect, this research has only been partially successful, although several reliable conclusions may be advanced.

I Differential evaluations of males and females

The notion of an indiscriminant devaluation of women as proposed by Goldberg (1968) has largely been disproved. Appraisals of professional expertise are dependent upon:

1)Sex of assessor- men are more prone to devalue female expertise than women.

2) Status of assessor- women are more frequently devalued by those who are familiar or competent with the area of expertise.

3)Sex appropriateness of field- Both sexes are more frequently devalued in sexually atypical endeavors.

4)Ambiguity- Ambiguity concerning females' qualifications or status induces devaluation.

5)Level of competence- Women are more positively evaluated at lower levels of expertise while men are preferred at higher levels of competence.

II Fear of Success imagery

Projective testing indicates that women do experience anxiety in achievement oriented circumstances, and data support the contention that a sex appropriate stimulus person (SP) is required for a valid measure of achievement motivation.

1)Female SPs elicit a greater proportion of negative imagery than do male SPs.

2) When responding to a sex appropriate SP, females evince more FOS than males.

3) Ss tend to respond in stereotypic fashion to opposite sexed SPs, with females decreasing FOS imagery and males increasing it.

4) Ss tend to respond with realistic fears to sexually appropriate SPs, but males have a tendency to compose bizarre and/or hostile themes in response to a female SP.

5) For female Ss a greater proportion of FOS imagery is elicited by a female SP in sexually atypical endeavors.

6) Although FOS imagery does not consistently relate to biographical data (age, marital status, number of children, religion, educational or occupational history), there is some evidence to suggest that FOS is more apparent in younger than older professional women.

III Psychological androgyny

The stereotypic notion of masculinity/femininity as bipolar and unidimensional is not supported by empirical evidence, and their consideration as psychometrically orthogonal variables emerges as a more meaningful operational construct.

1) Psychological androgyny does not consistently relate to biographical correlates.

2) Femininity is associated with conservative attitudes toward women's roles in society.

IV Attitudes toward women

Cognitive, conative and affective components of attitudes toward women's roles in society differ between groups.

1) Women are more liberal than men.

2) Church affiliation is associated with conservatism in women.

3) Psychologically feminine women evince more conservative attitudes than masculine or androgynous females.

4) Liberal are most often young, single and well educated.

5) There is some evidence to suggest that professionals are more conservative than blue or white collar workers lending empirical support to the Queen Bee Syndrome.

V Sex role stereotypes

Sex role ideology is contingent upon acceptance/rejection of traditional notions of masculinity and femininity.

1)Acceptance of traditional M/F definitions is associated with the incorporation of sex role stereotypes into self concept.

2) Endorsement of traditional stereotypes is consonant with conservative attitudes toward women's roles in society.

For the most part, results reported here are consistent with the theoretical model of sex role stereotypes and follow predictable trends in the four discrete areas. Differential evaluation of the sexes is influenced by the stereotypic equation of masculinity with superiority, competence and status seeking, and the characterization of femininity as nurturant and home-oriented. In this way females are most frequently devalued in high status, masculine domains while males are more negatively appraised at low levels of competence. Likewise, both men and women increase negative imagery in projective testing in response to a successful female stimulus person. Attitudinal and personality factors are also

influenced by sex role stereotypes and rigidly defined sex appropriate self concepts and conservative, inflexible attitudes toward women's roles in society appear directly related to uncritical acceptance of traditional notions of masculinity/femininity. But while research of this nature highlights the influence of stereotypes on sex role ideology in general and attitudinal, motivational and personality factors specifically, it falls short on the establishment of consistent, reliable relationships between the discrete areas.

Problems in Sex Role Research

Operational definitions of attitude, motivation and personality share the common specification of implied behavioral consistency.

> attitude-a learned predisposition to react consistently in a given fashion to certain persons, objects or concepts (Wolman, 1973, p.34).
>
> motivation-an appetitive process that effects changes in the environment consonant with internal representations (p.243).
>
> personality-traits interpreted in terms of consistencies in behavior or inferred dispositions to behave (p.275).

From this perspective with assimilated sex role stereotypes as the basis of sex role ideology and dispositions it may be expected that individuals would exhibit relatively homogenous behavioral responses contingent upon motivational, attitudinal and personality consistencies. This, of course, may reflect a naive and simplistic approach to the study of human behavior. It may be that man, as man, is inherently

inconsistent and regardless of psychological attempts to quantify and classify, resists categorization. As Hitt (1969) maintains:

> Man can be described meaningfully in terms of his consciousness; he is unpredictable; he is an information generator, he lives in a subjective world, he is arational, he is unique alongside millions of other unique personalities; he can be described in relative terms, he must be studied in a holistic manner.

Alternatively,, there is a second interpretation which may not relegate quantitative psychology to such a desperate position- that is, operational and measuremental difficulties with assessment of attitudinal, motivational and personality variables.

Underwood (1957) epitomizes the problems in operationalism contrasting the "literary" conception with an operational definition, represented by a measuremental instrument. He cautions that operational definitions may not accurately assess the hypothetical construct but may quantify something quite different. A single concept may be operationalized in a variety of ways; likewise, there exists a subinfinity of interpretations or concepts that a single operation may represent. In the case of sex role stereotypes, it is possible,then, that attitudinal, motivational and personality dispositions are consistently theoretically linked but may reflect low empirical interrelations because of problems in operationalization.

In the assessment of sex role related dispositions a variety of quantitative techniques is utilized-semantic differentials, Likert scales and projective testing. Once the constructs are operationalized experimental variance may result from methodological discrepancies. Both Cook & Selltiz (1967) and Campbell & Friske (1967) emphasize that method variance is prominent in the measurement of a single construct.

> Different procedures designated to assess the same attitudes have often led to quite different placement of the same individuals and that observed behavior toward a social object is not what would have been predicted by a given instrument intended to measure attitudes toward the object (Cook & Selltiz, 1967, p. 220).

and is compounded by the assessment of several concepts.

> In any given psychological measuring device there are certain features or stimuli introduced specifically to represent the trait that it is intended to measure. There are other features which are characteristic of the method being employed, features which could also be present in efforts to measure quite different traits. The test, or rating scale, or other device, almost inevitably elicits systematic variance in response to both groups of features. To the extent that irrelevant method variance contributes to the scores obtained, these scores are invalid (Campbell & Friske, 1967, p. 284).

Campbell & Friske advocate a multitrait-multimethod matrix in attitude measurement to eliminate this problem.

Under these conditions empirical validation of a theory of sex roles becomes particularly difficult. From a phenomenological point of view, man resists quantification, and from a quantitative perspective, measurement techniques are imperfect. In this regard, although a strong theoretical position on sex roles may be advanced, in light of problems with empirical corroboration, the model may only be considered tentative.

Conclusion

While sex role research has raised fundamental, yet oft ignored, issues, yielded an impressive body of empirical data, and precipitated a plethora of theories and implications, it may be subject to specific criticisms In particular, empirical investigations have been disjunctively amassed, and systematic inquiry has largely been ignored. These conditions, compounded

by measurement difficulties, makes the incorporation of isolated experiments into a comprehensive theory of sex roles particularly difficult. While further research is required it should follow a directional trend rather than a diffuse approach and should concentrate on systematic investigation and increased methodological rigor. The discrepancy between theory and research may then be diminished and a more comprehensive theory of sex roles advanced.

APPEXDIX I

THE POWER OF A SUGAR PILL

Lionel (Linda) K. Wilson

Pain is a mystery that hurts. A man may not notice his finger is cut until he sees it bleeding. Then it hurts. Soldiers have had limb amputations without the benefit of anesthesia or pain relieving drugs. A potent analgesic such as morphine can cure the suffering of severe injuries, but it sometimes fails to relieve mild pain. Give a man a sugar pill and his agonizing ache may vanish because he believes the doctor's medicine will help him. Bite on a bullet, receive a shot of morphine or swallow a sugar pill. Which will relieve pain the best? Each can reduce pain better than the other under appropriate conditions. This is the mystery of pain. Contrary to what we might expect, the severity of a wound often has little to do with how much pain a person feels.

Perhaps the most wide spread pain reliever is the sugar pill, or something equivalent to the sugar pill. Studies show that the sugar pill or placebo is half as effective as a standard dose of morphine. Paradoxically, studies also show that the placebo is half as effective as the most popular over-the-counter painkiller, aspirin. A patient's faith in the potency of a pain-relieving pill, and the confident bed-side manner of the doctor, add up to a powerful curative.

Placebos do not merely relieve imaginary pain. Pain is subjective. It is always real to the sufferer. Today, placebos include any form of treatment that physiologically should not directly cure the patient's symptoms or illness. A placebo medication is a nonspecific or inert substance, but it may be more effective if it has other active ingredients (for example, something giving a bitter taste or a mild burning sensation).

The placebo has been the foundation of medical practice since antiquity. Medicines that don't work physiologically have soothed patients through the ages. None of the medicines used by Hippocrates or Galen would be found on the shelves of a modern drugstore. Two of the most effective medicines of Medieval times were theriac powder, an ancient concoction of 30 to 60 ingredients including ground Egyptian mummy and viper flesh, and the legendary bezoar stone made from gallstones of a goat. Most folk medicine is based on placebo. The copper bracelet widely worn to ward off arthritic pain has no known physiological effects. The files of the Food and Drug Administration are full of once-new miracle drugs that have mysteriously become ineffective over the years.

Although the placebo is commonplace in medicine, physicians have generally held it in disdain. They regard it as a nuisance variable that should be eliminated. When clinicians test a new drug they scrutinize

their subjects closely for any expected or hitherto unexpected side effects. The subjects begin to report all kinds of exaggerated side effects not due to the real action of the drug but due to the special situation they are in. To overcome these problems physicians give half of their subjects a placebo identical in appearance to the real drug. They do this "double-blind." The observers do not know which patients received the new drugs, and the patients do not know that some of them received a placebo. In this way, experimenters equalize all of the nonspecific factors (for example, added attention, the desire to please the doctor) in the experiment. The only difference between the two groups is the presence of an active drug. For example, when testing a pain-killing drug some people, who turn out to be in the placebo group, report that the drug they have taken has helped to relieve their pain considerably. If pain relief obtained by drug and placebo groups are about the same, then the experimenters judge the active effects of the new drug to be unclear or questionable.

Instead of considering the placebo response a nuisance variable we should regard it positively. An impressive amount of clinical information shows the placebo is an active and potent method of relieving pain in its own right.

Over two decades ago the Harvard anesthetist Henry Beecher reviewed 15 clinical studies and concluded that placebo medication reduced severe pain by half in 35% of 1082 patients. Eleven double blind studies published since his report showed that placebo medicine reduced severe pain in an average of 36% in 909 patients. Thus, a placebo cuts intense pain in half for about one suffering patient in three. Even the most powerful analgesic does not necessarily eliminate pain, but only reduces it to tolerable levels,

In a typical clinical situation, three patients out of twelve will gain no relief from any medication. Neither a placebo nor a standard dose of morphine- a most potent pain-killing drug- is very helpful to these unfortunate patients. Five of the 12 patients will greatly benefit from morphine but will not get much relief from a placebo. The remaining four- or one third of the patients- will have their pain reduced equally well by both morphine or a placebo.

The placebo responder has a marked advantage when he does have to take other pain-killing drugs. He will be much more responsive to them. For example, in one study a standard dose of morphine was only 54% effective for patients who were insensitive to placebos, but 95% effective for placebo responders.

To find out how effectively a new drug relieves pain, experimenters compare it with other pain-killing drugs- a strong one, such as morphine, and perhaps a weaker analgesic , such as aspirin. Then they calculate an index of the drug's effectiveness with this formula:

$$\frac{\text{Reduction in pain with an unknown drug}}{\text{Reduction in pain with a known drug}} = \frac{\quad}{\text{effectiveness}}\text{per cent}$$

For example, when we compare Darvon, a mild analgesic, with morphine, the ratio is considerably less than 100%, but when we compare Darvon with aspirin, the ratio is slightly greater than 100%. The ratio indicates that Darvon is less powerful than morphine but more powerful than aspirin.

What is the effectiveness of a placebo compared with a strong and a mild analgesic? After reviewing several double-blind studies concerning both morphine and a placebo, it was found that a placebo is 56% as effective as morphine. Surprisingly, a placebo is 54% as effective as aspirin. In other words, the effectiveness of a placebo compared with a standard dose of a specific drug administered under double-blind circumstances is about the same, no matter what drug. The placebo's effectiveness is directly proportional to the apparent effectiveness of the active analgesic agent that doctor and patient think they are using. When the physician assumes he is using a powerful pain-killer, such as morphine, the result is a strong placebo effect. If, however, the physician assumes that the analgesic is mild, the result is a much smaller placebo effect, even though it is still proportionally about half as effective as the actual drug.

Most investigators have assumed that the placebo response is a form of suggestability or gullibility. However, careful studies have failed to find any relationship between suggestability, gullibility and sensitivity to placebo. Nevertheless, one should not minimize the importance of suggestion in making the placebo appear more attractive or more effective. For example, two placebo capsules work better than one. A placebo injection is usually more effective than taking a pill or capsule. It seems plausible to the patient that twice the dose will be more powerful, and the strongest, fastest-acting medicines are injected. If a patient takes a placebo by mouth, either a very large brown or purple pill, or a very small bright red or yellow one may produce better effects than other size and color combinations. If the patient chews the placebo, it is better for it to have and unpleasant taste. But the same holds true for many prescribed medicines. Artificial color, flavor and other additives are common in specific brand name penicillins, tranquilizers, pain-killers and so on.

These suggestive factors help the patient come to believe that the particular medicine he is taking must be effective. They give him the confidence that his doctor has prescribed something that seems as if it should work. While such variables enhance the placebo effects of any medicine, these suggestive factors do not entirely account for the placebo response.

An important clue to how the placebo works came from observations of Henry Beecher on the Anzio beachhead during World War II. Of the soldiers who suffered grievous but not fatal wounds, only about one third wanted medication to relieve their pain. Two-thirds refused medication (but they complained bitterly about discomfort experienced if an inept corpsman failed to make a successful venous puncture). According to Beecher, the wounded soldier experienced relief, thankfulness to escape alive from the battlefield, even euphoria. The soldiers' wounds meant they would be removed from combat. They no longer needed to fear danger. In contrast, Beecher later observed patients with similar wounds in a civilian hospital who demanded and consumed large quantities of pain-killing drugs. The civilian patients needed drugs to relieve the unbearable suffering as they worried about the consequences of their injuries.

Since Beecher's study, many observations have shown that fear or anxiety increases pain. Also, Wendy Thorn has provided compelling evidence that chronically anxious subjects consistently feel better after taking a placebo. Clinical evidence strongly suggests that if a patient's anxiety can be minimized, he will feel less pain. The key here is that there are two types of anxiety. Some people are chronically anxious. They are chronically worried about their general well-being. On the other hand, even a relatively placid person will occasionally feel highly anxious under certain conditions. This is situational anxiety. The day before surgery is a good example of when this kind of anxiety is appropriate. Beecher's work suggested that if we could change the situation that is making the person fearful, then the patient will experience much less pain, particularly if he is chronically anxious anyhow.

In an experiment with 24 student volunteers, Tom McGlashan and Martin Orne tried to show that pain depends on how anxious a person is. They used the Taylor Manifest Anxiety Scale to determine chronic anxiety levels in volunteers, and the Zuckerman Anxiety Check List to measure the immediate concern of each subject before and after he took "an experimental pain-killing drug" (which was, unknown to the subject or the experimenter, a placebo). Then they cut off the circulation in each subject's arm with a blood pressure cuff and asked him to continue pumping a rubber bulb until the dull aching pain became so excruitiating he had to stop. Each subject pumped the bulb once without any medication to dampen the pain and once after taking a placebo. The experiment was performed in a medical setting so that even though the subjects were given a placebo, it seemed plausible to them that they were taking a real drug.

As expected, some subjects became more worried than others about whether the mysterious pill they had taken was going to help them. Those subjects who became more anxious after taking the pill tolerated the excruitiating ache in their arms less well than they had before they took the pill. Other subjects apparently had confidence that the pill would help them tolerate the discomfort. Those subjects who became less concerned about the situation after taking the placebo, were clearly able to tolerate

the pain much longer. Particularly if they were chronically anxious, subjects temporarily found their fear reduced dramatically, and this increased their ability to tolerate pain.

This is the first laboratory study to successfully confirm Beecher's observations and the experience of many clinicians. When the patient feels threatened about the unknown consequences of his suffering, his pain is hard to treat. He has nothing to fear but fear itself. When a doctor can persuade the patient he has little to worry about, the pain will not be as unbearable. The patient can gain control over his transient fear by responding to the "magic" his physician prescribes. The magic works even better because of the physician's conviction that his medicine will work.

"Why would you not always use the stronger medicine? Why prescribe placebos at all?" Ultimately, this question reflects one's basic philosophy about human values. It seems preferable to try the safest medication available first even if the cost to the patient is less relief that he might obtain from active drugs that are potentially addicting, or that even may be perfectly safe for most people. In many instances (about one patient in three) the placebo will work as well as the active drug anyhow. Some physicians argue that placebos are not as effective in chronic or long lasting pain, but the placebos failures frequently reflects more on the physicians attitudes than on the power of the placebo.

The placebo is most effective when given under double blind conditions. Placebos identified as such by patients or the doctor don't work well. Most people think that "fake" pills are for imaginary pain. They feel that perhaps "the other guy" is gullible enough to get better with a dummy pill- "and anyhow my doctor would not dream of giving me a sugar pill." Most doctors believe that they use placebos less often than their colleagues. Their own medicine is real.

The sensitive physician who is skillfully practicing the art of medicine will maximize the placebo effect, and thus help his patients at the minimum possible risk. Drugs such as morphine may be addicting. Sugar pills are not.

Therapists who understand how best to capitalize on the special magic of the doctor patient interaction should be able to use the placebo more imaginatively and effectively than it has been used in the past. When the doctor is convinced that the drug will work and when the patient believes it will, and believes what the doctor is doing makes sense, then positive results will likely occur. The placebo may be a sugar pill, but for other patients may be any plausible method of treatment such as acupuncture, behavior therapy, biofeedback, hypnosis, psychotherapy, surgery or even grandmother's special potion.

The placebo effect is anything but a nuisance variable. The drug-

giving ritual, and all the associated nonspecific variables of trust and belief that are part of the physician-patient relationship, account for powerful curative effects. We should treat the placebo as a standard item in the physician's black bag.

TITLE...(The.Power.of a.Sugar.Pill)

AUTHOR....(Linda.or.Lionel.Wilson)

Please rate the following: 1(unfavorable) to 10 (favorable)

THE ARTICLE

1. Style :	1	2	3	4	5	6	7	8	9	10
2. Content :	1	2	3	4	5	6	7	8	9	10
3. Persuasiveness:	1	2	3	4	5	6	7	8	9	10
4. Profundity :	1	2	3	4	5	6	7	8	9	10
5. Professionalism:	1	2	3	4	5	6	7	8	9	10

THE AUTHOR

1. Competence in field	1	2	3	4	5	6	7	8	9	10
2. Status in field	1	2	3	4	5	6	7	8	9	10

READINESS FOR LEARNING

Pauline (Paul) Conger

What is most important for teaching basic concepts is that the child be helped to pass progressively from concrete thinking to the utilization of more conceptually adequate modes of thought. But it is futile to present formal explanations based on a logic that is distant from the child's manner of thinking and sterile in its implications for him. Much teaching of mathmatics is of this sort. The child learns not to understand mathmatical order but rather to apply certain devices or recipes without understanding their significance or correctness. They are not translated into his way of thinking. Given this inappropriate start, he is easily led to believe that the important thing for him is to be accurate- though accuracy has less to do with mathmatics than computation. Perhaps the most striking example of this type of thing is to be found in the manner in which the high school student meets Euclidian geometry for the first time, as a set of axioms and theorems, without having had some experience with simple geometric configurations and the intuitive means whereby one deals with them. If the child were earlier given the concepts and strategies in the form of intuitive geometry at a level he could easily follow, he might be far better able to grasp deeply the meaning of the theorems and axioms to which he is exposed later.

But the intellectual development of the child is no clock-work sequence of events; it also responds to influences from the environment, notably the school environment. This instruction in scientific ideas, even at the elementary level, need not follow slavishly the natural course of cognitive development in the child. It can also lead intellectual development in the child by providing challenging but usable opportunities to forge ahead in his development. Experience has shown that it is worth the effort to provide the growing child with problems that tempt him into the next stages of development. In teaching from kindergarten to graduate school, I have been amazed at the intellectual similarity of human beings of all ages, although children are perhaps more spontaneous, creative and energetic than adults. As far as I am concerned young children learn almost anything faster than adults do if it can be given to them in terms they understand. Giving the material to them in terms they understand, interestingly enough, turns out to involve knowing the mathmatics oneself and the better one knows it the better it can be taught. It is appropriate that we warn ourselves to be careful of assigning an absolute level of difficulty to any particular topic. When I tell mathmaticians that fourth grade students can go a long way into set theory a few of them reply "Of course." Most of them are startled. The latter ones are completely wrong in assuming that set theory is intrinsically difficult. Of course it may be that nothing is

intrinsically difficult. We just have to wait until the proper point of view and the corresponding language for presenting it are revealed. Given particular subject matter or a particular concept, it is easy to ask trivial questions or to lead the child to ask trivial questions. It is also easy to ask impossibly difficult questions. The trick is to find the medium questions that can be answered and that can take you somewhere. This is the big job of teachers and textbooks. One leads the child by the well-wrought medium questions to move more rapidly through the stages of intellectual development, to a deeper understanding of mathmatical, physical and historical principles. We must know far more about the ways in which this can be done.

CITY PLANNING AND URBAN REALITIES

Harold (Helen) Redlich

American intellectuals have begun to rediscover the city. Not since the days of the muckrakers has there been so much interest in local politics and in the physical features of the city- the problems of slums and urban renewal, middle-income housing, the lack of open space, the plight of the downtown business district, the ever increasing traffic congestion. The new concern with questions usually relegated to architects and planners has been stimulated especially by two recent changes in city life. The rapid influx of Negro and Puerto Rican immigrants has created slums in some neighborhoods where intellectuals live, forcing them to choose between fighting for neighborhood improvement or joining the rest of the middle class in flight. At the same time the post war building boom- in office buildings as well as housing projects- is altering and destroying some favorite intellectual haunts like New York's Greenwich Village and Chicago's Near North Side.

This change has provided new material for one of the basic themes of the ongoing critique of American society- the destruction of tradition by mass produced modernity. During the 1950's the critique centered on the ravages produced by mass culture and suburbia. In the 1960's it was focused on the destruction of traditional urbanity by new forms of city building.

The vital neighborhood should be diverse in its use of land and in the people who inhabit it. Every district should be a mixture of residences, business and industry; of old buildings of new; of old people, of young; of rich and poor. People want diversity, and in neighborhoods where it exists, they strike roots and participate in community life, thus generating vitality. When diversity is lacking, when neighborhoods are scourged by the great blight of dullness, residents who are free to leave do so, and are replaced by the poverty-stricken, who have no other choice, and the areas soon turn to slums.

The most important component of vitality is an abundant street life. Neighborhoods that are designed to encourage people to use streets or to watch what goes on in them, make desirable quarters for residence, work, and play. Moreover, where there is street life, there is little crime, for the people on the street and the buildings which overlook it watch and protect each other, thus discouraging criminal acts more efficiently than police patrols.

The abundance of street life is brought about by planning principles which are geometrically opposed to those practiced by orthodox city planners. First, a district must have several functions, so that its buildings and streets are used at all times of day, and do not (like Wall Street) stand empty in off-hours. The area should be built up densely

with structures close to the street and low enough in number of stories to encourage both street life and street watching. Blocks should be short, for corners invite stores, and these bring people out into the streets for shopping and socializing. Sidewalks should be wide enough for pavement socials and children's play; intensive and high speed automobile traffic should be directed elsewhere, for the automobile frightens away pedestrians. Small parks and playgrounds are desirable, but large open spaces, especially those intended only for decoration, not only deaden a district by separating people from each other but also invite criminals. Buildings should be both old and new, expensive and cheap, for low costs invite diversity in the form of new industry, shops and artists studios.

Neighborhoods which are designed on the basis of these principles are areas like New York's Greenwich Village and SanFrancisco's Telegraph Hill (where residents of all types, prices, and ages mix well with small business, industry and cultural facilities) and low income ethnic quarters like Boston's North End and Chicago's Back-of-the-Yards district.

The new forms of city building discourage street life, and create only dullness. High rise apartment buildings, whether in public housing or private luxury flats, are standardized, architectually undistinguished, and institutional in appearance if not in operation. They house homogenous populations, segregating people by income, race, and even age, and isolating them in purely residential quarters. Elevators and the separation of the building from the street by a moat of useless open space, frustrate maternal supervision of children, thus keeping children off the street. Often there are no real streets at all, because prime access is by car. Nor is there any reason for people to use the streets, for instead of large numbers of small stores fronting on the street, there are shopping centers containing a small number of large stores, usually chains, each of which has a monopoly in its line. The small merchant who watches the street and provides a center for neighborhood communication and social life, is absent here. In such projects, the residents have no place to meet each other, and there is no spontaneous neighborhood life. As a result, people have no feeling for their neighbors, and no identification with the area. In luxury buildings, doormen watch the empty streets and discourage the criminal visitor, but in a public housing project there is no doorman, and the interior streets and elevators invite rape, theft and vandalism. Areas like this are blighted by dullness from the start, and are destined to become slums before their time.

The major responsibility for the new forms of city building may be placed on the city planner and the two theories of city forms: Ebenezer Howard's low density Garden City, and LeCorbusier's high rise apartment complex, the Radiant City. The planner is an artist who wants to restructure life principles applicable only to art. By putting these principles into action, he is methodically destroying the features that produce vitality. His planning theories have also influenced policy makers , especially bankers, realtors and sources of mortgage funds. As a result, they refuse to lend money to older areas which are trying to rehabilitate themselves,

thus encouraging further deterioration of the structures until they are ripe for slum clearance, redevelopment projects and inevitable dullness.

WOMEN'S LIB- RATIONAL OR SOCIALLY PATHOLOGICAL?

Ellen (Elton) B. McCaffery

Societies can experience a form of demoralization, conflict and disintegration that closely resembles individual pathology. It is clear that for many of the members of the women's liberation traditional concepts of proper male-female role relationships are no longer acceptable. A by-product of this rejection of cultural values seems to have been an increase in paranoid thinking among women who have newly found themselves an unaccustomed part of a militant minority group. Paranoid is too harsh and critical a term to apply, but despite its implication of pathology, it is richly descriptive in some aspects of the transformation some women have undergone.

According to the classic psychodynamic theory paranoid thinking is a delusional view of life that allows the individual to deny the existence of his own intolerable or unacceptable impulses by unconsciously attributing these to other persons and thus transferring blame away from the self. Most of us, of course, will react badly when exposed to severe tension or anticipation of some personal catastrophe and are likely to become suspicious, misinterpret the motives and intentions of others, become hostile, and react aggressively or violently. Serious threats to security or self esteem will produce immature, volatile, unpredictable and paranoid behavior.

In paranoid thinking the suspicious person not only mistrusts the motives of others, he or she turns full attention to assembling proof of fixed and long held convictions. The accompanying conviction of being center stage in life is a grandiose self estimate that reassures the individual of his or her importance as a person.

When the person with a paranoid view of life finds a group of others who share his set of values and feelings they can have a multiplied impact on the course of social affairs. This form of almost normal social paranoia has increased in our society.

In the militant, radical segment of the liberation movement are females who without question have donned a social mask to cover their personal pathology. They are angry, hostile, castrative, destructive and act out their individual inadequacies while wearing an assumed mask of logic, reality and pristine-pure ideals of justice and equality. Their bitter and emotional rhetoric condemns one half of the human species to eternal damnation at worse and perpetual reparations at best. They reject the possibility of intimacy, trust and understanding between male and female and seem to desire the opportunity to become the new oppressors in an inverted social order. Their thinking is paranoid and their reactions are socially pathological.

But perhaps history has long made it clear that substantial social change has always required drastic, confrontational behavior if it is to succeed. And since personal pathology is always defined in terms of deviation from the existing social consensus, it may be that feminist extremism of this sort we are witnessing in this era is absolutely necessary if change is to occur. It is equally reasonable to suggest that those females who irrationally deny the possibility of alteration of the male-female relationships may, in the course of history, be described in less than healthy terms.

These women of the movement are reacting against unpalatable norms and expectations for their style of life and are seeking to fulfil needs currently ungratified. They do this at some cost to their personal vulnerability, since they are trying to redefine the traditional assumptions of psychological health and normality. Our judgement must be that this is a healthy protest that is exacting a high pathological toll among those at its forefront. The pathology can be uncharitably described as paranoid and at moments it uses defense mechanisms primitive as the denial of reality. Its driving force may well be a kind of pathetic search for someone to trust in a world that no longer trusts its fellow human beings.

Sex has become the bone of contention in the modern world and the women's liberation movement has called for the end to arbitrary, constrictive and coercive confinement of male and female to rigid, limited and confing roles. If communal child rearing, total sexual freedom, new heterosexual combinations, and equality for the female become the norms of tomorrow, the radical feminist of today may appear to be the saintly martyrs of tomorrow.

RACISM AND MALE SUPREMACY

Allen (Helen) L. Keenan

Clearly, for the liberation of women to become a reality it is necessary to destroy the ideology of male supremacy which asserts the biological and social inferiority of women in order to justify massive, institutionalized oppression.

The ideology of male chauvinism can only be understood when it is perceived as a form of racism, based on stereotypes drawn from the deep belief in the biological inferiority of women. The very stereotypes that express the society's belief in the biological inferiority of women are images used to justify oppression. The nature of women is depicted as dependent, incapable of reasoned thought, child-like in its simplicity and warmth, martyred in the role of mother, and mystical in the role of sexual partner.

It has taken over 50 years to discredit the scientific and social proof which once gave legitimacy to the myths of black racial inferiority. Today most people can see that the theory of the genetic inferiority of blacks is absurd. Yet few are shocked that scientists are still busy proving the biological inferiority of women.

Yet one of the obstacles to organizing women remains women's belief in their own inferiority. This dilemma is not a fortuitous one, for the entire society is geared to socialize women to believe in and adopt as immutable and necessary their traditional and inferior role. From earliest training to the grave, women are constrained and propagandized. Spend an evening at the movies or watching television, and you will see a grotesque figure called woman presented in a hundred variations of the themes of "children, church, kitchen" or the chick sex pot.

Such contradictions as these show how pervasive and deep rooted is the contempt for women, how difficult it is to imagine a woman as a serious human being, or conversely, how empty and degrading is the image of woman that floods the culture.

Countless studies have shown that black acceptance of white stereotypes leads to mutilated identity, to alienation, to rage and self hatred. Human beings cannot bear in their own hearts the contradictions of those who hold them in conte npt. The ideology of male supremacy creates self contempt and psychic mutilation in women; it creates trained incapacities which put women at a disadvantage in all social relationships.

It is customary to shame those who would draw the parallel between women and blacks by a great show of concern over the suffering of black people. Yet this response itself reveals a refined combination of white middle class guilt and male chauvinsim for it overlooks several essential facts. For example, the most oppressed groups within the feminine popu-

lation is made up of black women, many of whom take a dim view of the black male intellectual's adoption of white male attitudes of sexual superiority. Neither of those who make this pious objection to the racial parallel addressing themselves very adequately to the millions of white working class women living at the poverty level, who are not likely to be moved by this middle-class guilt-ridden one-upmanship while having to deal with the boss, the factory or the welfare worker day after day. They are already dangerously resentful of the gains made by blacks, and much of their "racist backlash" stems from the fact that they have been forgotten in the push for social change. Emphasis on the real mechanisms of oppression-on the commonality of the process- is essential lest groups such as these, which should work in alliance, become divided against each other.

But we must clearly understand that male chauvinism and racism are not the same thing- they are alike in that they oppress people and justify the systems of exploitation- but in no way does a white woman suffer the exploitation and brutalization of women who are marked by both stigmata: female and non-white. It is only the racism of the privileged white women, self serving in their petty, personal interests, who can claim that they suffer as much (or must serve their own interests first) as black women, or Indochinese women or any woman who experiences the cruelty of white racism.

The contradiction of racism distorts and contaminates every sector of life, creeps into every white insurgent movement. Understanding their own oppression can and must help white women to confront and repudiate their own racism, for otherwise, there will be no freedom, there will be no liberation.

Answer the following questions by circling the one response to each question which most clearly reflects your opinion. Answer all questions.

1. To what extent did you agree with Mr. (Ms.) Conger's (Redlich, Keenan, McCaffery) point of view?

   1)complete agreement 2) great deal of agreement 3) partial agreement 4) little agreement 5)complete disagreement

2. To what extent did _____ sway your opinion about the issues discussed in the article?

   1)completely 2) great deal 3) somewhat 4)very little 5) not at all

3. How valuable would you consider____'s article to be?

   1) extremely valuable 2) moderately valuable 3) some value 4) little value 5) no value

4. Quite aside from the content, how effective would you judge _____'s writing style to be?

   1) extremely effective 2) moderately effective 3) partially effective 4) moderately ineffectual 5) extremely ineffectual

5. How profound would you judge____'s article to be?

   1) extremely profound 2) moderately profound 3) somewhat profound 4) little profundity 5) not at all profound

6. If you were to assign a grade to ____'s article, what would it be?

   1) A 2) B 3) C 4) D 5) F

7. Based on this article, what would you judge ____'s professional competence to be?

   1) extremely competent 2) above average competence 3) average competence 4) below average competence 5) incompetent

8. Based on your reading of this article, what would you guess ____'s status in the field to be?

   1) a leader in the field 2) important person in the field 3) average status 4) less than average status 5) little or no status in the profession

This is in the format of the original Goldberg (1968) questionnaire with the exception that question 3 (value) is divided into general and professional viewpoints.

APPENDIX II

PAINTING I UNTITLED WATERCOLOR

PAINTING II GIRL IN BLUE

APPENDIX III

The purpose of this questionnaire is to obtain your opinion on the qualifications for different positions. On the following sheets there are applicants for six different positions. Read the resumé of each applicant, and imagining that you are in charge of personnel decisions, rate each as a prospective employee. 1 indicates a low rating and 7 a high evaluation. Please circle the appropriate number.

****

Architect

Scope

Architects are responsible for the design of new buildings, both public and private, as well as the remodelling and renovating of old ones. The minimum requirement to enter the field is a BA in architecture, however, for advancement a BArch is required along with completion of the three part RIBA exams.

Tim (Tina) Davies received a second class honours degree from the University of Nottingham in Architecture and then took up employment in Derbyshire County Council designing council estates. After one year of experience, he returned to Nottingham to complete a BArch and pass parts I and II of the RIBA exams. Mr Davies is 26 and married with one child.

(low) 1 2 3 4 5 6 7 (high)

Hairdresser

Scope

The field embraces not only tinting, dying and styling hair, but also the basics of cosmetology. Training is normally undertaken as a three year apprenticeship or full time course at a technical college. Students must pass a basic exam to qualify as professional hairdressers and may go on for a higher qualification with advanced examinations.

Fiona (Frank) Little is 24 and single. She completed a 2 year course at Blackpool Technical College specializing in waving and bleaching. Miss Little has worked for three years in Manchester salons, and is presently preparing for the advance examination.

(low) 1 2 3 4 5 6 7 (high)

University Lecturer

Scope

Although backgrounds of university lecturers may vary, they are primarily

concerned with education although many of them are interested and active in research. Requirements of lectureships are varied , but the usual minimum qualification is a masters' degree (MA or MSc) in a given subject.

Patrick (Patricia) James completed a degree in anthropology from the University of Leicester and then went on to receive an MA from Cambridge in social anthropology. He is especially interested in research and has published two papers. Mr James is 28 and married.

(low) 1 2 3 4 5 6 7 (high)

Social Worker

Scope

Social workers perform a variety of activities and may work with local authorities, hospital patients, probation and after care service and voluntary agencies. There are several ways to obtain the professional qualifications, most frequently by university degree but some courses are available through the extramural departments of universities, polytechnics and colleges of further education.

John (Joanna) Whiting received a general degree in social science from the University of Aberdeen. Since then he has taken up a position with a local authority in Glasgow working primarily with the mentally handicapped but has also gained experience with the elderly. Mr Whiting has worked in Glasgow for five years. He is married with 2 children.

(low) 1 2 3 4 5 6 7 (high)

Baker

Scope

A comprehensive training is available either by means of a four year apprenticeship or a full time course at a technical college. Apprentices are trained in the crafts of baker and flour confectionary by a bakery approved by the National Joint Apprenticeship Council.

Sandra (Sammy) Nettles completed an approved course (apprenticeship) at the age of 19 while attending Lancaster Polytechnic on a part time basis. Since then she has had three years experience with a private bakery. Miss Nettles is single.

(low) 1 2 3 4 5 6 7 (high)

Mathmatician

Scope

There is some demand for people who can apply advanced knowledge of maths in industrial research and development particularly in aerodynamics, nuclear fission and wave propagation theory. A good honours degree is essential and a knowledge of computers helpful.

Donna (Donald) Courtney is 29 married, with 1 child. She received a second class honours degree in mathmatics from Southampton. Since then she has worked for 3 years as a data analyst and design consultant.

(low) 1 2 3 4 5 6 7 (high)

Please indicate how masculine or feminine <u>you</u> view these occupations.

Architect	1 fem	2	3	4	5	6	7 masc
Hairdresser	1 fem	2	3	4	5	6	7 masc
Lecturer	1 fem	2	3	4	5	6	7 masc
Social Worker	1 fem	2	3	4	5	6	7 masc
Baker	1 fem	2	3	4	5	6	7 masc
Mathmatician	1 fem	2	3	4	5	6	7 masc

INSTRUCTIONS

On the pages to follow there are brief descriptions of 12 occupations. After each occupation's description there are short paragraphs describing candidates who may or may not be qualified to work in the occupation. You are asked to rate each candidate on three characteristics: employability, status and likability. Employability refers to the suitability of the candidate for employment in a specific field. Status refers to the occupational prestige a person may achieve in that field. The ratings of both characteristics should be dependent upon the candidates educational and occupational history. The likability rating is dependent upon your own feelings toward the candidate described. For all ratings 1 is low and 7 is high. For example, if you belive that you would not at all like the candidate, his likability rating would be 1; if you feel that you would like the candidate very much, the rating would be 7. Please circle the appropriate number.

This is a survey; there are no right or wrong answers. Since your individual opinion is desired, please complete the survey alone. You may take as much time as you wish, but please answer all questions.

GEOLOGY

Scope

Geologists are required in industry principally by oil mining companies and many openings are overseas. As the work is chiefly in the field, physical toughness is required as well as advanced educational qualifications. There are some openings in government departments and as university teachers.

Training

A first or good second class honours degree in geology or a good honours degree in a scientific subject followed by post graduate study in geology or geophysics is practically essential. For those unable to take a full time course there are a number of technical colleges providing courses leading to a BSc in geology. If a geologist wishes to progress, he must combine education with practice.

Mark Thorton is 26 years old, married an has 1 child. Mr Thornton received a second class honours degree in geology from the University of Keele. He also has 3 years practical experience as an exploration geologist. Mr Thornton is well respected by his colleagues and has received one major promotion while working for his present company.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

Charles Hodges is 30 years old and single. Mr Hodges received a first class honours degree from St Andrews where his undergraduate dissertation was highly commended. He then went on to receive an MSc from Imperial College, London, one of the top research centers in Britain for geology; his research was in igneous rock. Mr Hodges has also spent 2 years in the U.S. doing research, and has published three papers in scientific journals.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

Jayne Robbins is 22 and single. She has received a BSc in geology from Hatfield Polytechnic. The only practical experience she possesses is 2 years of summer employment with International Geological Survey, particularly in the field of geological mapping.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

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FURNISHING AND INTERIOR DESIGN

Scope

The increased availability of well designed furniture and domestic appliances, in addition to other factors, have combined to produce a greater interest in home furnishing and decoration. As a consequence a number of new positions connected with home furnishing are becoming available in widely varied branches such as those connected with . antique furniture, upholstery departments of furniture factories, interior decoration, soft furnishing departments of retail stores, and furnishing fabric sections of textile distributing firms. The work is suitable for young people with an artistic flair or practical ability.

Training

Preliminary full time training is essential. The minimum age of entry to the course is 16, with a minimum of 3 O levels, including art and needlework if possible. The course occupies 3 years full time and includes: art and interior design, appreciation of architecture, soft furnishing and upholstery, theory and practice, textile technology and design, furnishing design and history, and technical drawing. At the end of the course a student can qualify for a college certificate in furnishing and interior design.

Christopher Collins is 19 and married. Before entering London College of Art and Design he obtained 3 O levels, 1 in art. In his second year at college he met and married his wife. He completed the course at London and received a certificate of Art and Design. The Collins have no children.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

James Oliver is 22 years old and single. He received O levels in six subjects as well as three A levels, one in art. Preferring not to attend university, Mr Oliver entered the London College of Art and Design and completed the three year course specializing in upholstery. He has had 1 year experience with a furniture manufacturer in Birmingham.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

Karla Stewart finished the degree at London College in furnishing and interior design at the age of 20. She entered with 7 O levels and 4 A levels to her credit. Upon graduation she received a job in design working with an international company; she was employed there for 4 years and received two promotions. Mrs Stewart then took up a lectureship at Surrey Polytechnic (soft furnishings) where she has worked for 2 years. She is 27 years old and married with no children.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

TEACHERS OF HANDICAPPED CHILDREN

Scope

Many teachers are required to assist handicapped pupils receive a special education. Handicaps are varied: blindness, partially sighted, deaf, partially hearing, educationally subnormal, epileptic, maladjusted, physically handicapped and students suffering from speech deficits. The job is very demanding and requires persons who are adept teachers as well as having sympathy and understanding for the handicapped.

Training

Teachers in special schools must first meet the qualifications of teachers in ordinary primary schools. This is usually done by completing a teacher training course at a college of education but may also be accomplished with a university degree in addition to a further one year course which grants a certificate of education. (Entrance requirements for a teacher training college may vary, but a minimum of 5 O levels is generally required). Teachers of the handicapped should have experience with normal children. In addition, they are expected to obtain a teacher's diploma in the area of their specialty within three years of taking up their posts.

Alistair McCormick is 25 years old, married with no children. He obtained a teaching certificate from Neville's Cross Teacher Training College specializing in primary education. Afterwards, Mr McCormick secured a job in a primary school in Newcastle where he has taught for 2 years. He has no formal training in teaching the handicapped.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

Anne Howard is 22 and single. She has received a teacher's certificate of education from Ripon Teacher Training College. Her speciality is in secondary education. Miss Howard has not yet been employed as a teacher and has had no formal training in teaching the handicapped. She does, however, have a younger brother who is retarded.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

Helen Moore received a general arts degree from Exeter University and went on to obtain a P.G.C.E. She has 2 years experience teaching normal children and 4 years experience working with the handicapped. Mrs. Moore has been awarded a teacher's diploma for teaching of the blind. She is 32, married, and has 2 children.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

ECONOMIST

Scope

Economists, who study the ordering of productive resources and its social implications, are employed in Civil Service, public corporations, the nationalized industries and other large industrial concerns, banking, investment companies, stock market firms, trade associations, international organizations and teaching.

Training

A university course leading to an honours degree with economics as a major subject is the minimum qualification for a career as an economist. Alternatively, a would-be economist may take an honours degree in some other subject or a professional qualification and then a higher degree in one of the branches of economics. The alternative approach may involve one or two years additional studies according to the higher degree chosen. For most of the specialization indicated above, a sound knowledge of statistics is essential.

Betty Smith is 35 years old and married with no children. She received her undergraduate degree from the university of Sussex, a second class honours degree in economics. She then went on to the University of Manchester to obtain a PhD in the same field. Her dissertation was so highly commended that she was offered a government post in economics where she has worked for the last nine years.

EMPLOYABILITY	1	2	3	4	5	6	7,
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

Robert Crawford received a first class honours degree from Brunel University in sociology and continued to receive an MA in economics from the University of Liverpool. Mr Crawford is interested in research and has made two contributions to technical journals. In addition, he has

one year teaching experience at Sunderland Polytechnic. Mr Crawford is 25, married with 2 children.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

Andy Gillett received a second class honours degree from Newcastle University in economics. He is 22 , married with one child. Although Mr Gillet has no employment experience in the field, he has received very good recommendations from former lecturers.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

TELEPHONIST

Scope

Thousands of persons are required to operate switchboards of industrial, commercial and professional organizations. The work is sometimes demanding and requires persons with fortitude and patience.

Training

In the GPO a person may enter between the ages of 15-59. The GPO trains its own telephonists and in addition supplies switchboard operators courses to industrial and commercial organizations and the Civil Service on request. The initial training is given at the regional training school and lasts about 5 weeks. After that the trainee is posted to an exchange for extended training under supervision. Those who speak French fluently may receive higher pay.

Geraldine Fallon is 16 and single. After obtaining 2 O levels she entered the GPO for telephonist training. She has 6 months practical experience in the field. Miss Fallon lives with her parents.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

Simone Portner is 21 years old and single. Before leaving school she obtained five O levels and 2 A levels, one in French. At 17 she applied for a position with the GPO and was trained as a telephonist. Her supervisors were impressed with the quality of her work and she received one major promotion. As she speaks fluent French, she is also eligible for bonus pay. Miss Portner has worked for three years with the GPO.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

Philip Hall successfully completed three O levels. He worked at various odd jobs such as shop boy for two years. He then applied to the GPO and finished the required training for telephonist. Mr Hall has been working for a commercial firm for two years. He has one child and he is 19 years old.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

DENTAL HYGIENIST

Scope

Dental hygienists are permitted to carry out some certain kinds of dental work under the direction of a registered dentist including cleaning, scaling and polishing teeth and giving instruction on matters relating to oral hygiene. They are employed by hospitals, local authority health services and by general dental practitioners. Those employed in general practice may work only under the direction of a registered dentist who is on the premises while the hygienist is carrying out the work.

Training

A special course in dental hygiene is required and is available at some dental hospitals. The application requirements may vary but the minimum is usually five O levels, with one in biology, chemistry or general science. The course takes not less than nine months.

Lucy Falls entered a dental hygiene programme at a dental hospital in Birmingham at the age of 17 with seven O levels, one in biology and one in chemistry. She completed the course with honours and took up a

position with a local health service in Glouscester. After two years she switched jobs to work for a general practitioner where she has been employed for three years. Mrs Falls is married with two children; she is 24 years old.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

Julian Hill is 18, married, no children. He completed a dental hygiene course at Cardiff and obtained employment with a local hospital immediately afterwards. He has had three months work experience.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

Stephanie Bell is 21 years old and single. She received her training at Bristol dental hospital. Miss Bell has been employed by a general practitioner for three years. During this period she also worked part time for a local health authority.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

ARCHITECT

Scope

There is an ever increasing need for persons in the field of architecture. Architects are responsible for the design of new buildings as well as the remodelling and renovating of older ones. Architects may work for the government or private building organizations. In addition to having a technical training, prospective architects should also be acquainted with fields such as art, sociology and town planning.

Training

The minimum requirement to enter the field is a university degree in architecture. However, for advancement in architecture the BArch degree is required. This entails at least one year practical experience

in the area after the first degree and two years further training at university. To qualify as an architect a candidate must also pass the RIBA exams which consist of three parts. Part I centers on history and technology of architecture and is usually taken at the end of the first three years at university. Part II concerns design and Part III concerns building regulations. These are taken at later stages of training.

Paul Carlin received a third class honours degree in architecture from the Unversity of Dundee. He then began to work with Northumberland County Council, specifically designing schools, where he has worked for $1\frac{1}{2}$ years. Mr Carlin has successfully completed the RIBA Part I exam. He is 23 and single.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABIIITY	1	2	3	4	5	6	7

Madeline Potts received a second class honours degree from the University of Nottingham and then took up employment in Derbyshire County Council designing council estates. After one year experience and passing the RIBA Part I and II, she returned to Nottingham to complete the two year further course for a BArch. Miss Potts is 27 and single.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

Tim Daivies received a first class honours degree from Warwick University in architecture. After successfully completing Part I of the RIBA he took up employment with a private building firm for one year. Mr Daivies then enrolled at the University of Edinburgh for two years to receive a BArch and complete Part II and III of the RIBA exams. After he joined a private company in London specializing in shop designing. One of his buildings won a Civic Trust Award. Mr Daivies has been employed with the London company for six years. He is 32, married, with three children.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

UNIVERSITY LECTURER

Scope

With the increase of education of the young, there is an increasing number of positions for educators at the university level. Although the backgrounds of university lecturers may vary, they are primarily concerned with education. Many, however, are interested in current research.

Training

Requirements for a lectureship are varied but the usual minimum qualification is a master's degree in a given subject. It is, of course, preferable to have a PhD. Active research and publications in technical journals are also desirable.

Patrick James completed a degree in psychology at Queen's University, Belfast, receiving a second class honours degree. He went on to receive an MA from Cambridge in social psychology. Mr James is especially interested in research and has published two papers. He is 25, married, with one child.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

Glenda Martyn received a first class honours degree in psychology from the University of Leicester. She continued on to Bristol to receive a PhD in psychology in the field of perception. Dr Martyn has published five papers, and is more interested in research although she has two years teaching experience at Lancaster. Dr Martyn is 29 and single.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

Daniel LaFleur received a BSc in psychology (second class honours) from Edinburgh and took up a position as a research assistant at Oxford. In the three years there he has joint-authored eight papers and received an MA for the work. Mr LaFleur also worked 6 months at a research lab in New York. He is 25 and unmarried.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

BAKING

Scope

The baking industry offers splendid opportunities to young persons. It is a very important industry of ever increasing scope. Those with determination/ambition can reach positions of management and directorship.

Training

A comprehensive training is available either by means of an apprenticeship or by undertaking a full time course. Apprenticeship is normally for a period of three years and commences at school leaving age. The apprentice joins an approved bakery, and the employer undertakes to teach the apprentice all the crafts of a baker and flour confectioner. During the training the apprentice attends technical college for one full day a week to be instructed in the trade.

Samuel Foups completed an approved apprenticeship in baking at the age of 19 while attending Lancaster Polytechnic on a part time basis. Since then he has had three years experience at a private bakery where his work has been highly praised. He is 22, married with no children,

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

Terry Nettles entered Borough Polytechnic in London at the age of 17 with six O levels to his credit. He successfully completed a recognized course. He also did one year apprenticeship in London. Since then Mr Nettles has had 5 years experience in the baking industry with private and national companies. He is married with two children and is 27 years old.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

Paula Meredith is 20 and single. She left school at 16 with two O levels, undertook an apprenticeship which took three years to complete. Miss Meredith attended Leeds Technical College part time during this period. Since the completion of her apprenticeship she has had six months of experience.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

HAIRDRESSING

Scope

Hairdressing is rapidly becoming a popular career. The field embraces not only tinting, dying and styling hair, but also the basics of cosmetology. Those with superior talent in styling can attain secure, lucrative positions with fashionable salons.

Training

Training as a hairdresser is normally undertaken either by instructions in a salon where many trainees are apprenticed for three years and study part time at a technical college. Alternatively there is a two year full time course at a technical college. Students electing the latter course must be 16 and have a reasonable standard of education, and preferably come knowledge of chemistry. For either course the student must pass exams for the London Institute Certificate. There is also an advanced examination which requires a high standard of skill and incorporates waving, tinting and bleaching.

Donna Walker completed a two year course at Blackpool Technical College and passed the preliminary exams with honours. After two years of practice with a specialization in "geometric cuts" she went on to qualify for the advanced examination. Mrs Walker has had five years experience since then in a London salon. She is married with no children.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

Fiona Little is 24 and single. She completed the hairdressing course

at Central College of Commerce in Glasgow where she also passed the preliminary exams. Her specialization is in waving and bleaching. Miss Little has had three years of experience in Manchester salons. She is presently preparing for the advanced examinations.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

Ronnie Whiting undertook an apprenticeship in hairdressing at 16 after leaving school. He has just completed his training with part time study in London. Mr Whiting has passed the preliminary exams and chose not to specialize in a particular area. He is now 20, married, with one child.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

SOCIAL WORK

Scope

Social workers perform a variety of activities and may work with local authorities, hospital patients, probation and after care service and voluntary agencies. They may specialize in : child care service, welfare (including services for the elderly, handicapped and temporary accomodation for the homeless), health services , and social work for families, the sick , the retarded, unmarried mothers, or day and residential care.

Training

There are two main types of professional qualifying courses for the qualification of social worker, those for graduates and those for non-graduates. Courses for graduates are divided into students with relevant degrees which must include social administration and practical work, and non-relevant degrees. Holders of non-relevant degrees must also take a recognised post -graduate course for one year. Non-graduates over 20 and under 25 must give evidence of the ability to take an academic course and have some relevant experience. Some courses are available through the extramural departments of universities, polytechnics and colleges of further education.

Francine Kilmer has a second class joint honours degree in sociology and social administration from Perth. She also completed a one year course at York University where her work was highly commended. After that Miss Kilmer secured a position with a local authority in Portsmouth where she has worked primarily with the mentally handicapped but also gained some experience working with the elderly. She has worked there for five years. Miss Kilmer is single.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

Constance Miller is 24 and single. She has six Olevels and two A levels, one in history and one in art, to her credit. While working in a clerical position, she obtained a degree in social work from the extramural department of Oxford Polytechnic where she attended part time. Miss Miller has no practical experience in social work.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

Benjamin Small received a first class honours degree from the University of Kent in social administration. As part of the course he obtained experience in probation and parole work. He also had two years experience working with juvenile delinquents. Mr Small is 23, married, with one child.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

MATHMATICIAN

Scope

The demand for people who can apply an advanced knowledge of maths in industrial research and development is certain to increase though relative to other occupations, will never be large. Aerodynamics, electrical circuit theory, wave propagations and nuclear fission are promising fields.

Training

A good honours degree in maths is essential to reach posts of responsibility and some specialized post-graduate study, ofter arranged through the employing firm, is also necessary. There are, however, posts for less qualified mathmaticians on calculations for design of plants, apparatus and equipment. This frequently involves work with computers. The programmer in charge of the team working on the computer is often a graduate mathmatician but the others may need very little mathmatical knowledge.

Albert Johnson received a BSc in mathmatics from the University of Keele as a sandwich course as he worked as a data analyst. He has four years experience as a design consultant. Mr Johnson is 30 years old and unmarried.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

Jon Courtnay is 22, married, with one child. He received a second class joint honours degree in mathmatics and computer technology. Mr Courtnay has no practical experience in the field other than his university training, but has earned good recommendations from his lecturers.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7

Michele Cladwell received a first class honours degree in maths from Edinburgh and went on to complete a PhD at the University of Warwick. She has two years teaching experience at the University of Manchester, in addition to one year of computer technology. She is 29, married, with no children.

EMPLOYABILITY	1	2	3	4	5	6	7
STATUS	1	2	3	4	5	6	7
LIKABILITY	1	2	3	4	5	6	7
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Sex of applicant is altered on the two complementary forms of the questionnaire so that the minority sexed applicant rotates in each position.

Geologist	Architect
Interior Designer	University Lecturer
Teacher of the Handicapped	Baker
Economist	Hairdresser
Telephonist	Social Worker
Dental Hygienist	Mathmatician

Please rank these occupations in order of prestige from most to least prestigious.

Rankings:

Instructions

You will find the resumés of 12 job applicants in various occupations (geologist, social worker, lecturer, architect)printed below. Imagine that you are the employer and are considering these applicants for a position in your department. Relying only on the information available in the resumés, select the applicant you would choose to employ. Choose one applicant per occupation. Also include a brief explanation of your choice.

Geologist

Linda Carol received a first class honours degree from St Andrew's; undergraduate dissertation was highly commended. Followed with an MSc course at Imperial College, London, gaining land survey experience on the course. She is 26, married, one child.

Mark Jones received a second class honours degree from the University of Keele; 6 months experience in engineering geology, employed by a private company. Mr Jones is 24 and single. (buffer candidate)

James Keenan received a 2/1 from Lancaster and MSc from Newcastle University; also has 8 months field experience on exploration geology; 27, married, no children.

Your choice.....
Why?.....

Social Worker

Malcolm Kennedy received a first class honours degree from the University of Kent in social administration; 2 years experience working with juvenile delinquents, 1 promotion. He is 24, married, 2 children.

Allan Nulty received a general degree in social science from the University of Hull and completed a further one year course at York; employed for 4 years by a local authority in Dundee, specializing in care for unmarried mothers, married, no children, 27. (buffer candidate)

Anne Mc Donald received second class honours degree in sociology and social administration from Perth; secured position with local authority working with mental handicapped, also has experience working with the elderly.

Your choice.....
Why?.....

Lecturer

Geoff McQuire completed a BSc at Queen's University, Belfast, and received a PhD from Cambridge in social anthropology; especially interested in research and has published two papers; lectured two years at Brunel.

Sandra Stevens completed a B.A. at Leicester and MA., PhD from Bristol, enjoys research but primarily interested in teaching, specialty in physical anthropology; lectured three years at Sussex.

Joseph McCarthy received a BSc from Sterling and took up position of research assistant at Cardiff, 1 year of field work in Tobago and Trinidad, joint authored three papers; prefers research to teaching. (buffer candidate)

Your choice.....
Why?.....

Architect

Karen Sutherland received a first class honours degree from University of Nottingham and took up employment with Derbyshire County Council designing council estates for one year; passed RIBA Part I and Part II, returned to Nottingham to complete two year further course for degree of BArch; 27 and single.

Mike Johnston received a third class honours degree from Bradford and worked $1\frac{1}{2}$ years for Cleveland Council designing schools; completed RIBA Part I, 23, married, no children. (buffer candidate)

Andy Martin received second class honours BA from Warwick University; employed with a private building firm for 1 year; completed BArch. at Edinburgh, passed Part I and Part II of RIBA exams, 28, married, no children.

Your choice.....
Why?.....

In both formats of the questionnaire the resume of the buffer candidate remained the same while the names of the other two candidates were interchanged.

You are a member of the personnel committee for an international petroleum company. There is a vacancy for an exploration geologist. Read the resume below and evaluate the applicant as a potential employee on a scale of 1 to 5.

(low) 1 2 3 4 5 (high)

Karl Tarvis
Age: 23
Single

Mr Tarvis received a first class honours degree from the University of London in 1973. He has been employed for the last $1\frac{1}{2}$ years by the International Geological Survey, doing geological mapping. Mr Tavris has received one promotion and has additional experience in petroleum engineering having worked the summers of 1971 and 1972 abroad for an American company.

You are the professor of anthropology and there is a vacant position for a lecturer in your department. Assuming you will select someone to fill the position, read the short resume below and rate the applicant as a potential employee on a scale of 1 to 5.

(low) 1 2 3 4 5 (high)

Kathleen Patton
Age: 27
Single

Ms Patton graduated from the University of Bristol with a 2/1 degree in anthropology. She received an MA from the University of Nottingham in 1971. Ms Patton has published two academic articles in current anthropology journals and has participated in anthropological research excursions to New Guinea; she is presently lecturing at Oxford Polytechnic.

You own a small chain of stores and must select a new manager for your newest branch. Read the resume below and evaluate the applicant as a potential employee on a scale of 1 to 5.

Richard Barrett
Age: 32
Married, 2 children

Mr Barrett received a lower second class honours degree in economics from the University of Hull in 1966. Upon graduation he became as-

sistant manager of a local department store where he worked until 1970. He then entered the University of Newcastle to pursue an MSc in business studies but dropped out before completing the course. Mr Barrett has since been employed as an assistant manager in a large Newcastle department store.

Your firm has a vacancy for a computer programmer. Read the resume below and evaluate the applicant as a potential employee on a scale of 1 to 5.

(low) 1 2 3 4 5 (high)

Elizabeth Warren
Age:22
Single

Ms Warren graduated from the University of Keele with a lower second class honours degree in physics. She has since taken a post as a research assisstant at the University of Southamptom.

The purpose of this questionnaire is to obtain your opinion on qualifications for different occupations. On the following sheets there are two applicants for each position (Business manager, Primary school teacher, University lecturer, Computer programmer). Imagine that in each case you are in charge of personnel decisions. Read the resumé of each applicant and answer the questions following the resume.

BUSINESS MANAGER

Personnel Report: James McGuire Age: 28

Education: MSc in business studies, University of Birmingham

Work Record: Joined the company 5 years ago. He has had several non-supervisory positions in different parts of the office after first year in a trainee assignment.

Personnal Report of Immediate Supervisor: Better that average in performance, motivation to work and ability to get along with co-workers. He has shown continuing concern about the quality of work. Described as modest, but reasonably ambitious.

Attendance : 5 days sick leave, 3 for personal reasons.

Intelligence test score: 72th per centile in comparison to college graduates with the company.

***

How qualified would you judge Mr McGuire to be?

1) unqualified 2) hardly qualified 3) somewhat qualified 4) moderately qualified 5) extremely qualified

Would you hire Mr McGuire?

1) no 2) doubtful 3) possibly 4) yes, probably 5) yes, deffinitely

Rate Mr McGuire as a potential employee.

1) poor 2) fair 3) average 4) good 5) excellent

****

Personnel Report: Jerny Flemming Age:29

Education: BA in Arts, Bristol University

Work Record: Joined the company four years ago in a retail sales position Moved to a more responsible retailing non-supervisory position where has been working the past two years.

Personnel Report of Immediate Supervisor: Bright and lively. Likes to be with people. Shows tact in dealing with the customers and fellow workers. Demonstrates interest in the work and the company. Usually can be counted on when the going gets rough.

Attendance: 6 days sick leave, 2 for personal reasons.

Intelligence Test Score: 70th per centile in comparison to college graduates in the company.

***

How qualified would you judge Ms Flemming to be?

1) unqualified 2) hardly qualified 3) somewhat qualified 4) moderately qualified 5) extremely qualified

Would you hire Ms Flemming?

1) no 2) doubful 3) possibly 4) yes, probably 5) yes, definitely

Rate Ms Flemming as a potential employee.

1) poor 2) fair 3)average 4) good 5)excellent

****

PRIMARY TEACHER

Name: Ann Lewis Age:26

Education: B.Ed. degree from Derby Teacher Training College, specializes in primary education

Work Record: Probationary year (Nottingham). Three years as qualified teacher in London.

Report of Head Mistress: Works hard, well liked by children and co-workers. Actively initiates reform where needed.

Attendance: 2 days sick leave .

Family: Married, 1 daughter-3 years old. Husband is an architect.

How qualified would you judge Ms Lewis to be?

1) unqualified 2) hardly qualified 3) somewhat qualified 4) moderately qualified 5) extremely qualified

Would you hire Ms Lewis?

1) no 2) doubtful 3) possibly 4) yes, probably 5) yes, definitely

Rate Ms Lewis as a potential employee.

1) poor 2) fair 3) average 4) good 5) excellent

****

Name : Paul Howard Age: 28

Education: Certificate of Education, Ripon, Teaching qualification for the handicapped-primary school .

Work Record: Probationary year (highly commended) completed in Manchester; since then 4 years teaching in Newcastle .

Report of Headmaster: Conscientious, relates well to the children, very effective teaching methods. Shows real interest and pride in work.

Attendance: 3 days sick leave.

Family: married, one school age child. Wife is also a teacher.

***

How qualified would you judge Mr Howard to be?

1) unqualified 2) hardly qualified 3) somewhat qualified 4) moderately qualified 5) extremely qualified

Would you hire Mr Howard?

1) no 2) doubtful 3) possibly 4) yes, probably 5) yes, definitely

Rate Mr Howard as a potential employee.

1) poor 2) fair 3) average 4) good 5) excellent

****

UNIVERSITY LECTURER

Name: Mark Thorton Age: 31

Education : BSc anthropology, Sussex; PhD from Keele .

Publications Six single authored and one joint authored publications, two in very prestigious journals .

Work Record: 3 year research fellowship at Oxford, research in Africa, one year lectureship at Princeton (USA) .

Other Comments: Primarily research oriented, dedicated to the profession.

Family: Single.

***

How qualified would you judge Dr Thorton to be?

1) unqualified 2) hardly qualified 3) somewhat qualified 4) moderately qualified 5) extremely qualified

Would you hire Dr Thorton?

1) no 2) doubtful 3) possibly 4) yes, probably 5) yes, definitely

Rate Dr Thorton as a potential employee.

1) poor 2) fair 3) average 4) good 5) excellent

****

Name: Janet Ross Age: 32

Education: BSc anthropology, York University; PhD from Cambridge.

Publications: Two articles in the past five years, neither in prestigious journals.

Work Record: 2 years lectureship at Bradford University, prefers teaching to research.

Other comments: Well liked by colleagues.

Family: Married, no children.

***

How qualified would you judge Dr Ross to be?

1) unqualified 2) hardly qualified 3) somewhat qualified 4) moderately qualified 5) extremely qualified

Would you hire Dr. Ross?

1) no 2) doubtful 3) possibly 4) yes, possibly 5) yes, definitely

Rate Dr Ross as a potential employee.

1) poor 2) fair 3) average 4) good 5) excellent

****

COMPUTER PROGRAMMER

Name: Sally Carter Age: 26

Education: BSc in computer technology, Loughborough

Work Record: 2 years computer programmer for IBM.

Report of Immediate Supervisor: Works hard, well liked by co-workers, experienced in several computer languages.

Attendance: 4 days sick leave in the last 2 years.

Family: Single.

***

How qualified would you judge Ms Carter to be?

1) unqualified 2) hardly qualified 3) somewhat qualified 4) moderately qualified 5) extremely qualified

Would you hire Ms Carter?

1) no 2) doubtful 3) possibly 4) yes, probably 5) yes, definitely

Rate Ms Carter as a potential employee.

1) poor 2) fair 3) average 4) good 5) excellent

****

Name: Samuel Rothman Age: 24

Education: General Sciences, including computing, Hull University

Work Record: Worked 1 year as a computer advisor at Hatfield Polytechnic, left for family reasons.

Report of Immediate Supervisor: Interested in work, dedicated, adept at programming.

Attendance: 2 days sick leave.

Family: married, no children.

***

How qualified would you judge Mr Rothman to be?

1) unqualified 2) hardly qualified 3) somewhat qualified 4) moderately qualified 5) extremely qualified

Would you hire Mr Rothman?

1) no 2) doubtful 3) possibly 4) yes, probably 5) yes, definitely

Rate Mr Rothman as a potential employee.

1) poor 2) fair 3) average 4) good 5) excellent

APPENDIX IV

ATTITUDES TOWARD WOMEN

The statements listed below describe attitudes toward the role of women in society which different people have. There are no right or wrong answers, only opinions. You are asked to express your opinions about each statement by indicating whether you (A) agree strongly, (B) agree mildly (C) disagree mildly or (D) disagree strongly. Please indicate your opinion by circling the letter which corresponds to the alternative which best describes your personal attitude. Please respond to every item.

(A) Agree strongly (B) Agree mildly (C) Disagree mildly (D) Disagree strongly

1. Swearing and obscenity is more repulsive in the speech of a woman than a man.

A B C D

2. Women should take increasing responsibility for leadership in solving the intellectual and social problems of the day.

A B C D

3. Both husband and wife should be allowed the same grounds for divorce.

A B C D

4. Telling dirty jokes should be mostly a masculine prerogative.

A B C D

5. Intoxication in women is worse than intoxication in men.

A B C D

6. Under modern economic conditions with women being active outside the home, men should share in household tasks such as washing dishes and doing laundry.

A B C D

7. It is insulting to women to have the "obey" clause remain in the marriage service.

A B C D

8. There should be a strict merit system in job appointment and promotion without regard to sex.

A B C D

9. A woman should be as free as a man to propose marriage.

A B C D

10. Women should worry less about their rights and more about becoming good wives and mothers.

A B C D

11. Women earning as much as their dates should bear equally the expense when they go out together.

A B C D

12. Women should assume their rightful place in business and all the professions along with men.

A B C D

13. A woman should not expect to go exactly the same places or to have quite the same freedom of action as a man.

A B C D

14. Sons in a family should be given more encouragement to go to college than daughters.

A B C D

15. It is ridiculous for a woman to run a locomotive or a man to darn socks.

A B C D

16. In general, the father should have more authority than the mother in bringing up the children.

A B C D

17. Women should be encouraged not to become sexually intimate with anyone before marriage, even their fiancés.

A B C D

18. The husband should not be favored by law over the wife in the disposal of family property or income.

A B C D

19. Women should be concerned with their duties of child rearing and house tending, rather than desires for professional and business careers.

A B C D

20. The intellectual leadership of a community should be largely in the hands of men.

A B C D

21. Economic and social freedom is worth more to women than the acceptance of the ideal of femininity which has been set by men.

A B C D

22. On the average, women should be regarded as less capable of contribution to economic production than men.

A B C D

23. There are many jobs in which men should be given preference in women in being hired or promoted.

A B C D

24. Women should be given equal opportunity with men for apprenticeship in the various trades.

A B C D

25. The modern girl is entitledd to the same freedom of action as the modern boy.

A B C D

BEM SEX ROLE INVENTORY

Describe Yourself

1---------2---------3---------4---------5---------6---------7

never or almost never true | usually not true | sometimes true | occasionally true | often true | usually true | always or almost always true

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 ____
leadership abilities ____
sensitive to 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 ____
likable ____
masculine ____

warm ____
solemn ____
willing to take a stand ____
tender ____
friendly ____
aggressive ____
gullible ____
inefficient ____
act as leader ____
child like ____
adaptable ____
individualistic ____
does not use harsh language ____
unsystematic ____
competitive ____
loves children ____
tactful ____
ambitious ____
gentle ____
conventional ____

SEX ROLE STEREOTYPE QUESTIONNAIRE

Imagine that you are meeting a person for the first time and the only information you have is that he is an adult male. Put a slash on each scale according to what you would expect the adult male to be like. Put the letter M above the slash. Be sure to mark every item.

At the end of the scale these instructions appeared:

Now we would like you to go through the scale a second time. Again, imagine you are meeting a person for the first time, and the only information you have is that she is an adult female. This time please put a slash on each scale according to what you would expect the adult female to be like. Put the letter F above your second slash on each scale.

Finally, please go through the same scale for a third time placing a slash on each item according to what you are like. Put an S above the third slash on each scale.

1. Not at all aggressive	1.....2.....3.....4.....5.....6.....7	Very aggressive
2. Very irrational	1.....2.....3.....4.....5.....6.....7	Very rational
3. Very practical	1.....2.....3.....4.....5.....6.....7	Very impractical
4. Not at all independent	1.....2.....3.....4.....5.....6.....7	Very independent
5. Not at all consistent	1.....2.....3.....4.....5.....6.....7	Very consistent
6. Very emotional	1.....2.....3.....4.....5.....6.....7	Not at all emotional
7. Very realistic	1.....2.....3.....4.....5.....6.....7	Not at all realistic
8. Not at all idealistic	1.....2.....3.....4.....5.....6.....7	Very idealistic
9. Does not hide emotions at all	1.....2.....3.....4.....5.....6.....7	Almost always hides emotions
10. Very Subjective	1.....2.....3.....4.....5.....6.....7	Very objective
11. Mainly interested in details	1.....2.....3.....4.....5.....6.....7	Mainly interested in generalities
12. Always thinks before acting	1.....2.....3.....4.....5.....6.....7	Never thinks before acting
13. Not at all easily influenced	1.....2.....3.....4.....5.....6.....7	Very easily influenced
14. Not at all talkative	1.....2.....3.....4.....5.....6.....7	Very talkative

15. Very grateful	1.....2.....3.....4.....5.....6.....7	Very ungrateful
16. Doesn't mind at all when things are not clear	1.....2.....3.....4.....5.....6.....7	Minds very much when things are not clear
17. Very dominant	1.....2.....3.....4.....5.....6.....7	Very submissive
18. Dislikes math and science very much	1.....2.....3.....4.....5.....6.....7	Likes math and science very much
19. Not at all reckless	1.....2.....3.....4.....5.....6.....7	Very reckless
20. Not at all excitable in a major crisis	1.....2.....3.....4.....5.....6.....7	Very excitable in a major crisis
21. Not at all excitable in a minor crisis	1.....2.....3.....4.....5.....6.....7	Very excitable in a minor crisis
22. Not at all strict	1.....2.....3.....4.....5.....6.....7	Very strict
23. Very weak personality	1.....2.....3.....4.....5.....6.....7	Very strong personality
24. Very active	1.....2.....3.....4.....5.....6.....7	Very passive
25. Not at all able to devote self completely to others	1.....2.....3.....4.....5.....6.....7	Able to devote self completely to others
26. Very blunt	1.....2.....3.....4.....5. .....6.....7	Very tactful

27. Very gentle	1.....2.....3.....4.....5.....6.....7	Very rough
28. Very helpful to others	1.....2.....3.....4.....5.....6.....7	Not at all helpful to others
29. Not at all competitive	1.....2.....3.....4.....5.....6.....7	Very competitive
30. Very logical	1.....2.....3.....4.....5.....6.....7	Very illogical
31. Not at all competent	1.....2.....3.....4.....5.....6.....7	Very competent
32. Very worldly	1.....2.....3.....4.....5.....6.....7	Very home oriented
33. Not at all skilled in business	1.....2.....3.....4.....5.....6.....7	Very skilled in business
34. Very direct	1.....2.....3.....4.....5.....6.....7	Very sneaky
35. Knows the way of the world	1.....2.....3.....4.....5.....6.....7	Does not know the way of the world
36. Not at all kind	1.....2.....3.....4.....5.....6.....7	Very kind
37. Not at all willing to accept change	1.....2.....3.....4.....5.....6.....7	Very willing to accept change
38. Feelings not easily hurt	1.....2.....3.....4.....5.....6.....7	Feelings easily hurt
39. Not at all adventurous	1.....2.....3.....4.....5.....6.....7	Very adventurous
40. Very aware of the feelings of others	1.....2.....3.....4.....5.....6.....7	Not at all aware of the feelings of others

41. Not at all religious	1.....2.....3.....4.....5.....6.....7	Very religious
42. Not at all intelligent	1.....2.....3.....4.....5.....6.....7	Very intelligent
43. Not at all interested in own appearance	1.....2.....3.....4.....5.....6.....7	Very interested in own appearance
44. Can easily make decisions	1.....2.....3.....4.....5.....6.....7	Has difficulty making decisions
45. Gives up very easily	1.....2.....3.....4.....5.....6.....7	Never gives up easily
46. Very shy	1.....2.....3.....4.....5.....6.....7	Very outgoing
47. Always does things without being told	1.....2.....3.....4.....5.....6.....7	Never does things without being told
48. Never cries	1.....2.....3.....4.....5.....6.....7	Cries very easily
49. Almost never acts as a leader	1.....2.....3.....4.....5.....6.....7	Almost always acts as a leader
50. Never worried	1.....2.....3.....4.....5.....6.....7	Always worried
51. Very neat in habits	1.....2.....3.....4.....5.....6.....7	Very sloppy in habits
52. Very quiet	1.....2.....3.....4.....5.....6.....7	Very loud
53. Not at all intellectual	1.....2.....3.....4.....5.....6.....7	Very intellectual
54. Very careful	1.....2.....3.....4.....5.....6.....7	Very careless

55. Not at all self confident	1.....2.....3.....4.....5.....6.....7	Very self confident
56. Feels very superior	1.....2.....3.....4.....5.....6.....7	Feels very inferior
57. Always sees self as running the show	1.....2.....3.....4.....5.....6.....7	Never sees self as running the show
58. Not at all uncomfortable about being aggressive	1.....2.....3.....4.....5.....6.....7	Very uncomfortable about being aggressive
59. Very good sense of humor	1.....2.....3.....4.....5.....6.....7	Very poor sense of humor
60. Not at all understanding of others	1.....2.....3.....4.....5.....6.....7	Very understanding of others
61. Very warm in relations with others	1.....2.....3.....4.....5.....6.....7	Very cold in relations with others
62. Doesn't care about being in a group	1.....2.....3.....4.....5.....6.....7	Greatly prefers being in a group
63. Very little need for security	1.....2.....3.....4.....5.....6.....7	Very strong need for security
64. Not at all ambitious	1.....2.....3.....4.....5.....6.....7	Very ambitious
65. Very rarely takes extreme positions	1.....2.....3.....4.....5.....6.....7	Very frequently takes extreme positions
66. Able to separate feelings from ideas	1.....2.....3.....4.....5.....6.....7	Unable to separate feelings from ideas

67.	Not at all dependent	1	2	3	4	5	6	7 Very dependent
68.	Does not enjoy art and literature at all	1	2	3	4	5	6	7 Enjoys art and literature very much
69.	Seeks out new experience	1	2	3	4	5	6	7 Avoids new experience
70.	Not at all restless	1	2	3	4	5	6	7 Very restless
71.	Very uncomfortable when people express emotions	1	2	3	4	5	6	7 Not at all uncomfortable when people express emotions
72.	Easily expresses tender feelings	1	2	3	4	5	6	7 Does not express tender feelings easily
73.	Very conceited about appearance	1	2	3	4	5	6	7 Never conceited about appearance
74.	Retiring	1	2	3	4	5	6	7 Forward
75.	Thinks men are superior to women	1	2	3	4	5	6	7 Does not think men are superior to women
76.	Very sociable	1	2	3	4	5	6	7 Not at all sociable
77.	Very affectionate	1	2	3	4	5	6	7 Not at all affectionate
78.	Very conventional	1	2	3	4	5	6	7 Not at all conventional
79.	Very masculine	1	2	3	4	5	6	7 Not at all masculine

80. Very feminine 1.....2.....3.....4.....5.....6.....7 Not at all feminine

81. Very assertive 1.....2.....3.....4.....5.....6.....7 Not at all assertive

82. Very impulsive 1.....2.....3.....4.....5.....6.....7 Not at all impulsive

APPENDIX V

SEX ROLE STEREOTYPE QUESTIONNAIRE

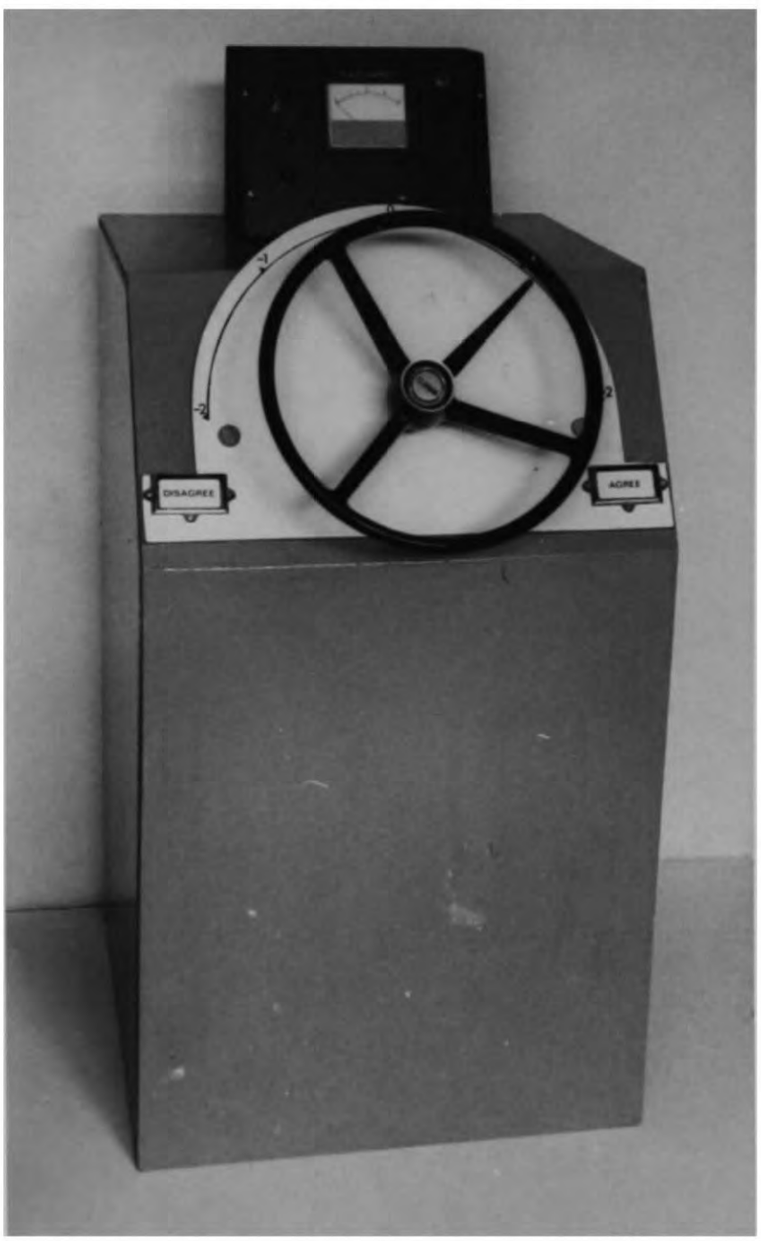
Classification of Items

Item no.	Sex of 70 pole	70 pole is SD	Stereo in Students	Stereo in Adults
1	M	X	S	S
2	M	X	S	S
3	F			
4	M	X	S	S
5	M	X	S	S
6	M		S	S
7	F		S	S
8	F	X		
9	M		S	S
10	M	X	S	S
11	M	X		
12	F		S	S
13	F		S	S
14	F	X	S	S
15	M			
16	M	X		
17	F		S	S
18	M	X	S	S
19	M		S	
20	F		S	S
21	F		S	S
22	M	X		
23	M	X		
24	F		S	
25	F	X	S	S
26	F	X	S	S
27	M		S	S
28	M		S	S
29	M	X	S	S
30	F		S	S
31	M	X		
32	F		S	S
33	M	X	S	S
34	F		S	
35	F		S	S
36	F	X		
37	M	X		
38	F		S	S
39	M	X	S	S
40	M		S	
41	F	X	S	S

Classification of Items

Item no.	Sex of 70 Pole	70 Pole is SD	Stereo in Students	Stereo in Adults
42	M	X		
43	F	X	S	S
44	F		S	S
45	M	X	S	S
46	M	X		
47	F			
48	F		S	S
49	M	X	S	S
50	F		S	S
51	M		S	
52	M		S	
53	M	X		
54	M			
55	M	X	S	S
56	F		S	S
57	F	X		
58	F		S	S
59	F			
60	F	X		
61	M			
62	F			
63	F		S	S
64	M	X	S	S
65	M	X		
66	F		S	S
67	F		S	S
68	F	X	S	
69	F		S	S
70	M	X	S	
71	F	X		
72	M		S	S
73	M	X	S	
74	M	X	S	
75	F	?	S	
76	M			
77	M			
78	M	X		
79	F	?		
80	M	?		
81	F		S	S
82	F	X		

APPENDIX VI



APPARATUS: CONSOLE AND EMG OUTPUT

Below you will find five statements. There are no right or wrong answers, only opinions. Please indicate your feelings by:

A) - 2 : disagree strongly

B) - 1 : disagree mildly

C) +1 : agree mildly

D) +2 : agree strongly

1) Scotland and Wales should be allowed political separatism.

A B C D

2) Parents should have the right to excuse their children from vaccination for epidemic diseases.

A B C D

3) The U.S. and Russia have just about nothing in common.

A B C D

4) It is the government's duty to provide security and medical services for all.

A B C D

5) The highest form of government is a democracy.

A B C D

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