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An experimental study to determine the effectiveness of interventions designed to alter sex-role attitudes of preservice teachers

Fear-Fenn, Marcia Bell, Ph.D.
The Ohio State University, 1988
AN EXPERIMENTAL STUDY TO DETERMINE THE EFFECTIVENESS
OF INTERVENTIONS DESIGNED TO ALTER SEX-ROLE ATTITUDES
OF PRESERVICE TEACHERS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate School
of The Ohio State University

By

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The Ohio State University

1988

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CHAPTER I
INTRODUCTION

This chapter presents introductory information about the research study. The chapter is organized into the following sections: (1) rationale for the study, (2) significance of the study, (3) problem statement, (4) research questions, (5) research hypotheses, (6) definitions, (7) delimitation, (8) limitations, and (9) summary.

Rationale for the Study

Sex-role differentiation appears to be universal among human societies, with women and men being assigned different tasks, rights, and privileges and likely to be subject to different rules of conduct, particularly in interaction with each other (Spence & Helmreich, 1978). Across different societies the differentiation between men and women varies greatly, yet also exhibits certain similarities: men assuming some roles and behaviors, and women assuming others.

Different theorists have different labels for masculine and feminine domains. Parsons and Bales (1955) described males as having an instrumental orientation for getting the
job done or the problem solved, whereas females were described as having an expressive orientation consisting of affective concern for the welfare of others and the harmony of the group. Paralleling these divisions, men were expected to develop independence, self-reliance, and other instrumental skills that operated to fulfill their responsibilities to their family and to society. Women were expected to develop the nurturant characteristics needed to fulfill their interpersonal tasks. Bakan (1966) suggested an agentic orientation for men, focused on concern for oneself as an individual; and a communal orientation for women, focused on a concern for relationships among people.

Historically, the personality dimensions of men and women had been viewed as innate, biologically determined, and enduring traits (Kaplan & Bean, 1976). However, data is lacking regarding the existence of genetically determined differences in the temperamental makeup of men and women. More recent research has attributed the differing roles for men and women as arising from culture and experience (Klein, 1985; Spence & Helmreich, 1978).

When America was settled, both men and women actively worked toward the settlement and civilization of the wilderness. Women and men were coworkers in the home and on the land. With the advent of the industrial revolution
of the 1800s and machine production, men and women began to change their roles (Gough, 1981).

The narrow view that the woman's place was in the home surged during the Industrial Revolution as an urban and largely middle-class phenomenon (Janeway, 1971; Scott & Tilly 1975). Men became factory workers; they held the jobs, earned the salary, and supported their family. Only a small amount of unmarried women and children worked in factories.

Roles became more clearly defined and assigned to men and women on the basis of their sex. Men were considered the breadwinners and decision-makers; they were responsible for managing the family and its resources. Women were caregivers, homemakers, and childbearers. Their responsibility lay in the home, making it comfortable and taking care of the family (Richmond-Abbott, 1979).

Until early in the twentieth century, women's plight was characterized by the following conditions: (1) few women were educated; (2) women could not vote nor hold public office; (3) married women had no legal right to file a complaint, to appear in court, to retain counsel, or to file for divorce; (4) women had no right to earnings, to property they inherited, or to their children in cases of legal separations (Gough, 1981; Flexner, 1972).

Research suggests that sex-role differentiation, as related to participation in the labor force, is related to
the rate of industrialization (Haavio-Mannila, 1975). Before World War II broke out and created nearly full employment, there were only minor changes in women’s roles and rights. Women’s right to vote was granted in 1920; however, women were allowed to vote but not encouraged to do so.

When World War II broke out, men went to battle and women went to work. During the war, many women were called upon to work in factories and hospitals to support themselves and the men who were fighting or injured. When the war ended, women were expected to return to their traditional domestic role. The returning soldiers expected to once again assume their role of provider. A most novel feature of the postwar era was that many women remained in the labor force after the war (Richmond-Abbott, 1979).

Thus, differences in sex roles have been related to political, sociological, and economic forces in society. Over the years since the war, women have entered the labor force in increasing numbers, and have changed their roles in modern American culture. In 1950, women were less than 30% of the labor force; by 1982, they were 43% of the labor force; and in 1988, they comprise 45% of the total labor force (U.S. Department of Labor, 1983, 1988b). This influx of women into the labor force has had an impact on the roles of both females and males (U.S. Department of Labor, 1985a, 1988b).
An important point to remember is that once established, sex-role differentiations tend to persist long after their original functional significance has dissolved (Spence & Helmreich, 1978). Although women have expanded their roles to include that of employee, it becomes evident by examining caregivers, nurses, teachers, and other helping professionals, that women have not expanded their behaviors to any measurable extent. Caregiving, nurturing, and basic maintenance tasks are still performed predominantly by women in this society.

Sexism in America is obviated by the fact that most women workers are concentrated into five fields of employment (U.S. Department of Labor, 1985a). Some people suggest that women are gaining status by entering more professional fields; but in 1982, one-half of all women employed in professional fields were either teachers or nurses (U.S. Department of Labor, 1983). The other three fields for women are beautician, sales clerk, and waitress (Hove, 1978). Partially because of this concentration in low-paying jobs, women on the average earn only 71 cents for every dollar a man earns; this is up from 60 cents in 1980 (U.S. Department of Labor, 1988b). In 1987 women who were self-employed earned less than half as much as their male counterparts (U.S. Department of Labor, 1987).

Discriminatory practices in training and hiring, and on-the-job among coworkers, have kept women from obtaining
the necessary experiences, support, and encouragement for higher-paying jobs (Farley, 1978). When Congress provided Federal legal enforcement for equal employment opportunity by passing the Civil Rights Act of 1964, the intent was to protect groups that were treated differently or discriminated against. Title VII of the Civil Rights Act of 1964 was the cornerstone of all Federal anti-discrimination legislation because it prohibited discrimination based on sex, race, color, religion, and national origin, in hiring, firing, classifying, promoting, and granting privileges in employment, among other things (U.S. Department of Labor, 1980a).

Title IX of the Education Amendments of 1972 focused on education by prohibiting sex discrimination in educational programs and activities receiving Federal financial assistance. Although it assured access into nontraditional training areas for females, it did little to eliminate sex-role stereotyping. As a result, even though discrimination on the basis of sex is now illegal in the workplace and in the schools, sex-role stereotyping is still pervasive in America today.

Research points to the fact that males and females are treated differently as early as conception. Many studies have demonstrated the differential treatment boys and girls can receive as early as infants (Lewis, 1972; Rubin, Provenzano, & Luria, 1974; Sadker & Sadker, 1986).
It has been found that children learn sex-role stereotyping from their parents, their teachers, and their friends. Children perpetuate sexist assumptions throughout their life if not challenged to reconsider their attitudes.

Teachers are products of their environment and conditioning the same as everyone else, and they can perpetuate sex-role stereotyping in their classrooms. But teachers are in a position to have a powerful impact on children and youth. If teachers eliminate their sex-role stereotypic attitudes early, they can challenge sexism in the students they teach.

Many teachers leave teacher-training institutions with a sex-role ideology firmly in place simply because of their own sex-role socialization (O’Reilly, 1988). They often unconsciously repeat the sexist behavior they learned from their parents and teachers.

When teachers behave differently, depending on the gender of the student with whom they are dealing, the concept of the Pygmalion effect, or self-fulfilling prophecy, can occur. This concept, tested by Rosenthal and Jacobson (1968), states that people will tend to live up to what others expect of them. If teachers believe that a woman’s place is in the home, and a man’s place is to provide, they may be leading students toward the fulfillment of this stereotyped philosophy.
Myra and David Sadker (1986) have conducted much research with teachers in the area of sex-role stereotyping. They have found that at all grade levels, in all communities, and in all subject areas, sex-role stereotyping persists not just in attitudes about, but in treatment of students. They found that teachers praise males more than females, give males more academic help than females, and are more likely to accept males' comments than females' comments during classroom discussions.

Teachers that reinforce males' aggressive behavior, may hold sexist assumptions that males can and should achieve and excel. This treatment will increase males' chances for success. Teachers may also reinforce females' dependent behavior with a message to look pretty and not to worry about grades. Serbin, O'Leary, Kent, & Tonick (1973) found that female students often had things done for them rather than having to learn how to accomplish a task on their own.

It is always questionable how to impact on the cycles of attitudes, opinions, beliefs, and behaviors that continue through generations. The whole field of sex equity has evolved through government legislation and funding to eliminate sex-role stereotyping, to increase the numbers of students and workers pursuing nontraditional jobs, and to provide sex-fair education and treatment for all, regardless of sex.
Many workshops and interventions are provided to teachers to help eliminate sex-role attitudes and develop sex-fair teaching behaviors. But researchers are still uncertain how to effectively impact on sex-role stereotypic attitudes.

Because preservice teachers are still developing teaching skills and attitudes about working with students, it was believed that intervention at this time would have at least the same impact on their attitudes, if not more, than on practicing teachers. Research supports the fact that preservice preparation of teachers can be a critical time for this type of intervention (Joyce, 1972). Thus, interventions to impact sex-role stereotypic attitudes need to be designed for preservice teachers.

Significance of the Study

Sadker and Sadker (1982a) stated that teachers have a different set of expectations, behavior standards, rewards, and punishment for female and male students. Teachers perceptions of appropriate behaviors for girls and boys can reinforce student's behavior according to these perceptions. Efforts toward changing sex-role attitudes of teachers persist in the field, because teachers, in a position to assist students in challenging sexist assumptions, first need to challenge their own assumptions.

The Ohio Department of Education conducts yearly regional sex equity inservice training workshops to
teachers. The goal is to eliminate negative sex-role stereotyping, encourage sex-fair teaching and treatment of students, and develop better awareness of female issues. Teachers' attitudes need to be impacted if sex-role stereotyping is to be eliminated in schools.

Joyce (1972) argued that preservice preparation of teachers is a critical time to teach the skills to act as persons who respect and affirm individual and cultural differences, and to act as change agents in education and in the community. McCune & Matthews (1975) believed that preservice preparation of teachers lacked the emphasis needed to prepare teachers as change agents. They found that only 18% of teacher educators were addressing issues of sex-role stereotyping in their curriculum.

Interventions need to be designed for preservice teachers and sex-role stereotyping needs to be eliminated in schools. However, information about how to impact sex-role stereotypic attitudes is necessary first.

Problem Statement

The broad issue of sex-role stereotyping in American culture must be brought to a perspective that is manageable. Women grouped in low-paying, dead-end jobs is not at issue. Unfair sexist treatment pervading society in everything from health care to sexual harassment on the job is not at issue. The concern of this study does not consider parents who sex-type their infants on the day they
are born (Wesley & Wesley, 1977). Elementary school children who know "the better sex" (Sadker & Sadker, 1986) and have considerable knowledge of sex-role stereotypes (Franks & Rothblum, 1983) are not examined here.

The problem must be narrowed to gain a better perspective. Analyzing how preservice teachers respond to interventions can afford a knowledge of how teachers might respond to similar interventions. Teachers can impact on students; and students, after all, are tomorrow's workers and leaders.

The purpose for this study was to determine how preservice teachers' sex-role attitudes were affected by participation in different workshops. If information is provided to these preservice teachers, about sex-role stereotyping, how these impact women's roles, needs, and behaviors, how will it affect subjects' attitudes? If the stereotypically masculine behaviors of assertiveness and decision making are developed, how will this affect the attitudes of preservice teachers? Unless teachers' behaviors are sex fair, unless their attitudes about appropriate behavior for others is sex fair, then the struggle toward equity will continue to exist in a limited arena.
Research Questions

The study proposed to address the following research questions.

1. How are preservice teachers' sex-role attitudes affected by participation in workshops designed to provide information on sex-role stereotypes and the changing roles of women in the work force?

2. How are preservice teachers' sex-role attitudes affected by participation in workshops designed to build skills in assertiveness and decision making?

Research Hypotheses

The null hypotheses tested at the .05 level were:

1. Posttest scores will not be significantly affected by group, sex, group by sex interaction, or pretest scores on the masculinity scale of the Bem Sex-Role Inventory.

2. Posttest scores will not be significantly affected by group, sex, group by sex interaction, or pretest scores on the femininity scale of the Bem Sex-Role Inventory.

Definitions

The following definitions are offered to clarify the meaning of the major terms as used in this study.

Androgynous: A person who engages in both masculine and feminine behaviors as a particular situation demands (Bem, 1974; Bem & Lenney, 1976). As defined by
the BSRI, a person who scores high on both the masculine and the feminine scale is androgynous.

**Feminine:** In American society, those characteristics that are more socially acceptable for a woman than for a man (Bem, 1975). For this study, a person who scores high on the feminine scale and low on the masculine scale of the BSRI is judged as having a feminine sex-role attitude (Bem, 1981).

**Freshman Early Experiencing Program (FEEP):** A course in the Department of Educational Services and Research offered to freshman students interested in pursuing education majors at The Ohio State University.

**Masculine:** In American society, those characteristics that are more socially acceptable for a man than for a woman (Bem, 1975). As defined by the BSRI, a person who scores high on the masculine scale and low on the feminine scale of the BSRI is rated as having a masculine sex-role attitude (Bem, 1981).

**Nontraditional occupations:** Those occupations in which the enrollment of one sex is 0-20%.

**Sex discrimination:** Any action that limits or denies a person or group of persons opportunities, privileges, roles, or rewards on the basis of her or his sex.

**Sex equity:** Sex-fairness or treating both sexes in the same manner.
Sex-role identity: One's beliefs about the appropriate roles and goals for individuals. As defined by the BSRI, the classification in which individuals are placed according to their scores: masculine, feminine, androgynous, undifferentiated.

Sex-role stereotypic attitudes: Attitudes about appropriate roles and goals for individuals that are based on gender. For this study, sex-role stereotypic attitudes of individuals were evident when an individual displayed more agreement of sex-typed characteristics as measured by the BSRI.

Sex-role stereotyping: Attributing behaviors, abilities, interests, values, and roles to a person or group of persons on the basis of their sex.

Sex-typed: As defined by the BSRI, a female is sex-typed if she scores high on feminine characteristics and low on masculine characteristics, a male is sex-typed if he scores high on masculine characteristics and low on feminine characteristics.

Delimitation

Only preservice teachers registered in FEEP at the Columbus campus of The Ohio State University during the spring quarter of 1988 were utilized in this study; generalizing the results beyond this population should be done cautiously.
Limitations

Limitations that affect the conclusions of this study include the following:

1. The posttest had to be given during the same quarter in which the intervention strategy was given in order to reduce the threat of mortality. Due to this time limitation and awareness that consensus maintains that attitudes are enduring dispositions, residual effects are unknown.

2. Accurate and unbiased responses to the instruments depend on the respondent's ability to interpret the directions and word meanings contained in the questionnaires.

3. Subject participation could have varied depending upon individual interest in the topics, differences in how the curriculums challenged individuals, and varying levels of skills and abilities of the instructors of the classes in which the subjects were enrolled. The instructors were chosen to conduct the interventions based on the following similarities: both were doctoral level students in the Department of Educational Services and Research pursuing their degrees in counseling, both had previous experience in counseling and women's issues, and both were registered
in a course on counseling women during the quarter the study was conducted.

4. The curriculums could have challenged students differently and thus affected results. No attempt was made to make the curriculums equal. They were typical materials used either to instruct teachers in sex equity concepts or to build individuals' skills in assertiveness and decision making.

Summary

Changes in American culture were examined from the perspective that more women are working now than ever before. These women are clustered in a limited range of low-paying, often dead-end occupations. Sex-role stereotypes were discussed as they impacted the family, children, parents, and educators. It was argued that teachers are in a critical position to change sexist attitudes in students. It was also discussed that preservice preparation of teachers was necessary in order to challenge their stereotypic assumptions about appropriate roles and behaviors for women and men. This study was designed to examine the attitudes of preservice teachers and to measure affects on their sex-role attitudes following selected interventions.
CHAPTER II
REVIEW OF THE LITERATURE

The relevant literature and research reviewed for this study is organized into major themes: (1) historical views on masculinity and femininity, (2) current perspectives on sex-role stereotyping, (3) the impact of sex-role stereotyping on human development, (4) current perspectives on psychological androgyny, (5) research on altering sex-role stereotypic attitudes, (6) teachers sex-role attitudes, (7) strategies for altering teachers' attitudes, (8) summary.

Historical Views on Masculinity and Femininity

Historically, the personality dimension of masculinity and femininity has been viewed by researchers as an innate, biologically determined, enduring trait in males and females (Kaplan & Bean, 1976). Masculinity and femininity were seen as two distinct entities, and complex theories arose to explain causes of sex differences (Pleck, 1975). One of the early theories, the functionalist, was advanced in the late nineteenth century and served as an impetus for the academic study of sex differences. The functionalist theory maintains that men and women are destined by nature
to be different and to make different kinds of contributions to humanity. Women and men have evolved differently to fulfill their different and complementary functions necessary for the survival of the species (Lips, 1978).

Another influential theory was the psychoanalytic theory developed by Freud at the beginning of the twentieth century. Also predicated on the assumption of genetically-based or inherited sex-role differences, Freud believed that children identify with the same-sex parent and acquire appropriate sex-role characteristics through resolution of oedipus and electra complex during the phallic stage of development. The outcome of this resolution causes the significant sex differences (Lips, 1978). Both the functionalist and the psychoanalytic theory have legitimized rigid sex roles and sex-role stereotypes rather than to question their validity.

The belief in the validity of these sex differences dominated the field of sex roles until very recently (Spence & Helmreich, 1978). Most researchers, viewing masculinity and femininity as bipolar ends of the same dimension, continued to make the identity and definition of sex-role differences a priority (Parlee, 1978). This dichotomy assumed that individuals could not be both masculine and feminine, but were either one or the other.
Different labels were used to define masculinity and femininity. Parsons and Bales (1955) associated masculinity with an instrumental orientation or a cognitive focus on getting the job done, and femininity with an expressive orientation or an affective concern for the welfare of others and the harmony of the group. Bakan (1966) used the term agentic orientation to describe a masculine concern for self and a tendency to assert, to expand self, and to separate from other organisms; femininity was associated with a communal orientation, or a concern for the relationship between self and others and a tendency toward unity.

Instruments developed to measure sex-role identity viewed masculinity and femininity as opposing concepts, or bipolar ends of a single continuum. These traditional instruments include the Minnesota Multiphasic Personality Inventory and the Gough Femininity Scale; both were used extensively to determine sex-role health (Telis, 1986). Further, a healthy person was defined as one who had a sex-role identity consistent with gender (Bem, 1977). It was considered healthy for females to score on the feminine end of the continuum and for males to score on the masculine end. Individuals not meeting these standards were viewed as having an unhealthy sex-role identity. This assumption has come under increasingly sharp theoretical and empirical attack (Block, 1973; Constantinople, 1973;
Constantinople (1973) proposed that masculinity and femininity exist as independent dimensions, and are not bipolar ends of a single continuum. Investigation requires a masculine-feminine scaling technique that provides independent measures of the two dimensions, yielding a fourfold typology of sex-role outcome (Heilbrun, 1976). The fourfold typology currently accepted consists of masculine, feminine, androgynous, and undifferentiated (Bem, 1977; Spence, Helmreich, & Stapp 1975).

As a result of societal changes and the subsequent women's movement, interest in sex roles has been greatly intensified in contemporary society. Developments in the technologies of work, the household, contraception, and longevity, along with changes in the economy and the family, have had an enormous impact on blurring the boundaries between male and female roles (Steinmann, 1974). Members of the human liberation movement argue that depending on the situation, the behavioral repertoires of healthy adults of both sexes can encompass behaviors previously assigned to the sexes differentially (Berzins, Welling, & Wetter, 1978). Thus, recent perspectives on mental health promote androgyny, or the integration of culturally masculine and feminine attributes into one's

Many researchers in the past decade have started designing new instruments to accurately measure masculine and feminine sex-role identity as independent dimensions. Bem (1974) published the Bem Sex-role Inventory (BSRI) containing adjectives judged differentially desirable for men and women in our society. Spence, Helmreich, and Stapp (1975) developed the Personal Attributes Questionnaire comprised of bipolar adjectives representing attributes judged stereotypically masculine or feminine but considered desirable for both sexes. Heilbrun (1976) revised a sex-role scale taken from the Adjective Check List (Gough & Heilbrun, 1965) in order to extend its potential to the individual measurement of masculinity and femininity. And, Berzins, Welling, & Wetter (1976) extracted items from the Personality Research Form to develop the PRF ANDRO scale, drawing from the theoretical rationale of Bem's BSRI.

Currently, masculinity and femininity are defined as clusters of socially desirable attributes stereotypically considered to differentiate males and females and thus to define the psychological core of masculine and feminine personalities (Spence & Helmreich, 1978).

If, for ease of reference, one labels one half of each bipolar scale "masculine" and the other "feminine," whether one is describing perceptions of the ideal individual, the typical individual, or the self, it is usually less accurate to
characterize men as masculine and women as feminine on a given attribute than it is to describe the sexes as differing in their degree of masculinity on some attributes and their degree of femininity on others (Spence, Helmreich, & Stapp, 1975, p. 38).

Current Perspectives on Sex-Role Stereotyping

Across societies the differentiations between the sexes vary widely in their particulars and yet exhibit certain similarities (Spence & Helmreich, 1978). Sex-role differentiation is universal among human societies: women and men are assigned different tasks, rights, and privileges and are likely to be subject to different rules of conduct, particularly in interaction with each other.

In most societies then, men and women are assigned certain roles. The roles for men in similar societies have been categorized as instrumental; they are the decision-makers, and are concerned with power, dominance, and self. Women's roles have been described as expressive and communal; they have the interpersonal roles of nurturer and caregiver (Parsons & Bales, 1955; Bakan, 1966).

The first and most pervasive role that an individual acquires in the socialization process is the sex role (Parsons, 1942). Beginning at birth, and some believe earlier when parents know the sex of the baby (Kagan, 1964), sex role characteristics are shaped and reinforced to conform to what society considers appropriate. Angrist (1969) defined sex roles as differences in behavior,
personality, abilities, and preferences. Sex role thus involves a multitude of roles and role combinations that vary across social settings and across the life span. Sex role behaviors are not only variable in these senses but are also highly diverse in their nature, referring to vocational and avocational activities, styles of dress, rules of social interaction, responsibilities with home, and so forth (Spence & Helmreich, 1978).

The variables leading to individual differences in the enactment of sex roles include not only situational factors, what resources exist in the person's environment, but also such internal dispositions as attitudes toward the appropriateness of maintaining traditional sex-role distinctions, personal preferences for certain kinds of activities, and perceptions (realistic or unrealistic) of the positive or negative consequences of acting in certain ways. This group of self-variables is most directly responsible for the degree to which an individual exhibits masculine or feminine sex-role behavior in a given situation (Spence & Helmreich, 1978, p. 14).

Bem (1979) stated that the culture has arbitrarily clustered together heterogeneous collections of attributes into the two categories prescribed as more desirable for one sex or the other. Thus masculine and feminine attributes or beliefs about them, once called sex roles, are now called sex-role stereotypic in nature because they are influenced by sex-role stereotypes (Bem, 1974; Rosenkrantz, et al, 1968).

Existing sex-role stereotypes exert real pressures upon individuals to behave in prescribed ways (Broverman, et al,
The stereotypic differences between men and women are accepted by a large segment of our society, and thus, sex roles are defined by the institutionalization of characteristics, attitudes, values, behaviors, and expectations that society regards as appropriate for one sex or the other (McLure & McLure, 1977).

Sex-role stereotypes are implicitly and uncritically accepted to the extent that they are incorporated into the self-concepts of both men and women (Broverman, et al, 1972). Bem (1974) found that not only are sex-appropriate characteristics more desirable for both males and females than sex-inappropriate characteristics, but the phenomenologies of male and female subjects are almost perfectly symmetric: that is, men and women are nearly equal in their perceptions of the desirability of sex-appropriate characteristics, sex-inappropriate characteristics, and the difference between them.

Both the positive and negative traits of the appropriate stereotype are incorporated into the self-concepts of men and women through socialization. Since more feminine traits are negatively valued than are masculine traits in society, women tend to have more negative self-concepts than do men (Broverman, et al, 1972). College students portray the ideal woman as less competent than the ideal man. Further, these sex-role
differences are considered desirable by college students (Broverman, et al, 1972).

Baucom (1980) associated masculinity with assertiveness, and femininity with emotional sensitivity and socialization. Broverman, et al (1972) found that positively-valued masculine traits form a cluster of related behaviors that entail competence, rationality, and assertion. Supporting these differences, Bem (1979) found the feminine type to be warm and eager to soothe hurt feelings, while the masculine type was associated with aggression and assertion.

Sex-role identity can be defined as the degree to which individuals perceive themselves as masculine and feminine (Ridley, Lamke, Avery, & Harrell, 1982), or take on characteristics that reflect society's views of masculinity and femininity. If masculinity and femininity are viewed as independent attributes rather than as opposites of each other, the opposite of masculine is nonmasculine and the opposite of feminine is nonfeminine. Seen this way, the sex-role identity of any person, male or female, is a joint function of masculinity and femininity (Baucom, 1980), and can be described with the fourfold typology of masculine sex-typed, feminine sex-typed, androgynous, and undifferentiated (Bem, 1977; Spence, Helmreich, & Stapp, 1975).
Bem (1975) advanced the hypothesis that psychologically androgynous individuals (those individuals that portray high amounts of both masculine and feminine traits) might be more likely than either masculine or feminine sex-typed individuals to display sex-role adaptability across situations, engaging in situationally-effective behavior without regard for its stereotype. Bem (1979) hypothesized that sex-typed and androgynous individuals differ from one another in how much they believe the sexes to be basically different from one another, a belief in gender polarity. The differences between these sex-role groups, both in self-description and in behavior, are themselves a consequence of the differences in the content of individual’s beliefs about the two sexes. Moreover, Bem suggested that not only do individuals of different sex roles differ in the extent to which they hold different beliefs and expectations about what the two sexes are like, but furthermore, these beliefs mediate both how they, as individual males and females, behave and how they interpret the behavior of other males and females as well.

Berzins (1979) questioned how masculinity and femininity were related in the androgynous individual. Are they balanced, tempered by one another, integrated, or transcended? Wolff and Taylor (1979) found that androgynous individuals were more aware of masculine stereotypes than were masculine-typed individuals and
more aware of feminine stereotypes than feminine-typed individuals. They believe that androgynous individuals might be integrating both sex roles, while still maintaining the sex-appropriateness distinctions among the behaviors.

If in fact a graph showing the frequency distribution of athletic ability in girls is superimposed upon one for boys, the upper end of the graph, signifying highest ability, will perhaps be all male, the lower end perhaps all female, but a wide intermediate range will comprise both sexes. This pattern (or its reverse, with females at the upper end) recurs for almost every human attribute that is thought to be associated with sex, apart from primary sex characteristics (Heilbrun, 1973, p. xv).

Other researchers have found more differences between the males found at opposing ends of a continuum such as this (or the females at opposing ends of such a continuum), than between males and females on the average. It is thus suggested that societies have the option of minimizing, rather than maximizing, sex differences through their socialization practices (Maccoby & Jacklin, 1974).

The Impact of Sex-Role Stereotyping on Human Development

Although women are represented in large numbers in the labor force, occupations continue to be strongly sex-typed (Shinar, 1975) and, though on the wane, discrimination against women in hiring, promotion, and salary in the more prestigious fields traditionally occupied by males has yet to disappear. Women receive less encouragement than men to seek positions of political power and influence or to
obtain the training necessary to enter traditionally masculine occupations (Spence & Helmreich, 1978).

Sex roles conform to cultural and psychological pressures, and they limit occupations, relationships, and personal potential (Kaplan & Bean, 1976). O'Neil and Bush (1978) confirmed a model that depicted the factors affecting both sex-role socialization and career decision making. O'Neil, Ohlde, Barke, Gelwick, and Garfield (1980) utilized this model, which includes lack of assertiveness, and attitudes and role conflict, as operating on both the sex-role socialization process and the career decision-making process.

Harren, Kass, Tinsley, and Moreland (1978 & 1979) related gender, sex-role attitude, and cognitive style as affecting college students' progress toward choosing a college major and as being significant predictors of choice of gender-dominant majors and occupations. Moreland, Harren, Krimsky-Montague, and Tinsley (1979) found that endorsement of sex-role-related personal attributes and cognitive styles were related to college students' differences in decision-making progress when choosing a college, academic major, and occupation.

Explanations of occupational sex-typing cannot be based on differences between women and men in their physical capacities and cognitive abilities, particularly in highly valued fields, since strength and endurance are largely if not completely irrelevant to successful job performance and sex differences in intellectual
abilities, if they exist at all, are minor (Maccoby & Jacklin, 1974, p. 279).

Bem (1979) states that the culture has clustered stereotypes by sex, and individuals differ in how these stereotypes affect their behavior and use it to process incoming information. Women are perceived as relatively less competent, less independent, less objective, and less logical than men; men are perceived as lacking interpersonal sensitivity, warmth, and expressiveness in comparison to women. Moreover, stereotypically masculine traits are more often perceived to be desirable than are stereotypically feminine characteristics (Broverman et al, 1972). Typical characterizations of the sexes are that women are dominated by their emotions and a desire to nurture others, while men are independent, self-assertive, and rational (Spence & Helmreich, 1978).

Several studies point to the negative outcomes of sex-role stereotyping on human development. Baucom (1980) found that feminine-typed individuals had difficulty handling their problems but had accepted themselves. Wolff and Taylor (1979) contend that females are more stereotyped by society than are males, because subjects were able to generate more female than male stereotypes. Bem's (1975) study found that female feminine-typed individuals demonstrated serious behavioral deficits in processes
involving such factors as low self-confidence, low self-esteem, and timidity.

Berzins, Welling, and Wetter (1978) stated that feminine-typed women comprise 50% of all women in the general population, and they show the lowest levels of assertion across all dependent measures. Assertiveness and social ascendancy are among the major characteristics differentiating masculine and feminine-typed individuals (Bem, 1974; Rodriguez, Nietzel, and Berzins, 1980).

Behavior is determined by a multiplicity of factors, but it seems clear that sex typing does restrict one's behavior in unnecessary and probably dysfunctional ways (Bem & Lenney, 1976). Sex-typed individuals appear to be restricted in the range of behaviors available to them from situation to situation (Bem, 1974; Kaplan, 1976). According to Kagan (1964) and Kohlberg (1966) the highly sex-typed individual may be motivated to keep behaviors consistent with an internalized sex-role standard, a goal that is accomplished by suppressing any behavior that might be considered undesirable or inappropriate for one's sex. Cross-sex behavior (stereotypically masculine behavior by a feminine-typed individual, or the reverse) is motivationally problematic for sex-typed individuals and they actively avoid it (Bem & Lenney, 1976).

While sex-typed individuals remain highly aware of their own sex's sex-role stereotypes, androgynous
individuals seem to be sensitive to the demands of both sex roles, yet transcend these traditional sex roles altogether (Wolff & Taylor, 1979). Androgynous individuals of both sexes display a higher level of masculine independence and a higher level of feminine playfulness (Bem, 1975). Thus, many researchers believe that androgynous individuals are more open in their choice of everyday behaviors, or that androgyny is associated with more effective behavior (Bem, 1975; Spence, Helmreich, & Stapp, 1975; Heilbrun, 1973).

Androgyny defines a condition under which the characteristics of the sexes, and the human impulses expressed by men and women, are not rigidly assigned. Androgyny seeks to liberate the individual from the confines of the appropriate. Androgyny suggests a spirit of reconciliation between the sexes; it suggests, further, a full range of experience open to individuals who may, as women, be aggressive, as men, tender; it suggests a spectrum upon which human beings choose their places without regard to propriety or custom (Heilbrun, 1973).

Current Perspectives on Psychological Andrognyny

There exists a distinct class of people who can appropriately be termed androgynous, whose sex-role adaptability seems to enable them to engage in situationally effective behavior without regard for its stereotype as masculine or feminine (Bem, 1975; Kaplan, 1979; Flaherty & Dusek, 1980). When the word androgyny is
used, it means flexibility of sex role, individuals who are capable of behaving in integrative feminine and masculine ways, who are assertive and yielding, independent and dependent, expressive and instrumental, depending on the situation (Bem, 1974; Kaplan & Bean, 1976). Androgyny inherently means transcending sex roles. As a research model, androgyny opens the doors to broader questions of development, personality, attitudes, and achievement, providing a complex description of the way people act and react in a changing society (Kaplan & Bean, 1976).

Some researchers have argued that the androgynous combination may not always lead to better mental health (Kaplan, 1979; Cook, 1985). Kelly and Worell (1977) and Jones, Chernovetz, and Hansson (1978) found that the presence of masculine-valued traits leads to higher levels of adjustment and self-esteem. But Flaherty and Dusek (1980) stressed that it is important to consider what aspect of the self-concept is being considered when examining indices of self-esteem and mental health, and they strongly support Bem's theory of androgynous flexibility and adaptation. Their results show that the categories of sex typing relate in meaningful ways to perceptions of self.

Flaherty and Dusek (1980) found that androgynous individuals scored higher than undifferentiated individuals on adjustment; androgynous and masculine individuals scored
higher than feminine and undifferentiated on achievement and leadership; and androgynous and feminine individuals scored higher than masculine and undifferentiated individuals on congeniality and sociability. Spence, Helmreich, and Stapp (1975) found that for both sexes, individuals classified as androgynous were highest in self-esteem, followed by those high in masculinity and low in femininity, while those low in both were lowest in self-esteem for both sexes.

Bem (1974) stated that the behavioral adaptability of the androgynous individual was in contrast to the behavioral restriction of individuals not androgynous. Bem (1975) found that androgynous individuals of both sexes do seem to vary their behavior cross-situationally so that they are able to do well at both masculine and feminine behaviors, whereas sex-typed individuals do not. Thus, whereas a narrowly masculine self-concept might inhibit behaviors that are stereotyped as feminine, and a narrowly feminine self-concept might inhibit behaviors that are stereotyped as masculine, a mixed, or androgynous self-concept allows individuals to freely engage in both masculine and feminine behaviors (Bem, 1974; Bem & Lenney, 1976).

Bem (1977) separated previously named androgynous scorers to low-lows, or undifferentiated, and high-highs, or androgynous, and found significantly lower self-esteem
and lower self-disclosure in undifferentiated individuals as compared to the androgynous, high-high scoring individuals. Berzins, Welling, and Wetter (1978) supported these results, finding that undifferentiated and sex-typed individuals were characterized by lower levels of social competence than androgynous individuals.

Block (1973) supports the proposition that the attainment of higher levels of moral development is coextensive with the integration of traditionally masculine and feminine domains of self-definition and behavior. And, Baucom's (1980) results showed that androgynous and masculine-typed individuals described themselves in more positive terms than feminine-typed and undifferentiated individuals. Baucom also suggested that, overall, androgynous persons are outgoing, sociable, poised leaders who show concern and respect for those they lead; they are more responsible, mature, and socialized.

Research on Altering Sex-Role Stereotypic Attitudes

Recently research has begun to focus on altering sex-role stereotypic attitudes in individuals, or, on promoting androgyny. The literature is very limited regarding studies of this nature, so a close examination of relevant research is necessary.

Vedovato and Vaughter (1980) examined changes in sexist attitudes of college students as a result of participation in two psychology of women courses and a developmental
psychology course. Both the BSRI and the Attitudes Toward Women Scale (AWS) (Spence & Helmreich, 1972) were used as pretests and posttests. All classes were taught by the same feminist, female professor, however, the content of the developmental psychology course was not explicitly directed at effectuating changes in sexist attitudes. Yet, the existence and consequences of sex-role socialization and stereotyping were examined in reviews of the development of social and cognitive processes.

Females' AWS posttest scores were significantly higher than pretest scores for both courses, indicating more liberal attitudes toward women on posttesting. Females BSRI femininity scores did not change significantly; however, their masculinity posttest scores were significantly higher than pretest scores for both courses. In addition, the female students in the psychology of women courses demonstrated a shift from feminine sex-typed to androgynous self-descriptions from pretest to posttest because their femininity scores were significantly higher than their masculinity scores on pretest, but not on posttest measures. Female students in the developmental psychology course expressed androgynous self-descriptions on pretest and posttest measures.

Males BSRI scores did not change significantly in the psychology of women courses, their masculinity scores were significantly higher than their femininity scores on both
tests. In the developmental sample however, males’ BSRI masculinity posttest scores were significantly lower than their masculinity pretest scores. Further, their masculinity scores were significantly higher than their femininity scores on pretest, but not on posttest measures, demonstrating a shift from masculine-typed to androgynous self-descriptions.

The differential response of male students in the psychology courses may have been due to differential expectations or reactions, or both, concerning course content and goals. Perhaps males in the psychology of women course were threatened by the profeminist, antisexist emphasis and reacted by protecting and defending their masculinity. The developmental course, which did not have the express goal of challenging sexist attitudes but did contrast the handicapping effects of sex stereotyping and the beneficial effects of androgyny, may have encouraged males to recognize and value their femininity without threatening their masculinity. . . Encouraging from this study is the implication that discussing feminist issues, (e.g., sexism in language and in education, sex-role stereotyping) and feminist role modeling, as in the developmental course, may be sufficient conditions for changing women’s sex-role stereotypic attitudes (Vedovato & Vaughter, 1980, p. 589).

Another study designed to reduce the effects of sexism and sex-role socialization on women’s career planning was also judged effective. A four-week workshop was conducted with 60 college women to enhance awareness of sex-role and career factors and to expand their current sex-role attitudes and self-concepts (O’Neil, et al, 1980). Five career and sex-role instruments were used in a pretest-posttest control-group design. Treatment
conditions centered around the use of a videotape designed for the above stated purpose.

Results indicated that treatment subjects spent more time thinking about their career planning, described themselves as more masculine, and reported investigative, social, and enterprising careers as being more appropriate career choices than control group subjects. The workshop expanded women's masculine sex role self-concepts and changed their attitudes about the appropriateness of two stereotypic masculine career areas (investigative and enterprising) (O'Neil, et al, 1980, p. 355).

Ridley, Lamke, Avery, and Harrell (1982) assessed the effects of a problem-solving skills training program on sex-role identity of volunteer, premarital dating partners. The BSRI was used as a pretest and posttest measure of sex-role identity. The interesting results were that the experimental group, as compared to the control group, had significantly higher femininity scores following treatment, with masculinity scores remaining stable. This increase in femininity scores was explained due to the fact that more time was spent engaging in the expressive behaviors of self-disclosure and empathy rather than in the instrumental skills. Results supported the fact that perceptions of self as masculine or feminine are subject to change however (Ridley, Lamke, Avery, & Harrell, 1982).

An earlier study by Deutsch and Gilbert (1976) did not attempt to alter sex-role stereotypic attitudes; however, both the BSRI and an adapted BSRI, to reveal attitudes about individuals' ideal self, were utilized to measure the
effects on personal adjustment of differences in sex-role identity and sex-role preference, or ideal. Based on Rogerian self-theory, it was assumed that individuals whose sex-role identity and preference were similar would be better adjusted and suffer less Rogerian-type conflict than inflexible, highly sex-typed persons or persons whose scores were significantly different on these measures. It was found that women’s scores were highly dissimilar, whereas men’s were highly similar. The authors concluded that, for females, good adjustment and androgyny were related and conversely, poor adjustment and sex-role stereotyping were related.

The average college undergraduate woman sees herself as slightly feminine, wants to be more androgynous, but believes she is more desirable to men if she is extremely feminine. She is pulled toward opposing goals, a situation ripe for conflict. College males do not appear to have this conflict . . . (Deutsch & Gilbert, 1976, p. 377)

This study was among the first to examine sex-role identity and sex-role preference using the BSRI. Recently another study was conducted to gain a similar insight on sex-role identity and preference and to attempt to impact sex-role stereotypic attitudes.

Telis (1986) designed a thirty-hour intervention strategy for female nursing students that consisted of consciousness raising and assertiveness training. A pretest-posttest experimental design was employed with the
BSRI used to measure sex-role identity and the adapted BSRI to measure sex-role preference.

Subjects included 42 women, randomly assigned by sex type to one of four groups (feminine identity-androgynous preference, experimental group 1; feminine identity-feminine preference, experimental group 2; feminine identity-androgynous preference, control group 3; feminine identity-feminine preference, control group 4). . . Results revealed that sex-role identity and preference could be changed by the experimental treatment but subjects' sex-role preference influenced the degree and type of change. The experimental treatment had an effect in categorically changing sex-role identity for the feminine identity-androgynous preference subjects and had a significant effect in increasing the mean masculine scores on the sex-role identity measure for both experimental groups; however, the feminine identity-androgynous preference subjects differed significantly and had a greater increase in masculine scores. The experimental treatment had an effect in categorically changing sex-role preference for the feminine identity-feminine preference subjects and had a significant effect in increasing the mean masculine scores on the sex-role preference measure for both experimental groups, yielding posttest similarities. The control treatment had no effect (Telis, 1986, p. ii).

This study is significant not only because it examined sex-role identity and sex-role preference, but because a stereotypically masculine skill, assertiveness, was taught along with information provided to raise levels of awareness of the impact of sex-role stereotyping on human development. Telis concluded that a different or more intensive type of intervention strategy was necessary for the feminine identity-feminine preference subjects. Recommendations included that further studies be developed
to test different intervention strategies designed to move individuals toward androgyne.

**Teachers Sex-Role Attitudes**

There are many socializing forces in human development; teachers, families, schools, and peers can serve to maintain and perpetuate sex-role stereotypes (O’Reilly, 1988). It may be true that social studies courses are not directed toward the effects of sex bias and sex stereotypes; and that women are largely ignorant of their legal disabilities and of the prejudices they face in education, employment, and public policy; and that the general public remains uninformed about the role of sex bias in social problems (Trecker, 1973); however, sex-role stereotyping is pervasive in modern culture (Bem, 1974; Spence & Helmreich, 1978), and the educational system, which has always been responsive to social change (Long, 1986), is only one area requiring attention regarding the perpetuation of sex-role stereotypes (O’Reilly, 1988). With this in mind, attention is now directed toward research that calls for a change within the educational system in general and in teachers’ attitudes in particular. (It is notable that the greatest attention was paid to sex-role attitudes of educators in the 1970s. The lack of attention in the 1980s may reflect a reluctance of educators to address sex-role stereotyping.)
Beyond the attitudes conveyed to children in society at large, there may exist a collection of experiences in the classroom that strongly affects a child's sex-role identification. Such claims seem warranted in view of the research on socialization of sex roles and recent research on women (Ricks & Pyke, 1973, p. 26).

The educational system has many sources of sex stereotyping, including textbooks that exclude women or limit women and men to prescribed roles, programs that are focused differentially (based on prescribed roles), and curriculum designed for males and male issues that excludes female issues (Trecker, 1973).

Sex stereotyping is transmitted in educational institutions by textbooks and instructional materials, school personnel behavior, counseling and guidance, sex-segregated schools and school groupings, vocational education, physical education and athletics, extracurricular activities, and sex-stereotyped assignments of roles in the education profession (McCune & Matthews, 1975, p. 296).

Research has increasingly focused on teachers' attitudes and behaviors and how they transmit messages to students that impact on students' development (Sadker & Sadker, 1981; Leinhardt, Seewald, & Engel, 1979; McCune & Matthews, 1975). Rosenthal and Jacobson (1968) first asserted that teachers' expectations for students serve as self-fulfilling prophecies, and their study has been a stimulus for many other researchers to examine teacher expectancy and its impact on students (Cornbleth, Davis, & Button, 1974; Finn, 1972; Braun, 1976).
Differential teacher expectations function as self-fulfilling prophecies. The teachers demanded better performance from those children for whom they had higher expectations and were more likely to praise such performance when it was elicited. In contrast, they were more likely to accept poor performance from students for whom they held low expectations and were less likely to praise good performance from these students when it occurred, even though it occurred less frequently. . . .

teacher-expectation effects function as self-fulfilling prophecies (Brophy & Good, 1970, p. 365).

Recent research has begun to examine how teachers treat students differentially based on sex, and how this impacts students. Sadker and Sadker (1986) stated that from preschool through graduate school, teachers ask boys questions that lead them to find their own answers and ask girls questions that can be answered "yes" or "no." Serbin and O'Leary (1975) called girls the invisible members of the classroom. Teachers talked to them less, asked them fewer questions, provided them with fewer directions, counseled them less, and gave them fewer rewards than boys. Leinhardt, Seewald, and Engel (1979) found that teachers made more academic contacts with girls in reading and with boys in math, spent more cognitive time with girls in reading and with boys in math, and made more managerial contacts with boys than with girls. They found no differences in the initial abilities of second-grade students based on sex; however, sex differences were found in students' end-of-year achievement.
Performance differences in students have been blamed on sex-differentiated patterns of educational socialization that perpetuate traditional male and female stereotypes (McCune & Matthews, 1975). But what are the teachers thinking? What are the attitudes behind this differential behavior? Ricks and Pyke (1973) interviewed teachers to answer these questions, and although this study is now 15 years old, the results are staggering: 1) fifty-three percent of the teachers thought male and female students expected differential treatment based on sex, 2) fifty-seven percent reported it was not a teacher's responsibility to facilitate sex-role changes, 3) female teachers' attitudes toward women's liberation corresponded to the attitudes of suburban housewives (e.g., "I don't think women should be equal--women should be supplementary to men.").

Is it a myth to think attitudes like these could still exist? Many teachers leave teacher-training institutions with a sex-role ideology firmly in place simply because of their own sex-role socialization (O'Reilly, 1988). Pogrebin (1980) stated that many teachers may believe males are the better sex. The results are clear, Harvey (1986) stated that males exhibit greater gains from school than females and that females do not receive the early access to specialized programs that males do. Sadker and Sadker (1986, p. 514) said the experience of female students in
United States schools is unique. "What other group starts out ahead—in reading, in writing, and even in math—and 12 years later finds itself behind?"

Brophy and Good (1972) believed that, because teachers directed more substantively evaluative comments to boys than to girls, the outcome may be that girls will exhibit less competent and less independent behaviors. Leinhardt, Seewald, and Engel (1979) clarified that students learn what is taught; there are specific, identifiable teacher behaviors that are differentially applied depending on the sex of the student.

As McCune and Matthews (1975) point out, teacher education represents the major force for the necessary change. Educators should evaluate the effectiveness of various efforts to eliminate sources of sex bias in education or to correct its effects; every teacher should develop an understanding of sex-role socialization, sex-role stereotyping, and their manifestations in personal and professional attitudes, values, and behaviors. Panko (1979) stressed the importance of preservice and inservice training to change sex-role stereotypic attitudes so that teachers can educate students in an unbiased manner. Joyce (1972) also supported the need for preservice preparation of teachers because it is a time when the greatest impact may occur to prepare teachers to be change agents.
Strategies for Altering Teachers' Attitudes

Sadker and Sadker (1982b), Connell (1983), and Slater and Cibrowski (1987), believe that instruction in sex equity concepts can lead to nonsexist teaching; however, treatments to effect this change have not been agreed upon. Sadker and Sadker (1985) stated that training for teachers should promote knowledge of and skills in sex equity, and that research and development should include rigorous assessments of the efficacy of proposed treatments for combatting sex bias and sex discrimination.

Ryan and Cooper (1980) urged prospective teachers to realize the importance of their role in eliminating sex-role stereotyping in education as they interact with pupils and select instructional materials because their sensitivity to the problem may influence the attitudes of future generations. Hilliard (1975) stated that teacher educators should strive to model nonsexist teaching and motivate future teachers toward self-examination.

Limited research is available on interventions designed to alter teachers' sex-role stereotypic attitudes and to effect teachers' sex-role stereotypic behaviors. Relatively few studies have been conducted with teachers to effect this change (Connell, 1983; Grandinetti, 1979); however, teacher education programs by their very existence presume that the actions of the future teacher can be
shaped or molded into a desirable pattern (Grandinetti, 1979).

Redd (1976) conducted a study on the influence of a sex-role stereotype instruction unit on the modification of attitudes and behaviors of elementary school teachers. A control group and an experimental group were pretested and posttested with the BSRI and an Observable Stereotypic Behaviors Scale (devised by Redd, the teachers were rated by independent observers using this scale). Teachers were asked to complete the BSRI three times: for perceptions on self, typical male, and typical female. The experimental group participated in four instructional units, each two hours in length: self, society, and stereotypes; curriculum and educational materials; research; and discrimination and legal recourses.

The results from the Observable Stereotypic Behaviors Scale reflected a significant reduction in the number of stereotypic behaviors performed by the experimental group following the treatment. Before treatment, the teachers in both groups were rated to have 19 stereotypic behaviors in each group. After treatment, the control group had 22 such behaviors rated whereas only 8 were recorded in the experimental group. This reflected a significant reduction in the number of stereotypic behaviors performed by the experimental group following the treatment (Redd, 1976, p. 44).

There was no significant change on any of the scores for the BSRI administrations. Redd suggested the following possible explanations for this. One was that teachers may have been relatively free from
stereotypic attitudes before treatment, allowing little room for change (teachers volunteered to participate so an inherent interest may have accounted for their lack of sexist attitudes. Another was that only one section of the instructional units discussed self-beliefs and sexist attitudes, the greater part of the treatment involved curriculum examination, research on stereotypes, assessment of classroom behaviors, and discrimination and legal recourse.

Redd concluded that teachers do engage in sex-role stereotypic behaviors in the classroom, and that instruction in sex equity can significantly reduce the number of such behaviors. Redd suggested that research should continue to attempt to make effective changes in the sexist attitudes and behaviors of teachers.

Grandinetti (1979) conducted a study to analyze the effects of instruction on the sexist attitudes of 70 preservice teachers. In a pretest-posttest design, two different treatments were used varying only in length and depth. Instruction was based on a review of the literature that suggested materials should create an awareness of the problem of sexism through the presentation of information; clarify the effects of sexism on the individual; highlight the individuals' contribution to sexism; and help the
individual decide to alter behavior (reinforcing new behaviors through successful experiences was also important but not used in Grandinetti's study). The instruction focused on sexual stereotyping in society, sexual prejudices inherent within certain classroom materials, and teacher actions termed educational sexism.

Two treatment groups were conducted differing only in time allotted for instruction (two and one-half hours, and five hours). Instruments to measure change included the Werner Sexist Attitude Scale (WSAS, Werner, 1973) and the Informal Teacher Sexist Attitude Survey (ITSAS, designed as part of Grandinetti's study). Analysis of the WSAS revealed no statistically significant difference in the level of societal sexist attitudes before and after treatment; however, analysis of the ITSAS indicated that both treatment groups had reduced levels of sexist attitudes on the posttest as compared to the control group. It was concluded that the treatments lessened the educational sexist attitudes of preservice teachers, yet the length of treatment seemed to show no additional significant difference. Grandinetti concluded that:

1. Teacher education institutions can and should initiate a program that would effectively
lessen the level of sexism in educational situations.

2. Short term instructional treatments that would significantly lower the level of educational sexism of preservice teachers can be incorporated into teacher education programs.

3. To be effective, instructional approaches should be situation specific, include consciousness-raising activities, and need not last more than two and one-half hours.

4. Although short-term instructional approaches can effectively lessen the level of educational sexism, there is no evidence that they can alter general societal sexist attitudes (Grandinetti, 1979, p. 16).

Connell (1983) analyzed the effects of a self-intervention program on the sex-role stereotypic attitudes of 169 teacher education majors in a posttest-only control group design. The Project MASSIVE materials (Trent, Crandell, Higgins, & Vild, 1979) were used to modify sex-role stereotypic attitudes and to test the effects of the intervention. Connell stated that the intervention strategy aided in reducing sex-role stereotypic attitudes of teacher education majors. Several recommendations made after the research include:

1. Teacher education institutions should examine the sex-role stereotypic attitudes of students because it could lead to a recognition of the need for change.
2. Another instrument with less obvious bias should be constructed to diagnose sex-role stereotypic attitudes.

3. Further research should be conducted on methods to alter sex-role stereotypic attitudes.

Summary

It has been stated that individuals vary in the degree to which they possess masculine and feminine traits (Spence, Helmreich, & Stapp, 1975). These traits begin forming at birth (Kagan, 1964) because of sex-role socialization (O'Neil, 1981), which leads to attitudes, behaviors, and expectations that are sex-role stereotypic (Broverman, et al, 1972; Baucom, 1980). Sex-role stereotypic attitudes negatively affect individuals by limiting their options in a variety of response situations (Bem, 1979). Range of behaviors, career choices, decision-making abilities, perceptions of self, and treatment of others can all be affected by an individuals' sex-role stereotypic attitudes (O'Neil, Ohlde, Barke, Gelwick, & Garfield, 1980; Moreland, Harren, Krimsky-Montague, & Tinsley, 1979; Bem, 1975; Berzins, Welling, & Wetter, 1978).

The BSRI (Bem, 1974) has been utilized to assess the degree of an individuals' sex-role stereotypic attitudes and has yielded a fourfold typology.
consisting of masculine, feminine, androgynous, and undifferentiated (Bem, 1977; Spence, Helmreich, & Stapp, 1975). The BSRI has been widely used to assess sex-role stereotypic attitudes in individuals (Vedovato & Vaughter, 1980; Ridley, Lamke, Avery, & Harrell, 1982; Deutsch & Gilbert, 1976; Telis, 1986).

It has been found that teachers also hold sex-role stereotypic attitudes (Redd, 1976; Grandinetti, 1979) and that these attitudes can affect their interaction with students (O'Reilly, 1988; Ricks & Pyke, 1973; McCune & Matthews, 1975; Serbin & O’Leary, 1975). A variety of treatments have been used to effect teacher attitudes because it is believed that teachers have a dramatic impact on the students they teach (Connell, 1983; Grandinetti, 1979; Redd, 1976).
CHAPTER III
RESEARCH METHODOLOGY

To answer the major research questions of this study, several research methods and procedures were utilized. This chapter is organized as follows: (1) research design, (2) research setting and population, (3) subjects, (4) data collection instruments, (5) procedures, (6) treatments, (7) facilitators, (8) analysis of the data, and (9) summary.

Research Design

A completely randomized pretest-posttest control-group research design was utilized (Van Dalen, 1973; Campbell & Stanley, 1963). Three treatment groups, one serving as a control, were pretested and posttested. The pretest measures serve as covariates against which to assess the posttest measures for the groups. If differences exist in the treatment groups, the independent variables may have affected the change. What change occurs and the factors affecting the change will be the focus of the data analysis. This design reduces the chance of observed changes being a function of extraneous events since extraneous events can affect members of the control group as well as the experimental group.
The design provides for internal validity by controlling the potential sources of internal invalidity, i.e., the main effects of history, maturation, testing, instrumentation, regression, selection, mortality, and interaction of selection and maturation.

This design does not control the interaction of testing and treatment, a source of external invalidity. However, the instrument used to measure attitudes was labeled only as "Bem Inventory," which did not elude to its purpose or any relationship to sex-role attitudes. Regarding the interaction of selection and treatment, there is the possibility that the effects validly demonstrated hold only for that unique population from which the experimental and control groups were jointly selected. This population consisted of all Freshman Early Experiencing Program (FEEP) students at The Ohio State University enrolled during the spring quarter of 1988.

A further area of concern regarding external validity is that of reactive arrangements, the patent artificiality of the experimental setting and the subject's knowledge that she or he is participating in an experiment (Campbell & Stanley, 1963; Van Dalen, 1973). This effect was minimized by disguising the experiment (Appendix A). If results proved a treatment effective, the activities will be added to next year's FEEP curriculum.
According to Van Dalen (1973, pp. 279-280), the following steps should be taken when employing this design:

1. Select Ss from a population by random methods, if possible.
2. Assign Ss to groups and X to groups by random methods.
3. Test the Ss on the dependent variable1 (obtain the T1E scores for the experimental Ss and the T1C scores for the control Ss).
4. Keep all conditions the same for the groups except for exposing the experimental Ss--but not the control Ss--to the independent variable for a stipulated time.
5. Test the Ss on the dependent variable (obtain the T2E scores for the experimental Ss and the T2C scores for the control Ss).
6. Find the difference between the T1 and T2 scores for each S and the mean of these differences for each group, DE and DC.²
7. Compare DCX and DE³ to determine whether the application of X has presumably caused a change in the experimental group’s scores as compared with the control group’s scores.
8. Apply an appropriate statistical procedure to ascertain whether the difference in the scores is sufficiently great to be a statistically significant difference or whether it is only a chance occurrence.

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1 Sometimes Ss are pretested before they are assigned to groups.
2 If the analysis of covariance technique is employed, the final mean scores are adjusted for pretest differences prior to step 6.
3 A comparison of DE - DC actually reflects the effect of X plus any interaction effects of (1) T1 and X, (2) X and U (uncontrolled events, such as history and maturation), and (3) T1, X, and U. Hence DE - DC = X only if one can assume the effect of these interactions is zero.
Steps 2 to 6 may be depicted as follows:

Table 1
Design for the Examination of Difference Scores

<table>
<thead>
<tr>
<th>Randomly assigned*</th>
<th>Pretest</th>
<th>Treatment</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>(R) Experimental Group</td>
<td>T1E</td>
<td>X</td>
<td>T2E</td>
</tr>
<tr>
<td>(R) Control Group</td>
<td>T1C</td>
<td></td>
<td>T2C</td>
</tr>
</tbody>
</table>

DE = Mean of the differences between experimental Ss pretest and posttest scores
DC = Mean of the differences between the control Ss pretest and posttest scores
Compare DE and DC to ascertain effect of X

* Whenever Ss and X are randomly assigned to groups, the (R) placed before the group conveys this information.

This design may be extended to permit the study of two or more variations of the independent variable on a dependent variable. For example, to ascertain the impact on sex-role attitudes of two different techniques, one group may be exposed to Xa treatment, a second group to Xb treatment, and a third group to no X, or no treatment.

This is represented as follows.

(R) First group  T1E1   Xa   T2E1
(R) Second group  T1E2   Xb   T2E2
(R) Control group T1C    |   T2C

If the experimenter is merely interested in comparing the effects of two treatments, he or she may not use the no-X control group; but it does give an added measure of information for fuller interpretive purposes, and for that reason the no-X control group was utilized for this study.
Campbell and Stanley (1963) and Kennedy and Bush (1985) recommend against the use of difference scores. The weakness in comparing difference scores is that subjects may fall on a scale at different levels due to other factors involved. If subjects fall at substantially different levels on a given scale due to other variables, difference scores cannot account for the differing room available for change on the given scale (Kennedy & Bush, 1985). For example, because the BSRI was designed to measure sex-role attitudes by using sex-role stereotypic attitudes and behaviors, one would expect that males and females would often differ on where they fall on the masculinity scale and the femininity scale due to sex-role socialization. A male who scores high on masculinity and a female who scores low on masculinity do not have the same room to move on the masculinity scale.

Steps 6 through 8 of Van Dalen’s design were therefore altered and instead, a factorial analysis of covariance was done on posttest scores with pretest scores serving as the covariate. This is preferable according to Campbell and Stanley (1963) as a more precise analysis. This will allow for an examination of the factors of group, sex, group by sex interaction, and pretest scores that may also have affected the dependent variable. More discussion of the research analysis follows in the section on analysis of the data.
Research Setting and Population

This study was conducted during the spring quarter of 1988 at The Ohio State University, Columbus campus, with selected Freshman Early Experiencing Program (FEEP) students. The FEEP program exists within the College of Education, Department of Educational Services and Research. FEEP is a cooperative effort between The Ohio State University College of Education and six central Ohio school districts. Participating school districts were Columbus, Hilliard, Southwest, Upper Arlington, Worthington, and Whitehall.

FEEP provides an opportunity for students to explore a career in a helping profession. Students in FEEP participate in a field experience in a school, four days each week for half the day. Students observe teachers and tryout activities in the school setting. They participate in all aspects of the teachers' role.

In addition to the field experience, students attend a two and one-half hour seminar once a week focusing on their own personal, professional, and career development. Effective communication skills are taught, important issues in education are discussed, personality and effective teaching behaviors and skills are reviewed, and teaching as a profession is examined.

FEEP is designed to help students make decisions related to career, college major, and personal growth.
Overall, the purpose of FEEP is to help students focus their perceptions on themselves as teachers to decide if they want to pursue teaching as a career.

FEEP students are prospective teacher candidates, predominantly white and female, with 70% interested in becoming elementary teachers. Students typically take FEEP during their sophomore or junior year of college.

Subjects

Subjects were randomly selected from 270 students enrolled in FEEP. The FEEP population typically ranges in age from 18 to 24 and has a 1 to 4 ratio of males to females. Ninety-six subjects were randomly assigned to each of three groups; however, six subjects were eliminated from the study for varying reasons: three participated in the wrong treatment, one was excused from participation, and two did not complete the posttests correctly. The total sample size used for this study was 90. Treatment group A had 9 males, 23 females, n = 32; treatment group B had 8 males, 20 females, n = 28; control group C had 6 males, 24 females, n = 30.

Data Collection Instrument

The Bem Sex-Role Inventory (BSRI) was chosen because evidence provided in Chapter Two indicated it was the most commonly used instrument and the most reliable measure of sex-role attitudes at this time. Numbers of validation studies suggest that the BSRI femininity and masculinity
scales are correlated with gender-related behaviors (Mitchell, 1985). The BSRI is a self-report inventory intended to measure sex-role attitudes, androgyny, and more specifically, the extent of an individual's identification with masculine and feminine traits (Bem, 1974). A copy of the BSRI can be found in Appendix B.

The BSRI consists of 60 adjectives describing personality characteristics that are either stereotypically feminine, stereotypically masculine, or neutral filler items. Twenty items judged feminine include soft-spoken, yielding, gentle, and shy; 20 items judged masculine include assertive, make decisions easily, forceful, and self-reliant; 20 filler items include conscientious, truthful, helpful, and friendly.

Subjects are asked to respond on a 7-point scale as to how true the characteristics are of themselves. The scale ranges from "never" or "almost never true" to "always" or "almost always true." Subjects' receive a separate masculine and feminine score, and, utilizing both scores, subjects are categorized for sex-role identity through a fourfold classification system that consists of feminine (high feminine - low masculine), masculine (high masculine - low feminine), androgynous (high masculine - high feminine), and undifferentiated (low masculine - low feminine).
The BSRI measures androgyny as it refers to the balance of masculine and feminine characteristics, so that masculinity and femininity can be treated as two orthogonal dimensions, and not just two ends of a single dimension (Bem, 1975). The BSRI was chosen because it does not build in the inverse relationship between masculinity and femininity. Also, item characteristics on the BSRI are selected as masculine or feminine on the basis of cultural definitions of sex-typed social desirability rather than on the basis of differential endorsement by males and females (Bem, 1981). Items were chosen on the basis that all were rated by both males and females as being significantly more desirable in American society for one sex than for the other (Bem, 1974).

The psychometric analyses for the BSRI were obtained originally on a sample of 917 students at two different colleges (Bem, 1981). Internal consistency of the BSRI was established using coefficient alpha for the Masculinity, Femininity, and Social Desirability scores. The results indicated that all three scores were highly reliable; Masculinity $a = .86$ in both samples, Femininity $a = .80$ and .82, and Social Desirability $a = .75$ and .70 (Bem, 1974).

After a second administration of the BSRI four weeks later, Bem computed product moment correlations between the two test administrations and the scores proved a high
test-retest reliability: Masculinity r = .90, Femininity r = .90, Androgyny r = .93, Social Desirability r = .89.

Bem's (1981) research supports the validation for the BSRI by supporting the hypothesis that sex-typed persons restrict their behavior in accordance with cultural definitions of desirable behavior for men or women more often than do androgynous persons. Bem and Lenney (1976) found that sex-typed individuals were significantly more likely than androgynous or cross-sex-typed individuals to prefer sex-appropriate activity and resist sex-inappropriate activity. They found greater psychological discomfort and more negative feelings toward self for those individuals who engaged in cross-sex behaviors. Other studies have also supported the validity of the inventory (Bem, 1975; Bem, Martyna, & Watson, 1976).

**Procedures**

Two curriculums were designed for the two treatment groups after an extensive review of the literature, available curriculum guides, and inservice training program materials for teachers designed to promote sex equity concepts. These curriculums were approved by a panel of five experts who were asked to evaluate if the curriculums were teaching what they were designed to teach as described in the introduction section of each curriculum. A sample approval letter can be found in Appendix C; the two
approved curriculums appear in Appendix D and E. The panel was chosen to include people described as follows.

1. The Sex Equity Supervisor for the Ohio Department of Education, Division of Vocational and Career Education.

2. An Associate Professor at The Ohio State University, College of Education, Educational Services and Research, past-chair of the Counselor and Social Worker Licensure Board and the Ohio Association for Counseling and Development.

3. A Program Specialist for nontraditional occupations for women at the Ohio Department of Education, Division of Vocational and Career Education, Sex Equity Section.

4. A human services consultant and Ph.D. Candidate in Counselor Education at The Ohio State University.

5. A psychology intern at the Gahanna Counseling Service, Columbus, Ohio, with an M.S. in Counselor Education.

Ninety-six subjects were randomly selected from 270 FEEP students and were randomly assigned to one of three groups, one of which was a no-treatment, control group. The other two groups of subjects were sent a letter (Appendix A) asking them to attend two two-hour sessions the sixth and seventh weeks of class on a Friday when all other students were in the field. The BSRI was given to all subjects prior to the treatments, the sixth week of class. The control group was tested during the same week. This administration of the BSRI served as the pretest.
All subjects were posttested with the BSRI during finals week of spring quarter, this was four and one-half weeks after the start of the interventions and three and one-half weeks following the conclusion of the interventions. Posttests were used to evaluate the effects of the interventions.

Treatments

Treatments for groups A and B were two, two-hour sessions held on two consecutive Friday afternoons during the sixth and seventh weeks of class. Curriculums used as the treatments for the experimental groups were designed from an extensive review of the literature and from a review of available curriculum guides and learning programs developed to promote sex equity concepts, teach stereotypically masculine instrumental skills, or develop androgyny. They were thus similar to typically used materials.

Treatment group A received information regarding the changing roles of women and men in today's society (Appendix D). This consisted of occupational information about the number of women in the labor force, the average salaries for women and men, and the number of years women can expect to work. Definitions, as well as an introduction to the concepts, of the following terms were provided: sex-role stereotyping, sex-fair language and behavior, sex equity, and nontraditional jobs, among
others. Information was also provided on the negative impact of sex-role stereotyping on human development. Two videotapes were shown, one that provided nontraditional role models, and one that illustrated sex-fair and sex-biased teacher behavior.

Treatment group B received skills-training in assertive communication and decision making (Appendix E). This group learned the differences between passive, aggressive, and assertive behavior. They also learned the steps to effective decision making. They role-played in groups to try out these behaviors and they practiced responding assertively and making decisions in various situations.

Group C was a no-treatment, control group. They were pretested the same week as other subjects and posttested during final exam week along with other subjects.

Treatments consisted of materials similar to those currently in use by the Ohio Department of Education, which utilizes them to train teachers in sex equity issues. Treatment A was highly instructional, and provided worksheets, readings, and videotaped information. Treatment B was oriented toward building skills, and provided practice time through role-play situations, modeling, and feedback.

Facilitators

Facilitators were chosen for the treatment sessions to eliminate the possibility of experimenter bias. Two
facilitators with similar background and experience were selected and randomly assigned as leaders of the two treatment groups. Both were doctoral students in Counselor Education at The Ohio State University, College of Education, Educational Services and Research. Both were completing a course on counseling women and had experience in the topic areas. They were given explicit instructions for conducting each treatment. See Appendices D and E.

Data Analyses

This study proposed to determine how preservice teachers' sex-role attitudes were affected by participation in workshops designed to provide information on sex-role stereotyping and the changing roles of women in the work force or by participation in workshops designed to build assertiveness and decision-making skills.

When Bem (1974) introduced the BSRI, a t-ratio for the difference scores for masculinity and femininity was used to classify subjects into three sex-role groups: masculine, feminine, and androgynous. An androgynous sex role was represented by the equal endorsement of feminine and masculine characteristics. Spence, Helmreich, and Stapp (1975) and Strahan (1975) pointed out that this definition of androgyny served to obscure an important distinction between those individuals who scored high on both femininity and masculinity, and those individuals who scored low on both.
Spence, Helmreich, and Stapp (1975) recommended dividing subjects at the median on both the Femininity and Masculinity scales and then deriving a fourfold classification of subjects as feminine (high feminine-low masculine), masculine (high masculine-low feminine), androgynous (high masculine-high feminine), and undifferentiated (low masculine-low feminine). Bem (1977) gathered new data and reanalyzed earlier data with the low-low scorers grouped separately from the high-high scorers. The results indicated that a distinction between high-high and low-low scorers did seem warranted and that the BSRI should be scored to yield four distinct groups: feminine, masculine, androgynous, and undifferentiated.

There has been considerable controversy about the scoring method used for the BSRI (Spence, Helmreich, & Stapp, 1975; Strahan, 1975; Bem, 1977; Locksley & Colten, 1979; Pedhazur & Tetenbaum, 1979; Bem, 1981). Spence and Helmreich (1979) reinforced the use of the median-split method and stated that the regression analysis procedure suggested by Strahan (1975) and others, added no new information to the outcomes obtained by the use of absolute scores. Many other researchers have also endorsed the use of the median-split method of classification (Wilson & Cook, 1984; Child, 1984; Telis, 1986; Warren, 1987).

The median-split method endorsed by Spence and Helmreich (1979) and outlined in the BSRI professional
manual (Bem, 1981) was employed for this study to classify subjects into one of the four sex-role categories. The normative group was that supplied by the BSRI professional manual (Bem, 1981). This manual was followed for categorization procedures only and a chi-square analysis was performed to examine category changes.

For all other statistical procedures in this study, subjects were not classified into sex-role groups, but, rather, subjects' raw scores were used for data analyses. A factorial analysis of covariance was performed using the pretest raw scores as covariates. Subjects' final test scores were used to distinguish interactions between the independent variables and to identify the factors operating on the dependent variable.

Factorial analysis of covariance represents a marriage between conventional analysis of variance and regression analysis, and is used to improve design efficiency (Kennedy and Bush, 1985). The concomitant information, or covariate, is used within a regression context to reduce error variance. The factorial analysis of covariance was considered the most desirable and reliable method of analysis given the research design; however, the following analyses were conducted to offer a more comprehensive view of the results in light of current arguments in the literature on appropriate analysis procedures: (1) an analysis of variance (ANOVA) on pretest masculinity and
femininity scores to test for equivalency of groups; (2) an ANOVA on posttest masculinity and femininity scores to test for equivalency of groups; (3) a 2 x 3 factorial ANOVA on posttest masculinity and femininity scores with group and sex as factors for determining posttest differences and interactions; (4) regression analysis and Pearson correlation between pretest and posttest for each group, and (5) a 2 x 3 factorial analysis of covariance (ANCOVA) on posttest masculinity and femininity scores with group and sex as factors and pretest scores as covariates. Each of these tests will be examined as they relate to the research hypotheses.

The variables in the factorial analysis of covariance consisted of the following:

1. Independent variables - Group, sex, group by sex interaction, and pretest scores.
2. Dependent variables - Posttest scores on the BSRI masculinity scale and femininity scale.
3. Covariates - Pretest scores on the BSRI masculinity scale and femininity scale.

The research hypotheses tested at the .05 level of significance were:

1. Posttest scores will not be significantly affected by group, sex, group by sex interaction, or pretest scores on the masculinity scale of the Bem Sex-Role Inventory.
2. Posttest scores will not be significantly affected by group, sex, group by sex interaction, or pretest scores on the femininity scale of the Bem Sex-Role Inventory.

Summary

A randomized pretest-posttest control-group research design was utilized for this study. Subjects were randomly selected from students in FEEP in the College of Education, The Ohio State University, Columbus campus, spring quarter 1988. The Bem Sex-Role Inventory was administered as a pretest and posttest measure of sex-role attitudes. Two curriculums were used as the treatments for the experimental groups. These were designed from an extensive review of the literature and from a review of available curriculum guides and learning programs developed to promote sex equity concepts, teach stereotypically masculine instrumental skills, or develop androgyny. A panel of five experts approved the curriculums separately. One curriculum consisted of instruction in sex equity and the other centered on skills training in assertiveness and decision making. Data was analyzed using a factorial analysis of covariance with the pretest raw scores serving as the covariate. Category scores (masculine, feminine, androgynous, undifferentiated) were computed using Bem's (1981) norms by the median-split method.
CHAPTER IV
PRESENTATION AND ANALYSIS OF DATA

The purpose of this study was to examine the efficacy of workshops designed to alter sex-role attitudes of preservice teachers. Specifically, the study proposed to answer the following questions:

1. How are preservice teachers' sex-role attitudes affected by participation in workshops designed to provide information on sex-role stereotypes and the changing roles of women in the work force?

2. How are preservice teachers' sex-role attitudes affected by participation in workshops designed to build skills in assertiveness and decision making.

To answer these questions, subjects were randomly selected from all preservice teachers enrolled in FEEP during the spring quarter of 1988 at The Ohio State University. Ninety-six subjects were randomly assigned to one of three treatment groups, two groups receiving interventions and one group serving as a control. Pretest and posttest data were obtained through administration of the Bem Sex-Role Inventory.
This chapter presents the following: (1) description of the subjects in the sample, (2) analysis of the data, and (3) analysis of categorical information, and (4) summary of results. All descriptive information is presented first by overall sample and then individually by treatment group (A, B, C).

Description of the Subjects in the Sample

The subjects in this study consisted of 90 preservice teachers composed of 67 females (74.4%) and 23 males (25.6%). The range of GPA scores was 3.95 to .32, with a mean of 2.59. The age range was 38 to 18, with a mean age of 20.41. Eighty-two percent of the subjects were 18 to 21. Table 2 illustrates descriptive information on the overall sample.

| Table 2 |
| GPA and Age for Overall Sample |
| n = 90 |

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>Minimum Value</th>
<th>Maximum Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPA</td>
<td>2.59</td>
<td>.56</td>
<td>.32</td>
<td>3.95</td>
</tr>
<tr>
<td>Age</td>
<td>20.41</td>
<td>2.91</td>
<td>18.00</td>
<td>38.00</td>
</tr>
</tbody>
</table>
Table 3 offers information on subjects' major area of interest after taking FEEP. It is notable that 53 of the subjects (58.9%) chose to major in elementary education and that only two subjects had decided to pursue careers other than teaching (geography and marketing) after taking FEEP.

Table 3
Majors for Overall Sample
n = 90

<table>
<thead>
<tr>
<th>Number</th>
<th>Major</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Art Education</td>
<td>1.1</td>
</tr>
<tr>
<td>4</td>
<td>Educable Mentally Retarded</td>
<td>4.4</td>
</tr>
<tr>
<td>53</td>
<td>Elementary Education</td>
<td>58.9</td>
</tr>
<tr>
<td>4</td>
<td>English Education</td>
<td>4.4</td>
</tr>
<tr>
<td>1</td>
<td>Geography</td>
<td>1.1</td>
</tr>
<tr>
<td>1</td>
<td>German Education</td>
<td>1.1</td>
</tr>
<tr>
<td>1</td>
<td>Health Education</td>
<td>1.1</td>
</tr>
<tr>
<td>1</td>
<td>Marketing</td>
<td>1.1</td>
</tr>
<tr>
<td>3</td>
<td>Mathematics Education</td>
<td>3.3</td>
</tr>
<tr>
<td>7</td>
<td>Physical Education</td>
<td>7.8</td>
</tr>
<tr>
<td>3</td>
<td>Social Studies Education</td>
<td>3.3</td>
</tr>
<tr>
<td>1</td>
<td>Spanish Education</td>
<td>1.1</td>
</tr>
<tr>
<td>1</td>
<td>Speech-Theatre Education</td>
<td>1.1</td>
</tr>
<tr>
<td>9</td>
<td>Undecided</td>
<td>10.0</td>
</tr>
</tbody>
</table>

Each treatment group was examined individually to yield the information in Tables 4, 5, and 6. Similarities are seen in Table 4 between the percentages of males and females in the treatment groups; in Table 5 between the mean and standard deviations for GPA and age in the treatment groups; and in Table 6 between the number and percentage of students pursuing elementary education as a major, and those pursuing various other education careers.
These similarities are attributable to random assignment of subjects.

Table 6 shows several group differences after treatment that are interesting yet not considered significant. The only two subjects in the overall sample who decided against teaching majors were both in treatment group A (sex equity instruction unit), one choosing geography and the other marketing. Also, group B, who participated in the treatment on assertiveness and decision making, had the least number of subjects who were still undecided as to choice of major.

Table 4
Sex by Treatment Group

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>GROUP A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>n = 32</td>
<td>9</td>
<td>28.1</td>
</tr>
<tr>
<td>GROUP B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>n = 28</td>
<td>8</td>
<td>28.6</td>
</tr>
<tr>
<td>GROUP C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>n = 30</td>
<td>6</td>
<td>20.0</td>
</tr>
<tr>
<td>Treatment Group</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------</td>
<td>-----</td>
</tr>
<tr>
<td><strong>GROUP A</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n = 32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPA</td>
<td>2.64</td>
<td>.67</td>
</tr>
<tr>
<td>Age</td>
<td>20.62</td>
<td>3.70</td>
</tr>
<tr>
<td><strong>GROUP B</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n = 28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPA</td>
<td>2.60</td>
<td>.50</td>
</tr>
<tr>
<td>Age</td>
<td>20.96</td>
<td>2.88</td>
</tr>
<tr>
<td><strong>GROUP C</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n = 30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPA</td>
<td>2.55</td>
<td>.50</td>
</tr>
<tr>
<td>Age</td>
<td>19.66</td>
<td>1.62</td>
</tr>
</tbody>
</table>
Table 6
Majors by Treatment Group

<table>
<thead>
<tr>
<th>Number</th>
<th>Major</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>GROUP A&lt;br&gt;n = 32&lt;br&gt;2</td>
<td>Educable Mentally Retarded</td>
<td>6.3</td>
</tr>
<tr>
<td>19</td>
<td>Elementary Education</td>
<td>59.4</td>
</tr>
<tr>
<td>2</td>
<td>English Education</td>
<td>6.3</td>
</tr>
<tr>
<td>1</td>
<td>Geography</td>
<td>3.1</td>
</tr>
<tr>
<td>1</td>
<td>Marketing</td>
<td>3.1</td>
</tr>
<tr>
<td>1</td>
<td>Physical Education</td>
<td>3.1</td>
</tr>
<tr>
<td>2</td>
<td>Social Studies Education</td>
<td>6.3</td>
</tr>
<tr>
<td>4</td>
<td>Undecided</td>
<td>12.5</td>
</tr>
<tr>
<td>GROUP B&lt;br&gt;n = 28&lt;br&gt;1</td>
<td>Art Education</td>
<td>3.6</td>
</tr>
<tr>
<td>2</td>
<td>Educable Mentally Retarded</td>
<td>7.1</td>
</tr>
<tr>
<td>19</td>
<td>Elementary Education</td>
<td>67.9</td>
</tr>
<tr>
<td>1</td>
<td>Mathematics Education</td>
<td>3.6</td>
</tr>
<tr>
<td>2</td>
<td>Physical Education</td>
<td>7.1</td>
</tr>
<tr>
<td>1</td>
<td>Speech-Theatre Education</td>
<td>3.6</td>
</tr>
<tr>
<td>2</td>
<td>Undecided</td>
<td>7.1</td>
</tr>
<tr>
<td>GROUP C&lt;br&gt;n = 30&lt;br&gt;15</td>
<td>Elementary Education</td>
<td>50.0</td>
</tr>
<tr>
<td>2</td>
<td>English Education</td>
<td>6.7</td>
</tr>
<tr>
<td>1</td>
<td>German Education</td>
<td>3.3</td>
</tr>
<tr>
<td>1</td>
<td>Health Education</td>
<td>3.3</td>
</tr>
<tr>
<td>2</td>
<td>Mathematics Education</td>
<td>6.7</td>
</tr>
<tr>
<td>4</td>
<td>Physical Education</td>
<td>13.3</td>
</tr>
<tr>
<td>1</td>
<td>Social Studies Education</td>
<td>3.3</td>
</tr>
<tr>
<td>1</td>
<td>Spanish Education</td>
<td>3.3</td>
</tr>
<tr>
<td>3</td>
<td>Undecided</td>
<td>10.0</td>
</tr>
</tbody>
</table>
Analysis of the Data

Research Questions One and Two involve analysis of a pretest and a posttest as explained in Chapter III. The data presented address the two Research Hypotheses posed in Chapter I. The statistical findings have been presented in the form of tables, figures, and discussion. The purpose of this study was to determine the effectiveness of interventions designed to alter sex-role attitudes of preservice teachers. The experimental design was a pretest-posttest control group design. A 2 x 3 factorial analysis of covariance was performed to statistically address the research hypotheses. This is recommended by Campbell and Stanley (1963) and Kennedy and Bush (1985) as more reliable than the use of difference scores. The computations were performed by the Statistical Analysis System (SAS).

The null hypotheses tested at the .05 level of significance were:

1. Posttest scores will not be significantly affected by group, sex, group by sex interaction, or pretest scores on the masculinity scale of the BSRI.

2. Posttest scores will not be significantly affected by group, sex, group by sex interaction, or pretest scores on the femininity scale of the BSRI.

The following statistical tests were performed to address these hypotheses: (1) an analysis of variance
(ANOVA) on pretest masculinity and femininity scores to test for equivalency of groups; (2) an ANOVA on posttest masculinity and femininity scores to test for equivalency of groups; (3) a 2 x 3 factorial ANOVA on posttest masculinity and femininity scores with group and sex as factors for determining posttest differences and interactions; (4) regression analysis and Pearson correlation between pretest and posttest for each group, and (5) a 2 x 3 factorial analysis of covariance (ANCOVA) on posttest masculinity and femininity scores with group and sex as factors and pretest scores as covariates. Each of these tests will be examined as they relate to the research hypotheses.

A one-way analysis of variance of pretest masculinity and femininity scores indicated that there was not a significant difference between the pretest scores of the control and experimental groups on either scale. For the masculinity scale the F ratio was 1.27 ($p = 0.2861$, 2 and 87 df). For the femininity scale the F ratio was 0.82 ($p = 0.4447$, 2 and 87 df). Table 7 contains the summary information for the pretest ratings on the masculinity scale for all treatment groups prior to training, and Table 8 contains the summary information for the pretest ratings on the femininity scale for all treatment groups prior to training.
Table 7
Analysis of Variance of Pretest Masculinity Scale
for All Groups
n = 90

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F Ratio</th>
<th>F Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest Groups</td>
<td>2</td>
<td>1.0494</td>
<td>0.5247</td>
<td>1.27</td>
<td>0.2861</td>
</tr>
<tr>
<td>Residual</td>
<td>87</td>
<td>35.9545</td>
<td>0.4132</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>37.0040</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 8
Analysis of Variance of Pretest Femininity Scale
for All Groups
n = 90

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F Ratio</th>
<th>F Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest Groups</td>
<td>2</td>
<td>0.3956</td>
<td>0.1978</td>
<td>0.82</td>
<td>0.4447</td>
</tr>
<tr>
<td>Residual</td>
<td>87</td>
<td>21.0401</td>
<td>0.2418</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>21.4358</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A one-way analysis of variance of posttest masculinity and femininity scores indicated that there was not a significant difference between the posttest scores of the control and experimental groups on either scale. This analysis did not consider sex or pretest scores as factors and was therefore not the most accurate test for this model. For the masculinity scale the F ratio was 1.24 (p = 0.2931, 2 and 87 df). For the femininity scale the F ratio
was 0.99 (p = 0.3765, 2 and 87 df). Table 9 contains the summary information for the posttest ratings on the masculinity scale for all treatment groups, and Table 10 contains the summary information for the posttest ratings on the femininity scale for all treatment groups.

Table 9
Analysis of Variance of Posttest Masculinity Scale for All Groups
n = 90

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F Ratio</th>
<th>F Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posttest Groups</td>
<td>2</td>
<td>1.2642</td>
<td>0.6321</td>
<td>1.24</td>
<td>0.2931</td>
</tr>
<tr>
<td>Residual</td>
<td>87</td>
<td>44.1795</td>
<td>0.5078</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>45.4437</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 10
Analysis of Variance of Posttest Femininity Scale for All Groups
n = 90

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F Ratio</th>
<th>F Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posttest Groups</td>
<td>2</td>
<td>0.5607</td>
<td>0.2803</td>
<td>0.99</td>
<td>0.3765</td>
</tr>
<tr>
<td>Residual</td>
<td>87</td>
<td>24.6893</td>
<td>0.2837</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>25.2501</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
However, when the factorial ANOVA was conducted on posttest scores while considering group and sex as factors, there were significant differences occurring due to sex. Keep in mind the ANOVA does not consider pretest scores as a factor. The factorial ANOVA on the posttest masculinity scale yielded an F ratio of 3.29 (p = 0.0093, df 5 and 84). This information is provided in Table 11.

Examination of the partial sums of squares showed that the significant factor was sex, with an F ratio of 10.76 (p = 0.0015). This is presented in Table 12. Examination of the least squares means for sex showed a significant difference between males and females (p = 0.0015). Table 13 contains the least square means for sex on the masculinity scale of the BSRI.

| Table 11 |
| Factorial Analysis of Variance of Posttest Masculinity Scale for All Groups |
| n = 90 |

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F Ratio</th>
<th>F Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explained</td>
<td>5</td>
<td>7.4360</td>
<td>1.4872</td>
<td>3.29</td>
<td>0.0093</td>
</tr>
<tr>
<td>Residual</td>
<td>84</td>
<td>38.0077</td>
<td>0.4524</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>45.4437</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 12
Partial Sums of Squares for Factors in the ANOVA of the Masculinity Scale of the BSRI

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Type III SS</th>
<th>F Ratio</th>
<th>F Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grp</td>
<td>2</td>
<td>1.8991</td>
<td>2.10</td>
<td>0.1290</td>
</tr>
<tr>
<td>Sex</td>
<td>1</td>
<td>4.8676</td>
<td>10.76</td>
<td>0.0015</td>
</tr>
<tr>
<td>Grp*Sex</td>
<td>2</td>
<td>0.8364</td>
<td>0.92</td>
<td>0.4008</td>
</tr>
<tr>
<td>Error</td>
<td>84</td>
<td>38.0077</td>
<td>0.4524</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>45.4437</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 13
Least Square Means for Sex for the Posttest Masculinity Scores for All Groups

<table>
<thead>
<tr>
<th>Sex</th>
<th>LSMeans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>4.9416*</td>
</tr>
<tr>
<td>Male</td>
<td>5.4810*</td>
</tr>
</tbody>
</table>

*p = .0015
The factorial ANOVA on the posttest femininity scale was highly significant, yielding an F ratio of 9.09 (p = 0.0001, df 5 and 84). This is illustrated in Table 14. Examination of the partial sums of squares showed that the significant factor was sex, with an F ratio of 42.50 (p = 0.0001). This information appears in Table 15. Examination of the least squares means for sex showed a significant difference between males and females (p = 0.0001). Table 16 shows the least square means for sex on the femininity scale of the BSRI.

Table 14
Factorial Analysis of Variance of Posttest Femininity Scale for All Groups
n = 90

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F Ratio</th>
<th>F Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explained</td>
<td>5</td>
<td>8.8625</td>
<td>1.7725</td>
<td>9.09</td>
<td>0.0001</td>
</tr>
<tr>
<td>Residual</td>
<td>84</td>
<td>16.3876</td>
<td>0.1950</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>25.2501</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 15
Partial Sums of Squares for Factors in the ANOVA of the Femininity Scale of the BSRI

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Type III SS</th>
<th>F Ratio</th>
<th>F Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grp</td>
<td>2</td>
<td>0.0968</td>
<td>0.25</td>
<td>0.7808</td>
</tr>
<tr>
<td>Sex</td>
<td>1</td>
<td>8.2919</td>
<td>42.50</td>
<td>0.0001</td>
</tr>
<tr>
<td>Grp*Sex</td>
<td>2</td>
<td>0.1075</td>
<td>0.28</td>
<td>0.7598</td>
</tr>
<tr>
<td>Error</td>
<td>84</td>
<td>16.3876</td>
<td>0.1950</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>25.2501</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 16
Least Square Means for Sex for the Posttest Femininity Scores for All Groups

<table>
<thead>
<tr>
<th>Sex</th>
<th>LSMeans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>5.3839*</td>
</tr>
<tr>
<td>Male</td>
<td>4.6800*</td>
</tr>
</tbody>
</table>

*p = .0001
Although the factorial ANOVA showed sex to be significantly related to scores on both the masculinity and the femininity scales, the factorial ANOVA was not the most efficient test for this model. It does not consider pretest scores as a factor and the overall results can therefore be misleading. When these results are compared to the factorial ANCOVA it becomes obvious how important pretest scores are in accurately defining significant interactions.

The Pearson correlation between the posttest scores and the pretest scores were significant for all three groups at the 0.0001 level. Group A Pearson r = .81; Group B Pearson r = .88; and Group C Pearson r = .92. Pretest scores were positively, significantly correlated with the posttest scores. Subjects who were in the control and experimental groups were considered to be assigned randomly. As suggested by Kennedy (1978, p. 417) these two factors indicate an appropriate situation in which to use the analysis of covariance, with the pretest scores used as the covariate.

Table 17 contains the summary of the factorial analysis of covariance for the masculinity scale of the BSRI with the pretest scores as the covariate. The F ratio was 51.20 (p = 0.0001). This communicates that one or more of the four factors in the model had a significant impact on the posttest scores. Table 18 illustrates the partial sum of
squares for factors in the ANCOVA of the masculinity scale of the BSRI. There is a significant interaction between group and sex with an F ratio of 4.00 (p = 0.0219). Notice also that the pretest masculinity scale has an F ratio of 243.33 (p = 0.0001) illustrating that pretest scores are significantly related to posttest scores.

Least square means were examined for the masculinity scale to find the interaction of group and sex, they appear in Table 19. Table 20 contains the probability values for testing the hypothesis that any particular pair of least square means are equal to each other. Note the starred significant differences. Figure 1 further illustrates Table 19 and shows that Group A males were significantly different from Group C males (p = 0.0161), and Group A males were significantly different from Group A and B females (p = 0.0168, and 0.0342, respectively). Group A raised the masculinity scores for males as compared to males in the control, Group C (p = 0.0161). Notice that masculinity levels for males appear to increase in both Group A and Group B as compared to the control Group C but significance only occurs for Group A males. Females masculinity scores were not increased by either Group A or Group B, and in fact, are lower than females' masculinity scores in the control Group C.
### Table 17
Factorial Analysis of Covariance for the Masculinity Scale of the BSRI with Pretest Scores as the Covariate

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explained</td>
<td>6</td>
<td>35.7768</td>
<td>5.9628</td>
<td>51.20*</td>
</tr>
<tr>
<td>Residual</td>
<td>83</td>
<td>9.6669</td>
<td>0.1164</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>45.4437</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p = .0001

### Table 18
Partial Sums of Squares for Factors in the ANCOVA of the Masculinity Scale of the BSRI

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Type III SS</th>
<th>F Ratio</th>
<th>F Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRP</td>
<td>2</td>
<td>0.2643</td>
<td>1.13</td>
<td>0.3264</td>
</tr>
<tr>
<td>Sex</td>
<td>1</td>
<td>0.0543</td>
<td>0.47</td>
<td>0.4965</td>
</tr>
<tr>
<td>Grp*Sex</td>
<td>2</td>
<td>0.9320</td>
<td>4.00</td>
<td>0.0219</td>
</tr>
<tr>
<td>PREM</td>
<td>1</td>
<td>28.3408</td>
<td>243.33</td>
<td>0.0001</td>
</tr>
<tr>
<td>Error</td>
<td>83</td>
<td>9.6669</td>
<td>0.1164</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>45.4437</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 19
Least Square Means for Group and Sex Interaction for the Posttest Masculinity Scores for All Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Sex</th>
<th>LSMeans</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Female</td>
<td>5.0091</td>
</tr>
<tr>
<td>A</td>
<td>Male</td>
<td>5.3459</td>
</tr>
<tr>
<td>B</td>
<td>Female</td>
<td>5.0358</td>
</tr>
<tr>
<td>B</td>
<td>Male</td>
<td>5.1265</td>
</tr>
<tr>
<td>C</td>
<td>Female</td>
<td>5.1493</td>
</tr>
<tr>
<td>C</td>
<td>Male</td>
<td>4.9039</td>
</tr>
</tbody>
</table>
Table 20
Probability Values for Pairwise Tests of Equivalence of Least Square Means for Group by Sex Interaction for the Posttest Masculinity Scores for All Groups

<table>
<thead>
<tr>
<th></th>
<th>A-Fe</th>
<th>A-Ma</th>
<th>B-Fe</th>
<th>B-Ma</th>
<th>C-Fe</th>
<th>C-Ma</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-Fe</td>
<td></td>
<td>0.0168*</td>
<td>0.8002</td>
<td>0.4047</td>
<td>0.1647</td>
<td>0.5120</td>
</tr>
<tr>
<td>A-Ma</td>
<td>0.0168*</td>
<td></td>
<td>0.0342*</td>
<td>0.1950</td>
<td>0.1632</td>
<td>0.0161*</td>
</tr>
<tr>
<td>B-Fe</td>
<td>0.8002</td>
<td>0.0342*</td>
<td></td>
<td>0.5299</td>
<td>0.2753</td>
<td>0.4261</td>
</tr>
<tr>
<td>B-Ma</td>
<td>0.4047</td>
<td>0.1950</td>
<td>0.5299</td>
<td></td>
<td>0.8716</td>
<td>0.2350</td>
</tr>
<tr>
<td>C-Fe</td>
<td>0.1647</td>
<td>0.1632</td>
<td>0.2753</td>
<td>0.8716</td>
<td></td>
<td>0.1316</td>
</tr>
<tr>
<td>C-Ma</td>
<td>0.5120</td>
<td>0.0161*</td>
<td>0.4261</td>
<td>0.2350</td>
<td>0.1316</td>
<td></td>
</tr>
</tbody>
</table>

*Significant Least Square Means
Figure 1
Least Square Means for the Masculinity Scale of the BSRI
Showing Interaction of Group and Sex with Pretest Scores as the Covariate
Table 21 provides the summary of the factorial analysis of covariance for the femininity scale, showing the F ratio was 39.59 \( (p = 0.0001) \). This communicates that one or more of the four factors in the model had a significant impact on the posttest scores. Table 22 illustrates the partial sums of squares for factors in ANCOVA of the masculinity scale of the BSRI. Nearly significant, and certainly of interest, is that the group differences yielded an F ratio of 2.90 \( (p = 0.0607) \). Note that the pretest femininity scale has an F ratio of 125.05 \( (p = 0.0001) \) illustrating that pretest scores are significantly related to posttest scores. Notice also that the interaction between group and sex was not significant.

Least square means were examined for the femininity scale to find the interaction of group, they appear in Table 23. Table 24 contains the probability values for testing the hypothesis that any particular pair of least square means are equal to each other. Note the starred significant differences between Group A and Group B \( (p = 0.0186) \). In order to visualize overall differences in groups, Table 25 lists the least square means for group by sex interaction and Figure 2 further illustrates Table 25 showing how Group A and Group B were significantly different from each other. Because there was not any significant interaction between group and sex, no other assured statements can be made. It does appear, however,
that Group A raised the femininity scores for males as compared to males in Group B. Notice also that it appears as though the femininity scores were increased for both sexes in Group A as compared to Group B where femininity scores were lowered as compared to the control Group C. These differences were not significant.

Table 21
Factorial Analysis of Covariance for the Femininity Scale of the BSRI with Pretest Scores as the Covariate

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>6</td>
<td>18.7124</td>
<td>3.1187</td>
<td>39.59*</td>
</tr>
<tr>
<td>Error</td>
<td>83</td>
<td>6.5376</td>
<td>0.0787</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>25.2501</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p = .0001

Table 22
Partial Sums of Squares for Factors in the ANCOVA of the Femininity Scale of the BSRI

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Type III SS</th>
<th>F Ratio</th>
<th>F Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRP</td>
<td>2</td>
<td>0.4564</td>
<td>2.90</td>
<td>0.0607</td>
</tr>
<tr>
<td>Sex</td>
<td>1</td>
<td>0.1203</td>
<td>1.53</td>
<td>0.2199</td>
</tr>
<tr>
<td>Grp*Sex</td>
<td>2</td>
<td>0.1639</td>
<td>1.04</td>
<td>0.3578</td>
</tr>
<tr>
<td>PREF</td>
<td>1</td>
<td>9.8499</td>
<td>125.05</td>
<td>0.0001</td>
</tr>
<tr>
<td>Error</td>
<td>83</td>
<td>9.6669</td>
<td>0.1164</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>45.4437</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 23
Least Square Means for Group for the Posttest Femininity Scores for All Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>LSMeans</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>5.2679</td>
</tr>
<tr>
<td>B</td>
<td>5.0727</td>
</tr>
<tr>
<td>C</td>
<td>5.1893</td>
</tr>
</tbody>
</table>

Table 24
Probability Values for Pairwise Tests of Equivalence of Least Square Means for Group for the Posttest Femininity Scores for All Groups

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>.</td>
<td>0.0186*</td>
<td>0.3581</td>
</tr>
<tr>
<td>B</td>
<td>0.0186*</td>
<td>.</td>
<td>0.1832</td>
</tr>
<tr>
<td>C</td>
<td>0.3581</td>
<td>0.1832</td>
<td>.</td>
</tr>
</tbody>
</table>

*Significant Least Square Means
### Table 25
Least Square Means for Group and Sex Interaction for the Posttest Femininity Scores for All Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Sex</th>
<th>LSMMeans</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Female</td>
<td>5.2545</td>
</tr>
<tr>
<td>A</td>
<td>Male</td>
<td>5.2812</td>
</tr>
<tr>
<td>B</td>
<td>Female</td>
<td>5.1485</td>
</tr>
<tr>
<td>B</td>
<td>Male</td>
<td>4.9968</td>
</tr>
<tr>
<td>C</td>
<td>Female</td>
<td>5.2880</td>
</tr>
<tr>
<td>C</td>
<td>Male</td>
<td>5.0907</td>
</tr>
</tbody>
</table>
Figure 2
Least Square Means for the Femininity Scale of the BSRI
Showing Interaction of Group and Sex with Pretest Scores as the Covariate
Analysis of Categorical Information

The qualitative information that follows includes subjects' pretest and posttest category scores as determined by the median-split method of categorization outlined in the Bem Sex-Role Inventory professional manual (Bem, 1981). Table 26 illustrates the norms used for categorization.

Table 26
Raw Score Means, Medians, and Standard Deviations from the Normative Sample (Bem, 1981) for the Femininity and Masculinity Scales of the Bem Sex-Role Inventory

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Median</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Femininity</td>
<td>4.82</td>
<td>4.90</td>
<td>.59</td>
</tr>
<tr>
<td>Masculinity</td>
<td>4.95</td>
<td>4.95</td>
<td>.68</td>
</tr>
</tbody>
</table>
Information regarding overall sample scores on the pretest masculinity scale (PREM), the posttest masculinity scale (POSM), the pretest femininity scale (PREF), and the posttest femininity scale (POSF) are presented in Table 27. Table 28 presents this same information separated by treatment group.

Table 27
Pretest and Posttest, Masculinity and Femininity Scale Information
n = 90

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>Lowest Score</th>
<th>Highest Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>PREM</td>
<td>5.00</td>
<td>.64</td>
<td>3.55</td>
<td>6.85</td>
</tr>
<tr>
<td>POSM</td>
<td>5.08</td>
<td>.71</td>
<td>3.75</td>
<td>6.95</td>
</tr>
<tr>
<td>PREF</td>
<td>5.12</td>
<td>.49</td>
<td>3.35</td>
<td>6.00</td>
</tr>
<tr>
<td>POSF</td>
<td>5.20</td>
<td>.53</td>
<td>3.10</td>
<td>6.35</td>
</tr>
</tbody>
</table>
Table 28
Pretest and Posttest, Masculinity and Femininity Scale
Information by Treatment Group

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>Lowest Score</th>
<th>Highest Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GROUP A</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n = 32</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PREM</td>
<td>5.13</td>
<td>.64</td>
<td>3.55</td>
<td>6.25</td>
</tr>
<tr>
<td>POSM</td>
<td>5.23</td>
<td>.67</td>
<td>3.80</td>
<td>6.75</td>
</tr>
<tr>
<td>PREF</td>
<td>5.03</td>
<td>.54</td>
<td>3.35</td>
<td>5.85</td>
</tr>
<tr>
<td>POSF</td>
<td>5.18</td>
<td>.60</td>
<td>3.10</td>
<td>6.10</td>
</tr>
<tr>
<td><strong>GROUP B</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n = 28</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PREM</td>
<td>4.87</td>
<td>.56</td>
<td>3.55</td>
<td>6.30</td>
</tr>
<tr>
<td>POSM</td>
<td>4.94</td>
<td>.69</td>
<td>3.75</td>
<td>6.15</td>
</tr>
<tr>
<td>PREF</td>
<td>5.13</td>
<td>.46</td>
<td>3.90</td>
<td>5.85</td>
</tr>
<tr>
<td>POSF</td>
<td>5.11</td>
<td>.45</td>
<td>4.10</td>
<td>6.10</td>
</tr>
<tr>
<td><strong>GROUP C</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n = 30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PREM</td>
<td>4.97</td>
<td>.70</td>
<td>3.65</td>
<td>6.85</td>
</tr>
<tr>
<td>POSM</td>
<td>5.07</td>
<td>.76</td>
<td>3.90</td>
<td>6.95</td>
</tr>
<tr>
<td>PREF</td>
<td>5.19</td>
<td>.45</td>
<td>4.30</td>
<td>6.00</td>
</tr>
<tr>
<td>POSF</td>
<td>5.31</td>
<td>.51</td>
<td>4.15</td>
<td>6.35</td>
</tr>
</tbody>
</table>
Categorical data for the overall sample is illustrated in Table 29, which shows the masculine (M), feminine (F), androgynous (A), and undifferentiated (U) numbers of subjects both on pretest and posttest. Table 29 illustrates that from pretest to posttest the percent of subjects categorized as masculine and feminine decreased and the percent of subjects categorized as androgynous increased from 27.8% to 40%. This same categorical information on pretest and posttest scores is shown by treatment group in Table 30.

Table 29
Pretest and Posttest Categorical Information
n = 90

<table>
<thead>
<tr>
<th></th>
<th>Pretest</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>M</td>
<td>23</td>
<td>25.60</td>
</tr>
<tr>
<td>F</td>
<td>37</td>
<td>41.10</td>
</tr>
<tr>
<td>A</td>
<td>25</td>
<td>27.80</td>
</tr>
<tr>
<td>U</td>
<td>5</td>
<td>5.60</td>
</tr>
</tbody>
</table>
Table 30
Pretest and Posttest Categorical Information
by Treatment Group

<table>
<thead>
<tr>
<th></th>
<th>Pretest</th>
<th></th>
<th>Posttest</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>GROUP A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n = 32</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>10</td>
<td>31.30</td>
<td>5</td>
<td>15.60</td>
</tr>
<tr>
<td>F</td>
<td>7</td>
<td>21.90</td>
<td>10</td>
<td>31.30</td>
</tr>
<tr>
<td>A</td>
<td>12</td>
<td>37.50</td>
<td>16</td>
<td>50.00</td>
</tr>
<tr>
<td>U</td>
<td>3</td>
<td>9.40</td>
<td>1</td>
<td>3.10</td>
</tr>
<tr>
<td>GROUP B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n = 28</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>8</td>
<td>28.60</td>
<td>5</td>
<td>17.90</td>
</tr>
<tr>
<td>F</td>
<td>16</td>
<td>57.10</td>
<td>12</td>
<td>42.90</td>
</tr>
<tr>
<td>A</td>
<td>4</td>
<td>14.30</td>
<td>9</td>
<td>32.10</td>
</tr>
<tr>
<td>U</td>
<td>0</td>
<td></td>
<td>2</td>
<td>7.10</td>
</tr>
<tr>
<td>GROUP C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n = 30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>5</td>
<td>16.70</td>
<td>4</td>
<td>13.30</td>
</tr>
<tr>
<td>F</td>
<td>14</td>
<td>46.70</td>
<td>13</td>
<td>43.30</td>
</tr>
<tr>
<td>A</td>
<td>9</td>
<td>30.00</td>
<td>11</td>
<td>36.70</td>
</tr>
<tr>
<td>U</td>
<td>2</td>
<td>6.70</td>
<td>2</td>
<td>6.70</td>
</tr>
</tbody>
</table>
Table 31 illustrates the information in Table 29 and Table 30 by charting the posttest categories against the pretest categories to show the changes that occurred. Of the 23 subjects who scored masculine on the pretest, 14 scored masculine on the posttest, six scored androgynous, and three scored undifferentiated. Of the 37 subjects who scored feminine on the pretest, 29 scored feminine on the posttest, seven scored androgynous, and one scored undifferentiated. Of the 25 subjects who scored androgynous on the pretest, 22 scored androgynous and three scored feminine on the posttest. And, of the five who scored undifferentiated on the pretest, one scored undifferentiated on the posttest, three scored feminine, and one scored androgynous.

This illustrates a change from 25 subjects scoring androgynous on the pretest to 36 scoring androgynous on the posttest. Chi-square analysis revealed a significant relationship between the subjects' in the overall sample pretest category scores and their posttest category scores (Chi-square value = 96.039, p = 0.0001, 9 df).
Table 31
Pretest Categories by Posttest Categories
for All Groups
n = 90

<table>
<thead>
<tr>
<th>Posttest</th>
<th>M</th>
<th>F</th>
<th>A</th>
<th>U</th>
<th>Pretest Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>14</td>
<td>0</td>
<td>6</td>
<td>3</td>
<td>23</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
<td>29</td>
<td>7</td>
<td>1</td>
<td>37</td>
</tr>
<tr>
<td>A</td>
<td>0</td>
<td>3</td>
<td>22</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td>U</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Totals</td>
<td>14</td>
<td>35</td>
<td>36</td>
<td>5</td>
<td>90</td>
</tr>
</tbody>
</table>
Examination of changes by treatment group is necessary to see how these changes were affected; this information is presented in Table 32 for Group A, Table 33 for Group B, and Table 34 for Group C. Chi-square tests were significant \((p = 0.0001)\) for all three groups, showing a significant relationship between subjects' category at pretest and their category at posttest (Group A Chi-square value = 29.810, 9 df; Group B Chi-square value = 28.875, 6 df; Group C Chi-square value = 47.002, 9 df).

Table 32
Pretest Categories by Posttest Categories for Treatment Group A
\(n = 32\)

<table>
<thead>
<tr>
<th>Pretest</th>
<th>Posttest</th>
<th>M</th>
<th>F</th>
<th>A</th>
<th>U</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>F</td>
<td></td>
<td></td>
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<td>7</td>
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<tr>
<td>A</td>
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<td>U</td>
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<tr>
<td>Totals</td>
<td></td>
<td>5</td>
<td>10</td>
<td>16</td>
<td>1</td>
<td>32</td>
</tr>
</tbody>
</table>
Table 33  
Pretest Categories by Posttest Categories  
for Treatment Group B  
n = 28

<table>
<thead>
<tr>
<th>Pretest</th>
<th>Posttest M</th>
<th>Posttest F</th>
<th>Posttest A</th>
<th>Posttest U</th>
<th>Pretest Totals</th>
</tr>
</thead>
<tbody>
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</tr>
<tr>
<td>F</td>
<td>0</td>
<td>12</td>
<td>3</td>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td>A</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>4</td>
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<tr>
<td>U</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tbody>
</table>

Posttest Totals 5 12 9 2 28
Table 34
Pretest Categories by Posttest Categories for Treatment Group C
n = 30

<table>
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<tr>
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<th>Posttest</th>
<th>M</th>
<th>F</th>
<th>A</th>
<th>U</th>
<th>Pretest Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Posttest</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>0</td>
<td>11</td>
<td>3</td>
<td>0</td>
<td>14</td>
</tr>
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<td></td>
<td>A</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>U</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>4</td>
<td>13</td>
<td>11</td>
<td>2</td>
<td>30</td>
</tr>
</tbody>
</table>
Chi-square analysis for independence of experimental groups and sex-role categorical change was not significant (Chi-square value = 1.694, p = 0.429, 2 df), revealing little relationship between the group subjects were in and whether or not subjects changed categories. This information was considered less accurate than the quantitative analysis that was performed on subjects' raw scores. It is reported here as a point of interest because this has been the primary method for analyzing the BSRI in the past. The median-split method of categorization has been criticized for the loss of information that occurs through grouping. This study did not use difference scores but rather examined effects through the more sophisticated factorial analysis of covariance, using pretest data as the covariate.

Summary of Results

Null hypothesis one stated: Posttest scores will not be significantly affected by group, sex, group by sex interaction, or pretest scores on the masculinity scale of the BSRI. The most accurate test of this hypothesis was the factorial analysis of covariance performed on the masculinity posttest scores using the pretest scores as the covariate. When the most stringent partial sums of squares were examined a significant interaction between group and sex occurred with an F ratio of 4.00 (p = 0.0219), and a significant interaction between pretest and posttest scores
was seen with an F ratio of 243.33 (p = 0.0001). Null hypothesis one was therefore rejected.

Null hypothesis two stated: Posttest scores will not be significantly affected by group, sex, group by sex interaction, or pretest scores on the femininity scale of the BSRI. Again, the most exacting test of this hypothesis was the factorial analysis of covariance performed on the femininity posttest scores using the pretest scores as the covariate. When the most stringent partial sums of squares were examined, posttest scores were found to be significantly related to group. What group subjects were in was significantly related to differences in posttest scores on the femininity scale. The F ratio was 2.90 (p = 0.0607). Pretest and posttest scores were again significantly related yielding an F ratio of 125.05 (p = 0.0001). Null hypothesis two was therefore also rejected.
CHAPTER V
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This concluding chapter contains a summary of the study and a discussion of the results of the data analysis as related to the goals of the study. The chapter is organized into the following sections: (1) summary, (2) findings, (3) conclusions, and (4) recommendations for further research.

Summary

Occupational information on women and men shows a stereotyping of occupations. Women and men most often seek traditional careers and pursuits. The government has become increasing interested in eliminating the negative effects of stereotyping on women because data has shown that women who are heads of households are often at the poverty level due to their high rate of participation in low-paying, part-time jobs with little room for advancement (U.S. Department of Labor, 1988a). The government has looked to education to eliminate sex-role stereotyping and advance students' pursuit of nontraditional jobs, which can offer increased wages and benefits, particularly for women. The literature on sex equity in education points to
a need to refine and examine the impact of interventions designed to help teachers become more sex-fair in their attitudes and behaviors so that they are more able to encourage sex-fair attitudes and behaviors in the students they teach.

The literature has shown one field of thought that argues for the importance of instruction in sex equity and sex-fair teaching techniques. Teach people the importance of sex equity and how they can be more sex-fair and they will see the need and try the new behaviors. Another field of thought has been that if you teach people how to be assertive and express their needs, and how to make decisions easily and effectively, they will be able to choose sex-fairness as desirable and important. There are still other theories about how to increase nontraditional behaviors, encourage sex equity in education, and advance androgyny, which has been considered preferable to sex-typed masculine or feminine behavior.

Also recommended in the literature is that preservice teacher education programs should include sex equity issues and instruction in sex-fair teaching behavior. The purpose of this study was to determine if interventions designed to influence sex-role attitudes of preservice teachers significantly affected their attitudes as measured by the Bem Sex-Role Inventory. The Bem Sex-Role Inventory offers stereotypically-judged traits and behaviors and asks
individuals to rate themselves on how true these descriptors are of them. Individuals are then categorized as masculine, feminine, androgynous, or undifferentiated, or subjects raw scores are used to obtain information on effects or changes in their attitudes. Research on androgyny has been mixed; however, it is still most commonly advanced that if individuals are stereotypically sex-typed, their range of acceptable behaviors are limited unnecessarily and often to their disadvantage.

This study specifically asked two research questions about the impact of interventions on preservice teachers sex-role attitudes:

1. How are preservice teachers sex-role attitudes affected by participation in workshops designed to provide information on sex-role stereotypes and the changing roles of women in the work force?

2. How are preservice teachers sex-role attitudes affected by participation in workshops designed to build skills in assertiveness and decision making?

The methodology of this study consisted of employing a randomized pretest-posttest control-group research design with two experimental groups and one control group. Treatment group A was presented with information regarding the changing roles of women and men in today's society (Appendix D). This consisted of occupational information about the number of women in the labor force, the average
salaries for women and men, and the number of years women can expect to work. Definitions, as well as an introduction to the concepts, of the following terms were provided: sex-role stereotyping, sex-fair language and behavior, sex equity, and nontraditional jobs, among others. Information was also provided on the negative impact of sex-role stereotyping on human development. Two videotapes were shown, one that provided nontraditional role models, and one that illustrated sex-fair and sex-biased teacher behavior.

Treatment group B received skills-training in assertive communication and decision making (Appendix E). This group discussed the differences between passive, aggressive, and assertive behavior. They also reviewed the steps to effective decision making. They role-played in groups to try out these behaviors and they practiced responding assertively and making decisions in situations personal to them. Group C was a no-treatment, control group.

Facilitators for the groups were matched by background, interest, and experience and were randomly assigned as leaders of the two experimental groups. Subjects consisted of 90 individuals randomly selected from all students enrolled spring quarter of 1988 in a Freshman Early Experiencing Program course for preservice teachers in the College of Education at The Ohio State University. This course is designed to provide students with actual teaching
experiences and to help students focus their perceptions on themselves as teachers in order to decide if they want to pursue teaching as a career.

The median-split method endorsed by Spence and Helmreich (1979) and outlined in the BSRI professional manual (Bem, 1981) was employed for this study to classify subjects into one of the four sex-role categories: masculine, feminine, androgynous, and undifferentiated. The normative group was that supplied by the BSRI professional manual (Bem, 1981). This manual was followed for categorization procedures and a chi-square analysis was performed to examine category changes.

For all other statistical procedures in this study, subjects were not classified into sex-role groups, but rather, subjects' raw scores were used for data analyses. The most reliable statistical analysis performed was a factorial analysis of covariance using pretest raw score means as covariates. Subjects' final test score means were used to distinguish interactions between the independent variables and to identify the factors operating on the dependent variable. Factorial analysis of covariance can improve design efficiency and is recommended by Kennedy and Bush (1985) as a marriage between conventional analysis of variance and regression analysis. The concomitant information, or covariate, is used within a regression context to reduce error variance. This procedure is
recommended by Campbell and Stanley (1963) and Kennedy and Bush (1985) as preferable to the use of difference scores.

The variables in the factorial analysis of covariance consisted of the following:

1. Independent variables - Group, sex, group by sex interaction, and pretest scores.
2. Dependent variables - Posttest scores on the BSRI masculinity scale and femininity scale.
3. Covariates - Pretest scores on the BSRI masculinity scale and femininity scale.

**Findings**

The research hypotheses tested at the .05 level of significance were:

1. Posttest scores will not be significantly affected by group, sex, group by sex interaction, or pretest scores on the masculinity scale of the Bem Sex-Role Inventory.
2. Posttest scores will not be significantly affected by group, sex, group by sex interaction, or pretest scores on the femininity scale of the Bem Sex-Role Inventory.

To test the first hypothesis a factorial analysis of covariance was performed on the masculinity posttest scores using the pretest scores as the covariate. When the most stringent partial sums of squares were examined a significant interaction between group and sex occurred with an F ratio of 4.00 (p = 0.0219), and a significant interaction between pretest and posttest scores was found.
with an F ratio of 243.33 (p = 0.0001). Null hypothesis one was therefore rejected.

The results were that group A males' masculinity scores were significantly increased as compared to the control group C males' masculinity scores (p = 0.0161). Group A males' masculinity scores were significantly increased as compared to group A and group B females' masculinity scores (p = 0.0168, and 0.0342, respectively). Masculinity scores for males appeared to increase in both group A and group B as compared to the control group C but significance only occurred for group A males. Females' masculinity scores were not increased by either group A or group B, and in fact, were lowered in both groups as compared to females' masculinity scores in the control group C.

To test the second hypothesis a factorial analysis of covariance was performed on the femininity posttest scores using the pretest scores as the covariate. When the most stringent partial sums of squares were examined, posttest scores were found to be significantly related to group. What group subjects were in was significantly related to differences in posttest scores on the femininity scale. The F ratio was 2.90 (p = 0.0607). Pretest and posttest scores were again significantly related yielding an F ratio of 125.05 (p = 0.0001). Null hypothesis two was therefore also rejected.
The results showed that group A and group B were significantly different from each other. Group A raised the femininity scores for males and females significantly as compared to males and females in group B. Group A males' femininity scores were also higher than the control group, however not to a significant level. Also, femininity scores were decreased for both sexes in group B as compared to the control group C, however, these differences were also not significant.

Conclusions

1. It was found that Treatment A did not increase females' masculinity scores as was intended by the treatment. It was concluded that Treatment A was not effective at expanding females' sex-role stereotypic attitudes. One explanation as to why Treatment A was not effective may be that the duration of time was not extensive enough. Grandinetti (1979) also had limited success at changing females' sex-role stereotypic attitudes with treatments that were two and one-half hours and five hours in length. Another possible explanation as to why Treatment A was not effective may be that it was not intensive enough to impact female preservice teachers. Vendovato and Vaughter (1980) succeeded in significantly raising female college students' masculinity scores through psychology courses that examined developmental issues related to sex-role stereotyping. The lack of impact of
this treatment on females coupled with its strong impact on males may support the limiting effects of sex-role stereotyping on women.

With regard to general stereotypic behavior, women have been raised not to take risks and not to perceive power toward movement into new endeavors (Sadker & Sadker, 1985). Because women have generally been in an inferior position as compared to men (Franks & Rothblum, 1983), it may be necessary not only to discuss the impact of stereotyping on individuals and the need for reform, but also to more fully immerse women in new nontraditional attitudes and behaviors while giving them support, acceptance, and encouragement.

2. It was also found that Treatment A did not significantly impact females' femininity scores. It was speculated that females' femininity scores might decrease after learning information about the negative impact of sex-role stereotyping on women. Once again, it was concluded that Treatment A was not effective for females. A possible explanation for the lack of impact on females might relate with what Telis (1986) found when working with female nursing students. Teaching and nursing are both stereotypically feminine career choices, attracting women who often have a strong feminine preference (Telis, 1986). Using an adapted BSRI to gain information on sex-role preference, Telis found that feminine identity-feminine
preference subjects were much more resistant to change than feminine identity-androgynous preference subjects. The preservice teachers participating in Treatment A may have been more resistant to change due to a feminine preference developed as a result of their acceptance of traditional stereotypes.

3. Regarding males, it was found that Treatment A significantly increased males' femininity scores. It was therefore concluded that Treatment A was effective for males. One possible explanation for this increase in males' femininity scores may be that the socialization of males, which in general includes more reinforcement for taking risks and making decisions (Sadker & Sadker, 1982a; Serbin & O'Leary, 1975), afforded them an ease to take the risk of accepting the new information and adopting new nontraditional attitudes without great fear of rejection. Traditionally, males have been raised to seek and hold power in this society (Spence & Helmreich, 1978), and these findings and others (Ridley, Lamke, Avery, & Harrell, 1982) may illustrate the advantages of this position.

4. An interesting finding was that Treatment A also increased males' masculinity scores. Although it was concluded that Treatment A was effective for males, it was not expected that Treatment A would increase males' masculinity scores. One possible explanation is that because of the negative impact of stereotyping on women
that was discussed in Treatment A, males may have reacted strongly by growing in the masculine domain in an effort to avoid any of the limiting effects associated with femininity.

Another explanation is worth consideration, although it is unlikely due to the strong validity of the BSRI. Because this group of males was pursuing a stereotypically feminine profession, their increased masculinity scores may have reflected an acceptance of their masculinity that had previously been suppressed. The question is whether their masculinity scores were actually increased or just allowed to surface and be acceptable. Other studies support the ease of altering males' femininity scores (Ridley, Lamke, Avery, & Harrell, 1982); however, none have discussed a concurrent increase in males' masculinity scores.

5. Regarding Treatment B, it was found that femininity scores for both males and females were decreased as compared to both other groups. It was also found that masculinity scores were not increased for females, and were only slightly increased for males. It was concluded that Treatment B was not an effective intervention for altering sex-role attitudes of male or female preservice teachers. One possible explanation for the decrease in femininity scores in both sexes may be that the first step toward being more assertive and a stronger decision-maker, which would probably show up as an increase in the masculinity
score, is to be less indecisive and less passive (Berzins, 1979), accounting for the decrease in the femininity scores.

6. It was found by examination of category scores that subjects were often typed according to their sex, and it was therefore concluded that preservice teachers do hold sex-role stereotypic attitudes. This finding is supported by other research with preservice teachers (Connell, 1983; Grandinetti, 1979), and indicates a need for teacher education institutions to initiate interventions to encourage more exploration of nontraditional careers for women. Even if they stay with a traditional career, they may operate at a higher level.

Recommendations for Further Research

1. Based upon the findings that female preservice teachers do hold sex-role stereotypic attitudes and that little impact was made on females with these interventions, it is recommended that interventions be designed for females that are longer and include additional content areas. Research suggests that these interventions may incorporate efforts to empower females, opportunities to try out new nontraditional behaviors in other career settings, experiences with nontraditional role models, and a more intensive examination of how stereotypes affect development (Vendovato and Vaughter, 1980). More intensive
and extensive interventions may have a greater impact on females.

2. Based upon the findings that preservice teachers do hold sex-role stereotypic attitudes and that an impact was made on males, and because research suggests interventions can alter sex-role stereotypic attitudes, it is recommended that short-term instructional treatments, which can relatively easily be incorporated into teacher education programs, be included in the preservice training of teachers to alter sex-role stereotypic attitudes. This recommendation is in agreement with other research that suggests sex equity training for preservice teachers is necessary (Telis, 1986; Connell, 1983; Grandinetti, 1979).

3. Because females' sex-role stereotypic attitudes appear to be so difficult to change, it is recommended that interventions occur with females at an early age. Sadker and Sadker (1986) found that children, by age five, already hold sex-role stereotypic attitudes. Teachers must continue to try to impact these attitudes if the limiting effects of stereotyping are to be reversed.

4. It is recommended that inservice sex equity training of teachers be continued and perhaps replication of this study with teachers in the field may be useful to compare and substantiate results. It may become evident, if results are similar to those obtained in this study, that individuals must be separated into groups based on sex
and sex-role attitude category, and that different interventions be designed for these different groups.

5. It is also recommended that this study be replicated with students seeking a traditionally masculine career to see if females and males have similar or reversed reactions to the interventions. Perhaps more research similar to Telis' (1986) showing a correlation between sex-role preference and degree of change in sex-role attitudes will offer more enlightenment as to appropriate interventions for individuals.

6. It is further recommended that follow-up studies be conducted with the individuals in this study to see if new ideas have been planted that might stimulate the development of nontraditional attitudes and behaviors over time.
LIST OF REFERENCES


121


Fear-Fenn, M. B. (1986, November). Monograph: Women and men: Preparing for the future. (Available from: The Center for Sex Equity, The Ohio State University, Instructional Materials Laboratory, 842 West Goodale Boulevard, Columbus, OH 43212.)


Ohio Department of Education. (1986). *Career choices in vocational education: Is this the job for me?* [Film]. (Available from the Division of Vocational and Career Education, Trade and Industrial Section, 65 South Front Street, Columbus, OH 43216.)


Slater, S. & Cibrowski, L. (1987, March). *Monograph: Infusing sex equity into the curriculum.* (Available from: The Center for Sex Equity, The Ohio State University, Instructional Materials Laboratory, 842 West Goodale Boulevard, Columbus, OH 43212.)


APPENDIX A

LETTER TO STUDENTS
I am engaged in my yearly review of FEEP curriculum and activities. I have some new materials that I would like to try out to see if they should be included in the FEEP curriculum for next year. I need students to help me evaluate the activities. Therefore, I am asking you to report to (two different rooms were listed here) from 11:00 - 1:00 on Friday, May 13th and Friday, May 20th. You will do this instead of going to the field placement. Please let your cooperating teacher know you will not be at school for those two days.

Please be on time so we can finish around 1:00!
BEM INVENTORY

Developed by Sandra L. Bem, Ph.D.

Name __________________________________________  , ______A ge____________S ex__________

Phone No. or Address __________________________________________________________________________

Date ___________________1 9 ____________________________________________________________________

If a student: School _______________________________________________________ Yr. in School ______

If not a student: Occupation _________________________________________________________________

DIRECTIONS

On the opposite side of this sheet, you will find listed a number of personality characteristics. We would like you to use those characteristics to describe yourself, that is, we would like you to indicate, on a scale from 1 to 7, how true of you each of these characteristics is. Please do not leave any characteristic unmarked.

Example: sly
Write a 1 if it is never or almost never true that you are sly.
Write a 2 if it is usually not true that you are sly.
Write a 3 if it is sometimes but infrequently true that you are sly.
Write a 4 if it is occasionally true that you are sly.
Write a 5 if it is often true that you are sly.
Write a 6 if it is usually true that you are sly.
Write a 7 if it is always or almost always true that you are sly.

Thus, if you feel it is sometimes but infrequently true that you are "sly," never or almost never true that you are "malicious," always or almost always true that you are "irresponsible," and often true that you are "carefree," then you would rate these characteristics as follows:

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<td>Reliable</td>
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<td>Have leadership abilities</td>
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<td>Eager to soothe hurt feelings</td>
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APPENDIX C

LETTER TO PANEL MEMBERS
TO: SELECTED PANEL OF EXPERTS  
FROM: MARCIA FEAR-FENN  
DATE: MAY 4, 1988  
RE: CURRICULUM APPROVAL

As part of my doctoral dissertation, I have designed two curriculums as experimental treatments for preservice teachers. I am then going to evaluate the impact of the treatments on sex-role attitudes.

Being an expert in your field, I am asking you to approve the curriculums if you believe they effectively teach students what they have been designed to teach. The goals and intent appear in the introduction to each curriculum.

Please evaluate and approve each curriculum separately.

If you have any questions, please call me at 292-5001 from 8:00am to 5:00pm or at 879-8131 evenings and weekends. Thank you for your time and consideration.

Sign below to signify approval of Treatment A: INSTRUCTION IN SEX EQUITY FOR PRESERVICE TEACHERS

Name ______________________________

Sign below to signify approval of Treatment B: SKILLS TRAINING IN ASSERTIVENESS AND DECISION MAKING FOR PRESERVICE TEACHERS

Name ______________________________

Please list your title, employer, credentials, and previous training or experience as you would like them to appear in the completed dissertation.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

An envelope is enclosed for return of this form. Curriculums need not be returned. Again, thank you for your time and speedy response.
APPENDIX D

TREATMENT A: INSTRUCTIONAL CURRICULUM
The purpose of this workshop is to provide information, encouragement, and modeling to preservice teachers regarding the following issues: (1) the concepts of sex equity, (2) the changing roles of women and men and their status in the world of work, (3) affects of sex-role socialization on human development, and (4) sex-fair teaching practices. This information is to be provided in an atmosphere of support and acceptance. Along with the information, two videotapes will be shown, one during each of the two sessions.

The first session will introduce sex equity and relevant terms, offer information on the changing work force, and discuss nontraditional occupational choices. A videotape will illustrate personal perspectives of students, employers, teachers, and family members, regarding students who decide to pursue nontraditional occupations.

The second session will focus on how sex-role socialization affects people and how one can be an effective teacher who will eliminate sex-role stereotyping in language, behavior, and curriculum. The second session also includes a videotape to illustrate sex-fair teaching practices.

All teachers have a responsibility to students to use sex-fair language, behavior, and curriculum materials. They must encourage students of both sexes to pursue occupational goals based on interests, values, and skills, and not on the basis of gender. Teachers should encourage all students to pursue occupations without the limiting effects of sex-role stereotyping.

This curriculum is designed to provide two two-hour sessions with preservice teachers to accomplish these goals. Each of the two sessions includes student handouts and transparency masters.
SESSION I

OBJECTIVES

Help students to

Develop an awareness of the meaning of sex equity and the definitions of relevant terms

Gain an understanding of future role changes as they relate to the world of work and changes in family structures

Express thoughts and feelings related to societal attitudes about sex-role stereotyping in a supportive environment

RESOURCES AND MATERIALS

Student Handout I-1: Facts and Figures
Student Handout I-2: Facts on U.S. Working Women
Transparency I-1: Definitions
Transparency I-2: Small Group Discussion
Videotape: Career Choices - Is This The Job For Me?

PART 1: INTRODUCTION TO SEX EQUITY

INSTRUCTIONAL ACTIVITIES

1. Introduce the concept of sex equity to students with the following information.

Sex equity is freedom from discrimination on the basis of sex. The goal of sex equity in education is to provide unrestricted opportunities for all students, and to ensure that all students, both male and female, have the freedom of basing their occupational goals on individual interests, aptitudes, and abilities. When a student is able to make a decision without the influences of sex discrimination, sex bias, and sex-role stereotyping, that student benefits by coming one step closer to the person he or she wants to be.

Sex equity activities are deliberate efforts to build partnership skills, enhance people's ability to work together productively, build stable and satisfying family relationships, expand career opportunities, achieve economic and political equity, and eliminate sex bias, sex-role stereotyping, and sex discrimination.
2. Write discrimination on the chalkboard and ask students to name different types of discrimination (e.g., physical, psychological, racial, sexual). Write their responses on the chalkboard.

3. Focus on sex discrimination and ask students to brainstorm varieties of sex discrimination. Model responses include the following: harassment, unfair treatment, being whistled at, not being allowed to play football, always being asked to get coffee (or move heavy objects), not earning as much money, not having as many opportunities to become involved, always being asked to baby-sit (take out the garbage), advertisements that flaunt women's bodies and portray men as macho.

4. Project Transparency I-1, Definitions, onto the screen and read over the information with students.

5. Provide the following information to students.

As a result of our upbringing, most of us have a different set of expectations, behavior standards, rewards, and punishments for females and males. This way of responding differently to each sex is called sex bias. Sex bias leads to sex discrimination, and sex discrimination has widespread effects on all individuals.

Stereotyping is the assumption that males have one set of abilities, interests, values, and roles, while females have a different set of characteristics. Stereotyping denies the diversity, complexity, and variation that exists in any group of individuals. It limits people's thinking about the roles, goals, and behaviors that are appropriate for them. The inherent assumption is that the roles and careers available for women are different from those for men. The possibilities for work and life roles are then based on gender rather than on abilities and interests.

When individuals decide to pursue nontraditional interests or occupations, they can encounter barriers. Often there is a lack of same-sex role models who have been successful in nontraditional occupations. The lack of successful role models causes individuals to believe they could not achieve success in new nontraditional endeavors. Without role models, it is hard to imagine oneself
accomplishing nontraditional goals. Other difficulties include finding that tools or equipment are not suited to a different physical size. Nontraditional students and workers can also be ridiculed or isolated from others because their interests differ from society’s traditional norms. Because of these negative factors working against the person with nontraditional interests, special attention, assistance and support should be offered.

All of these factors become extremely relevant in light of the changing roles of women in the family and in the work force. Before introducing some of these changes, let us discuss how these concepts have impacted on our lives.

4 Divide students into four groups and ask them to assign a spokesperson for the group to report on their discussion to the whole class afterwards. Project Transparency I-2, Small Group Discussion, onto the screen and ask students to describe their family environment by addressing the questions in their groups. Give students enough time to discuss all the questions and ask them to make sure everyone contributes to the discussion. Circulate among the groups to hear their comments.

5. Gather as a class again and have spokespersons provide summaries. Support comments regarding the following:
   a. Roles of family members (provider, nurturer)
   b. Nontraditional role models
   c. Occupational choice

6. Examine sex-role stereotyping with the students by writing the following headings across the top of the board: family roles, activities and occupations of family members, advertisements and commercials, and television shows. Along the left side of the board write: male, then female below that. You now have a grid where you can already fill in maintenance activities and occupations of significant male and female role models. Have students provide examples under the other two headings based on their experiences. In what roles do they see men and women appearing in commercials and on television shows?
7. When comments from all students have been heard, ask for a consensus as to whether sex-role stereotyping has been present. Allow enough time for students to express their attitudes about sex-role stereotypes.

8. Brainstorm the following questions with students and list responses on the board.

   a. What roles have been considered appropriate for women, which for men?
   b. What occupations have been considered appropriate for women, which for men?

9. Earlier, one of the comments regarding sex discrimination was that it limited occupational choices. Ask students if they think what is now written on the board illustrates a segregation by sex, and therefore, sex discrimination by limiting occupational choices based on gender. (This should be obvious.)

BREAK

PART 2: THE CHANGING WORKFORCE
INSTRUCTIONAL ACTIVITIES

1. Introduce changing life-styles and the changing workforce with the following information.

   The traditional family consisting of 2.3 children, an employed father, and a mother who is a full-time homemaker is no longer typical. The increasing number of female workers during the past 15 years has resulted in changes in family member roles. Women and men are changing their goals, their behavior, and their language. With more women working, more men are involved in homemaking activities. Modified life-styles and family values are causing social, economic, and emotional changes. There are more dual career couples now than ever before.

2. Distribute Student Handout I-1, Facts and Figures, and ask students to answer the questions.
3. Discuss the correct answers that follow with students.

Question 1: a
Question 2: d
Question 3: a
Question 4: d
Question 5: c

4. Distribute Student Handout I-2, Facts on U.S. Working Women. Discuss this information with students.

5. Introduce ideas regarding future work trends and nontraditional occupations with the following information.

By 1995, the total number of people employed in the United States is expected to be approximately 130 million, with women accounting for about 47% of those persons working. By the end of the next decade, 60% of all working-age women are expected to be full-time workers in the labor force. Many of these women will enter nontraditional occupations.

Workers employed in nontraditional occupations have many difficulties. Some of these include:

a. Harassment and verbal disrespect from coworkers and supervisors.

b. Sex discrimination in pay.

c. Sexual harassment and propositioning by coworkers.

d. Unwillingness of coworkers to teach skills needed for the work.

e. Lack of deserved promotions.

f. The assigning of more difficult work than is normally assigned.
6. Ask students why they believe someone would want to enter a nontraditional occupation. Seek the following responses:
   a. People want to pursue their interests.
   b. Some people may like greater physical activity on their job or like working outdoors.
   c. Nontraditional jobs can offer more money than traditional jobs.
   d. Many nontraditional jobs offer changing environments and travel.

7. Show the videotape, Career Choices - Is This The Job For Me? This videotape is 22 minutes long and was selected because it presents students who have chosen to pursue nontraditional careers. The videotape presents the opinions of students, peers, family members, employers, employees, and teachers regarding nontraditional career choices.

8. Center a discussion around the videotape after it is shown. Seek comments regarding the following issues.
   a. People who pursue nontraditional occupations take risks.
   b. Peer and family pressures could cause them to forsake their interests.
   c. Do most people choose whatever occupation they are interested in, without considering the risks?
   d. How can teachers support nontraditional students?
   e. How can teachers provide an environment that encourages students to pursue all interests, regardless of students’ gender?

9. Tell students the next session will focus on how sex-role stereotyping impacts human development and how teachers can provide a sex-fair environment through their language, behavior, and curriculum materials.
1. ____% of the nation's families in 1981 consisted of an employed father, a mother who is a full-time homemaker, and two or three children.
   a. less than 10%
   b. 30%
   c. 50%
   d. more than 60%

2. The average woman can expect to spend approximately ____ years of her life in the labor force.
   a. 7
   b. 14
   c. 20
   d. 30

3. The average female college graduate earns ____ a male high school graduate.
   a. less than
   b. the same as
   c. 5% more than
   d. 15% more than

4. Nearly ____% of all poor families are maintained by a woman.
   a. 10
   b. 25
   c. 40
   d. 50

5. Over ____% of all mothers with children under 18 years of age are working, while also maintaining a home.
   a. 20
   b. 40
   c. 60
   d. 75
1. Women had contributed more than 62% of the total growth in the labor force in 1985, that figure is still growing.

2. The dramatic growth in the female segment of the labor force has occurred among women between the ages of 25 and 54 - the primary childbearing and family-building years.

3. In 1984, 54% of all women 16 years of age and over were working or looking for work. In the prime working age group 25 to 54, nearly 70% were in the labor force.

4. Between 1970 and 1984, the number of families maintained by women grew by more than 84%, whereas today, almost two-thirds of the women presently employed work full-time and maintain families also.

5. Seventy-one percent of employed mothers with children under 18 worked full time in 1984. Even when the youngest child was under 3, about 65% of employed mothers were full-time workers.

6. Women work because of economic need; yet, poverty in families headed by women is a source of increasing public concern.

7. Almost one-half of the poor people in the United States live in families headed by women, while one of three families maintained by a woman is poor.

8. The characteristics of women workers who maintain families include higher unemployment, lower educational attainment, more dependent children, and lower earnings when compared with other segments of the labor force.

9. There is an upward trend in women's earnings; however, on the average, women still earn less than two-thirds as much as men.

10. These earnings differences are attributable, in part, to women's concentrated employment in lower-paying, traditional occupations, such as secretary, teacher, nurse, and sales clerk. Secretarial work is still the largest occupation of women.

Definitions

Sex Bias - Behavior resulting from the assumption that one sex is superior to the other.

Sex Discrimination - Any action which limits or denies a person or group of persons opportunities, privileges, roles, or rewards on the basis of her or his sex.

Sex Stereotyping - Attributing behaviors, abilities, interests, values, and roles to a person or a group of persons on the basis of her or his sex.

Sex Fairness or Sex Equity - Treating both sexes in the same manner. Any treatment or interaction is fair and unbiased.

Nontraditional Occupations - Those occupations in which the participation of one sex is less than 20%; those occupations that have traditionally been held by members of one sex. For example, carpentry is a nontraditional occupation for women; nursing, for men.
Small Group Discussion

1. What kind of work did your mother and father do, and who provided the financial support for your family?

2. What were their roles assigned to various family members (for example, who did the dishes and the laundry, who maintained the automobiles, who cooked)?

3. What occupations did you consider, and were any of them nontraditional careers?

4. Was there a person in your life you admired most and modeled your occupational interests after?
SESSION II

OBJECTIVES

Help students to

Gain an understanding of the impact of sex-role socialization on human development

Develop an awareness of how sex bias occurs in the education system

Become more equitable teachers who eliminate sex-role stereotyping in language, behavior, and curriculum

RESOURCES AND MATERIALS

Student Handout II-1: Family Influences
Student Handout II-2: Sexism in the Schoolroom of the '80s
Student Handout II-3: Observations of Teaching Behavior
Student Handout II-4: Checklist
Transparency II-1: Stereotype
Transparency II-2: Steps for Change
Transparency II-3: Sex Bias in the Classroom
Transparency II-4: Guidelines for Nonsexist Education
Videotape: Sex Equity and the Classroom

PART 1: SEX-ROLE SOCIALIZATION

INSTRUCTIONAL ACTIVITIES

1. Help students recall the last session by summarizing its content: concepts of sex equity, and changing roles of women and men at home and at work.

2. Project Transparency II-1, Stereotype, onto the screen.

3. Offer the following information to students.

Over the last week, you probably noticed some of what we discussed last week regarding television advertisements and shows. Stereotypes were readily seen in male roles of workers, providers, and tough guys; while female roles of nurturers, homemakers, and supporters were provided. Girls and women are usually seen taking care of other
people and are passive and dependent, while men are often assertive and independent.

When psychologists examine how these stereotypes develop, some point to modeling and reinforcement. These theorists believe that children learn sex roles from modeling the same-sexed parent or caregiver and from being rewarded for appropriate sex-typed behavior. Others believe that children learn sex-roles through cognitive processes of deciding what behaviors girls engage in and what behaviors boys engage in. In any case, most theorists agree that, by age three, children have generally acquired a gender identity that is fairly permanent.

Psychologists point out that women and men are different in how they achieve identity, women through the establishment and maintenance of relationships, and men through autonomy and achievement. Because they differ in these basic aspects, stereotypes can develop that constrain them to roles and prohibit them from becoming all that they want.

Sex-role stereotypes are difficult to change, and are taught and maintained by the socializing processes that are experienced in the family, the church, the school, and the community. Anyone can unconsciously reinforce stereotypic role expectations with which they intellectually disagree.

4. Distribute Student Handout II-1, Family Influences, and ask students to read it.

5. Brainstorm with students, asking them to list as many examples of stereotypic treatment they can think of (e.g., girls wear pink, boys wear blue, girls play house, boys play sports).

6. Ask a spokesperson from each group to name some of the examples when they have completed their list.

7. Provide students with the following information.

As girls and boys reach puberty, the sex-role expectations and the stereotypes become all too clear. Girls become concerned with how they look, and not necessarily with good grades, boys learn
to be tough and good at sports. As girls grow up, they learn the subtle message from society that girls who are good students will not have boyfriends. Some girls reported they knew as early as high school that they had better not beat their boyfriend in tennis if they wanted to continue dating him. It is a known fact that girls' grades steadily decline during high school, at a time when math and science courses, which are prerequisites for most nontraditional occupations, are taught.

Girls learn to depend on men to take care of them and help them. They often lack assertiveness and decision-making skills. Some psychologists speak of learned helplessness, which is the inability to try a task because, without even trying, the belief exists that one cannot succeed. At the same time, boys learn to be tough and cool, and in control. If they do not really feel this way, they often will not show it because this would be a sign of weakness, and it is unacceptable for males to be weak.

Men and women become limited in their range of emotions. Emotions such as loving, caring, and nurturing are acceptable for women, while emotions such as conquering, competing, and enduring are acceptable for men. Both groups fail to develop the full range of acceptable human emotions, and both groups become more restricted by sex-role expectations.

8. Point out to students that schools and teachers can serve to perpetuate sex-role stereotypes and sex-role expectations. Distribute Student Handout II-2, Sexism in the Schoolroom of the '80's, and ask students to read it.

9. When they have completed it, ask for comments.

10. Tell students that even teachers with a strong orientation toward equity for all students can portray stereotypic behaviors. Biased attitudes were not formed overnight and changing them is a long slow process. Self-awareness is the first step toward change.

11. Project Transparency II-2, Steps for Change, onto the screen and describe the three steps necessary to
eliminate sex bias, sex stereotyping, and sex discrimination.

BREAK

PART 2: SEX-FAIR TEACHING PRACTICES
INSTRUCTIONAL ACTIVITIES

1. Tell students that sex bias often occurs in the curriculum and in teacher behavior. Project Transparency II-3, Sex Bias in the Classroom, and explain the forms of sex bias by providing examples for students.

   Textbook bias - Women often do not appear in pictures or in written text. When they do appear, they are often restricted to inferior, subordinate roles; they appear as passive, dependent, or needing to be taken care of; or they make less significant contributions, and are not seen as heroines or leaders.

   Behavioral bias - Teacher expectations can differ for girls and boys solely based on the students' gender. Teacher behavior should be as sex-fair as possible. Treatment of students and goals for students should be based on students' interests and abilities rather than on gender. While students are forming their self-images, it is important that girls are viewed as competent, important, and able to perform the same tasks as boys.

   Language bias - Textbook language and teacher verbalizations should not exclude women by stating "he" when referring to both sexes. Occupations and roles should not be stereotyped by sex; (a carpenter can be referred to as she, and a cook as "he"). Attempts should be made to include sex-fair examples when using stereotyped texts rather than isolating female examples as a component tacked on at the end.

2. Project Transparency II-4, Guidelines for Nonsexist Education, and discuss the information with students.

3. Discuss the following information with students.

   A conscious and intentional effort is necessary on the part of the teacher if sex-fair teaching behavior is desired. Both girls and boys need to
be held accountable to the same standards for participation in classroom discussions, because as we have seen, active participation is related to achievement and attitude.

Reinforcement has been shown to increase student participation in the classroom, and reinforcement should be distributed to both girls and boys on an equitable basis. Teachers who have been considered most effective give not only praise, but encouragement, remediation, and discipline to students equitably. Minimal acceptance has been found to be the least effective response by teachers in generating active participation of students, so terms like "OK" and "Good" should be avoided.

As it is with any behavior, if the behavior is rewarded it will continue, if it is ignored, it will cease to occur. If negative behavior is a problem, the first answer is to try to ignore it, while rewarding positive behavior. Both techniques work best with planning and practice.

It is crucial to evaluate your verbal feedback to students. Research suggests that boys receive more praise and girls receive more criticism for the intellectual quality of their academic work. In contrast, girls receive more praise for neatness and form. Most important, however, is that when boys receive negative feedback, failure is often attributed to lack of effort, with girls, to lack of ability. This causes boys to try harder, and girls to give up.

4. Distribute Student Handout II-3, Observations of Teaching Behavior, and explain to students that the best way to evaluate their behavior is by having another person observe and record their interactions with male and female students.

5. Distribute Student Handout II-4, Checklists, and discuss the information with students.

6. Introduce the videotape, Sex Equity and the Classroom, by telling students that it portrays four classroom situations where sex bias occurs and is then discussed and altered. The videotape focuses on sex-fair teaching practices by correcting some common mistakes of teachers. Show the videotape, which is 27 minutes long, and then address final comments and questions.
As soon as the sex of the baby is known, the baby is often treated in stereotypic ways. Some parents cannot buy toys or clothes until they know the sex of the baby for fear they will buy the wrong thing. Infant boys and girls are treated differently at birth. Girls are held more and spoken to more frequently than are infant boys. Boys are expected to be independent and rough while girls are expected to be gentle and pretty.

In families in which roles are clearly defined, with mothers caring for the children, preparing the food, and maintaining the family, and with fathers doing the yard work and only helping with household chores, it is difficult for children to learn other than stereotypic roles.

In many families, boys are not prepared to be fathers in the same way that girls are prepared to be mothers. Boys are not encouraged to gain nurturing experiences by playing with dolls, yet girls on the other hand are not encouraged to play with trucks and blocks and thus may become hesitant to pursue nontraditional options in their adult life.
If a boy calls out in class, he gets teacher attention, especially intellectual attention. If a girl calls out in class, she is told to raise her hand before speaking. Teachers praise boys more than girls, give boys more academic help and are more likely to accept boy’s comments during classroom discussions. These are only a few examples of how teachers favor boys. Through this advantage boys increase their chances for better education and possible higher pay and quicker promotions. Although many believe that classroom sexism disappeared in the early ’70s, it hasn’t.

Education is not a spectator sport. Numerous researchers, most recently John Goodlad, former dean of education at the University of California at Los Angeles and author of A Place Called School, have shown that when students participate in classroom discussion they hold more positive attitudes toward school, and that positive attitudes enhance learning. It is no coincidence that girls are more passive in the classroom and score lower than boys on SAT’s.

Most teachers claim that girls participate and are called on in class as often as boys. But a three-year study we recently completed found that this is not true; vocally, boys clearly dominate the classroom. When we showed teachers and administrators a videotape of a classroom discussion and asked who was talking more, the teachers overwhelmingly said the girls were. But in reality, the boys in the videotape were outtalking the girls at a ratio of three to one. Even educators who are active in feminist issues were unable to spot the sex bias until they counted and coded who was talking and who was just watching. Stereotypes of garrulous and gossipy women are so strong that teachers fail to see this communications gender gap even when it is right before their eyes.

Field researchers in our study observed students in more than a hundred fourth-, sixth-, and eighth-grade classes in four states and the District of Columbia. The teachers and
students were male and female, black and white, from urban, suburban, and rural communities. Half of the classrooms covered language arts and English—subjects in which girls traditionally have excelled; the other half covered math and science—traditionally male domains.

We found that at all grade levels, in all communities, and in all subject areas, boys dominated classroom communication. They participated in more interactions than girls did and their participation became greater as the year went on.

Our research contradicted the traditional assumption that girls dominate classroom discussion in reading while boys are dominant in math. We found that whether the subject was language arts and English or math and science, boys got more than their fair share of teacher attention.

Some critics claim that if teachers talk more to male students, it is simply because boys are more assertive in grabbing their attention—a classic case of the squeaky wheel getting the educational oil. In fact, our research shows that boys are more assertive in the classroom. While girls sit patiently with their hands raised, boys literally grab teacher attention. They are eight times more likely than girls to call out answers. However, male assertiveness is not the whole answer.

Teachers behave differently, depending on whether boys or girls call out answers during discussions. When boys call out comments without raising their hands, teachers accept their answers. However, when girls call out, teachers reprimand this "inappropriate" behavior with messages such as, "In this class we don’t shout out answers; we raise our hands." The message is subtle but powerful: Boys should be academically assertive and grab teacher attention; girls should act like ladies and keep quiet.

Teachers in our study revealed an interaction pattern that we called a "mind sex." After calling on a student, they tended to keep calling on students of the same sex. While this pattern applied to both sexes, it was far more pronounced among boys and allowed them more than their fair share of airtime.

It may be that when teachers call on someone, they continue thinking of that sex. Another explanation may be found in the seating patterns of elementary, secondary, and even postsecondary classrooms. In approximately half of the classrooms in our study, male and female students sat in separate parts of the room. Sometimes the teacher created
this segregation, but more often, the students segregated themselves. A teacher’s tendency to interact with same sex students may be a simple matter of where each sex sits. For example, a teacher calls on a female student, looks around the same area, and then continues questioning the students around this girl, all of whom are female. When the teacher refocuses to a section of the classroom where boys are seated, boys receive the series of questions. And because boys are more assertive, the teacher may interact with their section longer.

Girls are often shortchanged in quality as well as in quantity of teacher attention. In 1975 psychologists Lisa Serbin and K. Daniel O'Leary, then at the State University of New York at Stony Brook, studied classroom interaction at the preschool level and found that teachers gave boys more attention, praised them more often and were at least twice as likely to give male students detailed instructions on how to do things for themselves. With female students, teachers were more likely to do it for them instead. The result was that boys learned to become independent; girls learned to become dependent.

Instructors at the other end of the educational spectrum also exhibit this same "let me do it for you" behavior toward female students. Constantina Safilios-Rothschild, a sociologist with the Population Council in New York, studied sex desegregation at the Coast Guard Academy and found that the instructors were giving detailed instructions on how to accomplish tasks to male students, but were doing the jobs and operating the equipment for the female students.

Years of experience have shown that the best way to learn something is to do it yourself; classroom chivalry is not only misplaced, it is detrimental. It is also important to give students specific and direct feedback about the quality of their work and answers. During classroom discussion, teachers in our study reacted to boys' answers with dynamic, precise and effective responses, while they often gave girls bland and diffuse reactions.

Teachers’ reactions were classified in four categories: praise ("Good answer"); criticism ("That answer is wrong"); help and remediation ("Try again--but check your long division"); or acceptance without any evaluation or assistance ("OK" "Uh-huh").

Despite caricatures of school as a harsh and punitive place, fewer than 5 percent of the teachers' reactions were criticisms, even of the mildest sort. But praise didn’t
happen often either; it made up slightly more than 10 percent of teachers' reactions. More than 50 percent of teachers' responses fell into the "OK" category.

Teachers distributed these four reactions differently among boys than among girls. Here are some of the typical patterns.

Teacher: "What's the capital of Maryland? Joel?"
Joel: "Baltimore."
Teacher: "What's the largest city in Maryland, Joel?"
Joel: "Baltimore."
Teacher: "That's good. But Baltimore isn't the capital. The capital is also the location of the U.S. Naval Academy. Joel, do you want to try again?"
Joel: "Annapolis."
Teacher: "Excellent. Anne, what's the capital of Maine?"
Anne: "Portland."
Teacher: "Judy, do you want to try?"
Judy: "Augusta."
Teacher: "OK."

In this snapshot of a classroom discussion, Joel was told when his answer was wrong (criticism); was helped to discover the correct answer (remediation); and was praised when he offered the correct response. When Anne was wrong, the teacher, rather than staying with her, moved to Judy, who received only simple acceptance for her correct answer. Joel received the more specific teacher reaction and benefited from a longer, more precise and intense educational interaction.

Too often, girls remain in the dark about the quality of their answers. Teachers rarely tell them if their answers are excellent, need to be improved or are just plain wrong. Unfortunately, acceptance, the imprecise response packing the least educational punch, gets the most equitable sex distribution in classrooms. Active students receiving precise feedback are more likely to be boys. Consider the following:

* Although girls start school ahead of boys in reading and basic computation, by the time they graduate from high school, boys have higher SAT scores in both areas.

* By high school, some girls become less committed to careers, although their grades and achievement-test scores may be as good as boys'. Many girls' interests
turn to marriage or stereotypically female jobs. Part of the reason may be that some women feel that men disapprove of their using their intelligence.

* Girls are less likely to take math and science courses and to participate in special or gifted programs in these subjects, even if they have a talent for them. They are also more likely to believe that they are incapable of pursuing math and science in college and to avoid the subjects.

* Girls are more likely to attribute failure to internal factors, such as ability, rather than to external factors, such as luck.

The sexist communication game is played at work, as well as at school. As reported in numerous studies it goes like this:

* Men speak more often and frequently interrupt women.

* Listeners recall more from male speakers than from female speakers, even when both use a similar speaking style and cover identical content.

* Women participate less actively in conversation. They do more smiling and gazing; they are more often the passive bystanders in professional and social conversations among peers.

* Women often transform declarative statements into tentative comments. This is accomplished by using qualifiers ("kind of" or "I guess") and by adding tag questions ("This is a good movie, isn't it?"). These tentative patterns weaken impact and signal a lack of power and influence.

Sexist treatment in the classroom encourages formation of patterns such as these, which give men more dominance and power than women in the working world. But there is a light at the end of the educational tunnel. Classroom biases are not etched in stone, and training can eliminate these patterns. Sixty teachers in our study received four days of training to establish equity in classroom interactions. These trained teachers succeeded in eliminating classroom bias. Although our training focused on equality, it improved overall teaching effectiveness as well. Classes taught by these trained teachers had a higher level of intellectual discussion and contained more effective and precise teacher responses for all students.
There is an urgent need to remove sexism from the classroom and give women the same educational encouragement and support that men receive. When women are treated equally in the classroom, they will be more likely to achieve equality in the workplace.
### Student Handout II-3

**Observations of Teaching Behavior**

<table>
<thead>
<tr>
<th>Student</th>
<th>Praise</th>
<th>Accept</th>
<th>Remediate</th>
<th>Criticize</th>
</tr>
</thead>
<tbody>
<tr>
<td>M F</td>
<td>I C W</td>
<td>I C W</td>
<td>I C W</td>
<td>I C W</td>
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<tr>
<td></td>
<td>A O</td>
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<td></td>
<td>A O</td>
<td>A O</td>
<td>A O</td>
<td>A O</td>
</tr>
</tbody>
</table>

M = MALE  
F = FEMALE  
I = INTELLECT  
C = CONDUCT  
W = WORK  
A = APPEARANCE  
O = OTHER

Adapted from Project Intersect, U.S. Department of Education, no date.
Checklist

1. Do bulletin boards and displays apply to all students in the classroom?

2. Are students of both sexes treated fairly and equitably in classroom interactions?

3. Do textbooks and other written materials show examples of women and men in nontraditional roles and careers?

4. Do students have equal opportunities to do tasks and participate in activities?

5. Are males and females encouraged to try all activities and expand all interests?

6. Is sex-fair language used in lectures, tests, and displays?

7. Is an intentional effort made to provide nontraditional role models?

8. Is sex bias addressed when it occurs in stereotypic attitudes of students or in materials?
Stereotype - A standardized mental picture based on a common characteristic of a group of people. It represents an oversimplified opinion or an uncritical judgment and is not reality-based.

Sex-role stereotypes - Stereotypes based on roles assigned to persons because of their sex.
Transparency II-2

Steps for Change

1. Awareness - of the inequities that exist and of their effects.

2. Understanding - the myths and realities of sex equity and considering possible solutions.

3. Action - to overcome the inequities and encourage sex-fairness.

By making an intentional effort to evaluate yourself, you can slowly identify and eliminate patterns of sexism.
Textbook Bias

1. Women do not appear
2. Restricted to certain areas
3. Possess biased traits
4. Appear in inferior roles
5. Make insignificant contributions

Behavioral Bias

1. Expectations differ
2. Differential reinforcement
3. Beliefs of appropriate behavior
4. Contribution to students' self-image
5. Recommended goals

Language Bias

1. Exclusion or omission
2. Stereotyping
3. Fragmentation or isolation
Guidelines for Nonsexist Education

1. Nonsexist education should be integrated into daily activities. Attitudes and behaviors affect students, and equitable practices should become more pervasive. Books, materials, displays, and activities should be sex fair.

2. Attention should be directed to stereotypes that occur in materials and the harmful impact of stereotyping on males and females should be discussed.

3. The diversities in race, sex, ethnicity, religion, age, and handicap in society should be acknowledged and appreciated, and discrimination in the widest sense should be confronted.

4. Both the affective and cognitive domains should be confronted, and students should be encouraged to reflect and examine their ideas, attitudes, and feelings about discrimination.

5. Equity and excellence go hand in hand in teaching. A good education is necessarily an equitable one. Enthusiasm, flexibility, humor, creativity, respect, careful planning, and patience should all be combined to form nonsexist teaching.

6. All aspects of the school environment must be attended to and made sex fair: seating arrangements, verbal and nonverbal interactions, selection of materials, libraries, counseling centers, and services.

Fear-Fenn, M. B. (1986, November). Monograph: Women and men: Preparing for the future. (Available from: The Center for Sex Equity, The Ohio State University, Instructional Materials Laboratory, 842 West Goodale Boulevard, Columbus, OH 43212.)


Ohio Department of Education. (1986). Career choices in vocational education: Is this the job for me [videotape]. (Available from the Division of Vocational and Career Education, Trade and Industrial Section, 65 South Front Street, Columbus, OH 43216.)


APPENDIX E

TREATMENT B: SKILLS-TRAINING CURRICULUM
SKILLS TRAINING IN ASSERTIVENESS AND DECISION MAKING FOR PRESERVICE TEACHERS

INTRODUCTION

The purpose of this workshop is to provide skills training and performance accomplishments in assertiveness and decision making to preservice teachers in training. By participating in role-play situations, these students will perform the behaviors to accomplish the goals. The first session will focus on assertiveness skills training and the second session will focus on decision-making techniques. Opportunities will be provided for students to learn the basic concepts of these skills and to practice using these skills in interactions or in situations provided for practice.

All teachers have a responsibility to students to communicate effectively and assertively to accomplish curricular goals and to focus on important issues during interactions with students. Teachers are faced with many opportunities to make wise decisions and evaluative judgements regarding student conduct, work, achievement, and progress. Once teachers have learned these skills and can effectively use them, they will also model these behaviors to the students they teach.

This curriculum is designed to provide two two-hour sessions with preservice teachers to accomplish these goals. Each of the two sessions includes student handouts and transparency masters.
SESSION I

OBJECTIVES

Help students to

Distinguish among assertive, aggressive, and submissive behaviors in self and others

Become comfortable making assertive responses by practicing in different role-play situations

Express thoughts and feelings assertively with respect for self and others

RESOURCES AND MATERIALS

Student Handout I-1: Assertiveness Inventory
Transparency I-1: Responding Behaviors
Transparency I-2: Responding to the Situation
Transparency I-3: Using "I" Messages

DEVELOPING ASSERTIVE BEHAVIOR

INSTRUCTIONAL ACTIVITIES

1. Introduce the need for assertive communication by distributing Student Handout I-1, Assertiveness Inventory, and asking students to complete the questions. When they have finished, tell them that each "Yes" response indicates a need for learning assertiveness skills.

2. Brainstorm the meanings of passive, aggressive, and assertive behavior with students, and write examples on the board. Highlight the following information on assertive communication.

Assertive communication consists of both verbal and nonverbal skills. Effective listening skills are also necessary if one is to effectively communicate with others. Assertive behavior is standing up for your legitimate rights while respecting the rights of others. It differs from passive behavior, which allows your rights to be violated by others. It also differs from aggressive behavior, which is characterized by standing up for your rights by violating the rights of others.
3. Project Transparency I-1, Responding Behaviors, onto the screen and discuss the information with students. Utilize examples from the brainstorming session earlier.

4. Project Transparency I-2, Responding to the Situation, onto the screen. Ask students to offer a show-of-hands regarding their responses.

Key
7. Aggressive 8. Assertive

5. Ask students to visualize a time when they were nonassertive (passive, or submissive). Have them picture in their mind what it was like. Ask them what the costs were. (Some costs may have been a loss of self-respect or not having their needs met.) Ask for examples of situations from students. Use examples and solicit from others what alternative responses might have been to the situation. (If comments suggest defensiveness, or excuses for the behavior, ask for examples that might illustrate something that could have been done earlier on to avoid getting into that situation, in other words, earlier effective responses might have avoided the whole situation.

6. Now ask students to visualize a time when they were aggressive, pushy, sarcastic, or manipulative when dealing with others. What were the costs? Again, ask for examples. Make sure they understand that aggressive behavior is a manner of expressing one’s rights, opinions, needs, and feelings, but is combative and shows complete disregard for the other person’s rights. Ask for examples of situations from students, and seek alternative ways of dealing with the situation.

7. Lastly, have students think of a time when they were appropriately assertive. What was so successful about the communication? What were the consequences? Make sure they are using actual instances of assertive communication where a combination of understanding and cooperation occurred, and allowed them to express themselves without anger or blame.

8. Tell students that most of us have situations in which we have trouble being assertive. Ask students to name
some excuses for lack of assertiveness. Model responses include:

a. Because you admire someone and want to show respect.

b. Because you respect someone's judgment and they have more experience than you.

c. So you can gain someone's favor by going along with them.

d. Because they can penalize or punish you if you do not go along.

e. Because they have the right, considering their position, to get their own way about things.

9. Remind students that assertive behavior will still show respect for the other person but will also allow for self-respect.

10. Ask for two volunteers to role play in front of the class. Assign one to be a coworker who is confronting another worker to borrow money (they have borrowed money before, and not paid it back). Assign the other to be the coworker who has lent the money before and is submissive, not standing up for their rights. When they have completed this situation, ask the passive student to respond aggressively to the coworker and have them role play that situation.

11. Project Transparency 1-3, Using "I" Messages, onto the screen and discuss the parts of an "I" message, which are particularly useful when you want to express negative feelings, without causing the other person to react defensively.

12. Now, use the same example as before, but ask students to respond assertively, standing up for their rights but still respecting the other person.

13. Tell students that much of communication is nonverbal. Ask for volunteers to represent nonverbal messages in role-play situations similar to the above, or draw on situations provided earlier by students. Use volunteers to represent passive, aggressive, and assertive nonverbal behaviors. Ask other students to describe what they see. Make sure the following
information is covered regarding assertive communication.

a. Eye contact - look directly at the person to whom you are speaking. A relaxed gaze into another person's eyes personalizes communication and emphasizes your interest in that person.

b. Body posture - face the person, hold your head erect, and lean slightly toward the person--this will present a stronger case than leaning away.

c. Gestures - a message accented with appropriate gestures takes on added emphasis. A relaxed use of the hand and arms will also help you appear to be self-confident. Be careful not to use nervous gestures, which can have just the opposite effect.

d. Facial expression - effective assertions require an honest expression that agrees with the message. Do not smile if you are expressing a negative emotion, and do not frown if you are expressing pleasure.

14. Tell students that assertive nonverbal behaviors should be practiced in normal communications for a while until they become more habitual expressions of behavior.

15. Inform students that the reason for the next activity is to help them realize how they are responding, to give them practice in using the above nonverbal behaviors, and to generate planned responses for future encounters. Advise them that when they get into situations where they particularly have trouble being assertive, it is wise to also be prepared by having planned responses as "jumping-off" points. This will help them relax and give them time to think.

16. Divide students into groups of three. Ask students to choose letters a, b, or c, and then give them the following assignment. Tell them it does not matter whether they are a, b, or c, because they will each have a turn in each role.
a. Situation designer - this person has the responsibility to define the situation and tell the other player what position they are to play, and how they are to react. This person should choose a situation in which they have had difficulty dealing with the other person, who should be a real person in their life. The situation designer should use this opportunity to practice both verbal and nonverbal assertive responses in the situation. The situation designer can also stop to suggest to the reactor what that person might say if they get too far off track from what normal responses have been made.

b. Situation reactor - this person should try to act the role as described by the situation designer. They can also offer input to the situation designer when the role-play situation is completed.

c. Observer - this person will describe what they have observed in the situation and offer suggestions for alternative responses on the part of the situation designer when the role-play situation is completed (there can be two observers if numbers do not work out exactly).

17. Before each situation is completed, have the situation designer write down alternative responses offered by the other students in the group. Make sure they have also received feedback on their nonverbal communication. Then, have students switch positions until each person has had the opportunity to play each role. In this way, each person will have the opportunity to be the situation designer and will have several alternative responses for responding assertively in that situation the next time it occurs.

18. When you gather as a group again, ask for examples of some of the assertive statements that were written down and make sure they have the three necessary components for expressing "I" messages.

19. Tell students that the next session will focus on effective decision-making skills that can be applied to any situation.
Assertiveness Inventory

Circle the correct response.

YES NO 1. Do you have difficulty getting students to listen in class?

YES NO 2. Do you accept students suggestions when you have something more important you want them to do?

YES NO 3. Do you agree to do favors for students or friends even when you do not want to or when it is not appropriate?

YES NO 4. Have you ever done something you really did not want to do, but you did because you felt sorry for someone.

YES NO 5. Have you ever been shortchanged by your employer and been afraid to mention it?

YES NO 6. Do you have difficulty getting off the phone because you think it is rude to hang up or to end a conversation?

YES NO 7. Have you ever found yourself in a car with a driver who was drunk or high on drugs?

YES NO 8. Have you ever participated in an activity, knowing you should not do it?

YES NO 9. Do you feel like you are always doing what other people want you to do rather than what you want to do?

YES NO 10. Do you often say "I'm sorry" when you do not really mean it?
### Transparency I-1

**Responding Behaviors**

<table>
<thead>
<tr>
<th>How You Feel</th>
<th>Passive</th>
<th>Assertive</th>
<th>Aggressive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tense</td>
<td>Assured</td>
<td>Hostile</td>
<td></td>
</tr>
<tr>
<td>Nervous</td>
<td>Confident</td>
<td>Angry</td>
<td></td>
</tr>
<tr>
<td>Apologetic</td>
<td>Fair</td>
<td>Belligerent</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What You Think (self-statements)</th>
<th>Passive</th>
<th>Assertive</th>
<th>Aggressive</th>
</tr>
</thead>
<tbody>
<tr>
<td>I'm not OK; you're OK</td>
<td>Positive</td>
<td>I'm OK;</td>
<td>Negative</td>
</tr>
<tr>
<td>you're OK</td>
<td></td>
<td>you're not OK</td>
<td></td>
</tr>
<tr>
<td>My needs are not important</td>
<td>Our needs are important</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How You Act</th>
<th>Passive</th>
<th>Assertive</th>
<th>Aggressive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flee</td>
<td>Approach</td>
<td>Fight</td>
<td></td>
</tr>
<tr>
<td>Avoid</td>
<td>Look at other person</td>
<td>Move against hands on hips</td>
<td></td>
</tr>
<tr>
<td>Slouch</td>
<td>Good posture</td>
<td>Stare down</td>
<td></td>
</tr>
<tr>
<td>Move away</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>How You Treat Others</th>
<th>Passive</th>
<th>Assertive</th>
<th>Aggressive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lose-win</td>
<td>Win-win</td>
<td>Win-lose</td>
<td></td>
</tr>
<tr>
<td>Lacking in self-respect</td>
<td>Mutuial</td>
<td>Lack respect for others</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How Others Treat You</th>
<th>Passive</th>
<th>Assertive</th>
<th>Aggressive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Push you around</td>
<td>Both parties get along</td>
<td>Avoid being around you</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What You Say</th>
<th>Passive</th>
<th>Assertive</th>
<th>Aggressive</th>
</tr>
</thead>
<tbody>
<tr>
<td>You give in</td>
<td>What we need</td>
<td>I want my needs met and</td>
<td></td>
</tr>
<tr>
<td>You go away</td>
<td>How we feel</td>
<td>I don't care about yours</td>
<td></td>
</tr>
<tr>
<td>You don't say much</td>
<td>What we're going to do</td>
<td></td>
<td></td>
</tr>
<tr>
<td>You don't say much</td>
<td>What we're going to do</td>
<td>I don't care about yours</td>
<td></td>
</tr>
</tbody>
</table>
Transparency I-2

Responding to the Situation

Listed below are some typical situations and responses to them. Circle the word that best describes the type of communication exhibited.

1. SITUATION: A friend asks to borrow your car.
   RESPONSE: "Are you crazy? I don’t lend my car to anyone!"
   Aggressive Assertive Submissive

2. SITUATION: You are assigned to a team project, but you are doing all the planning, research, and writing by yourself.
   RESPONSE: "We’re supposed to be working as a team, but I see that I am doing all the work. I’d like to talk to you about changing this."
   Aggressive Assertive Submissive

3. SITUATION: A student asks if a homework assignment can be handed in late.
   RESPONSE: "Gee, Karen, I just know your teacher will get mad at me if I let you do that, you know what an old biddy she is."
   Aggressive Assertive Submissive

4. SITUATION: Your roommate wants you to do the dishes for her—again.
   RESPONSE: "Well, I guess so, but I do have homework."
   Aggressive Assertive Submissive

continued
5. SITUATION: Your teacher yells at you in front of your friends.

RESPONSE: "I really feel hurt when you criticize me in front of other people. I realize you have a right to be critical, but could you do it in private in the future?"

Aggressive Assertive Submissive

6. SITUATION: A friend asks to take you to a movie on Sunday, but you had plans to go to the library.

RESPONSE: "OK, I guess, if you want to go."

Aggressive Assertive Submissive

7. SITUATION: Your teacher asks if you have your homework done.

RESPONSE: "Would you get off my back?"

Aggressive Assertive Submissive

8. SITUATION: Your boss has just asked you to work tomorrow to replace someone else. You have other plans.

RESPONSE: "I'm sorry but I have plans for tomorrow. Maybe I can help you out some other time."

Aggressive Assertive Submissive
This technique lets you express negative feelings, such as anger, frustration, and disappointment, without directly attacking the other person. The three parts of an "I" message are

1. "WHEN YOU. . ." (Describe the other person’s behavior that bothers you.)

2. "THEN I. . ." (Describe how that behavior makes you feel or affects your life.)

3. "I’D LIKE. . ." (Describe what you want to do about the problem and/or what you want the other person to do.)

EXAMPLES

"When you borrow money from me and don’t offer to pay me back, I feel like you’re taking advantage of me and our friendship. I’d like you to at least start making payments to me right away."

"When you make smart remarks about me in public, it embarrasses me and I feel angry with you. I’d prefer that you talk to me about these things in private."

"When you’re late, like today, it makes me late for the movie too. I’d prefer to meet you at the movies if you can’t be here on time."
OBJECTIVES

Help students to

Learn the important components of the decision-making process

Become comfortable with the steps of decision making through practice

Make effective decisions by generating alternatives, clearly defining goals, and following through with appropriate action

RESOURCES AND MATERIALS

Transparency II-1: Decision-Making Styles
Transparency II-2: Decision-Making Process
Transparency II-3: Evaluating the Alternatives

DECISION-MAKING STRATEGIES

INSTRUCTIONAL ACTIVITIES

1. Tell students that decision-making skills can be learned and sharpened like any other skill. First they will learn how to do it, then they will have to do it mechanically for awhile, and then it will become a normal behavior done with awareness and understanding.

2. Project Transparency II-1, Decision-Making Styles, onto the screen and tell students they are already using one of the styles in making their decisions. Discuss the following styles with them, pointing out that a decision is always made whether one makes it for themselves or leaves it up to others.

   a. Worrier - the worrier gets caught up in gaining information and evaluating alternatives. Any decision is left up to environmental circumstances or fate because this person is still worrying about it, never really making the decision.

   b. Procrastinator - the procrastinator will put the decision off until later, when again, any decision is left up to circumstances. This person never even considers alternatives or
goals, they just put everything off, not wanting to face the problem.

c. Paralytic - the paralytic knows they have to make a decision, and they will consider alternatives and goals; however, they are fearful of making a mistake and will wait to the last possible minute before they take action. In this way, they have a good excuse if it does not work out.

d. Intuitive - this person bases decisions on feeling and thoughts that are not spoken. They have a gut-level reaction base they operate from, and often have a hard time explaining why they did something. Sometimes this person can be planful, but they do not really see they are following a plan and so often they leave out important steps.

e. Impulsive - the impulsive person does not think about a decision, they just do it, and they think about it later.

f. Passive - the passive person will agree to anything, they will accept anyone's opinion or plans and just go along with it so they don't have to decide.

g. Planner - the planner follows a procedure or plan when making decisions. This person knows they are making a good decision based on the information they have.

3. Ask students to write down three decisions they have made this week. Once this is done, ask if they actually decided for themselves, or did they let others decide for them? Did they put it off, or allow circumstances to have the responsibility? Ask for examples and analyze the decision-making style in a few situations.

4. Have students visualize a situation when they really could not make a decision. Then, brainstorm reasons why they could not make their decisions. (Some examples include lack of information, fear of results or consequences, not wanting to fail.)

5. Choose some of the irrational examples that are provided and ask others to help turn those negative (avoidance) thoughts into more positive (approach)
thoughts. Model responses might include the following:

<table>
<thead>
<tr>
<th>Negative</th>
<th>Positive</th>
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</thead>
<tbody>
<tr>
<td>a. I was afraid I would make a mistake and choose the wrong major.</td>
<td>I gathered all the information and made the best choice. I knew I could always change my mind later.</td>
</tr>
<tr>
<td>b. I did not want to ask for information and appear stupid.</td>
<td>Everyone does not know everything. The only stupid question is the one not asked.</td>
</tr>
<tr>
<td>c. If I decided to ask them out and was turned down, I would feel terrible.</td>
<td>If I am rejected, I will feel bad, but I will survive. It won't be the end of the world.</td>
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6. Tell students that irrational thinking can get in the way of their effectively making decisions. They should try to think positively, plan, and then take the risk of deciding what might work best.

7. Project Transparency II-2, Decision-Making Process, onto the screen and discuss the following information with students.

The decision-making process is exactly that, a process consisting of steps to follow in making a decision. If you leave out a step, you may not be making the best decision based on your interests, and goals, and you may not have all the information available to you.

Step 1. Clarify the situation - the first step is to clarify the situation or problem by examining your goals and values. Understand the situation by examining the desired outcome, which may be a long-range change desired, or problem to be solved. Then narrow this down to an immediate decision that will help you meet those long-range goals by making a decision on this shorter-range question.
8. Brainstorm with students the importance of goals. When discussing why goals are important, make sure the following information is covered.

   a. Goals should be specific and clear.
   b. Goals must be one's own.
   c. Goals should be realistic.
   d. They must be time-oriented and action-oriented.
   e. Long-range goals must be broken down into short-range goals.

9. Ask students to write down a long-range goal.

10. Brainstorm with students the meaning of a value, and write down examples on the board (do not erase goals because you will want to relate goals with values as they are represented on the board next to each other). Ask students what the difference is between goals and values. Seek an understanding that goals are based on values by relating an example of a goal with its related value.

11. Ask students to examine the long-range goal they wrote earlier and write down the values supporting that goal. Students may decide to alter the long-range goal if they believe it does not really represent their own values at this time. Tell students to hold on to these notes because you will return to them later.

12. Provide the following information on the decision making cycle to students.

   Step 2. Define the problem - in the second step, care should be taken that one is clear about the real problem. It is wise to state the problem as a question. If your question changes, you may have moved through the steps, and narrowed to a new problem based on previous decisions. For example, "What college shall I attend?" may turn into "Shall I attend Ohio State, or Miami?" Each of these questions should be answered by following the steps in the decision-making process.

   Step 3. Gather information - the third step takes on many forms. People resources and material
resources must be identified to gain information from. What kind of information is needed? Where can it be obtained? Is the information reliable or will it have to be evaluated? All these are questions you will have to ask yourself.

13. Ask students to name some resources for information gathering. (Some possible people resources include: parents, teachers, counselors, ministers, coworkers, peers, bosses, authorities in the field, people who have had similar problems, or people in similar situations. Some possible other resources include: libraries, newspapers, computers, books, magazines, mental health centers, anything that might offer the kind of information being sought.

14. Complete the decision-making process with the following information.

Step 4. Describe the alternatives - if the following steps have been done correctly, now a list of alternatives can be generated. Do not try to evaluate them yet, just list them all, no matter what the consequences. An alternative should not be thrown out before the consequences are evaluated. This would unnecessarily limit options.

Step 5. Weigh the evidence - identify the criteria or standards that must be met for this decision to satisfy you or be acceptable to you. "What are your desired results?" "What will be the consequence of each alternative?" Will it achieve your goals?" All of these are questions you must ask when weighing the alternatives.

Step 6. Make a choice - based on your evaluation of the information you have obtained and your criteria for the decision, you can now make a decision. Keep in mind that a decision can always be changed if new information is obtained. Also remember that if the situation does not work out for the best, that does not mean your decision was a poor one. Any decision that follows these steps and attempts to meet your goals is a good one. The results do not judge your decision.
Step 7. Take action on your choice - this is a necessary step if the decision is to mean anything. If you do not act on your decision, it really does not matter what your decision was, and you, more than likely, will not achieve your goals.

Step 8. Review the consequences - look back at what worked and what didn’t. Did you have all the information you needed? Did you follow each step? Remember, if the consequences were not what was expected, it does not necessarily mean you made a poor decision. Even if it didn’t work out, you can make a new decision now, so you have made progress.

15. Tell students there is a handy method to help them evaluate alternatives. Project Transparency II-3, Evaluating the Alternatives, onto the screen and describe the method as follows.

List the criteria along the top axis of a chart that has the alternatives listed along the left axis. Then weigh each alternative based on your criteria. For example, if your goal is to go to college, then your problem is what college to attend. Let’s say your criteria are: 1) to live away from home (and you live in ten miles from Columbus), 2) to study engineering at a school that has a good program in engineering, 3) you want to be able to get home often and therefore not be too far away, 4) you need to receive financial aid.

For the sake of this example, let us assume you have only three alternatives, perhaps you have been accepted at three colleges. List these alternatives along the left axis, and then rate each on a scale from plus or minus two, based on how well they meet your values. Your options for rating then include: 2, 1, 0, -1, -2. (Go over this scoring guide with students as it appears on the bottom of the transparency. Also, go over each value on the chart, and make sure students understand how each score was obtained on the chart above.)

Simply add the numbers across the page and put the totals at the far right. The one with the highest number has probably best met your criteria.
13. Remind students that when they encounter a lack of information, they may need to seek information, or go ahead with a decision without it. If the latter is the case, they had better be real sure they have considered the desirability, probability, and risk involved with each alternative. If they are not happy with any of the alternatives, they should try to find new ones or revise the old ones. They may also need to change their criteria.

14. Again project transparency II-2, Decision-Making Process. Divide students into groups of four. Ask students to take their previously stated long-range goal and break it down into short-range goals, or smaller goals that can more easily be obtained in a shorter time, but that will lead them toward obtaining their long-range goal.

Ask each to consider a recent decision they have made or one they are facing, regarding one of their short-range goals. Have them list any new values that have occurred to them. Students should then clarify the situation and define the problem with a specific question. They can generate people or places to search for information and probably project some alternatives.

Have them follow the steps in the decision-making process and design a grid to weigh their alternatives. At this point they should be able to identify information they still need to obtain through the zeros on their grid. In this way they can make a tentative choice and identify future actions they need to take, even if it is only to seek more information.

Ask them to work on their individual plan but discuss points along the way with others. By the end of the time you allotted, all students should have a fair understanding of how themselves and others have worked through and made their choices.

15. When all groups have worked through the decision-making process, ask for comments. Then, ask someone to share their situation and decision with the whole group by working through their grid (you may want to again project transparency II-3, Evaluating the Alternatives, to use as an example).

16. Sometimes values are hard to define concretely. If a student has the problem on their grid that two totals are equal and they cannot decide, tell them the
following task may bring out their values: "If all else fails, flip a coin. While it is in the air, consider how you hope it will come up."

17. Tell students that if they just keep practicing, the steps in the decision-making process will become more natural and will be used for all decisions of importance. Remind students that effective planners are good decision makers. Those who take charge of their lives are those who control their destinies by planning. The only way to obtain long-range goals is to set short-range goals, and go about reaching them.
Transparency II-1

Decision-Making Styles

<table>
<thead>
<tr>
<th>Decisions left to</th>
<th>Effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>circumstances</td>
<td>decision maker</td>
</tr>
</tbody>
</table>

- Worrier
- Procrastinator
- Paralytic
- Planner
- Intuitive
- Impulsive
- Passive
Transparency II-2
Decision-Making Process

Clarify the situation

Define the problem → Review the consequences
Gather information → Take action
Describe the alternatives → Make a choice
Weigh the evidence
Goal: Go to college

Decision: What college to attend?

<table>
<thead>
<tr>
<th>Alternatives</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>live away from home</td>
</tr>
<tr>
<td>1. Ohio State</td>
<td>1</td>
</tr>
<tr>
<td>2. Yale</td>
<td>2</td>
</tr>
<tr>
<td>3. Miami</td>
<td>2</td>
</tr>
</tbody>
</table>

2 = satisfies criteria exceptionally well
1 = partially satisfies criteria
0 = do not know if it satisfies criteria
-1 = does not meet criteria well
-2 = does not meet criteria at all
BIBLIOGRAPHY


