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# The relationship among dogmatism, sexually stereotypic role orientation and interpersonal relations orientation of teacher candidates

Jona Jacqueline Mann  
*Iowa State University*

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The relationship among dogmatism, sexually stereotypic role  
orientation and interpersonal relations orientation  
of teacher candidates

by

Jona Jacqueline Mann

A Dissertation Submitted to the  
Graduate Faculty in Partial Fulfillment of  
The Requirements for the Degree of  
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## I. INTRODUCTION

### A. Preamble

Scientists and humanists agree that a person's most outstanding attribute is the capacity to think. If this is so, then it may be the nature of some people's thoughts, their beliefs and attitudes, which help them develop more successfully than others. The art and science of becoming a human being consists of understanding oneself and the universe. This understanding process takes place amidst human diversity. People differ in what they believe, how they behave and in their manner of response to others. Yet people tend to resist and exclude not only those different from themselves, but the "different" in general--ideas, discovery, change, the unknown. If people are unable to tolerate ambiguity and the unknown, are unable to accept things different from themselves, and are threatened by newness and change when the world abounds with these qualities, then such intolerance may be destructive.

Both tolerance and intolerance are culturally produced. The Nazis' rise to power cultivated widespread speculation and concern regarding the causes of control over the belief systems of a population of "thinking people." The Nazis' intolerance became accepted, despite the fact that this meant denying certain individuals their right to be human and their access to personal growth. "What is the use of any education unless it renders the individual capable of thinking, feeling and knowing [that] nothing which is human is alien to him?" (Reik, 1963, p. 13). The potential to be constructive or destructive exists in different degrees in all individuals. Human potential is the educator's raw material;

intolerance must be overcome in order for people to achieve their potential to become fully human.

Sex role stereotyping represents an intolerance for certain male and female behaviors; the pervasiveness of such stereotyping is destructive. "In innumerable ways, if we are rigid, dogmatic, arrogant, we shall be laying stone upon stone, an ugly thing . . . the educator can be the withholder as well as the giver of life" (Eiseley, 1971, p. 219). Stereotypes can become stones blocking perception by serving as "the only" reality. Sex-role stereotypes are artifacts of societal expectations limiting behavior of females and males. Assigning certain characteristics to females rather than to males and to males rather than to females denies individuals personal growth within the full spectrum of their human potential. "The woman who most needs liberating in this county is the woman in every man, and the man who most needs liberating is the man in every woman" (Coffin, 1974, p. 21).

The problems of intolerance and sex-role stereotyping are of obvious import to educators. If teachers are to help students develop, teachers should be capable of helping students balance their tendencies toward intolerance and sex-role stereotyping. Shouldn't teachers be capable of a personal struggle against these same tendencies? An investigation might measure a teacher's tolerance potential (Rokeach's Dogmatism Scale E) and give some insight into what potential exists for interpersonal relationships (Fundamental Interpersonal Relations Orientation-B) in which stereotypic sex-role behavior (Bem Sex Role Inventory) is not a limiting factor.

## B. Statement of Problem

This study will examine the perceptions of teacher candidates to find what qualities of dogmatism, sex-role stereotyping and interpersonal relations orientation exist and whether there is a relationship among these qualities.

## C. Rationale

### 1. Open and closed belief systems

Individuals hold beliefs about, and have attitudes toward, a variety of topics--religious, political, social, scientific--and, as a result, subscribe to a variety of ideologies. One method of gaining knowledge about the nature of people's thoughts is to work backward, from the beliefs to the believers. Then it might be possible to determine whether or not the individuals who subscribe to a particular ideology exhibit any consistent personality attributes.

An extended explanation of the process of personality formation will not be attempted in the present paper; personality will be viewed as the result of three factors: genetic endowment, cultural and social endowment, and personal experiences (e.g., Hall and Lindzey, 1970). Although this study focuses upon selected aspects of personality structure, it will assume a unity of personality which functions as a whole: "Every form of human behavior, such as an attitude, . . . is regarded as a manifestation of the whole person and is analyzed in terms of total personality structure" (Jahoda, 1954, p. 13). This unity of personality as a function of an integrated whole allows personality to be defined in terms of three elements--habits, traits and attitudes--which "combine to form a pattern

of characteristics peculiar to the individual and serve to identify him as a unique person" (Martin, 1964, p. 37).

The Authoritarian Personality, a study of the personality correlates of anti-semitism, outlines the attributes of one particular personality structure (Adorno, Frenkel-Brunswik, Levinson, and Sanford, 1950). In this study the ideology was "regarded as a facet of the total person and an expression of more central (subideological) psychological dispositions" (Sanford, 1950, p. 207). Although the Adorno et al. (1950) research on the authoritarian personality applied a methodology which proved germinal for many studies which followed, its limitations are apparent. It addressed itself to only one of the constellations of beliefs an individual may hold. Might not the way an individual thinks about any belief, regardless of the content of the belief, offer distinguishing characteristics which define the individual's entire belief system?

Rokeach (1960) attempted to formulate a way to think about a person's belief system which would enable the researcher to overlook the content and see the structure intact. His research concentrated on a theoretical process that resulted in open and closed belief systems. He proposed that the systems can be defined in terms of formal and structural properties separate from their content and which can be measured by means of a scale. Rokeach's Dogmatism Scale (RDS) was designed to measure the degree of openness or closedness of a person's belief-disbelief system. This belief-disbelief system represents the individual's total framework for understanding his or her universe. "A basic characteristic that defines the degree to which a person's system is open or closed, less or more



dogmatic, is the extent to which persons can receive, evaluate and act on relevant information received from outside on its own intrinsic merits unencumbered by irrelevant factors in the situation arising from within the person or from outside" (Rokeach, 1960, p. 57). A closed mind tends to be passive as it fears the "new." "When left to its own devices, like a fish out of water, it cannot integrate new beliefs into a new system because it cannot remember them" (Rokeach, 1960, p. 23).

## 2. Sex-role stereotypes

It seems reasonable to assume that the dogmatic individual, in comparison with the non-dogmatic individual, would be more prone to accept societal norms. Perhaps the validity of this assumption increases if the societal norm is the set of indices used to gauge masculine and feminine development. "Unfortunately, these are embedded in the culture. They are passed on to children by mothers and fathers uncertain of their own feminine or masculine worth, reinforced by schooling, by storybooks, by T.V. programs and by peer group attitudes. Regrettably, they are also held by many professional workers in the behavioral sciences" (Cohen, 1966, p. 13). The pervasiveness of these norms, which direct the beliefs and attitudes concerning the appropriateness of dichotomous behavior for one's own sex as well as the opposite sex, has been recognized as a "non-conscious ideology" (Bem and Bem, 1970, p. 89).

Learning the socially defined sex roles of "masculinity" and "femininity" creates females who possess expressive characteristics emphasizing a strong human relations component, nurturance and submissiveness, and males who possess instrumental characteristics with a strong achievement

component, physical and psychological toughness and dominance. Until recently, much of the psychological and sociological literature reflected this societal orientation toward masculinity and femininity and viewed, without questioning, such sex-typing and sex-role development (Bernard, 1973; Carlson, 1972; Kasten, 1972; Lipman-Blumen, 1974; Report of the Task Force, 1975; Westervelt, 1973).

Maccoby and Jacklin (1974) stated that sexual stereotypes clearly affect behavior, in that people often govern and judge both their own behavior and that of others in terms of these stereotypes. In view of this, perhaps the most damaging aspect of sexual stereotyping is that it may limit behavior without regard to the situational context. One who has learned "the appropriate sex role" risks appearing unmasculine when situations require instrumental behavior or unfeminine when situations require expressive behavior (Bem, 1975).

### 3. Interpersonal relations orientation

The nature of "living situations" increases this handicap. In spite of all similarities, in essence, "every living situation has, like a newborn child, a new face that has never been before and will never come again. It demands of you a reaction which cannot be prepared beforehand. It demands nothing of what is past. It demands presence, responsibility: it demands you" (Martin Buber, from Between Man and Man, Beacon Press, New York, 1955, p. 14, as cited in Rogers and Stevens, 1967, p. 112). Highly masculine males and highly feminine females may have, by adapting to socially defined sex roles, limited their response repertoires to those appropriate to their sex. Highly sexually stereotypic individuals will

have, in this sense, endorsed the loss of half of their humanness. Such individuals are not free to experience openly; they may not be free to respond adaptively. Would it not be better to develop individuals who exhibit the full range of behaviors and attitudes--expressive and instrumental?

Since belief systems, open or closed, include beliefs about sex-role orientations and serve as guides to the world, they will inevitably affect not only one's perception of situations but one's stance toward people who are involved in the majority of situational contexts. This orientation toward interpersonal relationships is important; interpersonal needs exist. Two ramifications of this need for interpersonal relationships are germane to this study: people learn from others; they learn to adapt and respond to others.

The quality of communication between people is vital to the learning process. Rogers believed "there is evidence that the facilitation of significant learning rests on certain attitudinal qualities which exist in the personal relationship between the facilitator and the learner" (Rogers, 1968, p. 5; italics in the original.). The qualities that Rogers defined as facilitative, a non-judgmental attitude accompanied by genuineness, acceptance, empathy, warmth and spontaneity, bear a resemblance to the qualities which Maslow perceived as "love knowledge"--"In ordinary interpersonal relationships, we are to some extent inscrutable to each other. In the love relationships, we become 'scrutable' . . . if we love or are fascinated or are profoundly interested, we are less tempted to interfere, to control, to change, to improve" (Maslow, 1971, p. 17). If human relationships are important to learning, then it seems that direct personal

contact will be supplemented by, rather than replaced with, technological hardware. "It would appear that direct interpersonal influence will never become obsolete no matter how sophisticated the instruments of communication become in our technologically advanced society" (Bem, 1970, p. 77).

If one is to view education as a learning process involving a facilitator and a learner, then the facilitator would need to be skilled in knowing how to adapt and respond to the learner. Granted that each learner has interpersonal needs, then knowledge of the nature of these needs would be important to the facilitator. Schutz (1966; 1971) viewed these needs as having three dimensions: inclusion, control and affection. The way an individual initiates interaction with people, controls people, acts closely and personally with people, may be regarded as an assessment of an individual's behavior orientation. Such knowledge would be valuable both to and about the facilitator/teacher. Wouldn't a measure of the way a person expresses the need for control, inclusion and affection provide information about an individual's potential to be facilitative?

In turn, the degree to which a person is or is not dogmatic may be related to the degree the individual orients herself or himself as stereotypically feminine or masculine. Sexually stereotypic conceptions of sex roles are merely one part of an entire belief system. The extent to which persons' belief systems are open or closed affects their interactions with other people. Interaction between student and teacher is considered one measure of the quality of the complex process called education (Averch, Carroll, Donaldson, Kiesling and Pincus, 1971). The richness of this interaction depends, in part, on the teacher's interpersonal relations orientation.

#### 4. Dogmatism, sex-role stereotyping and interpersonal relations orientation

Through measures of the openness and closedness of belief systems, sex-role stereotyping and interpersonal relations orientation, one would gain knowledge of an individual's potential to provide the interaction necessary for learning. Thus, this study will address itself to investigating the presence of and examining the relationships among dogmatism, sex-role stereotyping and interpersonal relations orientation of teacher candidates. It will seek to determine what profiles exist and whether particular profiles are exemplified within certain colleges and/or grade levels. This investigation hypothesizes a positive relationship between the degree to which the teacher's belief system is closed--highly dogmatic (as measured by Rokeach's Dogmatism Scale E) and the rigidity of the teacher's sex-role orientation (as measured by the Bem Sex Role Inventory). It is further hypothesized that the teacher's sex-role orientation rigidity (as measured by the Bem Sex-Role Inventory) and dogmatism (as measured by the Rokeach Dogmatism Scale E) will be related to the type of the teacher's fundamental interpersonal relations orientation (as measured by the Fundamental Interpersonal Relations Orientation--Behavior).

## II. LITERATURE REVIEW

### A. Format Rationale

Dogmatism, because it relates to the functioning of an entire belief structure, may be the precursor to a propensity for sex-role stereotyping and may affect perceptions of and responses to interpersonal situations. Dogmatic individuals' profiles include a tendency toward stereotyping and a resistance to change which may make it possible for them to strongly identify with traditional societal gender roles. Since this variable may provide the framework from which the other two variables, sex-role stereotyping and interpersonal relations orientation emerge, it would be pertinent to trace its evolution and theory as well as review information on sex differences, vis-a-vis dogmatism, and on studies which relate to the sample population--teachers.

A parallel format for a review of sex-role stereotyping, while indicated, is not possible to pursue as, to date, no body of literature relates to sex-role stereotyping as it exists among teachers. Nor are there studies pertaining to differential interpersonal relations among highly stereotypic masculine male and feminine female teachers or studies which relate all three variables to teachers. However, studies do exist regarding sex differences in the three broad interpersonal areas of control, inclusion and affection from which it would be possible to infer differential interpersonal relations profiles of male and female teachers. Therefore, a historical perspective of sex-role stereotyping will be followed by a review of the process of sex typing and what research evidence

implies are differences between males and females in the interpersonal areas of expressed control, inclusion and affection.

A separate historic treatment of the interpersonal relations variable was not utilized. The study's focus was on sex differences in three specific interpersonal areas. The lack of differential literature on sexually stereotypic subgroups in control, inclusion and affection is responsible for this variable being woven into the format of the sex-role stereotyping variable.

## B. The Dogmatism Variable

### 1. Precursors of the dogmatism variable

The Authoritarian Personality (Adorno et al., 1950) was a landmark study, not because of the uniqueness of its content, but for the novelty of its approach to the investigation. Data for The Authoritarian Personality (TAP) were gathered via the methods of clinical psychology in conjunction with psychoanalytic theory.

Before the appearance of The Authoritarian Personality, the study of social attitudes as functional from a personality point of view was a rare phenomenon. Fromm and Maslow were lonely pioneers in this respect. (Jahoda, 1954, p. 13)

A person classified as authoritarian did tend toward inflexibility and stereotype--defined as "the tendency to mechanically subsume things under rigid categories" (Sanford, 1950, p. 44). Frenkel-Brunswik (1954, p. 237) provided a clear description of the authoritarian's personality pattern. Adorno et al.'s (1950) evidence suggested the influence of a particular kind of parent-child relationship:

Thus a basically hierarchical, authoritarian, exploitive parent-child relationship is apt to carry over into a power-oriented, exploitively dependent attitude toward one's sex partner . . . likewise [it] extends from the parent-child dichotomy to the dichotomous conception of sex roles and of moral values, as well as to a dichotomous handling of social relations as manifested especially in the formation of stereotypes and of ingroup and outgroup cleavages.

(Adorno et al., 1950, p. 971)

Intolerance of ambiguity predisposes authoritarians to think in terms of dichotomized absolutes which preclude the full utilization of emotional and cognitive evidence when making decisions. A further result of this intolerance of ambiguity imposed by rigid parental discipline is a submissive reaction to authority figures accompanied by an underlying hostility.

Forced into a surface submission to parental authority, the child develops a hostility and aggression which are poorly channelized. The displacement of a repressed antagonism toward authority may be one of the sources. . . of . . . antagonism toward outgroups.

(Frenkel-Brunswik, p. 462)

The overall effects of intolerance of ambiguity were viewed as potentially destructive to authoritarians' social and personal identity. Because of their tendency to distort reality, authoritarians have difficulty making "an adequate appraisal of many-sidedness, conflicts, uncertainties, differences, and complexities whenever they happen to exist" (Frenkel-Brunswik, 1954, p. 247).

The scale designed by Adorno et al. (1950) to tap the characteristics of the authoritarian personality, the F (fascism) scale, measured the fascistic tendencies of individuals who were extremely "rightist" politically (Robinson and Shaver, 1975).

This concept of an authoritarian personality measurable by a scale



provided the basis for Rokeach's theory of dogmatism and the subsequent development of a scale to measure the degree to which an individual possessed dogmatic proclivities.

## 2. Rokeach's dogmatism theory

Rokeach (1960) believed that authoritarians may be found among members of a variety of socio-economic groups and also may be found to hold a variety of political ideologies. In contrast with Adorno et al. (1950), Rokeach's distinguishing factor was not what individuals thought, but how they thought; he wished to construct a theory that would explain the process underlying belief systems as a whole, separate from any specific content (Rokeach, 1960).

While Rokeach's (1960) intention was to keep process separate from content, and he specifically posited a theory about the structural and formal characteristics of all belief systems, dogmatism remained closely limited to general authoritarianism. The reasons for this are three-fold: (1) Rokeach (1954) first defined dogmatism in terms of authority: "a) a relatively closed cognitive organization of beliefs and disbeliefs about reality, b) organized around a central set of beliefs about absolute authority which, in turn, c) provides a framework for patterns of tolerance toward others" (p. 195); (2) Rokeach (1960) later regarded the openness and closedness of belief systems as providing measures of authoritarianism and intolerance; and (3) the construct validity of the dogmatism scale was demonstrated on the grounds of the "known" general authoritarianism and intolerance of the subjects (Rokeach, 1960).

a. Properties of the three major dimensions Belief systems are a special kind of psychological system representing every belief persons have about the physical and social universe they live in and consist of three major dimensions:

1) a "belief-disbelief dimension"--the horizontal organization--a continuum dependent on similarity and difference;

2) a "central peripheral dimension"--the vertical organization--a continuum ranging from specific primitive beliefs seldom challenged and dealing with abstracts such as color, form, sound and weight to a formal intermediate region consisting of beliefs about authority and people in general to a peripheral region which processes new information according to the interaction of the first two regions;

3) a "time perspective dimension," narrow or broad, depending on how an individual relates to the past, present and future (Rokeach, 1960, pp. 35-53).

The total belief-disbelief system is given its systematic character "by the interconnection among the three regions of the second dimension, the central peripheral," which is seen as having "a syntax of its own, a psychological syntax, as contrasted with the logical syntax of a scientific or mathematical system" (Rokeach, 1960, pp. 50-51; italics in the original).

b. Characteristics of open and closed systems While Rokeach's research assumed behavior to be situation specific, that is, appropriate behavior predicated on the nature of the situation, behavioral response required that the individual be able to react in terms of the relevant situational factors. Situations do not occur without the necessity for an

individual's evaluating both the relevant and irrelevant aspects of the situation.

It is this "evaluative" characteristic that Rokeach used to define open and closed systems:

. . . namely the extent to which the person can receive, evaluate and act on relevant information received from the outside on its own intrinsic merits, unencumbered by irrelevant factors in the situation arising from within the person or from outside. . . . irrational ego motives power needs. . . . irrelevant external pressures . . . of reward and punishment arising from external . . . authority as exerted by parents, peers or other authority figures, reference groups, social and institutional norms, and cultural norms.

(Rokeach, 1960, p. 57)

c. Essential variable      The crucial variable that served as the fundamental link between the concepts of individual differences in the components of the three major dimensions was

the capacity to distinguish information from source of information and to evaluate each on its own merits. This variable, in the extreme, describes the essence of the open and closed mind and, with its diverse manifestations, is at the cornerstone of our attempts to understand whatever relationships may exist among personality, ideology, and cognitive functioning.

(Rokeach, 1960, p. 397)

d. Closed mindedness as a defense mechanism      Rokeach (1960) did not regard the degree of openness or closedness of a belief system as absolute, but as jointly influenced by situational conditions interacting with personality, the system opening and closing as conditions vary. Since individuals are subject to situational, social and psychological needs, the belief systems "serve two powerful and conflicting sets of motives at the same time: the need for a cognitive framework to know and to understand and the need to ward off threatening aspects of reality" (Rokeach, 1960, p. 67).

Threat, in the form of anxiety, seems to produce closed mindedness: "in the extreme, the closed system is nothing more than the total network of psychoanalytic defense mechanisms organized together to form a cognitive system and designed to shield a vulnerable mind" (Rokeach, 1960, p. 70).

The dogmatic, in contrast with the non-dogmatic individual, is more likely to: 1) reject things not believed in and have relatively isolated parts among belief-disbelief systems which allows the maintenance of inconsistent beliefs without recognition of the inconsistency; 2) not differentiate very much among things not believed in, e.g., all non-democratic political philosophies are communistic; 3) differentiate greatly among things believed and not believed; 4) view the world as a threatening place; 5) hold strong beliefs in and rely on absolute authority; 6) accept or reject people to the degree that they comply with such authority; 7) have relatively isolated parts of the substructure of beliefs despite evidence to the contrary; and 8) be more future oriented (Rokeach, 1960, pp. 55-56).

These characteristics indicate that the dogmatic person and the authoritarian person tend to distort reality. Even though only two (5 and 6) of the eight defining characteristics apply specifically to beliefs about the nature of authority, authoritarians and dogmatic persons appear to share the following: 1) development of closed belief systems, observed by Frenkel-Brunswik (1949) as being caused by those child rearing practices which prevent the expression of emotional ambivalence toward parents which, in turn, lead to 2) anxiety and restricted access with persons outside the family, 3) tendency toward stereotypy, 4) intolerance of ambiguity and 5) resistance to change.

### 3. Sex differences in dogmatism research

Rokeach (1960) failed to identify sex of subjects in any of the norms for his scale and makes no mention of sex differences in performances on the dogmatism scale itself. Adorno et al. (1950) reported consistent sex differences in performances on the results of measures of authoritarianism (pp. 138, 173-174, 178).

While some researchers acknowledge the existence of sex differences (Alter and White, 1966; Becker, 1967; Plant, 1965; Plant and Telford, 1966; Wolfer, 1967), there is disagreement regarding which sex is more dogmatic. Still other studies report not being able to establish sufficient evidence for the existence of sex differences (Anderson, 1962) or that the differences are not significant (Vacchiano, Schiffman and Strauss, 1967; Steinger, 1973).

Alter and White (1966) summarized norms for 37 samples, including norms collected by the authors from 1000 male and 1000 female undergraduates. They presented norms from studies which did and did not separate the sexes. The authors concluded that where sex was indicated, males consistently tended to show higher scores (more dogmatic) than females. While no explanation for this difference was offered, they suggested that an item analysis of the dogmatism scale might be helpful in the interpretation of these differences, as some items might tend to be worded to include one sex more than the other, e.g., "A man who does not believe in some great cause has not really lived," or ". . . my secret ambition is to become a great man like Einstein, or Beethoven, or Shakespeare." Wolfer (1967) separated the means for male and female introductory psychology students on the basis of Alter and White's (1966) report of the tendency for females

to score lower than males on the dogmatism scale.

Plant (1965) sampled 400 males and 400 female undergraduates for a study on the reliability of the dogmatism scale and formed an odd-even reliability of .84 for males and .85 for females. In this longitudinal study of the dogmatism of persons differing in the amount of higher education in two and four year college situations, the authors found that male mean change differences in dogmatism (less dogmatic) tended to be higher than female. No mention was made of any statistical comparison of the difference between male and female change means. However, in a later study (Plant and Telford, 1966) "subjects were categorized into sex-groups because of repeated findings of statistically significant sex differences," citing the 1965 study and one other (Lehmann, 1963) as evidence. Unfortunately, this conclusion was in error; the Lehmann (1963) study did not report any statistically significant evidence regarding sex differences on the dogmatism scale.

The issue of sex differences in response to the dogmatism scale was recognized by Becker (1967), one of whose purposes was to test whether or not sex-related differences existed, "because findings in too much research involving only one sex (or both sexes but without separate analyses) have been generalized (or particularized) many times with error to both sexes . . ." (p. 266). Seventy-five male and 75 female introductory psychology students were presented jokes for evaluation and a subject-sex dichotomy was used in analyzing variances. F tests revealed a reliable main effect for sex ( $F = 4.07$ ,  $df$  1/144,  $p < .05$ ). The female undergraduate psychology students were found to be more dogmatic than the male students in evalua-

ting messages on the basis of their external factors rather than on their content.

Becker (1967) interpreted these sex related differences in terms of "an array" of previous findings which indicated "the greater social dependency of women" (p. 271). Cited are instances where females compared to males were more: 1) susceptible to persuasive communications; 2) socially affiliative in experimental situations when made anxious while awaiting a "noxious event" or anticipating participation in a "noxious event"; 3) likely to volunteer for experiments leading to interaction with others; and 4) conforming and having a greater need for social approval. Anderson (1962) attempted in a developmental study to verify that sex differences did exist, and while the study failed to support this hypothesis, females did tend to be more dogmatic than males. Data were gathered from a representative sample of 788 Canadian 8th, 10th, 11th, and 12th graders and, although the average dogmatism scores of females and males were significantly less than the previous grade level (except for 10th), females were higher than males. They were not significantly higher. Anderson (1962) attributed the tendency for females to be more dogmatic to "the vicious circle" of restrictive child-rearing practices directed more at females than males, which later were reinforced by the masculine-oriented culture. The assumption that "intelligent" females would react with hostility and dissatisfaction to this submissive role was reinforced by a significant interaction component between sex and intelligence, indicating that intelligent females should tend to be more dogmatic than intelligent males.

A study by Vacchiano, Schiffman and Strauss (1967), in which the dogmatism scale was administered to 87 males and 88 females enrolled in

psychology courses, revealed a mean dogmatism of 132.8 for males and 128.94 for females. When submitted to analysis by a  $t$ -ratio the difference was not found to be significant ( $t = 1.50, p > .05$ ). However, when the data were submitted to a Pearson-product moment correlation of the 40 scale items and separated for males and females, "Inspection of the individual factor formation for males and females indicates that the Dogmatism Scale was apparently measuring two different dimensions of dogmatism for the two sexes."

This observation could be interpreted as a partial verification of the analogous observation by Alter and White (1966) that an item analysis interpretation might reveal an explanation for sex-related differences, if it weren't for just such a content analysis of Dogmatism Scale items by Steininger (1973). Steininger (1973) concluded that the scale measured the same factors in both sexes.

#### 4. Dogmatism research in education

The dogmatism variable has received widespread use:

All in all, if one can evaluate concepts by the amount and nature of research they stimulate, dogmatism, in a short period of time, has provided a common denominator for such diverse areas as classroom teaching, and personality development, interpersonal behavior and the employment of defense mechanisms.

(Vacchiano, Strauss and Hochman, 1969)

Despite this fact, only six studies were listed in this review under "Teaching" and four of these were dissertation abstracts. Dissertation abstracts continue to provide the richest source of material on the dogmatism variable.



a. Dogmatism and the Minnesota Teacher Attitude Inventory Several correlation studies have utilized the Minnesota Teacher Attitude Inventory (MTAI) in conjunction with the dogmatism scale, just as the authors of the MTAI utilized the characteristics of the authoritarian personality as their operational definition of the "poor teacher" (Cook, Leeds and Callis, 1951). [One may question this definition: "Studies of teacher characteristics have abounded since the 1930's and now number in the thousands. In spite of this large implied expenditure of time and money, little is known about what constitutes desirable teacher characteristics or, especially, about the influence of teachers on student performance" (Averch et al., 1971, p. 52).] Although none of these studies employed a control group, a significant inverse relationship was found to exist between dogmatism and the MTAI.

One investigation (Vacchiano, Schiffman and Crowell, 1966) studied changes in attitude of graduate students in secondary education enrolled in an intensive six weeks teacher training program. While the subjects, 27 male and 28 female, had a previous background in science, language, social studies or English, all were "naive" in terms of teaching experience, education courses or knowledge of the profession. A pre-post test comparison of mean difference scores for the total group indicated a significant change in attitude in the direction of more permissiveness ( $\underline{t} = 2.81, p < .01$ ). This change was due to the greater significant change in females ( $\underline{t} = 2.45, p < .05$ ) than males ( $\underline{t} = 1.42, p < .10$ ). The question of why females changed in attitude and the males did not was explained in terms of the counteraction of 1) the incorporation of new ideas which produced a

negative relationship between dogmatism and attitude change, which in turn was nullified by 2) an appeal from "authority"--the intensive teacher training--in the opposite direction. Both 1) and 2) tended to produce a non-significant relation to MTAI.

In a doctoral study involving female teachers, Johnston's (1967) findings supported a significant inverse relationship on the MTAI between dogmatism and attitude toward teaching.

A third study, Rosen (1968), utilized 19 female and 4 male school counselors heterogeneous in teaching background--elementary, junior and senior high--as well as diverse in age--24 to 58. It was found that a high score on the dogmatism scale correlated significantly with a low MTAI score.

b. Dogmatism and attitude change Several studies dealt with the relationship between changing teachers' attitudes and dogmatism. While findings suggest an inverse relationship between dogmatism and attitude change, no clear agreement exists.

Hudspeth (1966) found dogmatism had a negative effect on teacher attitudes toward the acceptance of new audio-visual aids. Renuart (1973) separated teachers scoring in the upper and lower 15 percentiles on the dogmatism scale: teachers scoring in the upper percentile were less receptive to change than those in the lower percentile and older teachers were less receptive than younger teachers.

A comparison of open and closed minded teachers in attitude toward students and in amount of change in student-centered attitudes after involvement in innovative in-service activities at different levels of intensity was made by Gormley (1969). Significant differences in attitude were found for open minded (LD) teachers at all levels; for closed minded

(HD) teachers significant changes were found only among the most intense in-service group.

Vacchiano, Schiffman and Crowell (1966) did not find a relationship between intensive training and attitude change in the study, but did find a significant relationship on the MTAI between dogmatism and negative attitudes toward teaching. Berdie (1974) also noted no indication of the impact of an experimental human relations course on 5,159 college students, as all mean dogmatism scores declined. [Earlier studies by Plant (1965) and Plant and Telford (1966) indicated a tendency for overall dogmatism scores to decrease from freshman to senior years whether or not the subjects were formally enrolled in college.]

c. Teaching experience and dogmatism . There is disagreement as to whether a positive relationship exists between teaching experience and dogmatism.

The statement by Soderbergh (1964) that "some veteran public school teachers are excessively, and for the most part, unwittingly dogmatic. . ." (p. 295) caused Rabkin (1966) to question whether veteran teachers were more prone to "cognitive and emotional distortion." The subjects for Rabkin's (1966) study were 107 teachers, for the most part married and Protestant (F = 81, M = 27, median age 27), enrolled in summer courses. The group's score was 132.2 (S.D. = 22.5) which made this group more open minded than any of Rokeach's (1960) groups. Correlations made between dogmatism, age, sex, years of experience, religious affiliation, grades taught and marital status all proved non-significant. Veteran teachers (10+ years) did not score significantly higher on the dogmatism scale ( $\bar{X}$  = 135.1).

Renuart (1973) also studied selected teacher biographical data and found no relationship among dogmatism and teacher's race, national origin, years of teaching experience and closed mindedness in counseling students.

d. Dogmatism and teacher attitude toward students Significant differences were found between levels of dogmatism and pupil-control ideology among low, middle and high dogmatic elementary teachers in open and closed climate schools (Lunenberg and O'Reilly, 1974) and student teachers' dogmatism was found to have a significant affect on their attitudes toward teacher-pupil relationships; HD's were more oriented toward control (Johnson, 1966).

Brown (1973) subgrouped teachers by discipline and grade level; data revealed significant differences between degree of dogmatism and educational attitudes and philosophical orientation among secondary English teachers, science teachers, science student teachers and elementary teachers.

e. Dogmatism and student teachers Teacher trainees with positive self-concepts compared to those with low self-concepts were less dogmatic, more effective in interaction with others and older than average teacher trainees (Marley, 1974). Interns who were field independent and LD were viewed more positively by their peers than those who were field dependent and HD (Victor, 1973).

An investigation (over an eight-week period) of the relationship between expressed difficulties of student teachers and their degree of dogmatism revealed that while time and dogmatism operated independently, HD's, LD's and the middle group differed significantly in intensity of difficulty

in classroom management, professional behavior, communication skills, instructional activities and teaching personality (Calloway, 1973). Student teachers were also found to have a tendency to move in the direction of the attitudes and dogmatism of their cooperating teachers (Quinn, 1970).

f. Dogmatism and teacher evaluation In the Calloway (1973) study, only the student teachers' self-report identified difficulties; evaluation by others revealed no differences. Similar data were reported by Renuart (1973) in a comparison of teachers' dogmatism and administrators' perception of dogmatism: few differences were observed by administrators between the classroom behavior of HD and LD teachers.

An attempt was made to assess the effectiveness of the dogmatism scale in identifying the potentially unsatisfactory teachers on a group of 200 newly employed elementary and secondary teachers (Hogan, 1971). Age and teaching experience appeared to be more important than dogmatism in identifying unsatisfactory teachers; the youngest and oldest teachers received more unsatisfactory ratings regardless of their degree of dogmatism.

The grades given by supervisors and a trained observer to 106 student teachers were examined to determine whether dogmatism affected student teaching performance (Markowitz, 1968). The subjects were separated into three groups: lower quartile  $N = 27$ ,  $\bar{X} = 119.70$ , upper quartile  $N = 26$ ,  $\bar{X} = 174.74$ , middle  $N = 53$ ,  $\bar{X} = 147.94$ . There was no separation of subjects by sex. An examination of the mean differences of grades revealed no significant differences among the three groups.

### C. The Sex-Role Stereotyping Variable

The word "stereotype" was coined by Walter Lippmann in 1922 to refer to "pictures in the head." Sex stereotypes may be regarded as mental pictures concerning one's own and the opposite sex. Since dogmatic individuals are more likely than non-dogmatics to categorize the world according to strongly held either-or viewpoints, and since certain attitudes and behaviors have been societally sanctioned as more appropriate for males than for females, dogmatics more than non-dogmatics should subscribe to traditional sex stereotypes.

Sex-role stereotypes affect interpersonal relations. "Learning what role prescriptions and proscriptions are and how they are met in expressive behavior is fundamental in the development of interpersonal tactics" (Weinstein, 1969, p. 765). Sex-role stereotyping influences acquisition of interpersonal skills which allows individuals to shape the response they receive from others in innumerable everyday social encounters. Interpersonal competence has been defined as "the ability to control others" (Weinstein, 1969, p. 764).

Control of others starts at birth. The infant's first strident cry is a response to control and a demand for control. In the process of development the infant will learn behaviors which fulfill three basic interpersonal needs: control, the decision-making process between people; inclusion, the association between people; and affection, emotional feelings between people (Schutz, 1966). Much of the infant's subsequent behavior in fulfilling these needs is directly and subtly shaped in the process of becoming feminine or masculine; being masculine or feminine

affects, in turn, the infant's mode of assuming interpersonal competence.

While an historic perspective will reveal that sex-role stereotypes are a cultural artifact and will offer some reasons for their existence and perpetuation, it will not answer the question: are sex-role differences the result of biological programming by gonads, chromosomes and hormones, or the results of psychological programming induced by a powerful set of societally determined scripts? The answer to this question must be approached via research on hermaphrodites, knowledge of the sex-typing process and cross cultural studies, and finally, through data on sex differences.

### 1. Historical overview

a. Dread of women Any historical account of the human condition begins with our most ancient ancestors, and just so, an understanding of sex-role stereotypes must begin with primitive woman and man. The primitive's life was filled with dangers and unexplainable phenomena; daily existence was filled with unknowns. Myth functioned to fill a void in this understanding and helped conquer primitive people's awe and fear (Kaufmann, 1970). Bettelheim's (1962) thesis offered an explanation for why women have been mythologically deified as the dreadful creatures of man's fears: women's procreative powers appeared awe-ful to primitive man. Women were an outside world, were "the other"; women were an unknown. Primitive man feared and envied this unknown (Jaffe, 1968).

Horney (1932) alluded to this fear in "The Dread of Women" and outlined the ambivalence of men's fear of, yet desire for, women, which resulted in women's being either "glorified or vilified." Either of these

stances were felt by Horney to provide men with an explanation for their dread of women. Glorification of women permits men to love and adore them, to succumb to them; vilification allows men to disparage women, to deny them status worthy of dread (Van Vuuren, 1973).

Women have appeared throughout myth as the givers and takers of life. The shape of women in myth signifies a "preoccupation with a monstrous and deadly female, whether seductress or mother" (Lederer, 1968). Lederer traced this preoccupation into the realm of fairy tales; a thematic tabulation of 200 Grimms' tales disclosed: 16 wicked mothers or stepmothers vs. three fathers; 13 treacherous maidens who kill/endanger suitors vs. one evil suitor who harms a bride; 23 wicked female witches vs. two males (p. 65).

Man's psychological dilemma, attraction to and dread of women, appears on another symbolic level: "Language in its primitive manifestation appears to be bound by formulas, stereotypes and fixed colloquialisms. . . this immediate outflow of the unconscious is built upon stereotypes and formulas" (Thass-Thienemann, 1973, p. 155). "Thus a word cluster has been brought about by a similarity of sound and meaning. Every cluster posits a psychological problem; for instance, the two words womb and tomb are surely distinct in entymological background as well as in lexical meaning, yet they attract one another and do so not merely by phonemic similarity" (Thass-Thienemann, 1973, p. 170). The affinities of the word cluster "womb and tomb" repeat the life-death dichotomy.

b. Masculine protest In the process of eliminating the extremely unpleasant state of psychological uncertainty, man has not only left an account of his ancient fear of women, but may have, as Adler (1930) sug-



gested, developed an overstrained desire for masculinity:

I have quoted one case, especially, where the errors of our civilization may influence the development of an individual, and that is the case of the underestimation of women in our society. From the sense of female inferiority, which most people, men and women alike, possess, both sexes have developed an overstrained desire for masculinity, a superiority complex which is often extremely harmful, a will to conquer all difficulties of life in the male fashion, which I have called the masculine protest.

(Adler, 1930, p. 74; italics in the original)

Adler's (1930) masculine protest bears a similarity to what Zilboorg (1944) called an androcentric bias, "a bias of the physically strongest, of the successful conqueror." Zilboorg (1944), like Adler, attributed the inequity between the sexes to this androcentric bias and also speculated a cultural lag before society would seek to reestablish equity as "even very scholarly minds have been lost in the mesh of this bias" (p. 283). Several books have dealt with various aspects of the effects of the masculine protest and androcentric bias: Sexual Politics (Millett, 1968); The Female Eunuch (Greer, 1971); Against Our Will (Brownmiller, 1975), etc.

c. Cultural lag and explanatory ideologies The cultural lag predicted by Zilboorg (1944) still exists; the reasons for it are ancient and deep-rooted. The issue of sex-role stereotyping is far more complex than Napoleon's dictum, "anatomy is destiny," suggests. Controversy over whether sex roles are the result of nature or nurture cannot be resolved scientifically "as human infants are not monkeys and adequate environmental controls almost impossible" (Miles, 1935). However, Bem and Bem's (1970) non-conscious ideology and Ryan's (1971) blaming the victim offer

operational explanations for the perpetuation of traditional sex-role stereotypes. A non-conscious ideology exists since believers are unable to perceive any other point of view: beliefs and attitudes "may be accepted implicitly but remain outside one's awareness because alternative conceptions of the world remain unimagined" (Bem and Bem, 1970, p. 89). Blaming the victim (Ryan, 1971) also operates unconsciously, utilizing established and pervasive sets of ideas and concepts; it is a diversionary tactic which results in the readiness to blame the victim of an injustice for the injustice. "Women who had always been blamed for their miseries, rebuked for mentioning them, and told that something was wrong with them were liberated when they came to see that they were not defective individuals but victims of oppressive institutions" (Bernard, 1973, pp. 15-16).

Just as only very unparochial and intellectual fish are aware that their environment is wet (Bem and Bem, 1970), only unparochial and/or intellectual individuals have acknowledged that the evolution of masculinity and femininity 1) has roots in primitive man's desire to mask the fear and envy felt toward primitive women; 2) is recorded in myth; and 3) is perpetuated non-consciously through an androcentric bias and masculine protest which victimizes women.

## 2. Biology vs. psychology and sex-role stereotypes

a. Studies on hermaphrodites While three groups researching gender behavior in the United States, and the men associated with them: Money and the Hampsons, Johns Hopkins, Stoller and Green, UCLA Gender Identity Research Clinic and Benjamin of the Harry Benjamin Foundation, agree "that assigned sex, biological sex, and gender identity in the normally

developing individual are coincident and are established early in life" (Mensh, 1972, p. 52), there are those who disagree:

This theory of psychosexual neutrality, with its strongly environmental and cultural bias, has dominated the study of sex differences in the United States to such an extent that psychologists consistently use the jargon terms, 'sex typing,' 'sex role identification,' 'sex role adoption,' in discussions of sex differences in human behavior, these terms implying that there is considerable choice in the matter.

(Hutt, 1972, pp. 69-70)

There is no doubt that literature will continue to range between the classical view of psychosexual differentiation at birth and the newer position of psychosexual neutrality. A belief that "persons" do not exist--there are only male persons and female persons--biologically, sociologically and psychologically finds support in the 1970's: ". . . the difference between the sexes . . . is one of the most fundamental facts of life, psychologically and socially, intellectually and historically. It is a totally genetic one, incapable of being modified by the environment. It depends upon a piece of chromosome having a certain genetic structure" (C. D. Darlington in Encounter, December, 1971, 37, p. 88, as cited in Ounsted and Taylor, 1972, V). This point of view can be considered typical of the classical concept of sex roles.

The studies of hermaphrodites by Money and the Hampsons, 20 years ago, offered the first dramatic evidence refuting the classical concept. Diamond (1965) was one of the first researchers to criticize this early work; for justification he called upon the weight of "the traditional view of human sexuality. . . . The theory of inherent sexual predisposition and of somatic basis for the patterning of sexual behavior is not original with me. Aside from mythological and religious beliefs of a similar nature,

this hypothesis was advanced almost 50 years ago. . . ." (Diamond, 1965, p. 168). Money has subsequently modified his original theory, but maintains that there is an interaction between genetics and environment which results in psychosexual differentiation, rather than development:

. . . gender identity can best be expressed by using the concept of a program. There are phyletically written parts of the program. They exert their determining influence particularly before birth, and leave a permanent imprimatur. Even at that early time . . . the phyletic program may be alerted by idiosyncracies of personal history.

(Money and Ehrhardt, 1972, pp. 1-2;  
italics in original)

Despite an early tendency to overemphasize the environmental contributions to sex roles, understandable in the sense of both the number of case studies and the headiness incumbent in refuting traditional concepts, literature on hermaphrodites establishes a strong position for believing there are no innate, instinctive, constitutional or automatic biological mechanisms which are solely responsible for the assumption of a sex role (Brown and Lynn, 1966; Goldman and Milman, 1969; Hampson, 1965; Money, 1963a; Money, 1963b). Evidence includes over 100 case studies of hermaphrodites, who, although comparable in anatomical and physiological deviation, have been assigned different sex roles and successfully reared as either boys or girls (Money and Ehrhardt, 1972):

The number of sexual variables that may be independent of one another became evident from the study of hermaphrodites.

. . . The first group consists of:

- 1) chromosomal sex, or sex of the nucleus
- 2) gonadal sex
- 3) hormonal sex and secondary sexual characteristics
- 4) external genital morphology
- 5) internal reproductive structures

The second group consists of:

- 1) sex of assignment and rearing
- 2) gender role and identity established when growing up

(Money, 1963b, p. 1681)

Normally, all seven of the variables are congruous; however, gender role and identity "may proceed incongruously with one or more, or even with all six of the remaining variables of sex" (Money, 1963b, p. 1681).

Another aspect of the concept that individuals begin life "psycho-sexually plastic, capable of development along a variety of lines depending on the definition of sex roles in his culture" (Brown and Lynn, 1966, p. 155), is that this psychosexual plasticity does not appear to exist beyond early childhood. Once again, while two groups, UCLA and Johns Hopkins, are biased toward environmental influences--parents, siblings and peers--determining the establishment of a child's gender identity and they agree that this will occur in a direction consistent with rearing, even if this rearing is contradictory to the biological variables of sex, and that a shift after the third year is problematic, there are those who disagree (Mensh, 1972, p. 46). It appears, however, that Money and Ehrhardt (1972) may be correct in assuming that: "Dimorphism of response on the basis of the shape of the sex organs is one of the most universal and pervasive aspects of human social interactions" (p. 12). Questionnaires from an attitudinal survey of 1400 physicians revealed that, despite "the bulk of evidence in the medical literature as presented by Money, the Hampsons, Stoller and their co-workers," physician groups would refuse to grant approval for sex reassignments contrary to the direction of somatic sexuality; among the reasons given for this attitude, "94% objected on moral and/or religious grounds" (Mensh, 1972, pp. 50-51; italics in the original). [Bart (1973)

in a review of 27 gynecology texts written from 1943 to 1973 noted that "the traditional female sex role is preferred. . . . They are written, as a sociology-of-knowledge framework would lead us to expect, from a male viewpoint" (p. 286).]

One possible alternative, avoiding the pendulum swing of psychosexual neutrality to psychosexual differentiation, is offered by Ounsted and Taylor (1972), who reject the idea that proportions can be allotted to either genetic or environmental aspects. Their model suggests:

. . . the continuing plasticity of the gender syndromes. The genetic make-up is a clear distinction and sets in train a series of biological events which tends toward differentiation during the reproductive epoch and then tends to collapse. In our model the pace of differentiation differs between the sexes and the variance is greater in the male. . . . The emerging gender syndromes are represented as two overlapping fusiform bodies. . . . Gradually, with growth and maturation, more and more differentiation takes place. Some overlap always remains, but this is least during the reproductive phase. . . . Gender identity would be less variable in girls than in boys. . . . With age the gender syndromes tend to collapse, and features distinguishing males from females become less evident.

(pp. 255-256)

### 3. The process of sex-typing

"A sex-role stereotype may be defined as the assumption that all females or all males, because they share a common gender, also share common abilities, interests, values, and roles" (Federal Register, 1975, p. 33803). Sex-typing is the process by which individuals develop the attributes, behavior, personality, characteristics, emotional responses, attitudes and beliefs defined as appropriate for males and females within a given culture (Sears, 1965). Some agreement exists that sex-typing occurs early in the child's life and is a gradual process, beginning perhaps with

the onset of language (Money, 1963a; Money and Ehrhardt, 1972). The critical period for gender imprinting (applied as a useful concept and not meant to be analogous to the description most apt for bird behavior, Money and Ehrhardt, 1972, p. 178) ranges from 18 months to three years and becomes well established and irreversible by the ages of 5-6 (Brown, 1958; Hampson, 1965; Kagan and Moss, 1962; Kohlberg and Zigler, 1967; Mischel, 1970; Mussen, 1969; Sears, Rau and Alpert, 1965). This, however, is where the bulk of agreement ends. This writer posits the following as a possible explanation for why research has, to date, failed to deal successfully with the process of sex-typing:

1) Sex is the only one of three possible social roles--sex, age and socio-economic--which is fixed (or becomes so via surgical/hormonal intervention) at birth and remains constant throughout life, thus seeming a product rather than a process (Bennett and Cohen, 1959; Linton, 1945; Tyler, 1964).

2) "Gender roles are very broad and very subtle. It would be difficult to imagine that any kind of direct tuition could provide for the learning of such elaborate behavioral, attitudinal, and manneristic patterns as are subsumed under the rubrics of masculinity and femininity" (Sears, Rau and Alpert, 1965, p. 171).

3) "Even starting with the same assumptions, different researchers often arrive at different conclusions" (Lipman-Blumen and Tickameyer, 1975).

4) "The corpus of theory relating to the process outweighs the available solid, systematic data" (Mussen, 1969, p. 712).

5) "The real reason for this neglect . . . is so much simpler. The

problem is very, very difficult" (P. B. Medawar, as cited in Ounsted and Taylor, 1972, p. 260).

Three major theories attempt to explain the process of sex-typing. The first, social-learning, relies on the factors of teaching, reward and punishment, generalization and imitation to outline the development of sex-typed behavior. Review of the social learning theory may be found in Maccoby (1966) and the theory is associated with much of Mischel's research (Mischel, 1970).

The interstices between the first and second theory, identification, are obvious; identification relates to the process of imitation learning which takes place within a social context. Bandura (1966) acknowledged that how and why imitation begins is not known, but it is a process through which children learn and acquire new responses from childhood on. Although the theory of identification received its initial impetus from Freud's notions that self-identification and sexual identification arose from the child's initial identification with the same-sexed parent (Freud, 1925), later identification theorists have modified this original position or offered other principles of development. Sears (1957) and Sears, Maccoby and Levin (1957) placed greater stress on the mother-child nurturance-dependency relationship. Kagan (1958) utilized the concept that parents were a source of power and love and believed that children were motivated to model parental behavior since they, too, wished to be sources.

The third theory, cognitive-developmental, related sex-typing to other facets of maturation and assumed it to be a natural concomitant of cognitive development. Kohlberg and Zigler (1967) believed that "the



child's basic sex-role identity is largely the result of a self-categorization as a male or female made early in development" (p. 103). Maccoby and Jacklin (1974) referred to this as "self-socialization." Kohlberg (1966) outlined a theory of sex-typing that proceeded from this initial categorization of self as female or male. Since intellectual growth involved transformation of perceptions of one's environment, seeing oneself as male or female acted as an organizer of experience. Money and Ehrhardt (1972) referred to an infant's developing this sense of self as a boy or girl as "core gender identity": "gender identity is the private experience of gender role and gender role is the public expression of gender identity" (p. 4). The term "core" assumes that "identity and role are facets of the same entity" (p. 146). Thus, cognitive-developmental theory regarded imitation of and preference for sex-typed acts and/or objects the result of rather than a cause for the sex-typing process. An elaboration of this view is also provided by Money and Ehrhardt (1972):

For the ordinary boy, the feminine system becomes coded as negative. Cerebrally, its status is that of being subject to inhibition with respect to personal expression. It does, however, act as the boy's template of what to expect in the behavior of girls and women and, secondarily, of how to respond in order to reciprocate or complement their behavior. The same statements may be made vice versa for girls. In either sex, the negative system may be released under conditions of impaired or diseased brain function.

(pp. 244-245)

Although these three sex-typing theories offer different perspectives regarding the development of sex-typing, they agree on one aspect: the fact that parents assist children in their sex-role development.

Parents have two major tasks in promoting their child's sex-typing. The first is tuition, i.e., teaching the child appropriate sex-typed responses through rewards and punishments, and guiding his behavior, directing it into the proper channels. The second is providing a model of the proper general attitudes and personality characteristics for the child to emulate.

(Mussen, 1969, p. 728)

Money and Ehrhardt (1972) are in strong agreement and clearly offer reinforcement for this point of view:

Parents . . . so incapable of influencing what nature ordains that it simply never occurs to them that they are also waiting for the first clue as how to behave toward the new baby. . . . As soon as the shape of the external genitals is perceived, it sets in motion a chain of communication . . . son-daughter--the communication itself sets in motion a chain of sexually dimorphic responses beginning with pink and blue, pronominal use, name choice, that will be transmitted from person to person to encompass all persons the baby encounters, day by day, year in, year out, from birth to death (p. 12). . . . Parents are caretakers not only of their offspring, but also--in a more primordial, phyletic sense--of the germ plasm and their genetic code. . . . They have the same status of bystanders who watch while fate makes decisions about chromosome errors and about fetal hormones and the embryonic differentiation of sexual morphology. After the baby is born, parental powerlessness gives way to an august feeling of authority to make decisions about how well the child will be reared. . . .

(p. 261)

#### 4. Cross-cultural studies

Much of what appears under the heading of sex roles has little to do with sex; anthropological studies stress the effects of the socializing process in all cultures. A major paper devoted to cross-cultural studies on sex-differences reflects the patriarchal nature of societies (despite the fact that "there is no single trait in which we in our society ascribe to males and females which is not ascribed to the opposite sex in some other society. . . ." Hargreaves, 1972, p. 22) as well as greater male

valuation and dominance. Cross-cultural regularities reveal shared concepts of femininity and masculinity and that, in most societies, men are more aggressive and dominant, have greater authority and have social organization centered around them (d'Andrade, 1966).

Cross-cultural studies offer an opportunity to explore parental behavior under widely different cultural conditions. Mead's (1935) early study of three New Guinea tribes provided a horizontal structure which continues to be validated by recent studies: 1) activities, tasks, characteristics and attitudes are assigned differentially to males and females in all cultures; 2) there are marked differences among cultures in the degree of differentiation between the sexes and the specific activities and personality characteristics attributed to males and females.

A more recent cross-cultural study by Block (1973) called this differential emphasis between the sexes "agency" and "communion," terms which Bakan (1966) used to distinguish the fundamentally opposed aspects of all living forms. Bakan believed that it is an organism's life task to successfully integrate both aspects, agentic--assertive, expansive and protective--and communal--articulation with one's environment. Block's (1973) data indicated that communal behaviors were fostered in girls and agentic behaviors in boys who, even at a pre-school level, were found to be "more pressed for achievement by their parents than are girls, from whom less is expected and from whom less is acceptable" (p. 517). Agentic and communal behaviors, limited to American society, had also been discussed by Carlson (1971).

Block's investigation is of further interest as it reinforced an

aspect of Barry, Bacon and Child's (1957) study of 110 predominantly non-literate cultures which evaluated the importance of biological differences and child-rearing practices in the establishment of sex roles. Their data indicated that child-training practices (patterns) have an economic base; children are trained for adult expectancies and men characteristically engaged in activities in which self-reliance and achievement were stressed, i.e., work away from the household and engagement in combat. A direct relationship between capitalism and agentic behavior, theorized by Bakan (1966), received support from Block's (1973) study: the two most "socialistic" countries, Sweden and Denmark, were found to have fewer sex differences and less agentic emphasis. Three dimensions which distinguished American child-rearing from the five other societies (Norway, Sweden, Denmark, Finland and England) were: greater emphasis on early, clear sex role expectations and competitive achievement, but less emphasis on control of male aggression.

##### 5. Data on sex differences in control, inclusion and affection

"We all need certain things from life, not only food, shelter, and so on, but we are all searching for certain emotional satisfaction, the need to be liked, acknowledged, and loved (Reik, 1963, p. 15). Agreement exists that, despite certain individual differences in intensity, both males and females will seek to fulfill needs along these three interpersonal dimensions: control, inclusion and affection. Although interpersonal needs are not sex-typed, studies show that traditional sex-role stereotypes do, through concepts of masculinity and femininity, assign differential mechanisms/ways for females and males to achieve them. Males are expected to be

self-oriented or instrumental, i.e., achieving, active, ambitious, aggressive, competent, competitive, dominant, independent, intelligent, self-confident, silent, strong and unemotional, while females are to be more other-oriented or expressive, i.e., passive, gentle, submissive, dependent, talkative, weak, emotional and less ambitious, achieving, competent, intelligent and more self-confident than males (Bennett and Cohen, 1959; Broverman, Vogel, Broverman, Clarkson and Rosenkrantz, 1972; Cartwright, 1972; Harford, Willis and Deabler, 1967; Hutt, 1972; Fernberger, 1948; Kirkpatrick, 1936; McKee and Sherriffs, 1957; Yorburg, 1974). It has long been noted that these sex-role stereotypes produce personality conflicts which prevent achievement of individual potential (Aikens, 1927; Bart, 1970; Baruch, 1974; Broverman, Broverman, Clarkson, Rosenkrantz, and Vogel, 1970; Daly, 1930; Doherty, 1973; Gerai, 1970; Gove and Tudor, 1973; Franck, 1946; Komarovsky, 1946; Mischel, 1974; Mussen, 1961; O'Leary, 1974; Shaffer and Wegley, 1974).

The two principal ways of measuring interpersonal feelings, the aspects of what we do in relation to other people, is through observation or description (Bennis, Schein, Steele and Berlew, 1970, p. 15). The definitions used to explore sex differences in control, inclusion and affection will be those utilized by Schutz (1966; 1971) in evolving a theory of individual propensities along these three interpersonal dimensions:

"The aspect of the self-concept related to control is the feeling of competence, including intelligence, appearance, practicality and general ability to cope with the world" (Schutz, 1971, p. 17). Control is the degree to which an individual requires dominance and power, not prominence,

which is inclusion behavior, not emotional closeness, which is affection behavior (Schutz, 1966; 1971).

"Inclusion refers to feelings about being important or significant; of having some worth so that people will care" (Schutz, 1971, p. 17). It is the degree to which an individual requires participation in, belonging to, commitment from others in the sense of togetherness and is concerned mainly with the formation of relationships, and manifests itself as wanting to be attended to and attracting attention because of being a distinct person and having a particular identity. It does not involve strong emotional attachments to individual persons or groups (Schutz, 1966; 1971).

"The area of affection revolves around feelings of being lovable, of feeling that if one's personal core is revealed in its entirety it will be seen as a lovely thing" (Schutz, 1971, p. 17). It is the degree to which an individual desires closeness, intimacy in a dyadic relationship. "Since affection is based on emotional ties, it is usually the last phase to emerge in the development of a human relation" (Schutz, 1971, p. 28).

The source used to determine sex differences is the data presented in Maccoby and Jacklin's (1974) The Psychology of Sex Differences, an updated version of an earlier volume edited by Maccoby (1966) dealing with the development of sex differences. This work, through its massive and comprehensive analysis, offers the opportunity to formulate answers to the questions: what are the differences between the sexes in the areas of control, inclusion and affection; which of the five factors involved: biology, socialization, imitation, identification, and cognition (self-socialization) account for these differences and what are the limitations on/restrictions

of these data? The material which follows, unless noted, is derived from Maccoby and Jacklin's (1974) data.

a. Differences between the sexes: control The majority of the "fairly well" established differences, as well as the "unfounded beliefs" about differences between males and females, belong in the interpersonal category of control.

Established differences:

Girls were:

superior in verbal ability with a .25 standard deviation advantage common

inferior in visual-spatial ability with about a .40 standard deviation disadvantage common

inferior in mathematical ability; common variance was difficult to estimate due to the differential verbal and visual-spatial processes involved in problem solving; differences became noticeable at 12-13 years

less aggressive verbally and physically and were chosen less often as victims of male aggression; aggression appeared early (2-2½ years), to be present cross-culturally and in subhuman primates; was responsive to sex hormones and was not approved, accepted, or rewarded by adults of either sex.

Unfounded beliefs:

Girls were not:

more suggestible or easily persuaded than boys

lower in self-esteem; both sexes were similar throughout childhood and adolescence; they did differ in areas of self-confidence--girls appeared to feel more socially competent--boys strong, powerful and dominant; at college age (18-22) there was a tendency for women to lack confidence in their ability to do well in a new task or to have as great a sense of control over their fate as males did

better at rote learning and simple repetitive tasks and worse at higher cognitive processing

less analytic (except for visual-spatial tasks)

lacking in achievement motivation; observational studies revealed no difference or girls were superior; in the earlier studies girls' scores were higher in achievement imagery under "neutral" conditions; however, it appears that it takes stronger efforts to motivate boys and they need to receive challenge via ego appeals or competition, particularly among same sex peers (perhaps another aspect of males' greater homosociability) to bring achievement imagery up to girls'; ". . . the fact that neither sex shows as much achievement motivation with female pictures is difficult to interpret" (p. 138).

more auditory; no difference was found between the sexes in response to auditory stimuli (in the majority of infancy studies)

less visual; in infancy through adulthood both sexes were similar.

Unknowns:

It is not known whether girls are more:

compliant; they did tend to appear more compliant toward adults; in mixed sex interactions there was no evidence that either girls or boys wished to comply consistently to the wishes of the opposite sex

passive; girls' compliance to adults may often be in the form of activity; their play activity was not as likely as boys' to involve strong physical activity, but was a quieter activity; neither sex was unwilling to explore novel environments or more likely to withdraw from social interaction. [Maccoby and Jacklin questioned "passive" as a proper term for female personality attributes. Girls appeared no more submissive or yielding than boys when aggressed against; they did tend to be more compliant to directives from parents and teachers--their compliance, however, was directed toward adults (pp. 272-273; emphasis the writer's).]

fearful, timid and anxious; observational reports usually did not find sex differences; while in childhood neither sex's dependency on caretakers was greater nor was their unwillingness to remain alone; however, teacher ratings showed girls to be more timid and anxious and girls attributed greater fear and anxiety in self-reports.



It was also not yet known whether girls were less competitive and dominant. A problem arose as competition and dominance have been thought to have an aggressive element, and in animal research these two variables have formed the structure for the study of aggression. There was no doubt, however, that, to date, the male has been more competitive in sports and has been more frequently involved in competitive occupations. Furthermore, competitiveness is something "people in modern Western cultures are so thoroughly trained to be . . . that they continue to be so even in situations that are carefully arranged so that cooperation would be more individually functional" (p. 251). Age, sex, and identity of opponents may also be important in determining competitiveness, e.g., young women hesitate to compete against boyfriends and men may view competition from women as a threat to male dominance (Komarovsky, 1973; Tresemer and Pleck, 1974).

Dominance, like competition, arises from a multiplicity of motives. Struggle for dominance appeared more within boys' groups than girls' and, while girls displayed a compliant attitude toward adults, boys more often attempted to dominate adults. The question of how dominance affected leadership behavior was complicated due to males' greater aggressiveness and physical strength. Initially, in adult mixed pairs or groups, formal leadership tended to go to males, but became more sex equal with division of labor along lines of individual competency.

b. Differences between the sexes: inclusion Two aspects of behavior, sociability and dependency, will be discussed in the interpersonal category of inclusion.

Established differences: The earlier summary of research regarding the developmental aspects of sex differences (Maccoby, 1966) con-

tained findings which remain valid.

Girls:

developed an interest in boys at an early age and liked boys better than boys liked girls until about the age of 10 when boys developed an interest in girls

have different tastes in books and T.V. programs, were less oriented toward aggression, action and science than boys

were more concerned about their appearance and attractiveness.

Differences which emerged in the recent study:

Girls:

associated in pairs or smaller groups of age mates; boys congregated in larger groups and were highly peer-group oriented (once again, the homosocial aspect of males)

friendship patterns revealed more intense relationships due to their smaller interaction groups.

unfounded beliefs:

Girls are more:

social; "a picture has emerged, . . . of boys being more gregarious in terms of number of peers with whom they interact and of dependence upon the peer group for values and interesting activities. This picture is distant indeed from the view of a female personality as involving 'greater interest in people, and greater capacity for the establishment of interpersonal relations' . . ." (p. 211).

empathic, interested in social stimuli, responsive to social reinforcement, and proficient at learning through imitation of models; both sexes were equal in these attributes.

Unknowns: Dependency, like aggression, has been researched as sex-typed behavior. Although a major paper (Mischel, 1970) concluded that females exhibit greater dependency than males, Maccoby and Jacklin outlined the difficulty involved in delimitation of the behaviors used to measure

dependency, e.g., the different actions taken by a child to receive "nurturant, helping, and caretaking" activities are difficult to separate from other actions. In addition, "dependency in the above sense of the word does not represent an identifiable cluster in the social behavior of young children" (p. 191). Further evidence indicated that a child's orientation to adults and age mates was relatively independent behavior. Factorial analysis confirmed this and revealed no indication of a pattern to link to the defined "dependency" cluster. Therefore, the authors separated two kinds of behaviors in their analyses: 1) proximity seeking, touching and resistance to separation and 2) social responsiveness, social interests and social skills in relation to two groups, age mates and other adults or age of target unspecified.

The majority of the 32 studies with observational data on proximity, touching or resistance to separation from mother (there were few father studies) found no sex differences. Studies which found no difference outnumbered, 3 to 1, studies which found girls higher, leading to the conclusion that sex similarity rather than dissimilarity existed.

Proximity seeking in relation to adults presented a confusing picture--observational studies tended to find no sex differences, while rating studies frequently found girls more dependent. The authors inferred some probably observer bias, and concluded that clinging behavior, whether to parents or other caretakers, in situations of uncertainty or anxiety, was characteristic of human children and observable in all cultures.

Social behavior among older age mates revealed that girls and women tend to stand closer together than boys or men and tended to face each other more directly. However, under factorial analyses, "friendly inter-

action" with age mates appeared to be distinct from such proximity seeking.

c. Differences between the sexes: affection The only opportunity to explore the last category of interpersonal data--affection--is "friendship." Perhaps the reason for the lack of data in this area can be inferred from Reik (1963, p. 20) who notes that the "area that had been neglected by psychological research is the basic need of men and women to be loved," and from Bennis et al. (1970), ". . . modern psychology has failed to come to terms with love. It tends to be treated in a number of ways: like a 'hot potato,' or starched into crisp abstractions, or elevated beyond human comprehension or capacity" (p. 33). In addition, relatively little can be said about the differences in this category, since much of the data presented on affiliative/liking behavior resulted from observation of play groups rather than dyadic relationships.

Maccoby and Jacklin found "surprisingly little sex differentiation" in research on attachment affiliation; there are no generalized sex differences; differences are qualitative rather than quantitative. Up to the age of five (most studies center on this age) the total amount of interaction between mother and child was similar and both sexes appeared to receive equal amounts of expressed warmth and affection.

Qualitative differences:

Girls:

imitate more when a model displays affectionate behavior (boys imitate more when the behavior is aggressive)

have a tendency to develop more exclusive "best friendships" while boys tend to involve themselves in groups; this difference has been observed cross-culturally

may tend, due to the smaller and more intimate nature of their circle of friendships, toward more "self-disclosure" --tell secrets to friends--during the ages of 9-17 than boys; a study at the adult level revealed no sex differences between a husband's and wife's tendency toward self-disclosure.

#### 6. Biology, socialization, imitation/identification or cognition?

The question of which factors, biology, socialization, identification/imitation or cognition (self-socialization), were responsible for these sex differences is difficult to assess as they exerted influence independently and interactionally.

The clearest biological differentiation was males' greater aggression and visual-spatial ability; this does not mean that either aggressive behavior or visual-spatial skills are unlearned. There is evidence that aggressive behavior is learned (de Monchaux, 1964; Bandura, 1973; Storr, 1972) and that visual-spatial skills can be improved with practice.

The overall socialization of girls and boys revealed "a remarkable degree of uniformity," i.e., boys and girls were equally: treated affectionally (studies reveal data to age 5); rewarded for independent and competitive behavior and discouraged for dependent and aggressive behavior. While direct parental socialization didn't reveal any uniform shaping process of boys and girls toward behaviors which are part of sex-role stereotypes, boys do appear to receive "more intense socialization experience than girls." This was evident particularly in the discouragement of males from engaging in "feminine" activities, e.g., playing with dolls, wearing dresses. In this narrowly defined area of sex-typed behavior, parents, particularly fathers, were stimulated to actively discourage any type of "sissy" behavior in sons (toys, dress, activities). This same type of

concern was not shown toward a girl's "tomboy" behavior. Thus, boys' behavior was more clearly prescribed and proscribed. Boys also were handled and played with more roughly and received more physical punishment; they also received more praise and criticism. This differential attention caused Maccoby and Jacklin to feel: "adults respond as if they find boys more interesting and more attention-provoking than girls" (p. 348). Despite this somewhat more intense male socialization, parental "shaping" per se did not seem to account for acquired behavior.

Nor does the theory of the child's identification with the same-sex parent, or the theory of imitation (through reinforcement) of same-sex parent and generalization to other same-sex models account for acquired behavior: 1) studies have not shown that children resemble their same-sex parents in behavior; 2) children's behavior is clearly sex-typed at an earlier age than they are able to accurately distinguish a same-sex model; and 3) children's behavior does not closely resemble adult models and the prestige of the model can overcome the sex-appropriateness of the behavior.

The problem with the cognition/self socialization view is the same as for identification/imitation: sex-typing of behavior was observable before children had begun to understand themselves as either boys or girls.

Maccoby and Jacklin felt that both reinforcement and imitation were involved in acquiring sex-typed behavior and cognition was involved in the developmental aspects which proceeded parallel to and in sequence with age changes in thought. This writer assumes that differences in aggression and physical strength must also be considered when considering both within sex and between sex differences.

## 7. Limitations on and adequacy of sex-difference data

When Maccoby and Jacklin discussed the "adequacy" of their method of summarizing and analyzing existing research as "a way of knowing the truth about sex differences," they were also reviewing the inadequacies/limitations of sex-difference research in general. These inadequacies result from the limitations of: 1) psychometrics, 2) sampling, 3) methodology, and 4) researcher bias.

Measurement problems arise, not only from the fact that observational data often differed from self-reports, but that ratings themselves may differ due to problems of shifting rating points, to selective perceptions of raters and to different definitions for rating the same behaviors. In addition, the majority of the work on sex-role socialization has been done within sex, rather than between sex, with separate correlations showing a relationship between some measure of masculinity or femininity and socialization practices for females and males. Masculinity and femininity have been thought of as polarities and knowing one is assumed enough to predict the opposite behavior in the other sex; inferences are almost always made to the opposite sex from within sex correlations. Finally, certain subtleties of behavior may have been overlooked due to the lack of detailed and continuous measures, i.e., behavior occurs as a sequence of "nested" actions, and experimental situations often dealt with a totality (end product) of response which was recorded and summed across a number of trials.

Perhaps the most interesting aspect of how data may become skewed deals with sampling. Children under school age were the group most often

sampled; the three age groups most frequently sampled were newborn infants, nursery school children and college students. Greater sex differences have been shown to exist among certain ethnic and socio-economic groups than others, e.g., the "machismo" of Latinos and lower socio-economic Americans (Kagan and Tulkin, 1971; Lopata, 1971; Rainwater, 1966). If masculinity and femininity are important aspects of one's self-concept, as they appeared to be for these two groups of people, then there is the possibility that people will attempt to monitor their behavior to maintain consistency with a self-image: "Much of our behavior is motivated by the desire to see ourselves as behaving in a certain kind of way, as being a certain kind of person . . . we are prone to demand that the other hold meanings for our behavior consonant with our ideal concept of ourselves. . . ." (Weinstein, 1969, p. 764). If sample populations were drawn from among individuals to whom masculinity and femininity were central self-defining concepts, then it is likely that not only would there be consistency among findings, but that sex differences would be significant.

A time sequence and summing frequency of individual behavior methodology may be insensitive to sex differences which emerge during the sequence. Sex differences may be responsive to situations other than those observed; for example, while extensive data are available on "school-success," much less exists on social behavior. Some sex differences may be situation-specific and studies which tally social behavior without indicating the behavior's "target" ignore this fact.

Measurement, sampling and methodology make cross-age comparisons difficult; there is a shift from observational data in children to self-report



questionnaires and restricted experimental conditions from reading age onward.

The largest limitation of Maccoby and Jacklin's analyses relates to the problem of defining "trends" in terms of additive process. This additive process results in reporting "trends" as a box score. Unfortunately, the studies included in this box score may differ in "rigor," i.e., design, statistical procedures, and size of sample. It is possible that the "trend" may not be as valid as reported and that some "truth" may escape unnoticed in the minority studies.

The final aspect, mentioned throughout the text by Maccoby and Jacklin, because it is a hazard of any research, was researcher bias. Obviously, stereotypes have been powerful enough to survive in spite of research evidence to the contrary. The very fact that stereotypes are generalizations may allow the many instances which disprove the generalization to go unnoticed, while a few instances reinforce the stereotype because they fulfill observer expectations.

Easily forgotten by researchers and teachers alike is the fact that human minds collect, organize and attribute significance to data. "We have to remember that what we observe is not nature itself, but nature exposed to our method of questioning" (Werner Heisenberg, cited in Rogers and Stevens, 1967, p. 207).

D. Sex-role Variable,  
Interpersonal Relations, Dogmatism and Teachers

1. Culture and sexism

If culture is viewed as "the stimulator, conditioner and organizer of human potentialities" (Montagu, 1958, p. 32) and if child rearing practices do have an economic base as Bakan (1966) and the cross-cultural data of Barry et al. (1957) and Block (1973) indicate, then it is not surprising that the male's superior physical strength and greater aggressiveness result in greater societal valuation of and dominance by males. What have been the consequences of this differential valuation? Montagu (1946) identifies a pattern of anti-feminist argument which appears to be synonymous with the racist argument, that is: deny equality of opportunity, then assert that because the group hasn't achieved as much as groups enjoying complete freedom of opportunity, it is obviously inferior and can never do as well (Goldberg, Gottesdiener and Abramson, 1975; Miller and Mothner, 1971). The Women's Movement, aided by Federal Legislation (Title IX and its antecedent legislation at the state and local levels), identify the problem as sexism, "the collection of attitudes, beliefs and behaviors which result from the assumption that one sex is superior" (Federal Register, 1975, p. 33803), a term obviously analogous to racism. [The first definition of the term "sexism" has been attributed to Kathleen Shortridge in "Women as University Nigger," University of Michigan Daily Magazine, April 12, 1970, by Frazier and Sadker (1973, p. 2).]

Traditional sex-role stereotypes have contributed to the sexualization of dominance relationships; dominant status has become synonymous

with masculine status and subordinant status with feminine status. These conceptions in their extreme result in the ultimate masculine protest or the "machismo" solution, an exaggeration of masculine characteristics which range "from male genital prowess and a particular type of valor, to a special way of resolving human controversies through demonstrating towering pride and fearlessness; it also expresses a specific counterphobic attitude toward women, and the anxieties of life and death" (Aramoni, 1971, p. 100). Bernard (1973) perceived a "machismo" factor in research: "In sociology, as in psychology, a masculine bias has been embedded in the structure of inquiry; the most prestigious methods have tended to be those that yielded 'hard' data" (p. 22). Sex-role stereotypes tend to promote confusion between sex and dominance or subordination. In this way femininity and masculinity have acted to determine the limits of one's life.

## 2. Sex-role stereotypes, defensive climates and interpersonal relationships

Sex-role stereotypes, through this fusion of sex and dominance, operate as powerful forces to create defensive climates and closed systems. Dominance, seen as the male's biological prerogative and subordination as the female's biological imperative, results in a devaluation not only of women, but of all aspects associated with communal qualities. Women traditionally have been helpers, men achievers. Studies show that good interpersonal relations occurred more readily within certain kinds of climates and systems and between individuals possessing certain kinds of personality tendencies (Bennis et al., 1970; Maslow, 1955; Rogers and Stevens, 1967). A supportive climate and an open system facilitated interpersonal

growth and transactions; a defensive climate and a closed system inhibited growth and transaction (Reilly, 1971). Communication may be regarded as a people-process. Communicative interactions are the core of interpersonal relationships; one way to improve communication is to reduce defensive behavior and increase supportive behavior. Elements of defensive contrasted to supportive climates are: evaluation, control strategy, neutrality, superiority, certainty vs. description, problem orientation, spontaneity, equality and provisionalism. The elements descriptive of defensive climates parallel those of closed and open systems: closed ones are adjustive, preservative, and insulative, while open ones are negotiative, flexible, and allow for incongruities and varied inputs. Sex-role stereotypes mitigate against the establishment of such climates (Levy, 1972) and dogmatism may be seen as antithetical to interpersonal competence (Brightman and Urban, 1974; Nye, 1973): "the effects of dogmatism in producing defensiveness are well known" (Gibb, 1970, p. 612).

Since interactions among people are affected by the degree of defense arousal as well as the degree of openness individuals are able to maintain, it is logical that power, or "the ability of one person (or group) to influence or control some aspect of an other or group" (Cartwright, 1959) must be considered. Awareness of the power that sex-role stereotypes have exerted through dominance and subordination should permit a gradual desexualization of the statuses of strength and weakness, so that either men or women can be, without anxiety or fear of appearing either unfeminine or unmasculine, weak or strong, capable of leadership or surrender, as the situation demands.

### 3. Modification of sex-role stereotypes

Current sex research literature overwhelmingly endorsed the need for such change as the first chapter of the Annual Review of Psychology (1975) indicates:

Research and writing about sex roles have moved from description and an acceptance of the givens to a concern with the dynamics and implications of change (Mednick and Weissman, 1975, p. 2). Still, if a major theme can be discerned, it is that of the sexual division of personality characteristics based on the male thinker's view of reality. To the extent this division is accepted, individual women, and men to a lesser degree, are constricted in their personal fulfillment, and society is hobbled in both competence and relatedness (Mednick and Weissman, 1975, p. 13).

Entire issues of journals which focused on the topic of women's status and sex-role stereotypes, as well as symposiums devoted to an examination of sexuality, reiterated the need for change and demonstrated a burgeoning concern for women's issues: American Journal of Orthopsychiatry, October, 1971; American Journal of Sociology, January, 1973; Counseling Psychologist, vol. 4, no. 1, 1973; Journal of Marriage and the Family, August, 1971; Journal of Social Issues, vol. 28, no. 2, 1972; Journal of Teacher Education, Winter, 1975; the Nebraska Symposium on Motivation, 1973, vol. 21; The School Psychology Digest, Summer, 1973; Trans-Action, November/December, 1970.

Modification of sex-role stereotypes should permit men and women choice, openness and freedom of adaptive response. "Freedom means the widest scope of choice and openness to experience, therefore the greatest probability for adaptive response" (Shlien, 1967, p. 154). There is considerable agreement that such modification may yield an androgynous situation-specific view of behavior, which will permit individuals free access

to any behavior the situation indicates is most appropriate (Bem, 1972; Block, Von der Lippe and Block, 1973; Carlson, 1971; Rossi, 1964). "If 'appropriate' masculine or feminine sex-typing was the message urged in recent decades, it is rapidly being replaced by an 'androgynous' norm which asserts that both masculine and feminine modes of experience and action are involved in optimal development" (Carlson, 1975, p. 402; italics in original).

#### 4. Teachers and sex-role expectations

Widespread agreement exists that humans must become readily adaptive to new problems and situations (Toffler, 1970; 1974). "Textbooks with perspective and teachers with open minds will help children weigh problems on the basis of reasonable evidence. Chauvinistic books and narrow-minded teachers could be--in fact, almost were--the death of civilization" (Bellack, 1970, p. 34). If education is regarded solely as the imparting of teacher-selected materials with a measurable student academic output, then teacher attitudes and the quality of interpersonal relationships are not significant (Averch et al., 1971; Rogers, 1968). If education is regarded as student-oriented and is concerned with the personal as well as academic development of the student, then teacher attitudes and the ability to facilitate interpersonal relationships are important (Hargreaves, 1972; Martin, 1964; Rogers and Stevens, 1967; Frazier and Sadker, 1973).

It is inevitable that teachers categorize students by sex. Highly sex-typed teachers, because sex-role typing tends to produce a defensive trait-like behavioral consistency rather than behavioral adaptability, are more likely to resist recategorizing and are more likely to continue to

support sex-role stereotypes. The dogmatic teacher is not likely to possess the type of perception that facilitates relationships between people-- ". . . gentle, delicate, unintruding, undemanding, able to fit itself passively to the nature of things. . . . It must not be the need-motivated kind of perception which shapes things. . ." (Maslow, 1955, p. 24; italics in original).

Many institutions function as socializing agents in American society:

Schools whether formal or informal, . . . function as transmitters of certain societal norms and mores from one generation to the next. . . . Schools function as sorting and classifying mechanisms. . . . It is in these many ways that schools and their content carry hidden messages to the young about sex role mythologies in our society. The very structure of the school portrays males and females in somewhat idealized, rigid, and non-overlapping roles (Saario, Tittle and Jacklin, 1973, p. 387).

Unfreezing sex-role expectations, coping with change and facilitating interpersonal relations appear more probable through minimizing the tendency to label behavior as either male or female. Such an androgynous view of human behavior should make it possible for individuals to fulfill their potential.

### E. Summary

A plethora of dissertation abstracts attest to the continued use of the dogmatism scale in educational research, while the dearth of journal articles indicates a lack of significant findings in a majority of these doctoral studies. The brevity and lack of substantial evidence in this summary is, perhaps, another reflection of the same problem.

Two studies related dogmatism and greater pupil control. Some evidence links high dogmatics with a low score on the Minnesota Teacher Attitude Inventory. A variety of individual doctoral studies found a relationship between high dogmatics and their pupil control ideology, self-concept, competency, and the esteem in which they were held by other student teachers.

No generalizations can be made with regard to associations between dogmatism and age, sex, educational level, subject or grade level taught, attitude change, teacher evaluation or student teaching performance, since the evidence is inconclusive.

An historic perspective indicates that sex-role stereotypes are cultural artifacts of men's psychological ambivalence toward women. Cross-cultural studies reveal not only disparities among cultures in the degree of differentiation among the sexes, but cross-cultural regularities of femininity and masculinity. These conceptual regularities include a greater male valuation and dominance which appear to have an economic base traceable to two biological factors: males' greater physical strength and aggressiveness.



Sex-typing theories agree that: acquisition of sex roles occurs by age three; this is a gradual process involving social learning, identification, imitation and cognition; parents play a major role. Neither biological imperatives nor any of the current theories appear sufficient to account for the complexity and diversity of human experience subsumed under sex roles. The age of simple and sovereign views of sex roles is ended.

The Freudian emphasis on innate biological factors is tempered by understanding of ideological processes which perpetuate the influence of a patriarchal culture. Studies of hermaphrodites show that femininity and masculinity are not the natural concomitants of being born a girl or a boy. Although collecting scientific data concerning the biological bases for sex differences is restricted by ethics regarding human subjects and the limitations arising from the inadequacies of psychometrics, sampling, methodology and researcher bias, research does reveal that some differences are unfounded and yet unknown, while others are established in the interpersonal areas of control, inclusion and affection.

Analyses and syntheses of Maccoby and Jacklin's (1974) data permit no generalizations as to whether either females or males will differ quantitatively in any of these areas except control; this difference is dependent on aggression. Aggressive behavior is observable cross-culturally at an early age in humans and primates and is linked to the male sex hormone, androgen. Males are more aggressive verbally and physically and are more often the targets of aggression.

It is not known whether females are more compliant or passive than males; however, dominance and competition are thought to have an aggressive

element and males are physically stronger. Since aggressive behavior may be learned and variations appear not only between but within the sexes in the levels of androgen and physical strength, even this difference may appear qualitatively. Male superiority in visual-spatial ability is also difficult to extrapolate quantitatively in terms of control behavior, since: 1) it may be learned; 2) application to other abilities, e.g., mathematical, is difficult to interpret, due to the combination of verbal and visual-spatial processes involved; 3) girls are superior in verbal ability; and 4) the fallacy of assuming one set of processes (visual-spatial) more necessary than/superior to the other (verbal)[This may exist within the visual-spatial category itself if field independency is ranked higher than field dependency.].

No differences exist that can be generalized in the areas of inclusion and affection. Males receive more intense parental socialization and appear more homosocial. Neither sex is more dependent on caretakers; males' greater physical strength, aggression and homosociability (boys also attempt to dominate adults while girls are more compliant) may be responsible for the belief that females are more dependent. Relatively little data exists in the area of affection and the qualitative differences are an extension of males' greater homosociability; girls form fewer, more intimate friendships and may tend more toward self-disclosure.

While research does not yet reveal the full extent to which women and men have been limited by the restrictiveness of sex-role stereotypes, it does reveal the pervasiveness of the stereotypes' acceptance. The most difficult questions are those asked about beliefs which may have appeared

useful, but, through passage of time, become so accepted that they usurp reality. Sex-role stereotypes may have operated as useful concepts, but accepted as reality they have been difficult to question. Open minded teachers should be capable of questioning, thoughtfully and non-defensively, sex-role stereotypes; they should be capable of coping with necessary change. This change is dependent on the recognition that instrumental (agentic) and expressive (communal) behaviors are not sex specific but are complementary and necessary human behaviors and that human potential is a continuum and not a male/female dichotomy.

### III. METHODOLOGY

#### A. Purposes and Objectives

The purposes of this study are to: 1) investigate what profiles exist among teacher candidates; 2) find whether particular profiles appear to be related to certain colleges and/or grade levels; and 3) find whether relationships appear among teacher candidates' dogmatism, sex-role orientation and interpersonal relations orientation.

The objectives of the study are to determine: 1) the incidence of "dogmatic" teacher candidates from the following Iowa State University colleges: Agriculture, Education, Home Economics, and Sciences and Humanities; 2) the differences, if any, in the degree of dogmatism among these four groups; 3) the differences, if any, in the degree of dogmatism between elementary and secondary teacher candidates; 4) the proportion of teacher candidates with a sexually stereotypic role orientation from the Iowa State University colleges of Agriculture, Education, Home Economics and Sciences and Humanities; 5) the differences in the degree of sexually stereotypic role orientation among these four groups; 6) the differences in the degree of sexually stereotypic role orientation between elementary and secondary teacher candidates; 7) the differences in the degree of dogmatism among masculine, feminine and androgynous teacher candidates; 8) the profile of the interpersonal relations orientation of teacher candidates from the following Iowa State University colleges: Agriculture, Education, Home Economics and Sciences and Humanities; 9) the differences in the interpersonal relations orientation profiles among these four groups; 10) the differences among the interpersonal relations orientation profiles of

of elementary and secondary teacher candidates; 11) the differences among the interpersonal relations orientation profiles of masculine, feminine and androgynous teacher candidates; and 12) the relationship among the degree of dogmatism, sexually stereotypic qualities and teacher candidates' type of interpersonal relations orientation.

## B. Hypotheses

The following hypotheses were tested:

H<sub>1</sub> A positive relationship exists between teacher candidates' degree of dogmatism and the degree of sexually stereotypic role orientation.

H<sub>2</sub> A positive relationship exists between teacher candidates' degree of dogmatism and expressed control in interpersonal relations orientation.

H<sub>3</sub> A positive relationship exists between teacher candidates' degree of sexually stereotypic role orientation and expressed control in interpersonal relations orientation.

H<sub>4</sub> A positive relationship exists among teacher candidates' degree of dogmatism, sexually stereotypic role orientation and expressed control in interpersonal relations orientation.

H<sub>5</sub> No significant difference will be found in the degree of dogmatism among teacher candidates in any of the four colleges: Agriculture, Education, Home Economics and Sciences and Humanities.

H<sub>6</sub> No significant difference will be found in the degree of dogmatism between teacher candidates in elementary and secondary education.

H<sub>7</sub> No significant difference will be found in the degree of sexually stereotypic role orientation among teacher candidates of any of the four

colleges: Agriculture, Education, Home Economics and Sciences and Humanities.

H<sub>8</sub> No significant difference will be found in the degree of sexually stereotypic role orientation between teacher candidates in elementary and secondary education.

H<sub>9</sub> No significant difference will be found in the type of interpersonal relations orientation among teacher candidates of any of the four colleges: Agriculture, Education, Home Economics and Sciences and Humanities.

H<sub>10</sub> No significant difference will be found in the type of interpersonal relations orientation between teacher candidates in elementary and secondary education.

H<sub>11</sub> Interpersonal relations orientation expressed control will be lower for feminine female than for androgynous or masculine female teacher candidates.

H<sub>12</sub> Interpersonal relations orientation expressed control will be higher for masculine male than for androgynous or feminine male teacher candidates.

H<sub>13</sub> Interpersonal relations orientation expressed control will be higher for masculine male than for feminine, androgynous or masculine female teacher candidates.

H<sub>14</sub> No significant difference will be found in interpersonal relations orientations expressed inclusion and affection among feminine, androgynous and masculine female teacher candidates.

H<sub>15</sub> No significant difference will be found in interpersonal relations orientations expressed inclusion and affection among masculine,

androgynous or feminine male teacher candidates.

$H_{16}$  No significant difference will be found in interpersonal relations orientations expressed inclusion and affection in any of the possible comparisons among feminine, androgynous or masculine female teacher candidates and masculine, androgynous or feminine male teacher candidates.

### C. Sample and Procedure

The subjects of this study were teacher candidates at Iowa State University who were participating in their quarter of student teaching experience during the 1975-76 academic year. A total of 564 subjects were recruited with the assistance of the coordinator of student teaching.

The subjects received a packet from their supervisors (which had been pilot-tested with 45 student teachers spring quarter, 1975) containing a cover letter, a stamped and addressed return envelope and the three measures stapled in this order: BSRI, FIRO-B, RDS-E. A cover letter contained the request that the subjects complete the measures in that order. Three weeks after the delivery of the packets a letter was sent urging the subjects to return the packets. Packets were returned via the stamped, addressed envelope or collected by the supervisor.

Completed instruments were returned by 376 of the students, or 66.7 percent of the original sample. This group included the following subgroups: 21 (5.6 percent) from Agriculture; 186 (49.5 percent) from Education; 66 (17.6 percent) from Home Economics and 103 (27.4 percent) from Sciences and Humanities. Of the total group, 279 (74.2 percent) were

Table 1. Sample returns and percentages by college

	Sent N (%)	Total returns N (%)	Blank N (%)	Incomplete N (%)	Complete N (%)
Agriculture	39	24 (61.5)	2 (5.1)	1 (2.6)	21 (53.8)
Education	263	206 (78.3)	9 (3.4)	11 (4.2)	186 (70.7)
Home Economics	86	77 (89.5)	5 (5.8)	6 (7.0)	66 (76.7)
Sciences and Humanities	176	119 (67.6)	8 (4.5)	8 (4.5)	103 (58.5)
Total	564	426 (75.5)	24 (4.3)	26 (4.6)	376 (66.7)

women and 97 (25.8 percent) were men. A more detailed description of the sample, by college, level (elementary or secondary) and sex is shown in Tables 1 and 2.

To simplify classification and to provide statistically usable numbers in each cell, respondents were classified by college rather than by department. It should be noted that Iowa State University has only one department which prepares teachers within the College of Agriculture and that the College of Education has three: Physical Education, Industrial Education and Elementary Education. Traditionally, enrollments in these departments have been sex-related, i.e., males in Vocational Agriculture and Industrial Education and females in Elementary Education. The Physical Education department is coeducational. These enrollment imbalances by sex may have had major influences on the findings (See Limitations, pp. 103-104).



Table 2. Colleges' sample returns by sex and level

	Agri- culture N (%)	Education N (%)	Home Economics N (%)	Sciences and Humanities N (%)	Total
Females	1 (4.8)	145 (78.0)	65 (98.5)	68 (100.0)	279
Males	20 (95.2)	41 (22.0)	1 (1.5)	35 (34.0)	97
Total	21	186	66	103	376
Elementary	--	135 (72.6)	1 (1.5)	--	136
Secondary	21 (100.0)	51 <sup>a</sup> (27.4)	65 <sup>a</sup> (98.5)	103 (100.0)	240

<sup>a</sup>Five Physical Education candidates and one Applied Art candidate majored K-12 but practice taught 7-12, so were included in the secondary sample.

#### D. Instrumentation

The study assumed that the Rokeach (1954, 1960) Dogmatism Scale-Form E (RDS-E), the Bem (1974) Sex Role Inventory (BSRI) and the Fundamental Interpersonal Relations Orientation-Behavior (Schutz, 1966) (FIRO-B) provided measures, respectively, of dogmatism, sexually stereotypic role orientation and fundamental interpersonal relations orientation. The results of this study depended on conclusions drawn from analyses of the descriptions these measures provided. Data were obtained from the subjects by the administration of the RDS E, the BSRI and the FIRO-B. The terminology employed in the study, "dogmatic," "closed-minded," "sexually

stereotypic," cannot avoid seeming connotative. However, the use of these terms is necessary: "if we rely on the language of the culture for scientific communication, it is difficult to find terms regarding social interaction that are without prescriptive value. Perhaps our best option is to maintain as much sensitivity to our biases and communicate them as openly as possible" (Gergen, 1973, p. 312).

The RDS-E was designed to obtain a measure of the extent a person's thinking was characteristically dogmatic or closed. The score derived from 40 items constructed to tap three dimensions of an individual's belief system (belief-disbelief, central peripheral and time perspective) was defined as follows (Rokeach, 1960): belief system--the three dimensional framework from which one attempted to define the universe. These three dimensions and their attributes provided a structure independent of ideologies and were theoretically united to produce minds that varied to the degree in which they were open and closed. The two RDS-E subscales were:

Low Dogmatism--this term referred to an open belief system; a belief system was "open" when an individual scored low on the RDS-E.

High Dogmatism--this term referred to a closed belief system; a belief system was "closed" when an individual scored high on the RDS-E.

For purposes of the present study, "dogmatism" was defined as the magnitude of an individual's RDS-E score, as measured by the above RDS-E subscales.

The BSRI was designed to indicate the degree to which a person's self-description included sex role characteristics traditionally assigned to females and males. The score derived from 60 items which differentiate

subjects as either "feminine," "masculine," or "androgynous" (Bem, 1974).

The three BSRI subscales were:

Feminine--individuals who scored high on the BSRI femininity scale of twenty personality characteristics judged, in American society, as more desirable for females than for males. These characteristics were communal (yielding and expressive) in nature.

Masculine--individuals who scored high on the BSRI masculinity scale of twenty personality characteristics judged, in American society, as more desirable for a male than for a female. These characteristics were agentic (assertive and instrumental) in nature.

Androgynous--the degree to which one's self-description on the BSRI failed to reveal either a highly feminine or a highly masculine sexually stereotypic role orientation. A person was characterized as masculine, feminine or androgynous according to the mean difference score of feminine and masculine adjectives. If this difference score was low the person was considered to be androgynous (Bem, 1974).

In this investigation, "sexually stereotypic role orientation" was defined as the degree to which a self-description subscribed to the sex standards for desirable female and male characteristics as measured by the above BSRI subscales.

FIRO-B was designed to measure three areas of behavior toward other people: control (C), inclusion (I), and affection (A). Each of these areas was defined in terms of subjects' perception of the behavior they expressed toward other people (expressed behavior) and the behavior subjects desired from others (wanted behavior) (Schutz, 1966). This study

utilized only the expressed behavioral level scores. The three FIRO-B subscales and the level of behavior of interest in this study were as follows (Schutz, 1967, pp. 4-5):

Control (C)--the degree an individual expressed "the need to establish and maintain a satisfactory relationship with people with respect to control and power. Control behavior referred to the decision making process between people."

Inclusion (I)--the degree an individual expressed "the need to establish and maintain a satisfactory relationship with people with respect to interaction and association."

Affection (A)--the degree an individual expressed "the need to establish and maintain a satisfactory relationship with others with respect to love and affection."

Expressed behavior--the behavior an individual expressed toward others in each of the interpersonal dimensions, C, I, A.

For purposes of the present study, "interpersonal relations orientation" was defined as the degree to which a self-description expressed the three interpersonal dimensions, C, I, A, as measured by the above FIRO-B subscales.

In addition to the test administration, each student in the sample was also asked to provide the following biographical information: 1) age; 2) marital status; 3) major; 4) grade level taught; 5) academic aspiration; 6) the more critical parent during the growing up process; 7) the parent offering the most encouragement toward a career; and 8) characterization of parental control treatment at an earlier age (severe, clear control enforced, permissive, no clear cut lines) [Appendix, p. 138].

### E. Analyses

The data consisted of five scores for each subject (S), a dogmatism score, a sex-role inventory score and three interpersonal relations orientation scores, C, I and A. These scores represented, respectively, responses to 50 random items (40 RDS-E, plus ten filler items; Appendix, p. 135); 60 random items (20 feminine, 20 masculine and 20 socially desirable/neutral BSRI items not utilized in the study; Appendix, p. 130) and 54 items (9 each for expressed C, I and A, plus 9 for wanted C, I and A not utilized in the study; Appendix, p. 132).

Dogmatism and sex-role inventory responses were machine scored; the three interpersonal relations orientation responses were hand scored (all S's included in the analyses completed all three measures; S's with incomplete data were not included in the study; see Table 1 for numbers). Frequency counts run on RDS-E and BSRI raw scores revealed: 259 (1.8 percent) blank or unscorable responses which were recoded as "4", a point not utilized in the RDS-E scale; 165 (1.1 percent) blank or unscorable responses (88 feminine and 77 masculine) which were recoded as "0", a point not utilized in the BSRI scale. Psychometric and biographical data were summed and cross-tabulated by college, sex and level taught (elementary or secondary). Data profiles appear in Tables 1 and 2; see Appendix (Table 23) for biographical data items.

As a first step in the statistical analysis, means and standard deviations were calculated for the total group and separately by sex, college and level (elementary or secondary) taught.

The statistical hypotheses concerning relationships among the three

variables, dogmatism, sexually stereotypic role orientation and interpersonal relations orientation expressed control, were tested by calculating Pearson product moment correlation coefficients for all combinations of the variables. Hypotheses for differences in the dependent variables, dogmatism, sexually stereotypic role orientation and interpersonal relations orientation expressed control, inclusion and affection, by the independent variables, college, sex, and level taught, were tested by means of one-way analyses of variance. When the analysis of variance included more than two levels and the  $F$  value indicated a significant difference, a Scheffé's test was used to determine which variables contributed to the difference.  $T$  tests were conducted for hypotheses concerning differences among all combinations of sexually stereotypic role orientation subgroups and interpersonal relations orientation expressed control, inclusion and affection. A .05 level of significance was chosen for all statistical tests.

## IV. FINDINGS: NULL HYPOTHESES

The means and standard deviations calculated for the dependent variables (dogmatism, sexually stereotypic role orientation and interpersonal relations orientations) separately by the independent variables (sex, college and level taught) are shown in Table 3. Dogmatism levels among the teacher candidates ranged from 73 to 210. The following numbers of candidates appeared in each quartile: HD upper quartile = 88; middle quartiles = 131; LD lower quartile = 95. A comparison with Markowitz's (1968) group showed Iowa State University teacher candidates' means to be consistently lower: HD = 158 vs. 175; LD = 106 vs 120; middle quartiles = 131 vs. 148. The group mean (132.3) was almost identical with the mean of Rabkin's (1966) group (132.2). In general, the teacher candidates' mean dogmatism was lower than or comparable to other college groups investigated. However the HD teacher candidates' group mean did exceed all seven of Rokeach's (1960) college groups (158 vs. 152.8). Dogmatism mean rankings by college and level taught were: the College of Agriculture ( $\bar{X} = 139.38$ ) and secondary level ( $\bar{X} = 134.96$ ) highest and the College of Education ( $\bar{X} = 128.71$ ) and elementary level ( $\bar{X} = 127.61$ ) lowest.

The highest sexually stereotypic role orientation mean rankings by college were Agriculture (masculine  $-0.634$ ) and Home Economics (feminine  $+0.622$ ), while Sciences and Humanities had the lowest mean ( $+0.282$ ). Elementary teacher candidates' sexually stereotypic role orientation mean was higher than that of secondary teacher candidates (mean  $+0.886$  vs.  $+0.149$ ). A comparison with Bem's (1974) normative samples appears in Table 15, p. 88.

Table 3. Means and standard deviations of the dependent variables by the independent variables

	Dogmatism <sup>a</sup>	Sexually stereotypic role orien- tation <sup>b</sup>	Interpersonal Relations Orientation Expressed		
			Control <sup>c</sup>	Inclusion	Affection <sup>c</sup>
	$\bar{X}$ SD	$\bar{X}$ SD	$\bar{X}$ SD	$\bar{X}$ SD	$\bar{X}$ SD
Agri- culture N = 21	139.3810 19.8406	-0.634 1.363	2.524 2.159	4.714 2.171	3.143 2.372
Education N = 186	128.7150 22.8623	+0.535 1.945	2.409 2.140	5.231 2.001	4.823 2.310
Home Economics N = 66	136.1970 24.7532	+0.622 2.194	2.318 1.931	4.909 2.096	4.197 2.199
Sciences and Humanities N = 103	134.8447 19.8568	+0.282 2.135	3.000 2.343	4.583 2.098	4.447 2.261
Elementary N = 136	127.610 21.470	+0.886 1.889	2.287 2.044	5.434 1.920	4.934 2.348
Secondary N = 240	134.962 22.668	+0.149 2.062	2.717 2.232	4.704 2.102	4.279 2.258

<sup>a</sup>Rokeach's (1960) American college mean ranges = 141.3 to 143.8.

<sup>b</sup>Bem's (1974) Stanford University studies = male, -.53; female, +.43. Iowa State University sample was not separated by sex.

<sup>c</sup>Schutz's (1967) teachers = control, 3.1; inclusion, 5.2; affection, 3.7.



The Bem (1974) samples were separated by sex and the Iowa State University sample was not. However, when a preponderance of the same sex occurred, e.g., Agriculture (one female), Home Economics (all female) and elementary teacher candidates (majority female), the Iowa State University sample was more sexually stereotypic in role orientation than the comparable sex in the Bem samples.

Teacher candidates from the College of Sciences and Humanities had the highest interpersonal relations orientation mean for expressed control and the College of Home Economics was the lowest (3.000 vs. 2.318). Secondary teacher candidates' expressed control mean was higher than elementary teacher candidates' mean (2.717 vs. 2.287). Teacher candidates from the College of Education had the highest mean level of expressed inclusion and the College of Sciences and Humanities was the lowest (5.231 vs. 4.583). Elementary teacher candidates' mean level of expressed inclusion was higher than secondary teacher candidates' mean (4.704 vs. 2.102). Teacher candidates from the College of Education also had the highest mean level of expressed affection and the College of Agriculture had the lowest (4.823 vs. 3.143). Once again, the elementary teacher candidates' mean level of expressed affection was higher than the secondary teacher candidates' group (4.279 vs. 2.258). A comparison of the teacher candidates' expressed control means by college with two of Schutz's (1967, p. 7) samples (teachers and elementary and secondary administrators) revealed no clear pattern.

In general, the Iowa State University teacher candidates were lower in expressed control and inclusion than were Schutz's (1967) samples.

Table 3 provided basic data for reference in relation to the analyses reported for the statistical hypotheses discussed in the following pages:

Null hypothesis 1: No significant relationship will be found between teacher candidates' degree of dogmatism and the degree of sexually stereotypic role orientation

The findings presented in Table 4 supported the null hypothesis. No significant relationship was revealed between dogmatism and sexually stereotypic role orientation ( $r = .0099$ , n.s.). The null hypothesis was not rejected.

Null hypothesis 2: No significant relationship will be found between teacher candidates' degree of dogmatism and expressed control in interpersonal relations orientation

An analysis of Table 4 showed lack of support for the null hypothesis. A positive relationship (an increase in dogmatism was accompanied by an increase in expressed control) was revealed between dogmatism and

expressed control ( $r = .1797$ ,  $p < .001$ ). Although the null hypothesis was rejected, the relationship between dogmatism and expressed control must be regarded as a weak one.

Table 4. Pearson product moment correlation coefficients for dogmatism, sexually stereotypic role orientation and interpersonal role orientation expressed control

Variables	1	2	3
1. Dogmatism	1.0000	-0.0099	0.1797***
2. Sexually stereotypic role orientation	-0.0099	1.0000	-0.3578***
3. Interpersonal role orientation expressed control	0.1797***	-0.3578***	1.0000

\*\*\* $p < .001$

Null hypothesis 3: No significant relationship will be found between teacher candidates' degree of sexually stereotypic role orientation and expressed control in interpersonal relations orientation

The data in Table 4 showed no support for the null hypothesis. A negative relationship (an increase in sexually stereotypic role orientation was accompanied by a decrease in expressed control) was revealed between sexually stereotypic role orientation and expressed control ( $r = -.3578$ ,  $p < .001$ ). The null hypothesis was rejected. A moderate relationship existed between sexually stereotypic role orientation and expressed control.

Null hypothesis 4: No significant relationship will be found among teacher candidates' degree of dogmatism, sexually stereotypic role orientation and expressed control in interpersonal relations orientation

The null hypothesis was supported by the findings presented in Table 4. The null hypothesis was not rejected, although two of the three variables (dogmatism and expressed control and sexually stereotypic role orientation and expressed control) did have weak and moderate positive relationships with each other.

Null hypothesis 5: No significant differences will be found in the degree of dogmatism among teacher candidates of any of the four colleges: Agriculture, Education, Home Economics and Sciences and Humanities

The data revealed in Table 5 did not support the null hypothesis. The calculated  $F$  value of 3.434 ( $df = 3/372$ ) exceeded the tabular  $F$  value of 2.60 at the .05 level. The hypothesis was rejected on the basis of the overall significant  $F$  value. This result indicated that there were significant differences in dogmatism among teacher candidates of the four colleges. The Scheffé' test of the separate mean differences, however, revealed no subsets that differed significantly from each other at the .05 level. It may be assumed from ranking the means in Table 3 that teacher candidates from the College of Agriculture were significantly more dogmatic than those from the College of Education.

Table 5. Analysis of variance of dogmatism by college

Source of variation	df	Sums of squares	Mean squares	F
Between	3	5112.0000	1704.0000	3.434*
Within	372	184615.0000	496.2769	
Total	375	189727.000		

\*  $p < .05$

Null hypothesis 6: No significant difference will be found in the degree of dogmatism between elementary and secondary teacher candidates

The findings shown in Table 6 did not support the null hypothesis. The calculated  $F$  value of 9.4857 ( $df = 1/374$ ) exceeded the tabular  $F$  value of 6.63 at the .01 level. The hypothesis was rejected. This indicated that secondary teacher candidates were significantly more dogmatic than elementary teacher candidates. This was expected since elementary teacher candidates had the lowest mean dogmatism score.

Table 6. Analysis of variance of dogmatism by level/elementary and secondary

Source of variation	df	Sums of squares	Mean squares	F
Between	1	4693.0000	4693.0000	9.4857**
Within	374	185034.0000	494.7432	
Total	375	189727.0000		

\*\* $p < .01$

Null hypothesis 7: No significant difference will be found in the degree of sexually stereotypic role orientation among teacher candidates of any of the four colleges: Agriculture, Education, Home Economics and Sciences and Humanities

The findings presented in Table 7 supported the null hypothesis. The calculated  $F$  value does not exceed the tabular value. The hypothesis was not rejected.

Table 7. Analysis of variance of sexually stereotypic role orientation by college

Source of variation	df	Sums of squares	Mean squares	F
Between	3	30.4417	10.1472	2.4921 (n.s.)
Within	372	1514.7156	4.0718	
Total	375	1545.1572		

$p > .05$

Null hypothesis 8: No significant difference will be found in the degree of sexually stereotypic role orientation between teacher candidates in elementary and secondary education

The null hypothesis was not supported by an analysis of Table 8. The calculated  $F$  value of 11.7810 ( $df = 1/374$ ) exceeded the tabular  $F$  value of 10.83 at the .001 level. The hypothesis was rejected. This result indicated that elementary candidates were significantly more sexually stereotypic in their role orientation than secondary teacher candidates. Elementary teacher candidates have already been mentioned as having had the highest sexually stereotypic orientation mean [which exceeded both of Bem's (1974) female normative groups].

Table 8. Analysis of variance of sexually stereotypic role orientation by level/elementary or secondary

Source of variation	df	Sums of squares	Mean squares	F
Between	1	47.1858	47.1858	11.7810***
Within	374	1497.9656	4.0053	
Total	375	1545.1514		

\*\*\* $p < .001$

Null hypothesis 9: No significant difference will be found in the type of interpersonal relations orientations (expressed control, inclusion and affection) among teacher candidates of any of the four colleges: Agriculture, Education, Home Economics and Sciences and Humanities

The findings in Tables 9 and 10 supported the null hypothesis. The calculated  $F$  values did not exceed the tabular values. The hypothesis was not rejected for expressed control and inclusion.

Table 9. Analysis of variance of interpersonal relations orientation expressed control by college

Source of variation	df	Sums of squares	Mean squares	F
Between	3	28.0908	9.3636	1.9990 (n.s.)
Within	372	1742.5029	4.6841	
Total	375	1770.5937		

$p > .05$

Table 10. Analysis of variance of interpersonal relations orientation expressed inclusion by college

Source of variation	df	Sums of squares	Mean squares	F
Between	3	29.7688	9.9229	2.3514 (n.s.)
Within	372	1569.8523	4.2200	
Total	375	1599.6211		

$p > .05$

The data in Table 11 did not support the null hypothesis. The calculated  $F$  value of 4.118 ( $df = 3/372$ ) exceeded the tabular value of 3.78 at the .01 level. The hypothesis was rejected. The Scheffé test of the separate mean differences revealed that teacher candidates in the College of Education expressed a higher need for affection than did the candidates in the College of Agriculture. It had been noted earlier that teacher candidates in the College of Education appeared warmer (exceeded the group means for affection) than Schutz's (1967) teachers and administrators.

Table 11. Analysis of variance of interpersonal relations orientation expressed affection by college

Source of variation	df	Sums of squares	Mean squares	F
Between	3	64.2852	21.4284	4.118**
Within	372	1935.6211	5.2033	
Total	375	1999.9062		

\*\* $p < .01$

Null hypothesis 10: No significant difference will be found in the type of interpersonal relations orientations (expressed control, inclusion and affection) between teacher candidates in elementary and secondary education

a. Control The null hypothesis was supported by the findings in Table 12. The calculated  $F$  value for expressed control did not exceed the tabular value. The null hypothesis was not rejected.



Table 12. Analysis of variance of interpersonal relations orientation expressed control by level/elementary or secondary

Source of variation	df	Sums of squares	Mean squares	F
Between	1	16.0437	16.0437	3.4199 (n.s.)
Within	374	1754.5500	4.6913	
Total	375	1770.5937		

$p > .05$

b. Inclusion Findings in Table 13 indicated no support for the null hypothesis regarding expressed inclusion. The calculated  $F$  value of 11.127 (df = 1/374) exceeded the tabular value of 10.83 at the .001 level. The null hypothesis was rejected for expressed inclusion. This indicated that elementary teacher candidates were more "sociable" (the mean expressed inclusion was higher) than secondary teacher candidates.

Table 13. Analysis of variance of interpersonal relations orientation expressed inclusion by level/elementary or secondary

Source of variation	df	Sums of squares	Mean squares	F
Between	1	46.2158	46.2158	11.127***
Within	374	1553.4053	4.1535	
Total	375	1599.6211		

\*\*\* $p < .001$

c. Affection The null hypothesis for expressed affection was not substantiated by an analysis of Table 14. The calculated  $F$  value of 7.0894 exceeded the tabular value of 6.63 at the .01 level. The hypothesis was rejected for expressed affection. This indicated that the elementary teacher candidates' mean for affection was significantly higher than the secondary candidates' mean.

Table 14. Analysis of variance of interpersonal relations orientation expressed affection by level/elementary or secondary

Source of variation	df	Sums of squares	Mean squares	F
Between	1	37.2043	37.2043	7.0894**
Within	374	1962.7019	5.2479	
Total	375	1999.9062		

\*\* $p < .01$

All of the hypotheses which follow dealt with the differences in interpersonal relations orientations among the sexually stereotypic role orientation subgroups, feminine, androgynous and masculine. Before examining the contents of Table 16, it would be useful to compare the teacher candidates with Bem's (1974) normative samples (Table 15). The percentages in Table 15 revealed that a greater percentage of female teacher candidates were androgynous and a lesser percentage had a sexually stereotypic role orientation than did either of Bem's groups. All three groups of males differed from one another. The Foothills group had the highest percentage of androgynous males and the least percentage of sexually stereotypic role oriented males. Male teacher candidates were

slightly more androgynous and less sexually stereotypic than the Stanford group.

Mean rankings of the Iowa State University candidates, from highest to lowest in expressed control, reveal a male/masculine to feminine/female pattern: masculine male, masculine female, feminine male, androgynous male, androgynous female and, last, feminine female. The same pattern was also revealed when teacher candidates' subgroup means for expressed control were compared to Schutz's (1967) teachers' expressed control mean (3.1, N = 677, not separated by sex). Once again, ranked first, second and third, all higher than Schutz's teacher group, were the masculine male, masculine female and feminine male teacher candidate groups, while the three remaining groups were all lower than Schutz's teachers. The masculine male mean was the only subgroup to approximate Schutz's administrator mean (4.7); all other subgroups were lower.

No such clear pattern emerges for the mean rankings of expressed inclusion. Androgynous female and masculine male subgroup means were similar and the highest; feminine males had, by far, the lowest expressed inclusion mean. A comparison with Schutz's teacher groups expressed inclusion mean (5.2) revealed that androgynous females and masculine males were fairly similar and feminine males expressed far less need for inclusion (almost two times less than Schutz's administrators' mean of 5.9).

Feminine and androgynous female subgroups' expressed affection mean rankings were the highest and also fairly similar. Once again, the feminine male subgroup's expressed affection mean was, by far, the lowest. All but the feminine male subgroups were higher than Schutz's teachers in expressed affection (3.7); all but the feminine and androgynous female sub-

Table 15. A comparison with Bem's (1974) normative samples of the percentage of Iowa State University teacher candidates classified as feminine, androgynous or masculine

Sexually stereo- typic role orientation	Females			Males		
	Iowa State Univer- sity N = 279	Stanford Univer- sity N = 279	Foot- hills Junior College N = 77	Iowa State Univer- sity N = 97	Stanford Univer- sity N = 444	Foot- hills Junior College N = 117
	%	%	%	%	%	%
Percent feminine $t \geq 2.025$	24	34	40	3	6	9
Percent androgynous ( $-1 \leq t \leq +1$ )	44	27	38	37	34	44
Percent masculine ( $t \leq -2.025$ )	5	8	8	31	36	22
Percent not classi- fied as feminine, androgynous, or masculine	30	32	15	28	24	26

groups were lower in expressed affection than Schutz's administrators' mean (4.4)

Table 17 provided basic data for reference in relation to the hypotheses discussed in the following pages.

Table 16. Means and standard deviations for interpersonal relations orientations (expressed control, inclusion and affection) by female and male teacher candidates' sexually stereotypic subgroups

Sexually stereotypic role orientations	N	Interpersonal Relations Orientations					
		Control		Inclusion		Affection	
		M	SD	M	SD	M	SD
<b>Females<sup>a</sup></b>							
Feminine	67	1.5373	1.617	4.7463	2.106	4.7164	2.373
Androgynous	113	2.2743	1.809	5.2212	1.940	4.6372	2.184
Masculine	15	3.9333	1.981	4.4667	2.446	3.4000	2.473
<b>Males<sup>b</sup></b>							
Masculine	30	4.4333	3.014	5.3667	1.866	3.9000	2.383
Androgynous	36	2.7778	1.944	4.1111	1.968	3.7778	2.257
Feminine	4	3.2500	1.258	3.0000	1.414	3.2500	1.258

<sup>a</sup>Eighty-four (30%) of females were not categorized as feminine, androgynous or masculine.

<sup>b</sup>Twenty-seven (28%) of males were not categorized as masculine, androgynous or feminine.

Null hypothesis 11: No significant difference will be found in interpersonal relations orientations (expressed control, inclusion or affection) among feminine, androgynous and masculine female teacher candidates

a. Control The results in Table 17 did not support the null hypothesis for expressed control. The t test (df = 178) between expressed control means of feminine and androgynous females equaled 2.75, which was significant at the .01 level; the t test (df = 80) between feminine and masculine females equaled 4.97, which was significant at the .001 level.

Table 17.  $t$  tests for interpersonal relations orientation expressed control by female and male teacher candidates' sexually stereotypic subgroups (feminine, androgynous and masculine)

Sexually stereotypic role orientation	Control <sup>a</sup>					
	Females			Males		
	A	B	C	D	E	F
Female						
Feminine (A) N = 67	2.75** (178)	4.97*** (80)	4.95**** <sup>b</sup> (36.70)	3.46*** (101)	2.08* (69)	
Androgynous (B) N = 113		3.30*** (126)	3.75**** <sup>b</sup> (34.73)	1.43 (141)	1.07 (115)	
Masculine (C) N = 15			.58 (43)	1.92 (49)	.65 (17)	
Male						
Masculine (D) N = 30				2.59**** <sup>b</sup> (47.83)	.77 (32)	
Androgynous (E) N = 36					.47 (38)	
Feminine (F) N = 4						

<sup>a</sup>Degrees of freedom for each  $t$  test analysis are shown in parentheses below  $t$  values.

<sup>b</sup>Separate variance estimate; all others represent pooled variance estimates.

\* $p < .05$

\*\* $p < .01$

\*\*\* $p < .001$

\*\*\*\* $p < .0001$

This indicated that feminine female teacher candidates were lower in control than androgynous or masculine female teacher candidates. The  $t$  test ( $df = 126$ ) between androgynous and masculine females equaled 3.30, which was significant at the .001 level and indicated that masculine female teacher candidates were higher in expressed control than androgynous females. The null hypothesis was rejected for all groups of female teacher candidates.

b. Inclusion The results in Table 18 supported the null hypothesis and indicated no significant  $t$  values for any of the female teacher candidate groups. The null hypothesis was not rejected.

c. Affection The results in Table 19 for androgynous vs. masculine females did not support the null hypothesis. The  $t$  test ( $df = 126$ ) equaled 2.03, which was significant at the .05 level. This indicated that androgynous females were higher in expressed affection than masculine females. The null hypothesis was not rejected for feminine females vs. androgynous or masculine female teacher candidates. The results in Table 18 for feminine female and androgynous or masculine females supported the null hypothesis and indicated no significant  $t$  values. The null hypothesis was not rejected for these groups.

Null hypothesis 12: No significant difference will be found in interpersonal orientations (expressed control, inclusion or affection) among masculine, androgynous and feminine male teacher candidates

a. Control The results in Table 17 for masculine and androgynous male teacher candidates did not support the null hypothesis. The  $t$  test ( $df = 47.83$ ) equaled 2.59, which was significant at the .0001 level. This indi-

Table 18.  $t$  tests for interpersonal relations orientation expressed inclusion by female and male teacher candidates' sexually stereotypic subgroups (feminine, androgynous and masculine)

Sexually stereotypic role orientation	Inclusion <sup>a</sup>					
	Females			Males		
	A	B	C	D	E	F
Female						
Feminine (A) N = 67		1.54 <sup>b</sup> (178)	.45 (80)	1.39 (95)	1.49 (101)	1.63 (69)
Androgynous (B) N = 113			1.37 (126)	.37 (141)	2.98** (147)	2.26* (115)
Masculine (C) N = 15				1.37 (43)	.55 (49)	1.13 (17)
Male						
Masculine (D) N = 30					2.64** (64)	2.43* (32)
Androgynous (E) N = 36						1.09 (38)
Feminine (F) N = 4						

<sup>a</sup>Degrees of freedom for each  $t$  test analysis are shown in parentheses below  $t$  values.

<sup>b</sup>All  $t$ 's represent pooled variance estimates.

\* $p < .05$

\*\* $p < .01$

cated that masculine male teacher candidates were higher in expressed control than the androgynous males. The null hypothesis was rejected for masculine and androgynous male teacher candidates.

The results in Table 17 for the two subgroups, masculine vs. feminine and androgynous vs. feminine male teacher candidates, supported the null hypothesis and indicated no significant  $t$  values. The null hypothesis was not rejected for these two groups.



Table 19.  $t$  tests for interpersonal relations orientation expressed affection by female and male teacher candidates' sexually stereotypic subgroups (feminine, androgynous and masculine)

Sexually stereotypic role orientation	Affection <sup>a</sup>					
	Females			Males		
	A	B	C	D	E	F
Female						
Feminine (A) N = 67	.23 <sup>b</sup> (178)	1.93 (80)		1.56 (95)	1.95* (101)	1.22 (69)
Androgynous (B) N = 113			2.03* (126)	1.61 (141)	2.04* (147)	1.26 (115)
Masculine (C) N = 15				.66 (43)	.53 (49)	.12 (17)
Male						
Masculine (D) N = 30					.21 (64)	.53 (32)
Androgynous (E) N = 36						.46 (38)
Feminine (F) N = 4						

<sup>a</sup>Degrees of freedom for each  $t$  test analysis are shown in parentheses below  $t$  values.

<sup>b</sup>All  $t$ 's represent pooled variance estimates.

\* $p < .05$

**b. Inclusion** The results in Table 18 for masculine male and androgynous or feminine male teacher candidates did not support the null hypothesis. The  $t$  test ( $df = 64$ ) for masculine vs. androgynous males equaled 2.64, which was significant at the .01 level. The  $t$  test ( $df = 32$ ) for masculine vs. feminine males equaled 2.43, which was significant at the .05 level. This indicated that masculine males were higher in expressed inclusion than either androgynous or feminine males. The null hypothesis

was rejected for these two groups. The results in Table 17 for androgynous vs. feminine males supported the null hypothesis and indicated no significant  $t$  values. The null hypothesis was not rejected for this group.

c. Affection The results in Table 19 for masculine male and androgynous or feminine male teacher candidates supported the null hypothesis and indicated no significant  $t$  values. The null hypothesis was not rejected for these two groups.

Null hypothesis 13: No significant difference will be found in the interpersonal relations orientations (expressed control, inclusion and affection) in any of the possible comparisons among feminine, androgynous or masculine female teacher candidates and masculine, androgynous or feminine male teacher candidates

a. Feminine female vs. masculine, androgynous or feminine male

(1). Control The results in Table 17 did not support the null hypothesis for these groups. The  $t$  tests for feminine female vs. masculine male ( $df = 36.70$ ) equaled 4.95, which was significant at the .0001 level; androgynous male ( $df = 101$ ) equaled 3.46, significant at the .001 level; and feminine male ( $df = 69$ ) equaled 2.08, significant at the .05 level. This indicated that feminine female teacher candidates were lower in expressed control than all three male groups. The null hypothesis was rejected.

(2). Inclusion The results in Table 18 for feminine female vs. all male groups supported the null hypothesis and indicated no significant  $t$  values. The null hypothesis was not rejected.

(3). Affection The results in Table 19 for feminine female and androgynous male teacher candidates did not support the null hypothesis. The  $t$  test ( $df = 101$ ) for feminine female vs. androgynous male equaled 1.95, which was significant at the .05 level. This indicated that feminine females' expressed affection was significantly higher than androgynous males'. The results in Table 19 for feminine female vs. masculine or feminine male teacher candidates supported the null hypothesis and indicated no significant  $t$  values. The null hypothesis was rejected for feminine female and androgynous male teacher candidates; it was not rejected for feminine female and masculine or feminine male teacher candidates.

b. Masculine male vs. androgynous or masculine female

(1). Control The results in Table 17 for masculine male and androgynous female teacher candidates did not support the null hypothesis. The  $t$  test ( $df = 34.73$ ) equaled 3.75, which was significant at the .001 level. This indicated that masculine males' expressed control was significantly higher than androgynous females'. The null hypothesis was rejected. The results in Table 17 for masculine male and masculine female supported the null hypothesis and indicated no significant  $t$  value. The null hypothesis was not rejected for this group.

(2). Inclusion The results in Table 18 for masculine male vs. androgynous or masculine female groups supported the null hypothesis and indicated no significant  $t$  values. The null hypothesis was not rejected for these two groups.

(3). Affection The results in Table 19 supported the null hypothesis for masculine male vs. androgynous or masculine female groups

and indicated no significant  $t$  values. The null hypothesis was not rejected for these two groups.

c. Androgynous female vs. androgynous or feminine male

(1). Control The results in Table 17 for androgynous female vs. androgynous or feminine male supported the null hypothesis and indicated no significant  $t$  values. The hypothesis was not rejected for these two groups

(2). Inclusion The results in Table 18 for androgynous female and androgynous or feminine males did not support the null hypothesis. The  $t$  tests for androgynous female vs. androgynous male ( $df = 147$ ) equaled 2.98, which was significant at the .01 level and for feminine male ( $df = 115$ ) equaled 2.26, which was significant at the .05 level. This indicated that androgynous female teacher candidates were significantly higher in expressed inclusion than the two male groups. The null hypothesis was rejected.

(3). Affection The results in Table 19 for androgynous female and androgynous male did not support the null hypothesis. The  $t$  test ( $df = 147$ ) equaled 2.04, which was significant at the .05 level. This indicated that androgynous female candidates were higher in expressed affection than androgynous males. The null hypothesis was rejected for this group. The results in Table 19 for androgynous female and feminine male supported the null hypothesis and indicated no significant  $t$  values. The null hypothesis was not rejected for this group. (It should be noted that, although the feminine male mean was lower than the androgynous male mean, the differences in subject number--nine times fewer feminine male

than androgynous male subjects--resulted in a  $t$  value that failed to reach significance.)

d. Masculine female vs. androgynous and feminine male

(1). Control The results in Table 17 for masculine female vs. androgynous and feminine males supported the null hypothesis and indicated no significant  $t$  values. The null hypothesis was not rejected for these two groups.

(2). Inclusion The results in Table 18 for masculine female vs. androgynous and feminine male teacher candidates supported the null hypothesis and indicated no significant  $t$  values. The null hypothesis was not rejected for these two groups.

(3). Affection The results in Table 19 for masculine female vs. androgynous and feminine males supported the null hypothesis and indicated no significant  $t$  values. The null hypothesis was not rejected for these two groups.

## V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

## A. Summary

This investigation compared dogmatism, sexually stereotypic role orientation and fundamental interpersonal relations orientation, expressed control, inclusion and affection of teacher candidates from four undergraduate colleges at Iowa State University. Tables 20, 21 and 22 provide a graphic presentation of the relationships discovered.

As noted in Table 20, a moderate relationship existed between expressed control and sexually stereotypic role orientation of the teacher candidates sampled. A weaker relationship appeared between expressed control and dogmatism. No relationship was found between dogmatism and sexually stereotypic role orientation.

Table 20. Relationships among the dependent variables

	Dogmatism	Sexually stereotypic role orientation	<u>FIRO-B</u> expressed control
Dogmatism			x <sup>a</sup>
Sexually stereotypic role orientation			x
<u>FIRO-B</u> expressed control	x	x	

<sup>a</sup>x = a relationship between the variables.

Teacher candidates from the four colleges sampled displayed no differences in sexually stereotypic role orientation or interpersonal relations orientations expressed control and inclusion. Differences between the Col-

leges of Agriculture and Education did appear in levels of dogmatism and expressed affection. The College of Agriculture's teacher candidates were more dogmatic and had less need for affection than did the College of Education's teacher candidates. Candidates preparing for the elementary level were less dogmatic, more sexually stereotypic in role orientation and expressed greater need for inclusion and affection than did teacher candidates at the secondary level (Table 21).

The most pervasive difference in interpersonal relations orientation among sexually stereotypic subgroups was shown in expressed control: masculine males expressed the greatest need for control of others and feminine females the least. There were no differences between feminine females and masculine males in expressed inclusion and affection. Androgynous females expressed a greater need for inclusion than androgynous males, and were also less dogmatic. Androgynous males expressed less need for affection than feminine females, while androgynous females expressed a greater need than masculine females. More male than female teacher candidates were sexually stereotypic in role orientation; a majority of teacher candidates of both sexes appeared in the androgynous subgroup (Table 22).

Table 21. Differences in the dependent variables by the independent variables

Differences by:	Dogmatism	Sexually stereotypic role orientation	FIRO-B expressed		
			Control	Inclu- sion	Affec- tion
College					
Agriculture	$p >^a$				$p <^b$
Education	$p <$				$p >$
Home Economics					
Sciences and Humanities					
Level					
Elementary	$p <$	$p >$		$p >$	$p >$
Secondary	$p >$	$p <$		$p <$	$p <$

<sup>a</sup> $p >$  = the difference is significantly greater than column(s) reading  $p <$ .

<sup>b</sup> $p <$  = the difference is significantly less than column(s) reading  $p >$ .



Table 22. Differences in dogmatism and interpersonal relations orientations expressed control, inclusion and affection among sexually stereotypic role orientation subgroups

Sexually stereotypic orientation subgroups	Dogmatism	FIRO-B expressed		
		Control	Inclusion	Affection
<b>Female</b>				
Feminine (FF)		$\underline{p} < (\text{all others})^a$		$\underline{p} > (\text{AM})^b$
Androgynous (AF)	$\underline{p} < (\text{AM})$	$\underline{p} > (\text{FF})$ $\underline{p} < (\text{MF})$ $\underline{p} < (\text{MM})$	$\underline{p} > (\text{AM})$ $\underline{p} > (\text{FM})$	$\underline{p} > (\text{MF})$ $\underline{p} > (\text{AM})$
Masculine (MF)		$\underline{p} > (\text{FF})$ $\underline{p} > (\text{AF})$		$\underline{p} < (\text{AF})$
<b>Male</b>				
Masculine (MM)		$\underline{p} > (\text{FF})$ $\underline{p} > (\text{AF})$ $\underline{p} > (\text{AM})$	$\underline{p} > (\text{AM})$ $\underline{p} > (\text{FM})$	
Androgynous (AM)	$\underline{p} > (\text{AF})$	$\underline{p} > (\text{FF})$	$\underline{p} < (\text{AF})$ $\underline{p} < (\text{MM})$	$\underline{p} < (\text{FF})$ $\underline{p} < (\text{AF})$
Feminine (FM)		$\underline{p} > (\text{FF})$	$\underline{p} < (\text{AF})$ $\underline{p} < (\text{MM})$	

<sup>a</sup> $\underline{p} <$  = the difference is significantly less than the indicated subgroup.

<sup>b</sup> $\underline{p} >$  = the difference is significantly greater than the indicated subgroup.

## B. Conclusions

Considering the delimitations, results and limitations of this study, the following conclusions appear warranted:

1. A weak relationship existed between the variables dogmatism and expressed control; i.e., an increase in dogmatism was accompanied by an increase in expressed control.

2. A moderate relationship existed between the variables sexually stereotypic role orientation and expressed control; i.e., an increase in sexually stereotypic role orientation was accompanied by a decrease in expressed control.

There were no significant differences in sexually stereotypic role orientation or interpersonal relations orientations expressed control and inclusion among teacher candidates from the four colleges: Agriculture, Education, Home Economics and Sciences and Humanities. The significant differences were:

3. Teacher candidates from the College of Agriculture were more dogmatic than were candidates from the College of Education.

4. Teacher candidates from the College of Education expressed more need for affection than did candidates from the College of Agriculture.

5. Candidates preparing to teach at the secondary level were more dogmatic than were elementary teacher candidates.

6. Elementary education candidates were more sexually stereotypic in their role orientation than were secondary education candidates.

7. Elementary education candidates expressed more need for inclusion than did secondary education candidates.

8. Elementary education candidates expressed more need for affection than did secondary education candidates.

9. Teacher candidates who profiled as masculine male in sexually stereotypic role orientation expressed more need for control than did candidates who profiled as androgynous male and feminine or androgynous female.

10. Teacher candidates who profiled as masculine male and androgynous female in sexually stereotypic role orientation expressed more need for inclusion than did androgynous and feminine male candidates.

11. Teacher candidates who profiled as feminine female in sexually stereotypic role orientation expressed more need for affection than did androgynous male candidates.

12. Teacher candidates who profiled as androgynous females in sexually stereotypic role orientation expressed more need for affection than did masculine female and androgynous male candidates.

### 1. Limitations

The following must be recognized as limitations of this study:

1. Survey response--response to this study was voluntary. Teacher candidates who failed to volunteer might have profiled differently from the candidates who did volunteer.

2. Sampling--the packets were distributed to the teacher candidates by their supervisors. Once again, supervisor cooperation was voluntary. Some supervisors, judging solely by returns from their disciplines, were more cooperative than others.

3. Imbalance of subjects by college, level and sex--in addition to

problems resulting from survey response and sampling--resulted in some colleges having far fewer teacher candidates (Agriculture) than others (Education). Some colleges had far fewer male than female teacher candidates (Home Economics and Education). For example, the College of Education consists of three teacher preparation departments: elementary education (enrollment primarily female), industrial education (enrollment primarily male) and physical education (enrollment coeducational). In this study the College of Education was represented primarily by teacher candidates in elementary education (73 percent of the sample). The results of this imbalance were noticeable when a large mean difference in expressed affection among feminine males and the other sexually stereotypic subgroups failed to reach significance (the smaller the number of subjects, the larger the mean difference necessary for a significant  $t$  value).

4. Measurement--all three of the instruments assessed characteristics from self-descriptions and were prone to errors inherent in this type of measurement; e.g., response agreement, inaccurate self-perception, dishonest response and inaccurate scoring. Two of the instruments, RDS-E and FIRO-B, had undergone extensive revision prior to their widespread use over the past fifteen years; the BSRI is two years old. All three supplied normative and reliability data. However, the passage of time may have damaged the validity of the items included in the RDS-E. Some of the areas covered appear less pertinent in 1976 than they might have been in the 1950's when the measure was developed.

5. Geographic location--the university used for the research may reflect only the values and role sets of the upper-midwest.

## 2. Discussion

No relationship existed between dogmatism and sexually stereotypic role orientation. One explanation for this lack of relationship seemed to be the distribution of the sexually stereotypic role orientation subgroups: a majority of teacher candidates of both sexes were androgynous (even though seven percent more male than female candidates had sexually stereotypic role orientations). Androgynous candidates subscribed to both masculine and feminine sex-role characteristics. However, the sexually stereotypic role oriented groups did not differ in levels of dogmatism. The androgynous male and female groups did differ ( $t = 2.02$ ;  $p < .05$ ). Androgynous females ( $\bar{X} = 130.96$ ) were less dogmatic than were androgynous males ( $\bar{X} = 140.08$ ).

No strong relationship existed between dogmatism and expressed control. A clue as to why dogmatism did not associate with sexually stereotypic role orientation or relate strongly to control was suggested by Schulz (1966), who called persons with a high need for control "autocrats." Dogmatics do not necessarily qualify as autocrats/authoritarians, even though they share some personality characteristics. A basic difference is that, while dogmatics may be expected to hold inflexible attitudes toward acceptance of new beliefs or change of old beliefs, authoritarians may seek active control over others' beliefs or demand others to change opposing beliefs.

In addition, Ehrlich and Lee (1969) indicated that the propensity for an individual to become closed-minded (and possibly actively authoritarian/autocratic as well) might be predicated on the intervention of as many as five variables. These were the following: the belief congruence, the

novelty of the new beliefs, their centrality to the individual, the authority source of the new beliefs and their mode of presentation. The nature of the paper and pencil measurement of teacher candidates' sexually stereotypic role orientation and expressed control precluded the intervention of these variables. Any or all of these variables might intervene in daily personal encounters and trigger the dogmatism of the sexually stereotypic groups or the dogmatic teachers' need for control.

The moderate relationship between expressed control and sexually stereotypic role orientation, while important, was not as interesting as the fact that the teacher candidates' degree of sexually stereotypic role orientation appeared to be an indicator of their expressed need for control. These differences substantiated research on sex differences which identified aggression as a male trait. Statistically, masculine males expressed the greatest need for control and feminine females the least; masculine males did not express greater need for control than either of the opposite sex-role orientations, masculine female or feminine male. This might be expected, since expressed control could be linked with aggression (a part of maleness in our culture) or might be equated with dominance (a part of the male stereotype). Masculine females would, almost by definition, possess these qualities. On the other hand, qualities included in the male stereotype have, in the past, been more valued societally, and feminine males, while embracing certain feminine qualities, may be loathe to dispense with this culturally valued aspect of their maleness and masculinity.

It has been mentioned earlier that no significant differences by college were found in sexually stereotypic role orientation or interpersonal

relations orientations expressed control and inclusion among the teacher candidates. The only differences among the three variables by college occurred between the Colleges of Agriculture and Education. Although the Scheffé test, a very conservative test, failed to show which colleges contributed most to the dogmatism difference, it may be inferred that the elementary education majors were responsible for the College of Education's lower mean dogmatism score. Elementary teacher candidates were significantly lower in dogmatism than secondary teacher candidates and 73 percent (N = 136) of the teacher candidates in the College of Education sample were in elementary education. Since the majority of the elementary education majors were also female, this may have been an indication that females were less dogmatic than males. This did not prove to be true. As mentioned earlier, only the androgynous groups of males and females differed significantly from each other. Although research is scanty on dogmatism by level taught, Brown (1973) reported differences by level.

In this study's sample, the majority of the teacher candidates from the College of Education were in the elementary education department and, as previously noted, the enrollment is predominantly female. In contrast, the College of Agriculture's sample was predominantly male. It is tempting to speculate in terms of sex-role stereotyping about the difference in expressed levels of affection between the teacher candidates from the Colleges of Education and Agriculture, since, stereotypically, females are supposed to be more affectionate than males.

It is equally tempting to speculate that differences in the nature of their discipline caused Agriculture teacher candidates to be more dogmatic

and express less need for affection than Education candidates. Agriculture majors are concerned with concrete products such as yields, nutrients, fertilizers, growth patterns and profits and losses. This focus on specifics and decisions regarding them requires little need to express affection and might explain both dogmatism and the low expressed need for affection. On the other hand, education majors are concerned with processes, such as developing learning skills, and success may be enhanced by the catalytic effects of expressed affection.

This same explanation might also account for secondary teacher candidates being more dogmatic than elementary candidates. Secondary candidates might be more subject-oriented than elementary candidates, who have less control over products, focus more on processes and find that warmth (higher in expressed affection) enhances their success. Iowa State University secondary teacher candidates were not only less warm than elementary candidates, but appeared to be less sociable (lower in expressed inclusion). This, in turn, might be related to the elementary candidates (majority female) being more sexually stereotypic in their role orientation than secondary candidates. Stereotypically, feminine females are supposed to be sociable and affectionate.

The most interesting differences among the sexually stereotypic subgroups in interpersonal relations orientations occurred between androgynous females and androgynous males. The androgynous females differed from androgynous male teacher candidates in the same manner that feminine females could, stereotypically, be expected to differ from masculine males, i.e., be higher in expressed inclusion and affection. This is particularly



surprising in view of the expectation that an androgynous sex-role orientation would liberate individuals from these restrictions. Perhaps a "cultural lag" exists between androgynous candidates' awareness of the stereotypic nature of the BSRI masculine and feminine characteristics and their internalization of these "appropriate" behaviors for males and females.

Feminine female teacher candidates failed to differ significantly in inclusion and affection from any of the subgroups except the androgynous males, who were lower in expressed affection. Masculine male teacher candidates were higher than both male subgroups in need for inclusion, but no different from female subgroups in expressed affection. These findings in inclusion and affection vis-à-vis feminine females and masculine males supported the data provided by Maccoby and Jacklin (1974).

### C. Recommendations

#### 1. Recommendations for practice

Recommendations for practice are limited due to the nature of the variables involved and the study's exploratory intent. There is a difference between finding "what is" in terms of teacher candidates' personality correlates and saying what these correlates ought to/should be to insure that their students learn. There is no body of research, to date, which has identified teacher personality correlates that will guarantee learning. However, it does seem that the differences in the variables by sex, level and college do warrant the additional research recommended below and that this research might indicate areas for change in teacher training.

The only areas that appear worthy of immediate concern are those dif-

ferences found between elementary and secondary teacher candidates. Perhaps one approach might be a course in human relations which would satisfy anticipated changes in certification by the Iowa Department of Public Instruction. Measures similar to those utilized in this study might be used as benchmarks for testing the efficacy of such a course in modifying sex-role stereotyping and interpersonal relations orientations.

## 2. Recommendations for further research

Since the majority of the differences found in the variables were by level (elementary vs. secondary education preparation), several questions suggesting further study may be asked concerning differences between elementary and secondary candidates. Are less dogmatic individuals attracted to elementary education and more dogmatic to secondary education, or does their training affect their dogmatism levels? Is the elementary education faculty less dogmatic than the secondary education faculty? Will a sample of elementary cooperating teachers be less dogmatic than secondary teachers? Indeed, do dogmatic faculty have any influence on their students regarding such complex behaviors and values as those examined herein?

Does this difference in dogmatism between levels have some bearing on the number of innovative practices introduced via/utilized in the elementary rather than the secondary classroom? What differences are there in students' abilities to possess a liberated view of sex-role expectancies, e.g., girls can be politicians, engineers and mechanics; boys can be nurses, secretaries and kindergarten teachers, between students from classrooms of highly sexually stereotypically role oriented male and/or female teachers and androgynous female and/or male teachers?

Are there differences among various disciplines in teacher candidates' degree of sexually stereotypic role orientation? Are elementary education cooperating/supervising teachers more sexually stereotypic than the cooperating/supervising secondary teachers? Are elementary education faculties more sexually stereotypic than secondary education faculties? Do less sexually stereotypic role oriented elementary or secondary teachers incorporate more new materials concerning the women's movement than highly sexually stereotypic role oriented teachers? Do elementary teachers express greater needs for inclusion and affection than secondary teachers? Is there a relationship between elementary teacher candidates' profiles (more sexually stereotypic, less dogmatic, greater needs for inclusion and affection than secondary teacher candidates) and the greater student-teacher interaction in the elementary grades? Are there differences in the profiles of innovative/creative and non-innovative/non-creative teachers on the three measures utilized in this study? Are there differences between junior and senior high school teachers on these three measures?

It might be intriguing to study a group of educational administrators, who were found in a previous study by Schutz (1967) to have an expressed control mean higher than any of the teacher candidate sexually stereotypic orientation subgroups, to determine if there is an increase in their expressed control subsequent to their initial administrative experience. Further study might indicate if there is a correlation between the degree of expressed control and administrative success and/or professional satisfaction.

The androgynous candidates appeared to profile in the stereotypic feminine and masculine manner on the interpersonal relations orientations

expressed inclusion and affection. In view of the relative youth of the measurement of psychological androgyny, further research seems indicated to ascertain if these differences between androgynous female and male groups in dogmatism, inclusion and affection do occur among other sample groups. It also seems reasonable that some analyses be made among those groups of teacher candidates who were not categorized as feminine, masculine or androgynous, since they were not this study's focus. Further information about the sexually stereotypic orientation subgroups could be gained through comparing their profiles on both the expressed and the wanted FIRO-B subscales. Such knowledge will enable the next generation of teacher educators to plan intelligently for the improvement of human relations in education.

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VII. APPENDIX

College of Education  
Educational Administration  
230 Curtiss Hall  
Ames, Iowa 50010

IOWA STATE  
UNIVERSITY

Telephone 515-294-5450

Dear Colleague:

I need your help.

I am a classroom teacher and am currently beginning my 19th year of teaching. Although I have been teaching high school English for the past ten years, my first 8 years experience were spent teaching grades 4, 6, and 8.

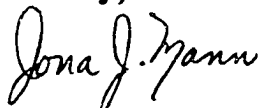
The study I'm asking you to participate in is part of my doctoral dissertation. While I am unable to disclose the exact nature of the study, I can tell you that it is the direct result of my keen desire to have classrooms be places students grow in as well as go to.

Why should you help? Since your cooperation is entirely voluntary, there can't be any one reason. However, I believe the following may influence you favorably: the results are intended to be of practical use; the time you spend in responding to the measures may be considered a professional investment; the measures themselves aren't tedious.

One further request. Please return all the material in the packet via the enclosed stamped envelope as soon as possible--even if you decide not to participate. Your name is not necessary on any of the measures, thus your anonymity is assured. However, I must account for the number of packets.

Naturally, thank you. Your cooperation is hopefully anticipated and warmly appreciated.

Sincerely,



Ms. Jona J. Mann  
English Department  
Herbert Hoover High School, Des Moines

To Head Supervisors of Student Teachers:

I have been a classroom teacher for the past 19 years. I have been teaching high school English for the last 10 years; I had previously taught grades 4, 6, and 8. At present I am working on a doctorate at Iowa State University.

I need your help.

My dissertation topic is important to me beyond its just being necessary for a degree. It represents personal as well as professional areas of interest. I think you might agree that no matter how you approach what goes on in a public school classroom, ultimately the quality of the level of human interaction within that classroom becomes an important consideration. The study's intent is to analyze characteristics of student teachers in three areas: open or closed mindedness, sexual stereotyping and interpersonal relations preference.

I hope that the findings may be of interest and that the study may be useful to those involved in teacher training. The study is intended for the academic year 1975-76 and will involve student teachers in the colleges of Agriculture, Education, Home Economics and Sciences and Humanities during the quarter of their student teaching experience.

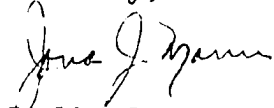
Obviously, your cooperation, as well as the students' participation, is entirely voluntary. Equally obvious is that the study's success depends upon securing an adequate sample. Without wishing to appear self-serving, I feel the 40-45 minutes students take to respond could legitimately be construed as a "professional" investment.

May I ask you to assist me by distributing the packets of testing instruments to your student teachers? The packets are designed to be self-instructing and, to insure subject anonymity, will contain a stamped return envelope. Your cooperation would be limited to distributing the packets.

I would appreciate your returning, at your earliest convenience, the attached slip of paper in the enclosed stamped envelope.

I am, in advance, most warmly appreciative of your consideration and will be most grateful for your cooperation.

Sincerely,



English Department  
Hoover High School  
Des Moines

IOWA STATE  
UNIVERSITY

---

Telephone 515-294-5450

Hello:

You should have received from your supervising teacher a packet of materials which relate to my dissertation research.

Have you returned the packet?

If you have, my sincere thanks.

If you have not, I surely would appreciate your doing so at your earliest convenience.

Sincerely,



English teacher  
Hoover High School  
Des Moines

## DIRECTIONS

Attached are three measures. Please do them in the order in which they have been stapled together. The first two, the DY and the FIRO-B, will take 10 minutes apiece, the IAQ and background information approximately 20 minutes.

If you have 10 free minutes now, and would like to complete the DY, just remove the first IBM answer sheet. Using a soft, black lead pencil, fill in only the following information in these spaces at the top of the sheet. AGE: SEX: GRADE (level of students you are teaching) MAJOR:

Sixty personality characteristics are shown on the back of the page you are reading now. Using these characteristics to describe yourself, indicate, on a scale of 1 to 7 how true of you these characteristics are. Please do not leave any of the characteristics unmarked and respond to each of the 60 characteristics by blackening in the appropriate space.

Example: 1. eager

Blacken the space:

- 1 if it is NEVER OR ALMOST NEVER TRUE that you are eager.
- 2 if it is USUALLY NOT TRUE that you are eager.
- 3 if it is SOMETIMES BUT INFREQUENTLY TRUE that you are eager.
- 4 if it is OCCASIONALLY TRUE that you are eager.
- 5 if it is OFTEN TRUE that you are eager.
- 6 if it is USUALLY TRUE that you are eager.
- 7 if it is ALWAYS TRUE OR ALMOST ALWAYS TRUE that you are eager.

Thus, if you feel it is sometimes but infrequently true that you are "eager" your answer sheet would be marked:

1. 0 1 2 3 4                      5 6 7 8 9

## DY - DESCRIBE YOURSELF

1	2	3	4	5	6	7
NEVER OR ALMOST NEVER TRUE	USUALLY NOT TRUE	SOMETIMES BUT INFREQUENTLY	OCCASIONALLY TRUE	OFTEN TRUE	USUALLY TRUE	ALWAYS OR ALMOST ALWAYS TRUE
1. Cheerful		21. Jealous		41. Unpredictable		
2. Willing to take risks		22. Strong personality		42. Likable		
3. Tactful		23. Secretive		43. Analytical		
4. Sincere		24. Conscientious		44. Truthful		
5. Flatterable		25. Does not use harsh language		45. Warm		
6. Moody		26. Assertive		46. Masculine		
7. Conventional		27. Defends own beliefs		47. Self reliant		
8. Helpful		28. Eager to sooth hurt feelings		48. Adaptable		
9. Theatrical		29. Loves children		49. Independent		
10. Gullible		30. Forceful		50. Aggressive		
11. Shy		31. Acts as a leader		51. Compassionate		
12. Loyal		32. Conceited		52. Childlike		
13. Affectionate		33. Individualistic		53. Feminine		
14. Yielding		34. Reliable		54. Tender		
15. Soft-Spoken		35. Understanding		55. Unsystematic		
16. Sympathetic		36. Inefficient		56. Happy		
17. Ambitious		37. Makes decisions easily		57. Solemn		
18. Athletic		38. Sensitive to the needs of others		58. Competitive		
19. Has leadership abilities		39. Dominant		59. Self-sufficient		
20. Willing to take a stand		40. Friendly		60. Gentle		

When you have finished, proceed to the FIRO-B which is the next measure. The rest of the packet is self-directing.

Masculine and Feminine Items on the DY - DESCRIBE YOURSELF (BSRI)

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

## FIR0-B ©

For each statement below, decide which of the following answers best applies to you. Place the number of the answer in the box at the left of the statement. Please be as honest as you can.

1. usually 2. often 3. sometimes 4. occasionally 5. rarely 6. never

- 1. I try to be with people.
- 2. I let other people decide what to do.
- 3. I join social groups.
- 4. I try to have close relationships with people.
- 5. I tend to join social organizations when I have the opportunity.
- 6. I let other people strongly influence my actions.
- 7. I try to be included in informal social activities.
- 8. I try to have close, personal relationships with people.
- 9. I try to include other people in my plans.
- 10. I let other people control my actions.
- 11. I try to have people around me.
- 12. I try to get close and personal with people.
- 13. When people are doing things together I tend to join them.
- 14. I am easily led by people.
- 15. I try to avoid being alone
- 16. I try to participate in group activities.

For each of the next group of statements, choose one of the following answers:

1. most people 2. many people 3. some people 4. a few people 5. one or two people 6. nobody

- 17. I try to be friendly to people.
- 18. I let other people decide what to do.



19. My personal relations with people are cool and distant.
20. I let other people take charge of things.
21. I try to have close relationships with people.
22. I let other people strongly influence my actions.
23. I try to get close and personal with people.
24. I let other people control my actions.
25. I act cool and distant with people.
26. I am easily led by people.
27. I try to have close, personal relationships with people.

For each of the next group of statements, choose one of the following answers:

1. most people    2. many people    3. some people    4. a few people    5. one or two people    6. nobody

28. I like people to invite me to things.
29. I like people to act close and personal with me.
30. I try to influence strongly other people's actions.
31. I like people to invite me to join in their activities.
32. I like people to act close toward me.
33. I try to take charge of things when I am with people.
34. I like people to include me in their activities.
35. I like people to act cool and distant toward me.
36. I try to have other people do things the way I want them done.
37. I like people to ask me to participate in their discussions.
38. I like people to act friendly toward me.
39. I like people to invite me to participate in their activities.
40. I like people to act distant toward me.

For each of the next group of statements, choose one of the following answers:

1. usually 2. often 3. sometimes 4. occasionally 5. rarely 6. never

- 41. I try to be the dominant person when I am with people.
- 42. I like people to invite me to things.
- 43. I like people to act close toward me.
- 44. I try to have other people do things I want done.
- 45. I like people to invite me to join their activities.
- 46. I like people to act cool and distant toward me.
- 47. I try to influence strongly other people's actions.
- 48. I like people to include me in their activities.
- 49. I like people to act close and personal with me.
- 50. I try to take charge of things when I'm with people.
- 51. I like people to invite me to participate in their activities.
- 52. I like people to act distant toward me.
- 53. I try to have other people do things the way I want them done.
- 54. I take charge of things when I'm with people.

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## ISSUES AND ATTITUDES QUESTIONNAIRE

## IAQ

The following is a study of what the general public thinks and feels about a number of important social and personal questions. The best answer to each statement below is your personal opinion. The IAQ tries to cover many different and opposing points of view; you may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others.

On the second IBM sheet mark each of the following 50 statements according to the degree of your agreement or disagreement with them. Blacken 1 , 2 , 3 , 5 , 6 , or 7 depending on whether you:

- |                          |                       |
|--------------------------|-----------------------|
| 1. DISAGREE A LITTLE     | 5. AGREE A LITTLE     |
| 2. DISAGREE ON THE WHOLE | 6. AGREE ON THE WHOLE |
| 3. DISAGREE VERY MUCH    | 7. AGREE VERY MUCH    |

51-55 consist of background information and are located on the back of the last sheet.

1. The biggest advantage man possesses over lower animals is his ability to regulate himself and live by definite and unchanging rules of conduct.
2. It is only natural for a person to be rather fearful of the future.
3. There is so much to be done and so little time to do it in.
4. In this complicated world of ours the only way we can know what's going on is to rely on leaders or experts who can be trusted.
5. It is often desirable to reserve judgment about what's going on until one has had a chance to hear the opinions of those one respects.
6. A person who seldom changes his mind can usually be depended upon to have sound and reliable judgment on matters of importance.
7. Most people just don't know what's good for them.
8. Unfortunately a good many people with whom I have discussed important social and moral problems don't really understand what's going on.
9. If a person is to accomplish his/her mission in life it is sometimes necessary to gamble "all or nothing at all."
10. A group which tolerated too many differences of opinion among its own members cannot exist for long.

11. In times like these it is often necessary to be more on guard against ideas put out by people or groups in one's own camp than by those in the opposing camp.
12. The worst crime a person could commit is to attack publicly the people who believe in the same thing he does.
13. Once a person makes up his mind about something he should stick to his conclusion instead of repeatedly rehashing the question.
14. In a heated discussion I generally become so absorbed in what I am going to say that I forget to listen to what others are saying.
15. In a discussion I often find it necessary to repeat myself several times to make sure I am being understood.
16. Once I get wound up in a heated discussion I just can't stop.
17. It is only natural that a person would have a much better acquaintance with ideas he believe in than with ideas he opposes.
18. One of the major aims of education should be to give us a few simple rules of behavior to apply in every situation.
19. In the history of mankind there have probably been just a handful of really great thinkers.
20. There are a number of people I have come to hate because of the things they stand for.
21. War and threats of war are unchangeable facts of human life.
22. A man who does not believe in some great cause has not really lived.
23. It is only when a person devotes himself to an ideal or cause that life becomes meaningful.
24. Of all the different philosophies which exist in this world there is probably only one which is correct.
25. A person who gets enthusiastic about too many causes is likely to be a pretty "wishy-washy" sort of person.
26. To compromise with our political opponents is dangerous because it usually leads to a betrayal of our own side.
27. The United States and Russia have just about nothing in common.
28. In times like these, a person must be pretty selfish if he considers primarily his own happiness.

29. When it comes to differences of opinion in religion we must be careful not to compromise with those who believe differently from the way we do.
30. Most of the ideas which get printed nowadays aren't worth the paper they are printed on.
31. A person who thinks primarily of his own happiness is beneath contempt.
32. My blood boils whenever a person stubbornly refuses to admit he is wrong.
33. The highest form of government is a democracy and the highest form of democracy is a government run by those who are most intelligent.
34. Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.
35. Barnum was probably right when he said that there's at least one sucker born every minute.
36. The main thing in life is for a person to want to do something important.
37. It is better to be a dead hero than a live coward.
38. While I don't like to admit this even to myself, my secret ambition is to become a great person, like Einstein, Beethoven, or Shakespeare.
39. Sometimes you have to hurt other people to get what you want.
40. If given the chance I would do something of great benefit to the world.
41. Most people just don't give a "damn" for others.
42. Fundamentally, the world we live in is a pretty lonesome place.
43. Man on his own is a helpless and miserable creature.
44. Anyone who completely trusts anyone else is asking for trouble.
45. I'd like it if I could find someone who would tell me how to solve my personal problems.
46. The present is all too full of unhappiness. It is only the future that counts.

47. There are two kinds of people in this world: those who are for the truth and those who are against the truth.
48. The best way to get along with people is to tell them things that make them happy.
49. People who talk about abstract problems usually don't know what they are talking about.
50. In the long run the best way to live is to pick friends and associates whose tastes and beliefs are the same as one's own.

### Background Information

Blacken the appropriate spaces on the IBM answer sheet:

51. Your marital status:  
(1) Single (2) Divorced (3) Married
52. The highest level of academic training you expect:  
(1) Bachelor's (2) Master's (3) Doctoral (4) Undecided
53. Which parent criticized you most during your "growing-up" process?  
(1) Mother (2) Father (3) Both (4) Neither
54. Which parent offered the most encouragement toward a career?  
(1) Neither (2) Both (3) Father (4) Mother
55. Which of the following best describes the type of parental control exercised by your parents?  
(1) Permissive: no clear cut lines  
(2) Clear Control: enforced  
(3) Severe punishment

Please place all of the materials in the return envelope and mail as soon as possible. Once again, a most sincere thank-you.

Table 23. Sample biographical information

Category	N (%)	Category	N (%)
AGE:	Mean		
	21.96	Mode	21.0
	Median	Range	
	21.39	19-49	
MARITAL STATUS:		PARENTAL ENCOURAGEMENT:	
Single	236 (62.8)	Mother	80 (21.3)
Married	11 (2.9)	Father	47 (12.5)
Divorced	89 (23.7)	Both	178 (47.3)
No response	40 (10.6)	Neither	39 (10.4)
ACADEMIC ASPIRATIONS:		Unusable or no response	32 (8.5)
Bachelor's	81 (21.5)	PARENTAL CONTROL:	
Master's	170 (45.2)	Permissive	85 (22.6)
Doctorate	25 (6.6)	Clear	252 (67.0)
Uncertain	71 (18.9)	Severe	4 (1.1)
No response	29 (7.7)	Unusable or no response	35 (9.3)
PARENTAL CRITISM:			
Mother	127 (33.8)		
Father	71 (18.9)		
Both	29 (7.7)		
Neither	113 (30.1)		
Unusable or no response	36 (9.5)		

## VIII. ACKNOWLEDGEMENTS

My sincere thanks to: Dr. Richard Manatt for his expertise and care throughout the entire process; my committee for its interest; Dr. Wallace Schloerke, Dr. Jess Beard and the many supervisors for their considerable cooperation; the Iowa State University teacher candidates for their response; Dr. Jack Menne for help in data preparation; Dr. Rex Thomas for the congenial atmosphere and technical assistance while programming the data; Dr. Gary Phye for those ever-available talks; Sunny Powers for her instruction, eagle's eye and careful treatment of the manuscript; La Dena Bishop for her guidance and patience; Dr. Nancy Betz for her tutoring; Dr. Ellen Betz for her special insights, useful criticism and constant encouragement; and all my friends for wishing me success.

I should like to acknowledge, with love, my indebtedness to two sisters, Frances and Sadye, who taught me all they knew about life. This page would not be complete without an expression of my gratitude to my friend, Lee, for her humor and patient support.