DOGMATISM AND SEX ROLE DIFFERENTIATION
IN ADULTS

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The Rokeach *Dogmatism Scale* and a shortened form of the Mf scale of the *Minnesota Multiphasic Personality Inventory* were administered to 170 freshman psychology students (80 males and 90 females) in an exploration of the assumed independence of dogmatism from both physiological sex and perceived sex role. Degree of dogmatism was independent of physiological sex, but in four out of six combinations involving varying degrees of masculinity-femininity dogmatism was not independent of perceived sex role. In previous reports females scored consistently though not significantly lower than the males. The results of this study suggest that these scores may be due in part to differences in perceived sex roles within the sexes rather than differences between the sexes. Furthermore, when utilizing males and females as a group the differences in dogmatism due to perceived sex roles tend to be obfuscated. Males and females along a continuum of self-rated masculinity-femininity interests tend to respond with different degrees of dogmatism according to their perceived sex roles.
DOGMATISM AND SEX ROLE DIFFERENTIATION
IN ADULTS

THESIS

Presented to the Graduate Council of the
North Texas State University in partial
Fulfillment of the Requirements

For the Degree of

MASTER OF SCIENCE

by

Robert W. Westmoreland, B. S.
Denton, Texas
May, 1973
### Tables

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Review of Research and Statement

of the Problem

Review of Research

Although much interest has been generated recently in the study of beliefs and attitudes, many of the tests used in the studies have suffered from a lack of an empirical basis. In the specific area of dogmatism, however, an empirically developed scale devised by Rokeach (1960) has been used to measure the extent of open-mindedness and closed-mindedness of individuals. The scale appears to be a valid and reliable one, but more research could further its effectiveness. One of the more important areas of investigation that has been neglected in the study of open and closed mindedness is the possible relationship between degree of dogmatism and sex role perception. More and more studies are conducted utilizing the Rokeach scale and, in many cases, results indicate that males and females differ in their reported degree of dogmatism. Whether the difference is due to perceived sex roles or physiological sex is unestablished.

Recently a number of reports (Anderson, 1962; Irvine, 1957; Alter & White, 1966; Vacchiano, Schiffman, & Strauss, 1967; Kilpatrick, Cauthen, Sandman, & Quattlebaum, 1968; and others) have included the statement that an examination of possible interdependence between perceived sex role and belief systems should be made. With the increasing importance placed on
identifying and examining instances of sex role interaction, the area of beliefs and attitudes has been overlooked.

The measurement of both belief systems and sex role perception with the instruments used in this study may result in the re-affirmation of the validity of numerous prior studies by supporting the assumption made in much of the research that sex role and dogmatism are independent of each other. If independence is not established this study will serve as a contribution to the understanding of the relationship between the variables.

Research Related to Dogmatism

In this study Form E of the Rokeach (1960) Dogmatism Scale and a short form of the Mf scale of the Minnesota Multiphasic Personality Inventory proposed by Murray (1963) were utilized. Kirtley and Harkless (1969) had previously utilized these two scales together in a study of personality correlates of dogmatism; however, this report neglected the possibility of sex role perception as an acting variable.

The Dogmatism Scale is designed to measure the structure rather than the content of belief systems. Rokeach (1960) grappled with the task of extracting and describing the fundamental mechanism for the expression of a specific ideological viewpoint. His goal was "... an ahistorical, contentless way of thinking about intolerance, independent of the specific group discriminated against, equally applicable to different periods of history and to all kinds of intolerance within a given period of history (p. 16)." To achieve this goal,
the study of belief systems as a whole rather than specific beliefs was initiated:

. . . we will propose a set of attributes or properties held in common by all belief systems. These attributes will be structural or formal in conception, in order to equip us to look for underlying similarities among persons adhering to different belief systems, and conversely, to look for underlying differences among persons with similar belief systems [p. 29].

One of the first steps was to formulate a consistently workable definition of dogmatism. Originally dogmatism was defined by Rokeach (1954) as ". . . (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) promotes a framework for patterns of intolerance toward others (p.195)."

Proceeding from this rather vague formulation, a belief system evolved which was both delineated and measurable as well as generalizable to other situations. This last quality presupposes the notion that an emotional counterpart exists for each cognitive process. Another presupposition found in the literature of dogmatism is the assumption that there is a definite and basic distinction between beliefs about ideas (cognitions), people (prejudice), and authority (authoritarianism). In the effort to achieve a theory of dogmatism based on structural properties rather than content, a basic interrelationship is hypothesized between these three areas, "Thus, is we know something about the way a person
related himself to the world of ideas, we may also be able to say in what way he relates himself to the world of people, and to authority (p. 8)."

Next, if the study of dogmatism was to be pursued as a generalized concept, it had to be distinguished from the more specific areas of concentration such as authoritarianism, intolerance, and rigidity. These latter dimensions are subsumed by Rokeach's (1960) conception of dogmatism: "Let it suffice to say here that in our view much of man's social behavior can be better understood by relating such behavior to man's belief systems rather than the elements of such systems (pp.18-19)."

Concomitant with the conception of such a belief system is the existence of a disbelief system which theoretically runs parallel to the belief continuum in a negative relationship. Rokeach (1960) offers this definition:

The belief system is conceived to represent all the beliefs, sets, expectancies, or hypotheses, conscious and unconscious, that a person at a given time accepts as true of the world he lives in. The disbelief system is composed of a series of subsystems rather than merely a single one, and contains all the disbeliefs, sets, expectancies, conscious and unconscious, that to one degree or another, a person at a given time rejects as false [p. 33].

Later (Rokeach, 1960) the concepts of open-mindedness and closed-mindedness were developed with

... a basic characteristic that defines the extent to which a person's system is open or closed: namely, the extent to which a person can receive, evaluate, and
act on relevant information received from the outside on its own intrinsic merit, unencumbered by irrelevant factors in the situation arising from within the person or from the outside [p. 57].

Dogmatism is viewed as a continuum between the extremes of open-mindedness and closed-mindedness rather than as a strict dichotomy. At each point on the continuum there is interaction between what Rokeach (1960) called "... the need for a cognitive framework to know and to understand and the need to ward off threatening aspects of reality (p. 67)."

Involved in this interaction is the ability to separate the source from the message in communications. A highly dogmatic (closed-minded) individual perceives the world as more threatening, he has more of a need to know and to understand, and he is more susceptible to confusion between source and message. The interaction of these qualities results in an individual who relies heavily on authority to help him know and understand in order to escape anxiety and a sense of threat. Conversely, the open-minded individual places more emphasis on inner direction with low rejection of disbelief subsystems, low perception of the existence of absolute authority, and a high ability to functionally distinguish between the source and the message in communications. Characteristic of the open-minded individual is the perception of the world as a friendly rather than a threatening place. The distinction between the open and closed mind is similar to the distinction between male and female roles in society; however, in both cases the idea of a
strict dichotomy is being abandoned:

It is proposed, however, that for most persons in most situations, both sets of needs operate together to one degree or another. A person will be open to information insofar as possible, and will reject it, screen it out, or alter it insofar as necessary. . . . One can distort the world and narrow it down, to whatever extent necessary, but at the same time preserve the illusion of understanding it [p. 68].

In accordance with this statement, Rokeach (1951, 1954, 1958, 1960, 1965, 1967, and others) studied several facets of the belief-disbelief system including religion, politics, prejudice, rigidity, adaptation, music, anxiety, childhood experiences, and time perspective. Vacchiano, Strauss, and Hochman (1969) recently reviewed the inundation of related literature of dogmatism which they divided into ten basic areas "... authoritarianism, the Dogmatism Scale, personality, adjustment, group behavior, parent-child relationships, time perception, cognitive inconsistency, problem solving, and learning (p. 261)." These facets have been observed in widely varying populations ranging from elementary school students to factory workers, from Communists to Catholics, in America and in foreign countries. Discussion of perceived sex role is, therefore, a noteworthy omission from both lists, especially in the area of childhood experiences, personality, and parent-child relationships. Vacchiano, Strauss, and Hochman's (1969) summarization indicates that this neglect permeates all of the research literature in the area of dogmatism.
Research Related to the Masculinity-Femininity Dimension

Several of the previously mentioned neglected areas of research have been listed (Johnson & Terman, 1940) as related to psychological differences of sex perception. Sex role variation has been established in social orientation and social attitudes, apparently with the difference in social attitudes lasting throughout life with an unchanging nature. Patel and Gordon (1960) found in a developmental study of sex role variation in high school that "Girls in this study were in general more suggestible than boys, confirming a common cultural stereotype regarding the responsiveness of females to suggestion (p. 416)." Certainly there are parallels between yielding to suggestion and yielding to authority. Bieri and Lobeck (1959) analyzed the acceptance of authority in terms of differences between men and women with inconclusive results, although they did find evidence to support some difference in the orientation of the two sexes. Irvine (1957), using a college student population of 102 freshman and sophomore students of which 52 were males, stated that "Sex differences on psychological dimension and relationships between personality variables are of frequent interest (p. 395)." He found a significant difference between the male and female group means on authoritarianism as measured by the California Authoritarianism (E-F) Scale with males scoring higher than females. Irvine also lamented the scarcity of reports in the literature regarding sex differences, especially in the area of beliefs and attitudes.
Sex differences investigations have been virtually ignored in the literature of dogmatism, but the productivity of such research is beginning to be recognized. Indeed, Vacchiano, Strauss, and Hochman (1969) in their review of dogmatism literature stated "Clearly though, certain questions remain and warrant further study. There is evidence to suggest that there are differences between the sexes in defining dogmatism, perhaps due to the different cultural roles imposed on each sex (p. 269)." Plant and Telford (1966) also reported the typical conclusion that sex should be both an apparent and an important factor in establishing criterion groups.

In one of the first studies to mention sex differences in dogmatism, Anderson (1962) tested the secondary hypothesis that females are significantly more dogmatic than males. The study was conducted with students from grades 8, 10, 11, and 12 of a Canadian city utilizing a shortened form of the Dogmatism Scale. From the results, no decision could be made about absolute sex differences in dogmatism. Anderson concluded that "At three of the four grade levels (8, 11, and 12) the females are consistently but not significantly more dogmatic than males; at the remaining level (10), the females are slightly but not significantly less dogmatic (p. 133)."

Lehmann (1953) compared reported degree of dogmatism and several personality variables. Through the use of the Dogmatism Scale, high and low scorers of each sex were identified. The high-scoring males were compared with the low-scoring males.
on the personality variables as were the high-scoring females with the low-scoring females. Results substantiated that the high and low scorers of each sex were associated with different personality traits. Although the statement that females scored consistently lower on the Dogmatism Scale was made, no indication of significance was included.

Alter and White (1966) computed norms for the Dogmatism Scale on samples of 1000 male and 1000 female students at the University of Utah. These researchers concluded that females consistently scored lower than the males in the groups "Although Rokeach originally found no significant differences on small samples (personal communication, September 13, 1966) [p. 967]." Alter and White proposed that further norms should be obtained for the Dogmatism Scale before unequivocally purporting its use as an independent research instrument.

Swindell and Lieberman (1968) reported on the sex variable effect in the relationship between dogmatism and the Edwards Personal Preference Schedule, for a college student sample of 99 males and 117 females enrolled in freshman and senior psychology classes. They found that the correlations between the Dogmatism Scale and the Edwards Personal Preference Schedule were different for males and females. Although the mean dogmatism scores were not significantly different, the authors stated that "Future studies of dogmatism, therefore, should pay closer attention to the sex of the Ss. Failure to do so might lead to faulty interpretations of results (p. 898)."
Vacchiano, Schiffman, and Strauss (1967) explored the factor structure of the *Dogmatism Scale*. Form E was administered to 87 males and 88 females in a college population and factors were extracted for the total group, the males as a group, and the females as a group. Although the mean scores for the sexes in this study proved not to be significantly different, the results indicated that "... the *Dogmatism Scale* may not be measuring similar dimensions of dogmatism for males and females and that the sex variable must be considered in defining dogmatism. The sex difference is due perhaps to the varying cultural roles played by men and women and the opportunities afforded them for expressing dogmatism (p. 851)."

Even though such statements have been made, even though researchers are cognizant of the dangers of building upon untested assumptions, studies are still assuming the perception of sex role differentiation has no relationship to degree of dogmatism. Kilpatrick, Cauthen, Sandman, and Quattlebaum (1968) as an example, treat males and females unisexually—as if there were no differences in the sex role stereotypes—even though they plainly state in the opening of the article that "... there have been no direct investigations of the relationship of dogmatism and sexual attitudes... (p. 1105)."
**Statement of the Problem**

Much of the research reviewed above can be divided into two relatively mutually exclusive categories in regard to sex role perception and a belief-disbelief system. One of the positions has at least tacitly functioned on the assumption that these two variables are independent of each other. The other position is beginning to question this assumption of no interaction. In addition, there are a few researchers who are cognizant of both of these opinions, acknowledge both, and instead of attempting to resolve the controversy continue more complicated and sophisticated research based on untested assumptions.

Rokeach, the man responsible for the empirical development of the **Dogmatism Scale**, has ignored the masculinity-femininity dimension of stereotypical responses in his research. The subject of sex difference perception is not mentioned in his book, *The Open and Closed Mind*, or in his many other reports (Rokeach, 1946, 1948, 1950, 1951, 1954, 1955, and others). His reports do, however, lay the groundwork for such an investigation. Vacchiano, Schiffman, and Struass (1967), Anderson (1962), Alter and White (1966) and others have peripherally or tangentially touched on perceived sex role differences in relation to dogmatism and state that further research in this area is needed. Finally Kilpatrick, Cauthen, Sandman, and Quattlebaum (1968) are illustrative of researchers who acknowledge the deficits in basic knowledge but neglect
attempts to establish a broader basis, preferring to extra-
polate even further from untested assumptions.

Using this controversy in former reports as a spring-
board, this study is an investigation of the general
question: Is there a relationship or interaction between
a subject's dogmatism score (as measured by the Dogmatism
Scale) and his self-rating of the perceived stereotypical
masculinity-femininity dimension (as measured by the
abridged Mf scale of the Minnesota Multiphasic Personality
Inventory)?

The specific hypotheses to be investigated in this
study were

1. No relationship or interdependence exists between
high or low scoring subjects on the Dogmatism Scale and
physiological sex.

2. No relationship or interdependence exists between
upper-half and lower-half scoring males on the stereotypical
masculinity dimension and their degree of dogmatism.

3. No relationship or interdependence exists between
upper-half and lower-half scoring females on the stereo-
typical masculinity dimension and their degree of dogmatism.

4. No relationship or interdependence exists between
upper-half scoring males and females on the stereotypical
masculinity dimension and their degree of dogmatism.

5. No relationship or interdependence exists between
lower-half scoring males and females on the stereotypical
masculinity dimension and their degree of dogmatism.
6. No relationship or interdependence exists between upper-half scoring males and lower-half scoring females on the stereotypical masculinity dimension and their degree of dogmatism.

7. No relationship or interdependence exists between lower-half scoring males and upper-half scoring females on the stereotypical masculinity dimension and their degree of dogmatism.

Method

Subjects

In this study 185 students in eight freshman psychology classes at North Texas State University were tested. In some cases participation in this study served to partially fulfill the freshman student research-participation obligation; therefore, the subjects could not be considered to be volunteers. Of the total of 185 subjects who initially began in this study, 15 subjects' scores had to be discarded because their records were incomplete. Following this exclusion, 170 subjects' scores were used: 80 males and 90 females ranging in age from seventeen to twenty-five years.

Description of Instruments

Two paper-and-pencil instruments were administered: the Rokeach Dogmatism Scale, Form E and a shortened form of the Mf scale of the Minnesota Multiphasic Personality Inventory.
The **Dogmatism Scale** is an empirically developed instrument originated by Rokeach to measure the relative openness or closedness of belief systems and individual differences in such systems. The procedure used in formulating the scale was essentially a deductive process. After careful study and observation of open and closed system characteristics, statements were designed which were thought to reflect these characteristics in a manner familiar to a wide variety of people. Emphasis was placed on making these statements structurally indicative of openness or closedness rather than ideologically characteristic. From the original pool of 89 such statements, revisions were constantly made both to improve the succinctness and reliability of the instrument. Form E is the last of five revisions in which the best forty items are incorporated after their selection by item analysis. Rokeach (1960) stated

> This final 40-item scale, Form E, was found to have a corrected reliability of .81 for the English Colleges II sample and .78 for the English worker sample. In other samples subsequently tested at Michigan State University, Ohio State University, and at a VA domiciliary, the reliabilities ranged from .68 to .93 [p. 89].

Rokeach later reported the median test-retest reliability coefficient of .74 for intervals ranging from one to six months. Zagona and Zurcher (1965) substantiated these reliability coefficients in a test-retest study using 517 college students with a fifteen week separation between testing periods.
Written instruction, recommended by Rokeach (1960),
were included on the scale material:

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. We have tried 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; whether you agree or disagree with any statement, you can be sure that many people feel the same as you do. Mark each statement in the left margin according to how much you agree or disagree with it. Please mark everyone [p.72].

The importance of administering these directions is emphasized by the scale's author. The subjects were to respond to each statement on a six-point scale from +3 to -3 representing a belief-disbelief continuum:

+1: I AGREE A LITTLE  
+2: I AGREE ON THE WHOLE  
+3: I AGREE VERY MUCH  

-1: I DISAGREE A LITTLE  
-2: I DISAGREE ON THE WHOLE  
-3: I DISAGREE VERY MUCH [p. 73].

The Dogmatism Scale is so designed that agreement is indicative of closed-mindedness and disagreement of open-mindedness on each statement. The sum of the ratings of each statement is the dogmatism score. For convenience in the elimination of negative scores, a constant of 160 was added to each subject's score so that the possible range obtainable on the instrument was 40 to 280.

The shortened form of the Mf scale of the Minnesota Multiphasic Personality Inventory was proposed by Murray (1963).
In a study of 607 college students, Murray analyzed and extracted those 40 items that best distinguished between individuals of perceived stereotypical masculine and perceived stereotypical feminine interests and characteristics.

Originally the Mf scale was formulated in an attempt to distinguish sexual deviates from the general population; however, Holy, Harding, and Glasman (1957) reported the typical finding that the scale does not reliably achieve this purpose. Because of its failure in this one area, its effectiveness in other discriminations should not be overlooked.

The scale does reliably differentiate between males and females in terms of stereotypically masculine and feminine interests (Aaronson, 1959). Heston (1948) reported on a comparison between four scales designed to measure the masculinity-femininity differentiation dimension (the Strong, the Kuder, the DePauw, and the Mf scale of the Minnesota Multiphasic Personality Inventory) concluding that "Again, three of the scales (Strong, Kuder, and DePauw) exhibit approximately the same degree of effectiveness, with the MMPI demonstrating a somewhat higher degree of ability... (p. 383)"

Barrows and Zuckerman (1960) reached similar conclusions in finding highly significant correlations between the Guilford-Zimmerman, Strong, and MMPI Mf scales. Shepler (1951) reported that the Terman-Miles, Strong, and MMPI Mf scales "... are measuring many aspects of masculinity-femininity that are common to all three instruments (p. 485)."
Thus, the Mf scale appears to measure a relatively reliable number of the psychological dimensions of stereotypical masculinity-femininity including the acceptance of traditional role interests and esthetic interests (Gough, 1952). A subject's score on the Mf scale represents the individual's general agreement with stereotypically masculine or feminine interests rather than the possession of some quantity of indisputable characteristics.

Subjects were instructed to respond to each item with "true" or "false" in accordance with whether or not the statement was usually true or usually false about them. Scores could range from 0 to 40 on the test. High scores represent the more stereotypical feminine interests, whereas low scores indicate stereotypical masculine self-perception.

Design

For this study chi square, a non-parametric method of statistical analysis, was computed from the subjects' scores on the Dogmatism Scale and on the Mf scale of the Minnesota Multiphasic Personality Inventory.

Seven separate chi square coefficients were computed. The first utilized males and females as groups with high and low dogmatism scores. Next, the male group was divided into halves by the Mf scale and utilized with high and low dogmatism scores. The females' scores were analyzed in the same manner. Finally four other combinations of the sex
role differentiation dimension were employed with high and low dogmatism scores: upper-half male and female scorers on the Mf scale, lower-half male and female scorers on the Mf scale, upper-half males and lower-half females on the Mf scale, and lower-half males and upper-half females on the Mf scale.

In all cases dogmatism scores were expected to be found independent of self-rated perception of sex role differences. No interaction or relationship between the two variables was expected.

Procedure

Administration of the questionnaires was accomplished during the regular meeting time of the eight freshman psychology classes. At this time the students were notified that their participation could be used to partially fulfill the departmental course requirements of active research participation. The subjects were also informed that the results of the two questionnaires would remain confidential and be treated in a professional manner as data for a master's thesis.

The subjects were told that the instructions were printed on the first sheet of each questionnaire. These instructions were also read aloud to each group. Questions about the task were entertained. Additionally, the subjects were asked to respond to each statement on the questionnaires frankly and rapidly and to continue with the second test
as soon as they had finished with the first one. In four of the classes the Dogmatism Scale was issued and completed first with the Mf scale second. This order was reversed for the other four classes.

The Mf scale was machine-scored, and the Dogmatism Scale was hand-scored. Frequency distributions, means, and standard deviations were then computed by hand. Each sex was divided into two groups on the basis of the median scores on the Mf scales. On the Dogmatism Scale quartiles 1 and 4 of both the males and females were operationally defined as open-minded and closed-minded respectively. This data was employed in the chi square computations which were all hand calculated.

Results

The mean score for the male subjects on the Dogmatism Scale was found to be 147.86 with a standard deviation of 25.42. For the female subjects the mean of this scale was 146.37 with a standard deviation of 25.31. These means were not significantly different from each other. On the Mf scale the male subjects group mean was 17.83 with a standard deviation of 4.66. The group mean for the female subjects on the Mf scale was 28.77 with a standard deviation of 3.42. These means were significantly different at the .01 level.

The results of the chi square statistical computations are shown in Tables 1-7. As expected, self-rated perception of stereotypical sex role was found to be independent of degree of dogmatism when males and females were compared on
the basis of physiological sex, when upper and lower scoring males were compared with each other, and when lower scoring males and females were compared (Tables 1, 2, and 5).

Independence of the two variables was not substantiated in the other four groups. The total female group subdivided by scores on the Mf scale, the lower-scoring males and upper-scoring females on the Mf scale, the upper-scoring males and lower-scoring females, and the upper-scoring males and females all showed evidence of interaction between sex role perception and dogmatism (Tables 3, 4, 6, and 7).

The data confirmed hypotheses 1, 2, and 5, but opposed hypotheses 3, 4, 6, and 7.
Table 1

Chi square: physiological sex and dogmatism

Observed and Expected Frequencies

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<th></th>
<th>Dogmatism</th>
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<tr>
<td></td>
<td>High</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>19</td>
<td>22</td>
<td>(18.68)</td>
</tr>
<tr>
<td>Females</td>
<td>22</td>
<td>27</td>
<td>(22.32)</td>
</tr>
</tbody>
</table>

The chi square coefficient of .019 was not significant.
Table 2

Chi square: upper and lower scoring males on mf scale with high and low dogmatism

Observed and Expected Frequencies

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<thead>
<tr>
<th></th>
<th>Dogmatism</th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Upper Scoring</td>
<td>6</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(8.80)</td>
<td>(10.20)</td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>13</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(10.20)</td>
<td>(11.80)</td>
<td></td>
</tr>
<tr>
<td>Lower Scoring</td>
<td>.89</td>
<td>.77</td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>.77</td>
<td>.67</td>
<td></td>
</tr>
</tbody>
</table>

The chi square coefficient of 3.10 was not significant.
Table 3

Chi square: upper and lower scoring females on mf scale with high and low dogmatism

Observed and Expected Frequencies

<table>
<thead>
<tr>
<th></th>
<th>Dogmatism</th>
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<tbody>
<tr>
<td></td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Upper Scoring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>(8.53)</td>
<td>(10.47)</td>
</tr>
<tr>
<td>Lower Scoring</td>
<td>19</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>(13.47)</td>
<td>(16.53)</td>
</tr>
</tbody>
</table>

The chi square coefficient of 10.63 was significant at the .01 level.
Table 4
Chi square: upper scoring males and females on mf scale with high and low dogmatism

Observed and Expected Frequencies

<table>
<thead>
<tr>
<th></th>
<th>Dogmatism</th>
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<tbody>
<tr>
<td></td>
<td>High</td>
<td>Low</td>
<td></td>
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<tr>
<td>Upper Scoring</td>
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<td>Males</td>
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<td>6</td>
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<tr>
<td></td>
<td>(9.5)</td>
<td>(9.5)</td>
<td></td>
</tr>
<tr>
<td>Upper Scoring</td>
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<td></td>
</tr>
<tr>
<td>Females</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(9.5)</td>
<td>(9.5)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper Scoring</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.29</td>
<td>1.29</td>
<td></td>
</tr>
<tr>
<td>Upper Scoring</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.45</td>
<td>4.45</td>
<td></td>
</tr>
</tbody>
</table>

The chi square coefficient of 11.47 was significant at the .001 level.
Table 5
Chi square: lower scoring males and females on mf scale with high and low dogmatism

Observed and Expected Frequencies

<table>
<thead>
<tr>
<th>Dogmatism</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Lower Scoring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>13</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>(13.54)</td>
<td>(8.46)</td>
</tr>
<tr>
<td>Lower Scoring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>19</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>(18.46)</td>
<td>(11.54)</td>
</tr>
</tbody>
</table>

The chi square coefficient of .10 was not significant.
Table 6
Chi square: upper scoring males and lower scoring females on mf scale with high and low dogmatism

Observed and Expected Frequencies

<table>
<thead>
<tr>
<th>Dogmatism</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Upper Scoring Males</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(9.69)</td>
</tr>
<tr>
<td></td>
<td>Lower Scoring Females</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>19</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(15.31)</td>
</tr>
</tbody>
</table>

The chi square coefficient of 4.69 was significant at the .05 level.
Table 7
Chi square: lower scoring males and upper scoring females on mf scale with high and low dogmatism

Observed and Expected Frequencies

<table>
<thead>
<tr>
<th></th>
<th>Dogmatism</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Lower Scoring Males</td>
<td>13 (8.59)</td>
<td>9 (13.41)</td>
<td></td>
</tr>
<tr>
<td>Upper Scoring Females</td>
<td>3 (7.41)</td>
<td>16 (11.59)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Scoring Males</td>
<td>2.27</td>
<td>1.45</td>
</tr>
<tr>
<td>Upper Scoring Females</td>
<td>2.63</td>
<td>1.68</td>
</tr>
</tbody>
</table>

The chi square coefficient of 8.03 was significant at the .01 level.
Discussion

The confirmation of hypothesis 1, that sex would be independent of degree of dogmatism, as well as the lack of significant difference between the male and the female group means on the Dogmatism Scale points to what may be interpreted as unilateral support for the continued disregard of sex as an important consideration in the establishment of criterion groups. The chi square coefficient associated with hypothesis 1 is both exceedingly low and non-significant indicating that when the males at the extremes of the masculinity-femininity continuum are compared with the females at these extremes, the differences in degree of dogmatism tend to cancel out each other. If dogmatism were not independent of the sub-groupings along the masculinity-femininity dimension, findings like this could occur.

Although hypothesis 1 was supported, many areas of interdependence were established. Hypotheses 2 through 7 dealt primarily with self-rated sex role perception rather than physiological differences, and it is at this juncture that the interdependence is established. In the past reports male and female group means have not been established as significantly different from each other although females scored consistently lower than the males. Attention has not been focused on the psychological dimension of stereotyped sex role differentiation. Results in this study tend to support the notion that dogmatism is not independent of such
sex role differentiation even if it is independent of physiological sex differences. Support for this contention may be found in the reported results of this study. Of the six combinations of subgroupings employed, degree of dogmatism was significantly related to perceived sex role in four cases. Of the two remaining cases, one narrowly missed significance in opposition to the hypothesis of independence. Hypothesis 2, that degree of dogmatism and stereotypically high masculine and low masculine scores for males are independent, was technically substantiated; however, the chi square coefficient of 3.10330 nearly reached the .05 level of significance.

An examination of the data for hypotheses 3, 4, 6, and 7 indicates that females divided into upper and lower levels along the masculinity-femininity dimension vary much more widely in degree of dogmatism than males so divided. Those females whose Mf scale ratings were in the upper half (less masculine) scored lower than both groups of males and the lower half group of women on dogmatism. Likewise the lower half Mf women scorers scored higher on dogmatism than the upper half males and females. These results lend credence to Vacchiano, Schiffman, and Strauss' (1967) postulation that men and women respond to different dimensions of dogmatism.

These results also tend to substantiate the analysis of masculinity and femininity stereotypes proposed by
Reese (1964) that

In recent years there has been an increasing interest in the social roles of males and females in our culture. Discussion has centered around the change in masculine behavior from the "traditional" characteristics of strength, aggressiveness, and dominance to "weaker" qualities. Equal emphasis has been placed upon the apparent change in the female characteristics from the "traditional" submissiveness to generally greater self-assertion [p. 123].

Another possible interpretation is presented by Denmark and Diggory (1966). "It is possible that women are more strongly convinced than men of the correctness of their group norms, and hence, more resistant to changing them or to importing norms from outside the group (p. 863)."

Of course, at this stage in the researching of changes in the perceived masculinity-femininity continuum, very little can be stated unequivocally with confidence. Indeed, very little should be said. Much more research should be done in the area of sex role differences, not as if it were the most fundamental of all variables, but rather to establish its relative importance. As Rokeach (1958) stated, "Each season brings with it a fresh crop of underlying variables that are supposedly more underlying than the crop of the previous season (p. 284)." Assuming that sex role differentiation is the most underlying variable of this season may be precocious; attempting to establish its relationship with other variables is merely scientific.
References


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Rokeach, M., & Rothman, G. The principle of belief congruence and the congruity principle as models of cognitive interaction. Psychological Review, 1965, 72, 128-142.


