ANALYSIS OF A SELECTED STRATEGY FOR THE MITIGATION OF STEREOTYPIC SEX ROLE ATTITUDES AMONG TEACHER EDUCATION STUDENTS

DISSERTATION

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By

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The problem of this study was an analysis of the effects of a selected strategy for bringing about changes in stereotypic sex role attitudes of teacher trainees during their teacher education program.

The major purposes of this investigation were to (1) develop a preservice treatment program, characterized by the persuasive communication approach, to modify students' stereotypic sex role attitudes, (2) determine the effectiveness of the strategy in modifying students' attitudes, and (3) examine student factors that influence reception and yielding to a persuasive message.

Procedures for program development and appraisal were as follows. Three factors with two levels each were identified for manipulation: speaker gender, speaker credibility, and message content. Preliminary studies established high and low speaker credibility to present the topic of sex roles, gathered material for the two messages, and selected a male and female speaker. Treatment of a sample of a total of 302 teacher trainees consisted of the simultaneous manipulation of the three factors within a factorial design consisting of eight cells. Subjects were pretested with the
Personal Attributes Questionnaire (Spence, 1974) for the measurement of sex role attitudes while treatment effects were measured immediately following treatment and three weeks later with the same instrument. Student variables such as socio-demographic variables, ego involvement in the topic, cognitive involvement in the message and speaker credibility evaluation were also measured. A three way analysis of covariance was applied to each of the two sets of posttest attitude scores to test for main and interaction effects while a simultaneous regression model was used to test the significance of the relationship of each student variable with each of the two sets of attitude scores.

Data analysis revealed the following major findings.

1. There was no main effect on students' attitudes by a speaker of either gender for both measurement periods.

2. There was a main effect on students' attitudes by a low credibility speaker for both measurement periods.

3. There was a main effect on students' attitudes, immediately following treatment but not at the three week point, by a message advocating a mitigation of stereotypic beliefs.

4. As for student variables, marital status was found to be significantly related to students' attitudes for both measurement periods but varied as a function of pretest attitudes.
Based on the findings, the following conclusions were formulated.

1. Teacher trainees held sexist attitudes, yet they were unaffected by speaker gender with regard to the persuasive communication framework. This may have been influenced by their reactions to the personality and physical characteristics of the speaker delivering the speech as well as environmental circumstances surrounding the persuasive attempt rather than speaker gender.

2. In regard to the reported influence of a low credibility speaker on students' attitudes, it may be concluded there was the possibility that students' attitudes were influenced by speaker personality, physical characteristics, and the environmental situation, to a greater degree than the credibility of the speaker.

3. A message advocating a mitigation of sexist beliefs appeared to have an effect on students' attitudes initially but not over an extended period of time.

4. As for student variables thought to influence the "yielding" process, marital status was helpful to a minor extent in predicting the initial and delayed reactions of subjects to a persuasive communication.
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Public education in the United States is formulated on the principle of equal learning opportunities for all students (31). In spite of this philosophical base, it appears that sex discrimination still exists in public education.

Empirical research conducted prior to 1972 suggested that sex discrimination was a major problem in public education. Specifically, Meyer and Thompson (1956) found that junior high boys received more disapproval for violations of rules than did girls (20). Along similar lines, Lippitt and Gold (17) discovered that teachers rewarded elementary males for leadership behavior and condemned them for passivity while they rewarded elementary females for passivity and condemned them for leadership behavior. More recently, research by Brophy and Good (1970) indicated that elementary boys were the recipients of more teacher disapproval than females (3) while Felsenthal (10) found that teachers rewarded elementary girls with overall higher reading grades than elementary boys.

Therefore, the accumulation of such inequities (3, 10, 17, 20) in addition to the growing demand for equal rights
for the sexes gave impetus to the passage of the New Education Amendments Act of 1972 (33), which prohibits sex discrimination in educational institutions receiving federal assistance. In spite of the promulgation of this act, the legislation appears not to have produced the desired results as sex discrimination still seems to be a problem in the public school sector.

Support for the preceding statement may be found in recent research, which strongly suggests that sex stereotyping on the part of teachers toward students is still evident in the schools. At the elementary level, Frey and Slaby discovered that boys scoring high in achievement received more teacher attention than girls scoring high in achievement (12) while elementary teachers were found to have more academic contact with girls in reading and with boys in math (28). Loeb and Horst (18) found that elementary teachers rated girls as being significantly higher in behaviors related to self-esteem than boys. Furthermore, Bradley found that elementary girls were called on significantly more for answers to questions than boys irrespective of boys attempting to answer the questions significantly more often than girls (2, p. 10).

Examples of research at the secondary level suggest that sex discrimination is still prominent on this plane. Good, Sikes, and Brophy (1973) found that the frequency of teacher contact with low achieving junior high boys was
significantly less than with low achieving junior high girls (13). Pearson observed that teachers generally gave a significantly lower proportion of positive comments to speeches delivered by adolescent boys than to those delivered by adolescent girls (24). Finally, in the area of secondary mathematics, Parsons (23) found that the sex of the student was a significant predictor of success.

One can infer from recent research that sex discrimination remains prevalent throughout school systems irrespective of the enactment of legislation to curb it. Teachers' stereotypic sex role attitudes serve as a basis for this discriminatory behavior (11, 22, 26, 28). Rectification of these discriminatory attitudes needs to commence at the preservice level if the educational system is to witness positive change in affording equal opportunity to all students irrespective of gender (22). At the preservice level, modification of stereotypic sex role attitudes of college students in general and teacher trainees in particular has been attempted, employing the "active participation" model to change attitudes (11), represented by sex roles courses (6, 14), group strategies (9, 16) and workshops (21, 29). This approach has generally resulted in failure.

Alternative strategies in the form of the "persuasive communication" model characterized by tighter control (11) need to be developed, applied, and analyzed for their effectiveness in modifying these stereotypic attitudes at
the preservice level of teacher education. Particularly, this investigation considers the effects upon these attitudes by simultaneously varying three factors within the treatment program: speaker sex (male versus female), speaker credibility (high versus low), and message content (anti-stereotypic versus pro-stereotypic). Conclusions drawn from the findings of this research may help a teacher education curriculum to break some of the major chains that hinder the letter and spirit of the New Education Amendments Act from becoming a reality.

Statement of the Problem

The problem of this study was an analysis of the effects of a selected strategy for bringing about changes in stereotypic sex role attitudes of teacher trainees during their teacher education program.

Purposes of the Study

The purposes of this study were as follows:

1. To develop a brief preservice treatment program to help teacher education programs comply with the principles of equality and Title IX legislation regarding the reduction of sexist attitudes in the schools,

2. To determine the degrees of effectiveness of the selected experimental treatments pertaining to changing of students' expressed attitudes toward male and female roles in society,
3. To facilitate understanding of the complexities that enter into the "effectiveness" question by assessing the contributions of selected variables, and

4. To help teacher education faculties gain insight into the long-term reduction of sex discrimination in the schools of teacher education and, ultimately, the reduction of sex discrimination in elementary and secondary schools.

Hypotheses

To carry out the purposes of the proposed study, the following hypotheses were tested using the .05 level of significance.

1. There will be no significant difference between subjects who receive the persuasive message from the male source and those who receive the message from the female source with regard to their attitudes toward male and female roles as measured by the immediate posttest scores on the PAQ.

2. There will be no significant difference between subjects who receive the persuasive message from the "high" credibility source and those who receive the message from a "low" credibility source with regard to their attitudes toward male and female roles as measured by the immediate posttest scores on the PAQ.

3. There will be no significant difference between subjects who receive the "pro-stereotypic" persuasive
message and those who receive the "anti-stereotypic" persuasive message with regard to their attitudes toward male and female roles as measured by the immediate posttest scores on the PAQ.

4. With regard to whether the subjects receive the persuasive message from the male or female source, there will be no significant interaction between the "source" factor and the "credibility" factor being defined as either high or low speaker credibility with respect to the subjects' attitudes toward male and female roles as measured by the immediate posttest scores on the PAQ.

5. With regard to whether the subjects receive the persuasive message from either a high or low credibility source, there will be no significant interaction between the "credibility" factor and the "message content" factor being defined as either anti- or pro-stereotypic with respect to the subjects' attitudes toward male and female roles as measured by the immediate posttest scores on the PAQ.

6. With regard to whether the subjects receive the persuasive message from the male or female source, there will be no significant interaction between the "source" factor and the "message content" factor being defined as either anti- or pro-stereotypic with respect to the subjects' attitudes toward male and female roles as measured by the immediate posttest scores on the PAQ.
7. With regard to whether the subjects receive the anti-stereotypic message from the male or female source, or whether the source is of high or low credibility, or whether the message is anti- or pro-stereotypic, there will be no significant interaction among the "source" factor, the "credibility" factor and the "message content" factor with regard to the subjects' attitudes toward male and female roles in society as measured by their immediate posttest scores on the PAQ.

8. There will be no significant difference between subjects who receive the persuasive message from the male source and those who receive the message from the female source with regard to their attitudes toward male and female roles as measured by the delayed posttest scores on the PAQ.

9. There will be no significant difference between subjects who receive the persuasive message from the "high" credibility source and those who receive the message from a "low" credibility source with regard to their attitudes toward male and female roles as measured by the delayed posttest scores on the PAQ.

10. There will be no significant difference between subjects who receive the "pro-stereotypic" persuasive message and those who receive the "anti-stereotypic" persuasive message with regard to their attitudes toward male and female roles as measured by the delayed posttest scores on the PAQ.
11. With regard to whether the subjects receive the persuasive message from the male or female source, there will be no significant interaction between the "source" factor and the "credibility" factor being defined as either high or low speaker credibility with respect to the subjects' attitudes toward male and female roles as measured by the delayed posttest scores on the PAQ.

12. With regard to whether the subjects receive the persuasive message from either a high or low credibility source, there will be no significant interaction between the "credibility" factor and the "message content" factor being defined as either anti- or pro-stereotypic with respect to the subjects' attitudes toward male and female roles as measured by the delayed posttest scores on the PAQ.

13. With regard to whether the subjects receive the persuasive message from the male or female source, there will be no significant interaction between the "source" factor and the "message content" factor being defined as either anti- or pro-stereotypic with respect to the subjects' attitudes toward male and female roles as measured by the delayed posttest scores on the PAQ.

14. With regard to whether the subjects receive the anti-stereotypic message from the male or female source, or whether the source is of high or low credibility, or whether the message is anti- or pro-stereotypic, there will be no significant interaction among the "source" factor, the
"credibility" factor and the "message content" factor with regard to the subjects' attitudes toward male and female roles in society as measured by their delayed posttest scores on the PAQ.

The semipartial correlations for each of the following subject variables with the immediate posttest scores on the PAQ as well as with the delayed posttest scores on the PAQ were tested for significance when other selected variables were partialed out:

a. Sex
b. Enrolled in elementary or secondary teacher education program
c. Marital status
d. Issue involvement (high and low degrees)
e. Response involvement (high and low degrees)
f. Speaker evaluation (high and low credibility)
g. Message evaluation (biased, unbiased and no reaction)

Background and Significance of the Study

The New Education Amendments Act of 1972 (Title IX Legislation) (33) marked the beginning of a new era in public education in that sex discrimination was to be eliminated in educational institutions receiving federal money. This law's idealistic intent was to provide equal opportunity for all irrespective of the sex of the individual. Contrary to the
pronouncements of this legislation, sex discrimination is still practiced by teachers toward students in elementary and secondary schools (2, 12, 13, 23, 24, 28).

If there is to be an attempt at reaching a solution to this problem, it is imperative that the basic attack upon this chronic state of affairs commence at the preservice level of teacher education (22). This study makes a contribution to the educational field in that it identified the prevailing sex role attitudes of teacher trainees which are one of the basic prerequisites to an understanding of the rationale for failures associated with Title IX's practical applications. As a basis for this statement, the general attitude expressed by an individual (in this case his or her sex role attitude toward an object) represents interrelated predispositions to behave in a positive or negative manner toward that object (4, 26).

With these facts in mind a number of studies have been conducted with regard to attempts to change stereotypic sex role attitudes that have utilized a number of "active participation" model approaches such as sex roles courses (6, 14), group strategies (9, 16), and workshops (21, 29) which essentially incorporate the subject as an active participant in a treatment program characterized generally by multiple sessions. But contrary to the expectations of many investigators the results thus far have been marked by inconsistencies, due mainly to the lack of control over intervening
variables (11, 15), with the majority of the studies resulting in no significant changes in the stereotypic sex role attitudes. As a consequence of the difficulties associated with this "active" approach, an alternative method was selected for this study in the form of the "persuasive communication" model that had not been specifically employed in an attempt to modify the sex role attitudes of teacher education students.

The "persuasive communication" model lends itself to a more precise interpretation of the effects of variable manipulations. Specifically, usage of the model in this study included a technique which elicited the beliefs of teacher education students concerning the attributes they felt to characterize the typical male and female; these beliefs served as the content foundation of the persuasive messages (11). In this manner a more accurate basis was established for making conclusions as to the effects of the simultaneous factor level manipulations of speaker sex, speaker credibility, and message content on students' attitudes. Also, subject correlates such as socio-demographic variables were explored to determine their relationships with students' posttreatment attitudes, thereby facilitating comprehension of what had transpired in the treatment program. Therefore, this study makes a contribution to the field of education by the establishment and usage of a methodology which allows
for more precision in answering the "effectiveness" question with regard to changing sex role attitudes.

The guidelines are also significant in serving as a future model for education personnel to utilize in attempting to construct attitudinal change treatment programs that could possibly lend themselves to a more precise interpretation of the "effectiveness" question. Perhaps in this manner a more efficient teacher education program may reveal itself to serve as a model.

Definition of Terms

For the purposes of this study, the following definitions were formulated.

"Active Participation" Model refers to an attitude change framework in which the individual may "gain information by observing objects, people, and events in a given situation" (11, p. 451). The individual actively participates.

Anti-stereotypic message refers to a communication advocating an acceptance of beliefs which negate the continuation of conditions which give rise to stereotypic sex role attitudes.

Attitude is a composition of related beliefs containing cognitive, affective and behavioral aspects representing interrelated predispositions to behave in a positive or negative
manner toward some object, construct or situation (4, 5, 26, 34).

Belief is a proposition which is a predisposition to respond containing a cognitive, behavioral and affective component held to be true by an individual. When related to beliefs of a similar nature, they constitute an attitude toward an object, construct or situation (26, 32, 34).

Channel refers to the medium of communication which is an oral speech in this study.

Expressed attitude of the student is defined as the student's sex role attitude score obtained on the Personal Attributes Questionnaire (30).

"Issue" involvement is defined "as the importance or relevance of the topic to an individual as revealed by the person's commitment or stand on an issue" (27, p. 8).

Modal salient beliefs are the most popular beliefs held by a population about an object (11, p. 219) such as attributes thought to characterize males and females.

PAQ is synonymous with the Personal Attributes Questionnaire (30) used to measure sex role attitudes.

"Persuasive Communication" Model refers to an attitude change framework in which the individual is provided with items of information by some outside source" (11, p. 451).

Primary beliefs are the five to nine basic beliefs held by an individual that are believed to compose the attitude
in question. These basic beliefs may be spontaneously elicited from a person (11).

Pro-stereotypic message refers to a communication advocating an acceptance of beliefs which reinforce the continuation of conditions which give rise to stereotypic sex role attitudes.

"Response" involvement is defined as the amount of mental or cognitive effort expended by the subject to comprehend the persuasive communication (7).

Salient beliefs are the beliefs held by a subject that constitute the attitude toward the object at any one time (11, p. 218). They constitute the primary beliefs.

Sex role stereotypes are defined as the "structured set of beliefs about the personal attributes of women and men" (1, p. 222). Generally, stereotypes provide a classificatory system by which individuals within the environment organize their observations about others, including at times superficiality in these perceptions (25, p. 29).

Source refers to the source or origin of the communication such as the speaker.

Target beliefs are the beliefs held by a subject that a researcher specifically attacks by means of a persuasive message which advocates a change (11, p. 389) of these original beliefs.
Limitations

The following limitations are acknowledged.

1. The study was limited by possible selection biases due to the inability to randomly assign subjects to the various treatment and control groups (for example, students possessing different characteristics from class to class or students from one class being more responsive to the treatment than another).

2. The investigation was limited by certain characteristics of the experimental arrangement (for example, subject absences or not following instructions).

3. This study was limited by the possibility of interaction between the pretest and treatment (for example, warm-up or practice effect) which may have confounded the results of the treatment as recorded by the major attitude instrument immediately following the treatment as well as the results three weeks after treatment recorded on the same instrument.

4. This investigation was limited by the extraneous variables that possibly intervened between the first measurement of the treatment results and the delayed measurement of the results three weeks after treatment, thereby confounding the results of this latter measurement.

5. The study was limited because the major attitude instrument (Personal Attributes Questionnaire) (30) utilized the self-report method which brings with it inherent
limitations (for example, what subjects know about their attitudes and are willing to relate about them).

6. The study was limited because of the major attitude instrument's (Personal Attributes Questionnaire) (30) reliance upon construct validity and its inherent limitations (for example, difficulty in ascertaining whether an item within the instrument itself is really indicative of the construct in question).

7. The study was limited with regard to the instruments that measured the student correlates in that the artificial dichotomies established as a scoring device based upon a nominal scale perhaps may not have precisely measured a subject's reaction to the question or questions asked.

Delimitations

This study was delimited to students enrolled in the Undergraduate Teacher Education Program at North Texas State University in Denton, Texas, during the Second Summer Session and Fall Semester, 1980.

Basic Assumptions

Respondent veracity was assumed with regard to the instrumentation used to measure attitudes as well as other variables. It was further assumed that the students in this study were representative of the total undergraduate population in the college of education.
Instruments

Several instruments were used to accomplish the purposes as stated. The McCrosky Scale for the Measurement of Ethos ("Authoritativeness" Scale) (19) served two purposes: (1) to gather data relating to establishment of high and low levels of the speaker credibility factor and (2) to measure the subject's evaluation of the speaker's credibility following message presentation, which was a subject correlate in this study. The instrument possessed an alpha coefficient of .94, an indicator of internal consistency, and a split-half coefficient of .94 for the subjects tested. A concurrent validity coefficient of .917 was obtained when correlated with another reputable instrument. The Spontaneous Elicitation Questionnaire, an open-ended instrument, was devised to obtain content material for the persuasive messages.

The Personal Attributes Questionnaire (PAQ) (30) was employed to measure the sex role attitudes of subjects. As for reliability, an alpha coefficient of .90 (a measure of internal consistency) and a split-half coefficient of .92 were obtained with the subjects tested. The validity of the instrument was based on construct validity.

Other instrumentation was employed to gather data with regard to seven subject correlates. The Socio-Demographic Questionnaire was developed to measure subject sex, marital status and type of program enrollment. The "Issue"
Involvement Scale measured the intensity of a subject's involvement in the topic of male and female roles in society. In separate factor analyses for 156 concepts, McCrosky, in unpublished research, as reported by Wheeless (35), found the scales used in this instrument to load consistently among the top twelve of the forty evaluative scales employed. As a means of measuring the level of the subject's cognitive involvement in the persuasive message, the "Response" Involvement Scale, which is a one-question instrument using a six-point scale, was employed (7). To examine the subject's evaluation of the message as to its fairness, the Communication Evaluation Scale, which is a one-question instrument using a five-point scale, was employed (36).

Procedures for Collecting Data

The population consisted of subjects enrolled in the elementary and secondary undergraduate teacher education programs at North Texas State University in Denton, Texas. Samples for the preliminary studies and the main investigation were drawn based upon permission as well as availability during the Second Summer Session and Fall Semester, 1980.

Data collection procedures were established to obtain data related to the construction of a brief preservice treatment program to counteract students' stereotypic sex role attitudes. Three factors identified for the treatment
program consisted of speaker sex, speaker credibility, and message content; establishment of high and low levels of the speaker credibility factor were attempted by having students rate four hypothetical speaker biographies (with each containing two factor levels of sex and occupation title) as to their credibility to speak on the topic of sex roles by means of the McCrosky Scale for the Measurement of Ethos (19). With respect to collecting data for the persuasive message factor, content material was obtained by having students list on the Spontaneous Elicitation Questionnaire the attributes they believed to characterize the typical male and female while a panel of judges was formed to establish two different levels of the message content factor. Finally, two speakers (male and female) were sought who could comfortably fit into the role they would assume to complete the two levels of the speaker sex factor.

Data collection tactics associated with varying the three factors in a 2 x 2 x 2 factorial design consisted of pretesting with the Personal Attributes Questionnaire (PAQ) (30) to assess students' pretreatment sex role attitudes, followed by one of the eight treatments. Immediately following treatment, students were posttested with the PAQ to ascertain their attitudes, followed by additional post-testing with the PAQ three weeks after treatment. The same data collection procedures were employed with both the
control group and the eight treatment groups with respect to attitude appraisal.

Procedures for collecting data with regard to seven student correlates that could possibly help to facilitate understanding of the complexities which entered into the effectiveness question were also contained within the pretest-immediate posttest-delayed posttest scheme associated with the factorial design to test the effects of the major factors. Data related to student sex, marital status, type of program enrollment, and issue involvement, discussed in Chapter III, were gathered by instrumentation during the pretest phase while data related to response involvement, speaker credibility and persuasive communication, discussed in Chapter III, were obtained by instrumentation in the posttest phase immediately following treatment.

Procedures for Analysis of Data

Preliminary studies' data were analyzed in the following way. For the study trying to establish two levels of the speaker credibility factor, a two-way analysis of variance was conducted while a frequency count technique was used on the study examining beliefs concerning male and female attributes. A panel of judges analyzed the contents of the two messages to establish two levels of the message content factor. Two speakers' (male and female) delivery
styles were analyzed as to meeting acceptable standards for the speaker sex factor.

As for the major investigation, a three-way analysis of covariance was used to separately analyze the effects of the three factors upon students' expressed sex role attitudes immediately following treatment (Hypothesis I through VII) and those attitudes expressed three weeks after treatment (Hypothesis VIII through XIV). Comparisons for significant differences among the groups with specific emphasis on control group comparisons with each of the treatment groups was carried out using an analysis of covariance followed by the Dunnett Test (8) to test the pairs of means with a separate analysis for the immediate posttest PAQ scores (Hypothesis XV) and the delayed posttest PAQ scores (Hypothesis XVI).

The seven student correlates were tested for the significance of their relationships in separate analyses with the subjects' expressed sex role attitudes immediately following treatment and three weeks afterwards using a simultaneous regression model to test the significance of each one.

Data were analyzed using statistical computer packages and presented in tables. As for a significance level used throughout the study, the .05 level was chosen. Consequently, data were discussed, conclusions were drawn, and recommendations were made.
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CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

This chapter is a review of the literature and research relevant to the concept of "attitude" and methodologies employed to change attitudes. Included are the following sections: (1) Theoretical Considerations With Regard to "Attitude" and Attitude Change, (2) A Review of Stereotypic Sex Role Attitude Change Attempts Employing the "Active Participation" Model, (3) Problems Associated With the "Active Participation" Approach to Attitude Change, and (4) The Persuasive Communication Model as an Alternative Approach to Stereotypic Sex Role Attitude Modification.

Theoretical Considerations With Regard to "Attitude" and Attitude Change

Considerable controversy reigns within the field of the behavioral sciences pertaining to an adequate definition of the concept of "attitude." One of the major difficulties associated with the plethora of definitional attempts is that many investigators tend to utilize the concept of "attitude" interchangeably with beliefs, opinions, and intentions. Consequently, the theoretical position supporting the research within this study calls for the separation of such
concepts as beliefs and attitudes as advocated by Fishbein and Ajzen (26) and Rokeach (57).

Basic to this theoretical approach is the concept of belief. The content of a belief statement may describe an object or situation as correct or incorrect, appraise an object or situation as good or bad, or call for a specific course of action as profitable or not profitable. Whether a specific belief performs one or all three of the above mentioned functions, a belief is a predisposition to respond and an attitude is "thus a set of interrelated predispositions to action organized around an object or situation" (57, p. 450).

Within the organizational structure of an attitude, each belief is thought to possess a cognitive, affective, and behavioral component. As to the cognitive component, a belief is representative of an individual's knowledge about an object or situation. Also, a belief is assumed to have an affective component in that under certain conditions, this specific belief is capable of stimulating affect concentrated around the belief object. Finally, a specific belief is assumed to contain a behavioral component in that a belief is a predisposition to respond which may lead to some type of action when appropriately activated (57, p. 450).

Due to the strong intercorrelations among the three components of a belief, measurement of any one aspect of a series of related beliefs is representative of an attitude
toward an object or situation. Empirical support for this statement may be found in Campbell's research with regard to the relationship among the various components of related beliefs composing an attitude toward ethnic groups resulting in significant correlations among the components (11). Bettelhein and Janowitz's research (9) lends credence to this hypothesis as does the work of Adorno's study of authoritarianism (1). Further support for this theoretical position may be found in research by Vidulich and Krevanich which found strong intercorrelations between self reports of subjects' beliefs about negroes on a personality scale (cognitive component) and the affective component of beliefs about negroes measured by the galvanic skin reflex and the liking of photographs containing the attitudinal object (69).

With research indicating the close kinship among the components of a belief in mind, a contentious battle has emerged among researchers as to the relationship between attitude and behavior. For example, Vroom (70) and Green (28) found an insignificant relationship between a specific behavior toward the object and the expressed attitude toward the object while Fishbein and Ajzen (25) as well as Bagozzi and Burkrant (5) found a significant relationship between many behaviors expressed as a behavioral syndrome toward the object and the expressed attitude toward that object.
Findings such as these, of course, are open to question if instrumentation and procedures are varied somewhat.

Rokeach (57) perhaps offers a way out of the confusion alluded to in the preceding paragraph. He contends that these mentioned findings are in line with the following hypothesis. A person possesses an attitude toward an object as well as an attitude toward the situation (composed of beliefs about how one ought to behave) in which the attitudinal object interacts. Dependent on circumstances, beliefs associated with the attitude toward the situation may be activated and prevail over beliefs associated with the object which will result in a low correlation between attitude toward an object and actual behavior toward the object. On the other hand, if the beliefs associated with the attitudinal object predominate in the situation, a high correlation will be witnessed between attitude toward the object and behavior toward the object.

Placing the controversy aside dealing with the attitude-behavior relationship, two major categories of beliefs exist, according to Fishbein and Ajzen (26), that are within the framework of the three components of a belief: descriptive and inferential. Beliefs are descriptive in nature if the person forms them as a result of direct observation while they are inferential in nature if the individual draws inferences or speculative conclusions based either upon sound logic or probabilistic judgment. Stereotyped beliefs are
generally inferential in nature and for the most part are based upon probabilistic judgments.

In reference to an attitudinal change framework, an individual possesses "salient" beliefs which are defined as those beliefs that determine the person's attitude at any one time. Fishbein and Ajzen (26, p. 18), based upon the research by Miller (51) and Woodworth and Schlosberg (76) regarding the limitations of the human information processing network, contend that an attitude toward an object is composed of from five to nine beliefs (salient beliefs) about that object at any one time.

With these salient beliefs serving as the primary beliefs that the subject holds with regard to the attitude object, the task of the persuasive situation is to concentrate upon these primary beliefs (salient beliefs) by constructing a list of target beliefs elicited from the subjects (which are their primary or salient beliefs) that the persuasive attempt concentrates on as points of discussion (26, pp. 387-410). Dillehay, Insko, and Smith (19), and Lutz (46) as well as Thomas and Tuck (68), lend support to this approach to attitude change.

Furthermore, Dillehay, Insko and Smith (19), Holt and Watts (31), and McGuire (48, 49) generally point to the proposition that inferential beliefs not mentioned in the persuasive situation are open to attack also and to possible subsequent change if these beliefs are logically related by
the subject to the primary ones under attack. Therefore, attitudes can be altered by changing "one or more of the existing salient beliefs, by introducing new salient beliefs, or by changing the person's evaluation of the attributes" (26, p. 396).

With these thoughts in mind, two basic approaches to attitude change exist: "active participation" and "passive participation." "Active participation" means that the subject actively gains information by observing individuals, objects and events in a given situation such as in workshops or group experiences. "Passive participation" or the persuasive communication model denotes that the subject receives the items of information from an outside source. The next section examines previous attempts to change stereotypic sex role attitudes employing the active model.

A Review of Stereotypic Sex Role Attitude Change Attempts Employing the "Active Participation" Model

Sex role stereotyping is quite widespread throughout our society with college students being no exception (2, 8, 20, 43, 55, 59, 67, 77). With this substantiated assertion in mind, it is relevant at this point to examine "active participation" attempts that have been made to modify sex role stereotypic attitudes which encompass a number of age and experience levels.
Attempts were made to modify students' stereotypic sex role attitudes at the elementary school age level employing the active model. Nash (53) used an experienced-based learning awareness program with fifth graders and obtained no significant changes in their stereotypic attitudes while Ferrari (24) utilized a similar program with six graders and attained significant changes in attitudes. A career intervention strategy with elementary students lasting over a two year period was investigated by Geller (27), which showed no significant change in their stereotypic attitudes toward occupational careers. Lynch (47) employed a variety of "active" strategies with fifth graders to change their attitudes with no apparent success. Also an "active" approach devised by Allen (13) at the kindergarten level witnessed no changes in children's stereotypic attitudes. Finally, Schau (1979) employed reversed occupational stories with elementary students and obtained significant changes in their stereotypic attitudes toward occupational roles in one study (63) but no change in another investigation (64).

Attempts at the secondary level were made to change stereotypic sex role attitudes employing the "active participation" model. Sawyers (62) scrutinized vocational studies programs in Indiana and concluded that the students seek out the non-stereotypic program rather than the program being effective in reducing students' stereotypic attitudes. An experienced-based career education program devised by
Humberg (35) to change students' stereotypic attitudes toward occupational roles witnessed mixed results depending on which semester the program was invoked while Wintersteiner (74) employed a workshop to remediate high school girls' stereotypic sex role attitudes with no significant results.

The "active" model was also used with adults in attempts to alter their stereotypic sex role attitudes. Wiseman (75) employed workshops in an attempt to change academic advisors' stereotypic attitudes with no significant results while Faris (23) applied an inservice workshop strategy with vocational teachers, counselors and administrators to change their stereotypic attitudes but obtained varied results leading to inconclusiveness as to the program's effectiveness. Consciousness raising experiences and discussion groups with women were explored by Brown (10) to alter their stereotypic attitudes and behaviors with regard to themselves which obtained negative results. Sargent (61) using a similar approach obtained positive minor changes in men's sex role stereotypes but none for women. Finally, Johnson (38) employed group assertiveness along with other group techniques with married women but used no control group, thereby classifying the strategies as questionable with regard to their reported successful results in changing these attitudes.

College students were also participants in "active" approaches devised to change their stereotypic sex role
attitudes. O'Neil (54) employed a four week career workshop with college women and found significant changes in their attitudes. Another "active" approach developed by Moore (52) obtained significant changes in the stereotypic attitudes of students majoring in child care while a workshop approach designed to change stereotypic vocational career attitudes devised by Leiterman-Stock (44) resulted in insignificant changes in these attitudes of college students and faculty members.

Additional "active" strategies were conducted at the college level. Roland (58) investigated coeducational dormitory living as a strategy to change students' stereotypic attitudes but found no significant changes. Consciousness raising strategies along with other group type strategies to change college students sex role stereotyping, developed and employed by Erskine (22), were unsuccessful. Also women's studies' classes, devised by Coffman (14), were found to be ineffective in changing college women's stereotypic attitudes toward their own roles while a sex roles course developed by Haynes (29) was also not successful in changing male and female college students' sex role attitudes. Finally, Langberg (42) conducted consciousness raising group sessions along with a vocational group strategy with junior college women to change their stereotypic attitudes toward sex roles but with no reported gains.
As for a summary of studies at all levels employing the "active participation" model to modify stereotypic sex role attitudes, twenty-three investigations were reviewed with generally insignificant results in changing attitudes being reported. Specifically, four "active" approaches significantly modified these stereotypic attitudes while four reported inconclusive results. The remaining fifteen reported insignificant changes in stereotypic attitudes as a result of using the "active" model intervention strategy. The next section examines the problems associated with this approach.

Problems Associated with the "Active Participation" Model Approach to Attitude Change

The "active participation" model allows the subject to acquire new informational items which is accomplished through observation and participation on the subject's behalf. As a consequence of this "active participation," according to Fishbein and Ajzen (26, p. 412), the individual hypothetically acquires new descriptive beliefs about himself or herself as well as about others within the situation leading to change in the attitude in question.

Attitude change is a complex process. The investigator must try to specify the target beliefs (the five to nine primary beliefs held by the individual) to be attacked that are assumed to directly or indirectly affect the dependent
variable (attitude) in question. Surrounding this isolated set of circumstances is the environment in which this transpires. Consequently, Fishbein and Ajzen state that a situation must be constructed in which informational items presented have a chance of attacking the subject's beliefs and changing them in the desired direction if attitude change is to occur (26, p. 413).

With regard to controlling the unfolding of events, leadership is critical in any type of "active participation" model to obtain the desired outcomes. Hopkins (32) a researcher in group work, as reviewed by McGuire (50, p. 181), concluded that the influence of the source (leader) within a group is derived from four critical components: (1) the status of the source agreed upon by the group members, (2) the source's amount of personal interaction with members of the group, (3) the knowledge of the group members' norms possessed by the source, and (4) the source's agreement with these norms. The concept of leadership brings to mind a myriad of problems that may manifest themselves. For example, the intended leader may be usurped by another within the group, thereby negating the intentions of the program. Also there is no guarantee that participants observe each item that is relevant to the change process (26, pp. 411-414) as designed by the leader.

Research surrounding the "active participation" model, as reviewed by Fishbein and Ajzen (26, pp. 411-450),
generally concluded that these approaches for the most part fail to specify target beliefs or other informational items that are presented to the group. Primary beliefs are rarely ascertained nor are extraneous variables adequately controlled. Many of the investigations reviewed in the previous section fell victim to the complexities listed in the preceding paragraphs. The latter part of this section examines some examples of "active participation" programs contained within the literature to illustrate the problems that have been discussed.

A module devised by Benton (6) for facilitating sex-fair teacher training with regard to teaching elementary mathematics is illustrative of the "active" model. For example, one technique incorporated in the program was to have the preservice students write a position paper on some topic such as "Math is a Masculine Domain." No specific instructions were given by the author as to how to specifically manage any type of class discussion with the topic. With regard to Benton's approach, strategies were outlined to elicit students' beliefs but specific instructions as to how to use them were not mentioned. Implementation of this module may or may not conclude with the desired results.

Finally, development and implementation by Humberg (36) of a ninth grade career education program which obtained significant results serves as the last example to facilitate understanding the problems associated with an "active
participation" model. The program, consisting of classroom and field experiences, ran for twelve weeks. Strategies incorporated career clarification activities, interpersonal communication on all events and community events. It appeared that no detailed instructions were given for conducting the sessions. Furthermore, no precise controls were mentioned for controlling intervening variables leading to difficulties with replication.

As for the twenty-three approaches surveyed earlier in the preceding section, the same analysis would generally hold true for almost any technique considered. It appears that it would be difficult to analyze what had transpired in each approach in view of Fishbein and Ajzen's conclusions drawn from their review of research that it is impossible in most studies to identify exactly what has transpired with regard to identifying target beliefs as well as the specific informational items that the subjects are exposed to during the treatment (26, pp. 449-450). Cognizant of the problems associated with the "active participation" model exemplified in the preceding paragraphs, an alternative approach is now considered, characterized by the persuasive communication technique which includes tighter controls and facilitates replication.
The Persuasive Communication Model as an Alternative Approach to Stereotypic Sex Role Attitude Modification

Because of the problems associated with the "active participation" approach to stereotypic sex role attitude modification, an alternative methodology employing the persuasive communication model ("passive participation" model) was selected because of its tighter control and ease of replication. A review of the research pertaining to this model is necessary as a means of examining the components of source, message, channel, and receiver (50, p. 172) that underly this approach, thereby providing the basis for construction of a preservice treatment program to modify students' stereotypic attitudes.

Before examining these components, it is appropriate to dispel doubts that attitudinal change can be achieved, if properly conceptualized and applied, within the framework of a one-treatment session. Discouragement on the part of Chen (1935) with the multiple treatment approach led to his usage of a persuasive communication to change students' attitudes on a controversial topic in which significant results were manifested (12). Knower employed single treatment oral messages (40) and written messages (41) on the issue of prohibition and significantly changed students' attitudes. Additionally, Dietsch and Gurnee (18) found that the first campaign leaflet accounted for 88 percent of the attitude change toward a candidate whereas additional leaflets made
no significant changes. The efficacy of repetition was also questioned by Cromwell and Kunchel (16). Within recent times, investigations by Bergin (7), Cohen (15) and Zimbardo (78) lend credence to the single exposure technique in effecting change. With the efficacy of the one-treatment approach in mind, research with regard to the communication process incorporating its five components is examined as a means of providing a basis for a stereotypic attitude modification program.

The source component is broken down into three factors: credibility, attractiveness and power (50, p. 179). Extensive research has been conducted with regard to the degrees of source "credibility" leading to attitude change. Hovland and Weiss (34) manipulated this factor and found that a high credibility source achieved more significant attitudinal change than a low credibility source. Additional research by Choo (13) obtained similar findings as to the efficacy of a high credibility source in effecting attitude change. As this factor of source credibility appears to be an important variable involved in altering attitudes, the credibility level (high and low) of the source was manipulated in the treatment program to determine its effect on modifying students' stereotypic sex role attitudes.

Research has been conducted with respect to the "attractiveness" factor in obtaining attitude change. Walster, Aronson and Abrahans (71) found that a source speaking
against his or her own betterment was more persuasive. LeRoux (45) concluded there was some support found for the hypothesized differential evaluation of male and female sources by subjects who hold stereotypic sex role attitudes. Research by Pierce (56) tends to indicate that receiver variables pertaining to the subject "yielding" process appear to play a key role in determining the persuasiveness of a male or female source. As a result of the research, the gender level (male and female) of the source was manipulated in the treatment program to ascertain its effect on modifying students' stereotypic attitudes. As for the power factor, it was held constant in this treatment program.

The message component is divided into four classes of factors: (1) source-receiver discrepancy, (2) order of presentation within the communication, (3) inclusions and omissions from the communication, and (4) types of persuasive appeal (50, p. 200). The discrepancy factor was chosen for examination in this study while the last three were held constant.

Controversy reigns within the field as to the amount of discrepancy advocated from the receiver's position needed to effect attitude change. Hovland, Harvey and Sherif (33) found that subjects at the extremes from the message content position did not change their attitudes significantly. Aronson, Turner, and Carlsmith (4) and Bergin (7) found that the level of communicator credibility and amount of
discrepancy advocated by a persuasive communication interacted to produce varying amounts of attitude change. Other factors, such as subject level of concern with the outcomes of his or her responses, examined by Zimbardo (78) interacted with discrepancy to reveal differing amounts of attitude change. As a result of these findings, the content of the message factor was manipulated to determine its effect on the modification of teacher trainees' stereotypic attitudes toward sex roles.

As for specific items to be incorporated into the messages, Fishbein and Ajzen (26, p. 18) concluded that a person's attitude toward an object is based upon five to nine beliefs with this number being selected because of human information processing limitations found by Miller (51) and Woodworth and Schlosberg (76). Consequently, an elicitation procedure, as employed by Kaplan (39), Lutz (46), and Thomas and Tuck (68), was used to ascertain beliefs held by subjects as to what attributes they believed were associated with males and with females which were included in both messages to determine their effect upon stereotypic attitudes.

With regard to the channel component, the spoken word has more impact than other mediums (21, 40, 41, 60). Accordingly, this component was held constant by having live presentations by speakers included in the treatment program.
Considerable research centers around the examination of receiver variables (for example, subject gender, marital status, and personality variables) and their relationship to the process of yielding to a persuasive communication which is equated with attitude change. A rationale for inclusion of seven receiver variables was based on one of the purposes of this study, which was facilitating comprehension of the effectiveness question.

The "involvement" and "evaluative" receiver variables are considered first. Varying amounts of receiver personal or ego involvement (labeled "issue" involvement) in a topic was found to bear a relationship to attitude change (17, 65, 66). Also, varying degrees of receiver "response" or cognitive involvement in the persuasive communication was identified as being related to attitude change by Cohen (15). Moreover, Whittaker (73) found that receiver message evaluation in terms of degrees of perceived fairness and objectivity was related to attitude change while varying degrees of receiver ratings as to the credibility of a source were observed to be related to attitude change (13, 45). Therefore, these four receiver variables as measured by appropriate instrumentation discussed in Chapter III were investigated in order to determine the relationship between each receiver variable and the subjects' sex role attitudes following treatment.
Socio-demographic variables were examined. Knower (40) and Janis and Field (37) discovered that females were more susceptible to persuasibility than males while Hilgard (30) questioned these findings of sex differences. Consequently, receiver sex along with receiver marital status and type of program enrollment (elementary or secondary), as measured by instrumentation discussed in the next chapter, were examined as a means of ascertaining the relationship between each receiver variable and the subjects' sex role attitudes following treatment.

The temporal factor which includes the long-versus the short-term effects of the persuasive communication model on subjects' attitudes deserves attention (50, p. 252). Watts and McGuire (72) concluded that induced attitude change generally decays with the passage of time. Consequently, this conclusion was tested in this study by examining the effects of the persuasive communication attempt three weeks after treatment.

Fishbein and Ajzen caution that manipulations advocated by the traditional approach should be examined in association with an "informational analysis." Accordingly, "the investigator should always be able to specify his target source beliefs, other beliefs assumed to be primary, and the immediate determinants of his dependent variable" (26, p. 509).

The present study has attempted to incorporate some of the features of an informational analysis as outlined by
Fishbein and Ajzen in order to attain a more comprehensive picture of the persuasion process. The results of this attempt are illustrated and summarized in the chapters that follow.

Summary

This chapter illustrates the complexities that are involved in any attempt at persuasion. The concept of "attitude" was examined as to its constituent parts, its relationship to overt behavior as well as an analysis of the process of attitude change, thereby establishing a theoretical basis from which to proceed. Past attempts to modify stereotypic sex role attitudes employing the "active participation" model were reviewed followed by an examination of problems associated with this method. Generally, a lack of internal specificity as well as the difficulties that arise with controlling extraneous variables that appear to characterize these active approaches were pointed out. Conclusions drawn indicated the need for an alternative approach to changing stereotypic sex role attitudes in the form of the persuasive communication model.

As a means of securing tighter control, thereby facilitating replication, the development of a brief preservice treatment program to modify teacher education students' stereotypic sex role attitudes, drawing upon research on this model, which revealed three major factors for inclusion
into the program, was described. Also seven student variables were identified and included in the program to facilitate comprehension of the effectiveness question.
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CHAPTER III

METHODS AND PROCEDURES

Introduction

This chapter is divided into five sections. The first section is related to a description of the subjects who participated in the study, the second to a description of the instrumentation used, the third to the procedures employed to obtain data used in construction of the preservice treatment program, the fourth to procedures for collecting data related to determining the effectiveness of the treatment as well as the procedures employed to obtain data related to the seven student correlates involved within the "effectiveness" question, and the fifth section to an explanation of the procedures for analysis of data.

Description of the Subjects

The population consisted of students enrolled in the undergraduate teacher education program at North Texas State University in Denton, Texas, during the Second Summer Session and Fall Semester of 1980. Permission was solicited from the chairpersons of the Departments of Secondary and Elementary Education to request students' voluntary participation in the study. Samples from this population consisting of classes of junior and senior level teacher education
students were obtained based upon teacher permission and students volunteering.

Instruments

The following instruments were used:

1. The **Personal Attributes Questionnaire: A Measure of Sex Role Stereotypes and Masculinity-Feminity** (PAQ), developed by Janet Spence (21), elicits responses from the subject as a means of evaluating the "self" and then elicits his or her sex role attitude on another scale. The subject first responds to a five-point self-rating scale on fifty-five bipolar items followed by responses to a five-point scale in which he or she is given one pole of the fifty-five items and must compare directly the male and female on these items. Only the "Stereotype Scale" was scored.

The scale includes a collection of fifty-five attributes that the subject evaluates as to whether each attribute is "slightly" to "very" characteristic of the male or of the female or "no difference" giving a sum total of these beliefs for an indication of a person's sex role attitude. These may fit into one of the following three broad spectrums: (1) a stereotypic sex role attitude or (2) a counterstereotypic sex role attitude, or (3) a neutral sex role attitude. The score range is from "0" to "220." A completely counterstereotypic attitude would be represented
by a score of "0"; a completely neutral sex role attitude would be represented by a score of "110"; and a totally stereotypic attitude would be revealed by a score of "220." A stereotypic attitude score ranges from a low of "111" to a high of "220." Specific direction as to scoring is contained in the "Pretest Packet" (see Appendix C, Part Three).

Administration to 248 males and 282 females in an introductory psychology course at the University of Texas in Austin during the Fall, 1973, resulted in alpha coefficients (a measure of internal consistency) of .91 for males and .90 for females and test-retest coefficients of .92 for males and .98 for females which established instrument reliability.

Validity of the instrument is based on construct validity in which the fifty-five items evolved from what social theorists label "expressive" behavior (female behavior) (14) or a sense of communion with others (2) and "instrumental" behavior (male valued) (14). The Sex Role Stereotype Questionnaire (SRSQ) (16) served as an item pool for the PAQ. Statistically the internal consistency of the PAQ is indicative of its construct validity.

Several studies (3, 7, 18, 20) have used the instrument since it became available. Ruble (1979), in unpublished research, concluded that the PAQ is still a viable instrument for measuring sex stereotypes held by college students (17).
2. The McCrosky Scales for the Measurement of Ethos as developed by McCrosky (11) was based on an attempt to measure a source's ethos or credibility. Construction of the scales was based on an item pool of thirty items from the ethos literature in which McCrosky administered the original thirty-item questionnaire to 100 subjects in introductory speech courses at Pennsylvania State University. They rated the credibility of sources to speak on a topic. Factor analysis of the results revealed an "authoritativeness" and a "character" dimension which were then incorporated into two constructed Likert scales and two semantic differential scales measuring these dimensions.

Seven experiments were conducted to establish the reliability and validity of the scales; only the coefficients for the "Authoritativeness" Likert Scale, consisting of twenty-two items, are presented as this was the only one used in this study (see Appendix A, Part Three). Administration to sample sizes ranging from 43 to 343 subjects resulted in a minimum alpha coefficient of .94 (a measure of internal consistency) and a minimum split-half coefficient of .94, thereby establishing instrument reliability.

The major basis for validity of the instrument rests on construct validity. Statistically, the internal consistency of the instrument is indicative of its construct validity. As an indicator of concurrent validity, a correlation of
.917 was found between McCrosky's "Authoritativeness" Scale and the Anderson Authoritativeness Scale (1), which was administered at the same time in one of the experiments containing 143 subjects. Also, a correlation of .851 was found between the semantic differential scale and the Likert scale on the "authoritativeness" dimension using 218 subjects.

Scoring techniques are as follows. The twenty-two items employ a summation score based on the Likert scaling model with a score range from "22" indicating very low credibility to "110" indicating very high credibility.

The scale was used in two capacities. It was employed in the preliminary study to establish two levels (high and low) of speaker credibility as well as to gather data with regard to the student correlate of speaker credibility evaluation which was obtained after the subject had heard the source deliver the persuasive message.

3. The "Issue" Involvement Scale is designed to measure the strength of the subject's personal involvement in the topic (see Appendix C, Part Three). Wheeless (23), who used the instrument, cited the test in a footnote that McCrosky, in unpublished research, had performed separate factor analyses for 156 concepts using a minimum of 200 subjects for each concept and found the scales used in the Wheeless study to load consistently among the top twelve evaluative scales employed. The twelve highest loading items chosen by
McCrosky were originally drawn from Osgood's factor analytic work concerning the "evaluative" dimension (13). Personal communication with McCrosky confirmed the findings in the footnote in addition to obtaining permission to use the scale. This scale was used to gather data at the pretest level with regard to the subject correlate dealing with the degree of personal involvement in the topic of male and female roles in society.

4. The Socio-Demographic Questionnaire was developed to gather data at the pretest level with regard to the subject's sex, marital status, and type of program enrollment (elementary or secondary) (see Appendix C, Part Three).

5. The "Response" Involvement Scale was developed and used by Cohen (4) to investigate the effects of varying amounts of subject cognitive involvement in a persuasive message and its relationship to attitude change. The subject is asked to rate the amount of cognitive involvement expended in comprehending the message on a six-point scale ranging from "a very great deal" to "none at all" (see Appendix C, Part Seven).

For this study a line was added to all speaker biography sheets stating that the subject would have to pay close attention to understand the speech (see Appendix C, Part Five). Following the message, students were asked to record the amount of their "response" involvement on this scale.
6. The Communication Evaluation Scale was developed and used by Whittaker (24) to investigate the relationship between the subject's evaluation of the persuasive message as to its degree of fairness and the amount of attitude change observed. The subject is asked to evaluate the fairness of the speech on a five-point scale ranging from "quite fair and impartial" to "quite biased and propagandistic" at the posttest level (see Appendix C, Part Seven). This scale was used at the posttest level to evaluate the subject's perception of the fairness of the message, which was a student correlate.

7. The Spontaneous Elicitation Questionnaire, a non-structured instrument, was developed as a means of obtaining the beliefs held by students with regard to attributes that characterize the typical male and female (see Appendix A, Part Five). The basis for this questionnaire evolved out of Fishbein's work (9) in eliciting primary beliefs from subjects. Use of the instrument was seen in the preliminary study to gather data related to persuasive message construction.

Data Collection Procedures Related to Construction of a Preservice Treatment Program

A review of the persuasive communication literature revealed three factors that have been found to be relevant to attitude change: speaker sex, speaker credibility, and
persuasive message content. Procedures were employed to gather data to establish two levels of each variable. Speaker sex is considered first.

**Procedures for Establishment of Two Levels of the Speaker Sex Factor**

A male and female speaker were sought who were capable of delivering persuasive messages in a professional manner as well as being flexible in assuming a number of roles. Procedures with regard to these criteria included reviewing each speaker's presentations until acceptable standards as advocated by Smith (19) and Thonssen and Scanlan (22) were met (see Appendix F).

**Data Collection Procedures for Establishment of Two Levels of the Speaker Credibility Factor**

Four speaker biographies were created containing two factors each, which were speaker sex and speaker occupational title. Sex factor levels (male and female) and occupational title factor levels (realtor and psychologist) were simultaneously manipulated within the biographies accounting for a total of four. The psychologist was characterized as working in the area related to sex roles while the realtor was not (see Appendix A, Part Three). To evaluate these biographies, a 2 x 2 factorial design was created with the factors of speaker sex (male and female) and occupational title (realtor and psychologist).
The following random assignment procedures were employed to fill the four cells. During the Second Summer Session, 1980, twelve elementary and eleven secondary classes at the junior and senior level were selected. Each of the twenty-three classes was assigned a number, and the numbers were placed in a bowl and served as a pool of classes to use. Four numbers corresponding to classes were drawn one at a time and assigned to the four cells using a table of random numbers (15). These four teachers were then contacted for their permission concerning student participation. Any teacher refusal or lack of class availability eliminated that class, followed by drawing another number from the bowl corresponding to a class for assignment to that particular cell. The students in each class assigned to a specific cell evaluated the speaker biography characteristic of that cell.

Following speaker evaluations by the four classes assigned to their respective cells, four additional numbers corresponding to their classes were drawn from the bowl one at a time and assigned to the four cells using the table of random numbers. Solicitation of permission was obtained in the same manner as indicated with the first four contacted. Procedures for refusal were handled in the same way also.

Upon meeting cell number requirements of a minimum of thirty-nine subjects who evaluated its respective biography, that cell was eliminated from the random selection process.
For example, if Cell Two were filled, only three numbers corresponding to classes would be drawn from the bowl for assignment to the remaining three using the table of random numbers and the permission process would begin again. These procedures continued until each cell requirement was fulfilled with regard to its requisite number of biography evaluations. A sample size of thirty-nine for each of the four cells was chosen in an attempt to control a Type II error (5).

The following data collection format was used. Each teacher was given a note which was read aloud asking for student cooperation. Students were then given directions for evaluating the biography followed by distribution of the "Source Credibility Questionnaire Packet" containing one of the biographies and the McCrosky Scale for the Measurement of Ethos (11) to evaluate its credibility to speak on the topic of sex roles (see Appendix A, Parts One through Three).

Of the eleven classes consisting of 177 subjects who evaluated the biographies, twelve subjects were eliminated for not following directions, which resulted in cell sizes ranging from forty to forty-three subjects. Table I reflects the number of elementary and secondary subjects who evaluated each one of the four biographies and were used in the final data analysis.
TABLE I
RESPECTIVE NUMBERS OF ELEMENTARY AND SECONDARY TEACHER EDUCATION STUDENTS WHO EVALUATED EACH OF THE FOUR HYPOTHETICAL SPEAKER BIOGRAPHIES

<table>
<thead>
<tr>
<th>Hypothetical Speaker Biography Name*</th>
<th>Number of Elementary Program Students</th>
<th>Number of Secondary Program Students</th>
<th>Total in Each Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Cell 1) Male Psychologist</td>
<td>31</td>
<td>12</td>
<td>43</td>
</tr>
<tr>
<td>(Cell 2) Female Psychologist</td>
<td>0</td>
<td>41</td>
<td>41</td>
</tr>
<tr>
<td>(Cell 3) Male Realtor</td>
<td>25</td>
<td>15</td>
<td>40</td>
</tr>
<tr>
<td>(Cell 4) Female Realtor</td>
<td>0</td>
<td>41</td>
<td>41</td>
</tr>
<tr>
<td>Total</td>
<td>56</td>
<td>109</td>
<td>165</td>
</tr>
</tbody>
</table>

*By Sex and Occupational Title.

Students from both the elementary and secondary program were reflected in the cells. Of the 165 subjects who evaluated speaker biographies in an attempt to establish two levels (high and low) of speaker credibility, 56 were from the elementary program while 109 were from the secondary program.
Data Collection Procedures for Establishment of Two Levels of the Message Content Factor

A basis for construction of two levels (anti-stereotypic and pro-stereotypic) of the message content factor was obtained from a panel of three judges selected for evaluation of the messages. The judges were chosen because of their knowledge and association with the construction of persuasive messages (see Appendix E). Panel recommendations included a solicitation of students' modal primary salient beliefs (9) with regard to attributes that characterize the typical male and female which would serve as target beliefs within the messages.

An open-ended questionnaire was developed asking subjects to list the attributes that help them to identify the typical male and female. Data collection procedures included an administration of the "Spontaneous Elicitation Questionnaire Packet" to the same eleven classes consisting of 165 students who participated in the evaluation of the speaker biographies for establishment of high and low credibility. The elicitation procedure immediately followed procedures for collecting data surrounding speaker evaluations (see Appendix A, Parts Four and Five).

Two messages labeled "anti-stereotypic" and "pro-stereotypic" were constructed and submitted to the panel of judges for evaluation during the Second Summer Session,
A rationale for this procedure was to establish the two levels as well as to refine the two persuasive messages.

Data Collection Procedures Related to Determining the Effectiveness of the Treatment Program

Within the framework of a factorial design, collection procedures consisting of a pretest, a posttest immediately following treatment as well as one three weeks after treatment were established to gather data related to determining the effectiveness of the preservice program in changing students' stereotypic sex role attitudes. Also contained within this framework were procedures related to obtaining data concerning the seven student correlates that served the purpose of promoting comprehension of the effectiveness question.

A $2 \times 2 \times 2$ factorial design allowed for comparing the effects of simultaneously varying three factors: Speaker sex (male versus female), speaker credibility (high versus low), and message content (anti-stereotypic versus pro-stereotypic). A control group was also used, employing a pretest and two posttest sessions, to aid in interpretation of the effectiveness question but was not included in the factorial design framework or its data analysis. Treatment variables for the eight cells and control group were as follows:

1. Cell One--A high credibility male delivers an anti-stereotypic persuasive message;
2. Cell Two—A low credibility male delivers an anti-stereotypic persuasive message;

3. Cell Three—A high credibility male delivers a pro-stereotypic persuasive message;

4. Cell Four—A low credibility male delivers a pro-stereotypic persuasive message;

5. Cell Five—A high credibility female delivers an anti-stereotypic persuasive message;

6. Cell Six—A low credibility female delivers an anti-stereotypic persuasive message;

7. Cell Seven—A high credibility female delivers a pro-stereotypic persuasive message;

8. Cell Eight—A low credibility female delivers a pro-stereotypic persuasive message;

9. Control group—A placebo treatment consisting of a written message concerning alcohol consumption was given.

The following random assignment procedures were employed to fill the eight cells and the control group with subjects. During the Fall Semester, 1980, thirty-seven elementary and twenty-six secondary classes at the junior and senior level were selected. Each of the sixty-three classes were assigned a number, and the numbers were placed in a bowl and served as a pool of classes to use. Nine numbers corresponding to classes were drawn one at a time and assigned to the eight cells and the control group using a table of random numbers (15). These nine teachers were
then contacted for their permission concerning student participation. Any teacher refusal or lack of class availability eliminated that class followed by drawing another number corresponding to a class, from the bowl for assignment to that particular cell or the control group. The students in each class assigned to a specific cell or control group received the treatment characteristic of that cell or the control group.

Following treatments of the nine classes assigned to their respective cells and the control group, nine additional numbers corresponding to classes were drawn from the bowl one at a time and assigned to the eight cells and the control group using the table of random numbers. Solicitation of permission was obtained in the same manner as indicated with the first nine contacted. Procedures for refusal were handled in the same way also.

On meeting cell or control group number requirements of a minimum of twenty-seven subjects who received its respective treatment, that cell or control group was eliminated from the random selection process. For example, if Cell Three was filled, only eight numbers corresponding to classes would be drawn from the bowl for assignment to the remaining eight using the table of random numbers, and the permission process would begin again. These procedures continued until all cell and control group requirements were fulfilled. A sample size of twenty-seven subjects for each
of the eight cells and the control group was chosen in an attempt to control a Type II error (5).

The following data collection format was used with the eight cells. Each teacher was given a note which was read aloud asking for student cooperation. Following this, each class that comprised one of the eight cells was given information concerning the program as well as directions for completing the "Pretest Packet" (see Appendix C, Parts One through Three) consisting of the Socio-Demographic Questionnaire and "Issue" Involvement Scale (23), which were both used to collect data related to the student correlates as well as the Personal Attributes Questionnaire (PAQ) (21) to measure their sex role attitudes. (A pilot study for the pretest with regard to time consumption and the mechanics of this phase was conducted with a class of American Government students during the early Fall Semester, 1980, before administration to actual treatment groups and the control group. Time involvement was approximately twelve minutes.)

Details were then given to each class regarding its speaker, followed by the persuasive message depending upon which cell the class was assigned. Immediately following treatment, each class was posttested with the "Immediate Posttest Packet" (see Appendix C, Parts Four through Seven) consisting of the PAQ for assessing the students' sex role attitudes, "Response" Involvement Scale (4), McCrosky Scale for the Measurement of Ethos (11) and the Communication
Evaluation Scale (24) for collecting data related to the student correlates. Total time involved from pretest through posttest ran from thirty to thirty-five minutes, depending on the size of the class. These procedures were applicable only to the eight treatment groups. Procedures for the control group incorporated the same pretest followed by a placebo treatment in the form of a written message on alcohol followed immediately by the "Immediate Posttest Packet" (see Appendix D, Parts One through Seven) consisting of the Alcohol Scale (placebo) and the PAQ to measure their attitudes.

Approximately three weeks (ranging from nineteen to twenty-three days depending on availability) after completion of the posttest packet by each class comprising the eight cells and the control group, instructions were issued to that class for completion of the "Delayed Posttest Packet" (see Appendix C and D, Parts Eight through Nine) that consisted of the PAQ to measure students’ sex role attitudes which completed data collection for the eight cells and the control group.

Certain criteria were applied to disqualify subjects from the thirty-one classes who participated totaling 446 subjects which, when broken down, represented from forty-seven to fifty-three subjects for each of the eight cells and the control group. Any subject who did not complete all three phases, which included the pretest and the two posttests,
as well as any who did not follow directions were ejected from the final analysis. Specifically, ninety-four subjects were eliminated for not completing all treatment phases while sixteen were rejected for not following instructions for a total loss of 110 subjects leaving 336 subjects for the eight cells and the control group to be used in the analysis of data. Table II reflects socio-demographic data for each of the eight cells and control group, which include the number of subjects in each by sex, marital status, type of program enrollment (elementary and secondary), and total number in each one.

### Table II

**NUMBER OF TREATMENT AND CONTROL GROUP PARTICIPANTS BY GENDER, MARITAL STATUS, PROGRAM ENROLLMENT AND TOTAL NUMBER IN EACH GROUP**

<table>
<thead>
<tr>
<th>Cell Number (1-8) and Control Group</th>
<th>Number of Males in Each Group</th>
<th>Number of Females in Each Group</th>
<th>Number of Married Subjects in Each Group</th>
<th>Number of Single Subjects in Each Group</th>
<th>Number of Elementary Subjects in Each Group</th>
<th>Number of Secondary Subjects in Each Group</th>
<th>Total Number of Subjects in Each Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11</td>
<td>29</td>
<td>12</td>
<td>28</td>
<td>6</td>
<td>34</td>
<td>40</td>
</tr>
<tr>
<td>2</td>
<td>11</td>
<td>27</td>
<td>12</td>
<td>26</td>
<td>10</td>
<td>28</td>
<td>38</td>
</tr>
<tr>
<td>3</td>
<td>8</td>
<td>32</td>
<td>13</td>
<td>27</td>
<td>30</td>
<td>10</td>
<td>40</td>
</tr>
<tr>
<td>4</td>
<td>9</td>
<td>26</td>
<td>11</td>
<td>24</td>
<td>18</td>
<td>17</td>
<td>35</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>37</td>
<td>10</td>
<td>32</td>
<td>32</td>
<td>10</td>
<td>42</td>
</tr>
<tr>
<td>6</td>
<td>11</td>
<td>25</td>
<td>13</td>
<td>23</td>
<td>10</td>
<td>26</td>
<td>36</td>
</tr>
<tr>
<td>7</td>
<td>5</td>
<td>33</td>
<td>4</td>
<td>34</td>
<td>26</td>
<td>12</td>
<td>38</td>
</tr>
<tr>
<td>8</td>
<td>6</td>
<td>27</td>
<td>9</td>
<td>24</td>
<td>20</td>
<td>13</td>
<td>33</td>
</tr>
<tr>
<td>CG*</td>
<td>7</td>
<td>27</td>
<td>5</td>
<td>29</td>
<td>15</td>
<td>19</td>
<td>34</td>
</tr>
<tr>
<td>Total</td>
<td>73</td>
<td>263</td>
<td>89</td>
<td>247</td>
<td>167</td>
<td>169</td>
<td>336</td>
</tr>
</tbody>
</table>

*Control Group.
For a synopsis of the eight cells and control group incorporating a total of 336 subjects, 22 percent of the students were males while 78 percent were females and, as for marital status, 27 percent were married and 73 percent were single. Total program enrollment for the eight cells and the control group was evenly divided between elementary and secondary education students. Total subjects for each group ranged from a high of forty-two to a low of thirty-three.

Procedures for Analysis of Data

Data from preliminary studies involved in construction of the treatment program were analyzed in the following way. With regard to the speaker gender factor, two speakers' (male and female) delivery styles were analyzed as to meeting acceptable delivery standards as advocated by Smith (19) and Thonssen and Scanlan (22) (see Appendix F). As to the creation of two levels (high and low) of the speaker credibility factor, a two-way analysis of variance was performed on the students' McCrosky Scale for the Measurement of Ethos (11) scores to determine the effects of the speaker biography factors of sex (male and female) and occupational title (realtor and psychologist) on the students' evaluation of a source to speak on the topic of sex roles. With respect to development of the message content factor, the Spontaneous Elicitation Questionnaire data were submitted to
a frequency count technique to select the modal primary salient beliefs for inclusion into the two messages. An attempt was made to evenly balance the modal beliefs with regard to male and female attributes. A panel of judges (see Appendix E) analyzed the contents of the two messages to establish the two levels (anti-stereotypic and pro-stereotypic) of this factor.

A three-way analysis of covariance was used to analyze the independent and interactive effects of the three factors of speaker sex (male and female), speaker credibility (high and low) and message content (anti- and pro-stereotypic) on students' PAQ sex role attitude scores obtained immediately following treatment (Hypothesis I through VII) with the pretest PAQ scores acting as the covariate employing the Statistical Package for the Social Sciences computer package (12). The same procedures were applied to examine and test for significance Hypothesis Eight through Fourteen, which concerned the PAQ posttest scores obtained three weeks after treatment.

Hypothesis Fifteen, which concerned itself with control group-treatment group comparisons with regard to PAQ scores obtained immediately following treatment, employed an analysis of covariance technique (pretest PAQ scores as covariate) followed by the Dunnett multiple comparison technique (8) to test the pairs of means using the Statistical Analysis Systems computer package (10). The same procedures were
applied to examine and test for significance Hypothesis Sixteen which concerned the PAQ posttest scores obtained three weeks after treatment.

Specific guidelines were adhered to with regard to the seven student correlates and the testing of the significance of their relationships with students' expressed sex role attitudes in the form of two sets of posttest PAQ scores. On the "Response" Involvement Scale (4), subjects who scored either "one", "two", or "three" were considered to possess a "high" amount of involvement while those who scored "four", "five", or "six" were considered to have a "low" amount of involvement for classificatory purposes. On the Communication Evaluation Scale (24), subjects who scored either "one" or "two" considered the message as "unbiased" while those who scored "three" were classified as having "no reaction" and those who scored "four" or "five" considered the message as "biased" for classificatory purposes. On the "Issue" Involvement Scale (23), which is a seven-point semantic differential, those subjects who scored from "six" through "nine" or from "thirty-nine" through "forty-two" were considered "highly involved" in the topic while those who scored from "ten" through "thirty-eight" were considered as "lowly involved" in the topic for classificatory purposes. On the McCrosky Scale for the Measurement of Ethos (11) for classificatory purposes regarding speaker credibility evaluation, those subjects who scored from "twenty-two"
through "twenty-six" considered the source as possessing "low credibility" while those who scored from "sixty-seven" through "one hundred ten" considered the source as possessing "high credibility".

To analyze the data with regard to correlations, the various classifications of each test (such as high and low degrees) were coded in a nominal format as were the socio-demographic variables of sex, marital status, and type of program enrollment. The seven student correlates were then considered for the significance of their relationships with the students' PAQ scores obtained immediately following treatment using a simultaneous regression model to test the significance of the unique contribution of each of the seven variables (6) employing the Statistical Package for the Social Sciences computer package (12). The same procedure was adhered to in testing the significance of the relationships with the PAQ scores obtained three weeks after treatment in a separate analysis.

Processing and analysis of the material were handled in the following manner. The questionnaires were hand scored, and the data collected were key punched on IBM cards for data processing at the Computing Center at North Texas State University in Denton, Texas. As for a significance level used throughout the study, the .05 level was chosen.
CHAPTER BIBLIOGRAPHY


CHAPTER IV

PRESENTATION OF FINDINGS

Introduction

The purposes of this study were to develop a brief preservice treatment program to modify teacher education students' stereotypic sex role attitudes, to determine the effectiveness of this approach, to discover contributions of selected student variables as they relate to the "effectiveness" question and to assist teacher education faculties gain insight into the reduction of sexism among teacher education students and, ultimately, the abatement of sexism in elementary and secondary schools. Chapter IV is divided into three sections conforming to the first three purposes mentioned. The fourth purpose is treated along with the others since it is an integral part of them.

Each section contains a presentation of the findings with respect to fulfilling the respective purpose. Included in these are data displays relevant to the purpose, testing of hypotheses that are associated with that section by suitable data analytic techniques followed by discussion of the findings.
Findings Concerning the Development of a Brief Preservice Treatment Program

As a means of attempting to modify students' stereotypic attitudes, a treatment program was developed which included the three factors of speaker sex, speaker credibility, and message content. To identify the effects of these factors, a minimum of two levels had to be established for each one. The following three sections report the findings associated with each factor level study.

**Speaker Gender Study Findings**

The speaker gender factor required a male and a female. A male forty years of age and a female thirty-five years of age, who met delivery standards as advocated by Smith (4) and Thonssen and Scanlan (6) which were required for presentation of the persuasive messages (see Appendix F), were selected.

**Speaker Credibility Study Findings**

A preliminary study was conducted in an attempt to establish a "high" and "low" level of the speaker credibility factor. By this is meant that a speaker possess a distinct degree (such as "high" or "low") of authoritativeness to speak on a particular subject. Two variables consisting of speaker sex (male and female) and occupational title (realtor and psychologist) were manipulated within a hypothetical speaker biography structure resulting in four biographies. One hundred sixty-five subjects from eleven
classrooms, broken down into four cells or groups, evaluated the four hypothetical speakers' credibility to speak on the topic of sex roles by means of the McCrosky Scale (3).

A two way analysis of variance was conducted on the scores to determine the effects of the factors of speaker sex (male and female) and occupational title (realtor and psychologist) on subjects' perceptions of the speakers' credibility to speak on the topic of sex roles. The results of this analysis are presented in Table III.

**TABLE III**

ANALYSIS OF VARIANCE OF 165 SUBJECTS' MCCROSKY SCALE SCORES REPRESENTING THEIR APPRAISAL OF THE CREDIBILITY OF SPEAKERS TO SPEAK ON THE TOPIC OF SEX ROLES

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sums of Squares</th>
<th>D.F.</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speaker Sex (A)</td>
<td>4.97</td>
<td>1</td>
<td>4.97</td>
<td>0.784</td>
</tr>
<tr>
<td>O.T.**</td>
<td>56772.53</td>
<td>1</td>
<td>56772.53</td>
<td>863.143*</td>
</tr>
<tr>
<td>A x B</td>
<td>185.56</td>
<td>1</td>
<td>185.56</td>
<td>2.821</td>
</tr>
<tr>
<td>Residual</td>
<td>10589.65</td>
<td>161</td>
<td>65.77</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>67552.06</td>
<td>164</td>
<td>411.90</td>
<td></td>
</tr>
</tbody>
</table>

*p<.05

**Speaker Occupational Title

Analysis revealed that the occupational title of the speaker had an independent significant impact upon subjects' evaluation of the speaker's credibility to speak on the topic of sex roles, whereas the sex of the speaker and the interaction of speaker sex and occupational title did not.
This significant effect of the occupational title factor can be seen in the means and standard deviations of the subjects' McCrosky Scale scores displayed in Table IV.

**TABLE IV**

**MEANS AND STANDARD DEVIATIONS OF 165 SUBJECTS' MCCROSKY SCALE SCORES BY THE SPEAKER BIOGRAPHY FACTORS OF SPEAKER GENDER AND OCCUPATIONAL TITLE**

<table>
<thead>
<tr>
<th>Speaker Occupational Title</th>
<th>Sex of Speaker Biography</th>
<th>Average of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>&quot;Psychologist&quot;</td>
<td>43</td>
<td>41</td>
</tr>
<tr>
<td>N*</td>
<td>43</td>
<td>41</td>
</tr>
<tr>
<td>Mean</td>
<td>87.33</td>
<td>89.76</td>
</tr>
<tr>
<td>S.D.</td>
<td>8.53</td>
<td>8.88</td>
</tr>
<tr>
<td>&quot;Realtor&quot;</td>
<td>40</td>
<td>41</td>
</tr>
<tr>
<td>N*</td>
<td>40</td>
<td>41</td>
</tr>
<tr>
<td>Mean</td>
<td>52.32</td>
<td>50.51</td>
</tr>
<tr>
<td>S.D.</td>
<td>6.74</td>
<td>8.61</td>
</tr>
<tr>
<td>Average of Means</td>
<td>69.72</td>
<td>70.59</td>
</tr>
</tbody>
</table>

*Number in each cell or group

Mean scores in this study reveal some interesting points. The male and female psychologists' average mean score of 88.55 indicates a high perception of credibility or authoritativeness for this occupational title by the students as the ceiling of the McCrosky Scale is "110" while the male and female realtors' average mean of 51.42 indicates a low perception of credibility or authoritativeness to speak on the topic of sex roles for this occupational title by the students as the floor of the McCrosky Scale is "22." The floor
or the minimum score possible on the scale is interpreted as a lack of credibility or authoritativeness for the speaker while the ceiling or the maximum possible score on the scale is interpreted as a high level of authoritativeness for the speaker. A significant main effect for this factor is due, then, to the thirty-seven point spread between the two occupational titles. Results established two levels of speaker credibility with the "psychologist" acting as the high credibility speaker and the "realtor" acting as the low credibility speaker (see Appendix C, Part Five) to speak on the topic of sex roles.

Message Content Study Findings

A preliminary study was conducted to gather content material for the messages as well as establish two levels of the message content factor. Results of the Spontaneous Elicitation Questionnaire administration to eleven classes containing 165 students with regard to the attributes they felt to characterize the typical male and female are indicated in Table V. Data are presented in terms of a frequency count of the most popular traits identified by the subjects, which are characterized as the subjects' modal primary salient beliefs (see "Definition of Terms" section, Chapter I). These served as an item pool for the final selection of attributes for inclusion in the messages as discussion points.
TABLE V

MOST POPULAR ATTRIBUTES LISTED BY 165 SUBJECTS IDENTIFYING THE TYPICAL MALE AND FEMALE WHICH SERVED AS AN ITEM SELECTION POOL FOR MESSAGE DISCUSSION POINTS

<table>
<thead>
<tr>
<th>Attributes That Identify Males</th>
<th>Frequency of Occurrence in Questionnaires</th>
<th>Attributes That Identify Females</th>
<th>Frequency of Occurrence in Questionnaires</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggressive*</td>
<td>84</td>
<td>Emotional*</td>
<td>102</td>
</tr>
<tr>
<td>Independent*</td>
<td>47</td>
<td>Sensitive*</td>
<td>64</td>
</tr>
<tr>
<td>Intelligent*</td>
<td>43</td>
<td>Intelligent*</td>
<td>61</td>
</tr>
<tr>
<td>Athletic*</td>
<td>41</td>
<td>Dependent*</td>
<td>58</td>
</tr>
<tr>
<td>Business Oriented*</td>
<td>38</td>
<td>Passive*</td>
<td>44</td>
</tr>
<tr>
<td>Competitive</td>
<td>31</td>
<td>Understanding</td>
<td>42</td>
</tr>
<tr>
<td>Strong</td>
<td>31</td>
<td>Affectionate*</td>
<td>28</td>
</tr>
<tr>
<td>Mechanically Inclined*</td>
<td>29</td>
<td>Dress Conscious</td>
<td>21</td>
</tr>
<tr>
<td>Sex Minded</td>
<td>27</td>
<td>Passionate</td>
<td>17</td>
</tr>
<tr>
<td>Proud</td>
<td>26</td>
<td>Sexy</td>
<td>11</td>
</tr>
<tr>
<td>Friendly</td>
<td>18</td>
<td>Maternal</td>
<td>10</td>
</tr>
<tr>
<td>Sexy</td>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Egotistical</td>
<td>15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Attributes that were incorporated into messages

From the twenty-four most popular attributes listed in Table V, believed by teacher education students to characterize the typical male and female, criteria were established to make the final selection of attributes for persuasive message incorporation. The guidelines were as follows: (1) select the items with highest frequencies, (2) combine items with similar meaning, and (3) attempt to evenly balance the items in order that they would be equally
representative of both the male and female and not be discriminatory toward any one sex in the persuasive messages.

Results of the selection process giving equal consideration to each of the three preceding points concluded with the following attributes. Two pairs of dichotomies which were included were "aggressive-passive" (male attribute-female attribute) and "independent-dependent" (male attribute-female attribute). "Intelligent" was selected as it denoted both sexes whereas the attributes of "athletic," "mechanically inclined," and "business-oriented" that identified males were included as were the female attributes of "emotional," "sensitive," and "affectionate," thereby achieving the necessary equality for points of discussion in the messages.

Submission to the Panel of Judges (see Appendix E) of the two messages resulted in the establishment of two levels of message content. As such, the "anti-stereotypic" message advocated a cessation of stereotypic sex role attitudes while the 'pro-stereotypic" message called for a continuation of these attitudes (see Appendix B).

Findings Concerning Effectiveness of the Treatment Program in Modifying Students' Stereotypic Attitudes

A 2 x 2 x 2 factorial design allowed for comparing the treatment effects on students' sex role attitudes measured at two different times (immediately following treatment and three weeks later). The persuasive communication treatment
consisted of simultaneously varying three factors: speaker sex (male versus female), speaker credibility (high versus low), and message content (anti- versus pro-stereotypic). The pretest PAQ (5) means, unadjusted and adjusted (pretest as covariate) PAQ posttest mean scores obtained immediately after treatment and three weeks later, and their standard deviations for each of the eight cells representing a total of 302 subjects are presented in Table VI.

**TABLE VI**

302 SUBJECTS' PAQ PRETEST MEANS, UNADJUSTED AND ADJUSTED POSTTEST MEAN SCORES AND STANDARD DEVIATIONS, OBTAINED IMMEDIATELY FOLLOWING TREATMENT AND THREE WEEKS LATER

<table>
<thead>
<tr>
<th>Type of Message</th>
<th>Sex of Speaker</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>High Cred.*</td>
<td>Low Cred.*</td>
</tr>
<tr>
<td>&quot;Anti-Stereotypic&quot; Message</td>
<td>Number in Cell</td>
<td>40</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>Pretest Mean</td>
<td>144.78</td>
<td>144.55</td>
</tr>
<tr>
<td></td>
<td>Pretest S.D.</td>
<td>11.85</td>
<td>14.54</td>
</tr>
<tr>
<td></td>
<td>Unadj. Posttest Mean**</td>
<td>136.95</td>
<td>135.11</td>
</tr>
<tr>
<td></td>
<td>Unadj. S.D.**</td>
<td>13.47</td>
<td>13.85</td>
</tr>
<tr>
<td></td>
<td>Adj. Posttest Mean**</td>
<td>137.40</td>
<td>135.77</td>
</tr>
<tr>
<td></td>
<td>Unadj. Posttest Mean***</td>
<td>139.24</td>
<td>135.60</td>
</tr>
<tr>
<td></td>
<td>Unadj. S.D.***</td>
<td>13.60</td>
<td>14.31</td>
</tr>
<tr>
<td></td>
<td>Adj. Posttest Mean***</td>
<td>139.67</td>
<td>136.23</td>
</tr>
<tr>
<td>&quot;Pro-Stereotypic&quot; Message</td>
<td>Number in Cell</td>
<td>40</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Pretest Mean</td>
<td>146.43</td>
<td>142.23</td>
</tr>
<tr>
<td></td>
<td>Pretest S.D.</td>
<td>14.71</td>
<td>15.23</td>
</tr>
<tr>
<td></td>
<td>Unadj. Posttest Mean**</td>
<td>141.40</td>
<td>137.20</td>
</tr>
<tr>
<td></td>
<td>Unadj. S.D.**</td>
<td>18.28</td>
<td>18.56</td>
</tr>
<tr>
<td></td>
<td>Adj. Posttest Mean**</td>
<td>140.34</td>
<td>140.03</td>
</tr>
<tr>
<td></td>
<td>Unadj. Posttest Mean***</td>
<td>143.45</td>
<td>134.66</td>
</tr>
<tr>
<td></td>
<td>Adj. Posttest Mean***</td>
<td>142.45</td>
<td>137.30</td>
</tr>
</tbody>
</table>

*Speaker credibility level

**PAQ means and S.D.s obtained immediately after speech

***PAQ means and S.D.s obtained three weeks after speech
The mean scores of the subjects reveal some interesting points. Pretest scores indicate that the students possessed stereotypic sex role attitudes as means of "143" through "146" are indicative of stereotypic scores on the PAQ.

A three way analysis of covariance was performed on the students' PAQ attitude scores immediately following treatment to determine the effects of the three factors of speaker sex, speaker credibility and message content on these scores. Results are presented in Table VII.

**TABLE VII**

ANALYSIS OF COVARIANCE FOR THE EFFECTS OF SPEAKER SEX, CREDIBILITY, AND MESSAGE CONTENT ON 302 SUBJECTS' PAQ ATTITUDE SCORES IMMEDIATELY AFTER TREATMENT

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sums of Squares</th>
<th>D.F.</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covariate</td>
<td>45158.68</td>
<td>1</td>
<td>45158.68</td>
<td>380.585*</td>
</tr>
<tr>
<td>Speaker Sex (A)</td>
<td>140.25</td>
<td>1</td>
<td>140.25</td>
<td>1.182</td>
</tr>
<tr>
<td>Speaker Credibility (B)</td>
<td>536.78</td>
<td>1</td>
<td>536.78</td>
<td>4.524*</td>
</tr>
<tr>
<td>Type of Message (C)</td>
<td>1259.75</td>
<td>1</td>
<td>1259.75</td>
<td>10.617*</td>
</tr>
<tr>
<td>A x B</td>
<td>195.38</td>
<td>1</td>
<td>195.38</td>
<td>1.647</td>
</tr>
<tr>
<td>B x C</td>
<td>145.55</td>
<td>1</td>
<td>145.55</td>
<td>1.227</td>
</tr>
<tr>
<td>A x C</td>
<td>32.26</td>
<td>1</td>
<td>32.26</td>
<td>.272</td>
</tr>
<tr>
<td>A x B x C</td>
<td>36.09</td>
<td>1</td>
<td>36.09</td>
<td>0.582</td>
</tr>
<tr>
<td>Residual</td>
<td>34766.19</td>
<td>293</td>
<td>118.65</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>82274.25</td>
<td>301</td>
<td>273.33</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05

Table VII disclosed findings with regard to acceptance or rejection of hypotheses pertaining to the effects of the three factors on teacher education students' attitude scores.
immediately following treatment. The three main effects are considered first followed by the interaction effects.

Research Hypothesis One stated there would be no significant difference between the effects of a male speaker and a female speaker on students' sex role attitude scores immediately following treatment. The results supported the hypothesis: the F of 1.182 was not significant at the .05 level.

Research Hypothesis Two stated there would be no significant difference between the effects of a low credibility speaker and a high credibility speaker on students' sex role attitude scores immediately following treatment. The results rejected the hypothesis: the F of 4.524 was significant beyond the .05 level. This significant impact can be seen in the difference of the average mean of 137.73 of the low credibility speaker cells (see Table VI—140.03 + 135.77 + 141.08 + 134.04 / 4 = 137.73) with the average mean of 140.37 of the high credibility speaker cells (see Table VI—140.34 + 137.40 + 143.21 + 140.54 / 4 = 140.37). This difference between the two means indicated that the "low" credibility speaker had more of an effect in reducing students' stereotypic sex role attitude scores immediately following treatment.

Research Hypothesis Three declared there would be no significant difference between the effects of an anti-stereotypic message and a pro-stereotypic message on students'
sex role attitude scores immediately following treatment. The results, shown in Table VII, rejected the hypothesis: the F of 10.167 was significant. This significant impact may be seen in the difference of the average mean of 136.93 of the anti-stereotypic message cells (see Table VI—137.40 + 135.77 + 140.54 + 134.04 / 4 = 136.93) with the average mean of 141.17 of the pro-stereotypic message cells (see Table VI—140.34 + 140.03 + 143.21 + 141.08 / 4 = 141.17). The difference between the two means indicated that the "anti-stereotypic" persuasive message had more of an effect in reducing students' stereotypic sex role attitude scores immediately following treatment.

Research Hypothesis Four stated there would be no significant interaction between the speaker sex factor and the speaker credibility factor in affecting students' sex role attitude scores immediately following treatment. The results supported the hypothesis: the F of 1.647 was not significant.

Research Hypothesis Five declared there would be no significant interaction between the speaker credibility factor and the message content factor in affecting students' sex role attitude scores immediately following treatment. The results supported the hypothesis: the F of 1.227 was not significant.

Research Hypothesis Six declared there would be no significant interaction between the factor of speaker sex and
message content in affecting students' sex role attitude scores immediately following treatment. The results supported the hypothesis: the F of .272 was not significant.

Research Hypothesis Seven stated there would be no significant interaction among the factors of speaker sex, credibility and message content in affecting students' sex role attitude scores immediately following treatment. Research supported the hypothesis: the F of .582 was not significant.

As the effects of the three factors on students' PAQ attitude scores immediately following treatment have been discussed, a three way analysis of covariance was performed on their PAQ attitude scores three weeks after treatment to determine the effects of the three factors at this point in time. The results are presented in Table VIII.

**TABLE VIII**

**ANALYSIS OF COVARIANCE FOR THE EFFECTS OF SPEAKER SEX, CREDIBILITY, AND MESSAGE CONTENT ON 302 SUBJECTS' PAQ ATTITUDE SCORES THREE WEEKS AFTER TREATMENT**

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sums of Squares</th>
<th>D.F.</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covariate</td>
<td>40274.49</td>
<td>1</td>
<td>40274.49</td>
<td>281.635*</td>
</tr>
<tr>
<td>Speaker Sex (A)</td>
<td>74.46</td>
<td>1</td>
<td>74.46</td>
<td>.521</td>
</tr>
<tr>
<td>Speaker Credibility (B)</td>
<td>906.31</td>
<td>1</td>
<td>906.31</td>
<td>6.338*</td>
</tr>
<tr>
<td>Type of Message</td>
<td>212.06</td>
<td>1</td>
<td>212.06</td>
<td>1.483</td>
</tr>
<tr>
<td>A x B</td>
<td>60.21</td>
<td>1</td>
<td>60.21</td>
<td>.421</td>
</tr>
<tr>
<td>B x C</td>
<td>6.92</td>
<td>1</td>
<td>6.82</td>
<td>.048</td>
</tr>
<tr>
<td>A x C</td>
<td>5.18</td>
<td>1</td>
<td>5.18</td>
<td>.036</td>
</tr>
<tr>
<td>A x B x C</td>
<td>103.60</td>
<td>1</td>
<td>103.60</td>
<td>0.725</td>
</tr>
<tr>
<td>Residual</td>
<td>41899.72</td>
<td>293</td>
<td>143.00</td>
<td>. . .</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>83548.18</strong></td>
<td><strong>301</strong></td>
<td><strong>277.56</strong></td>
<td>. . .</td>
</tr>
</tbody>
</table>

*p<.05
Data in Table VIII disclosed the following with regard to acceptance or rejection of hypotheses pertaining to the effects of the three factors on teacher education students' attitude scores three weeks after treatment. The three main effects are considered first followed by interactions.

Research Hypothesis Eight stated there would be no significant difference between the effects of a male speaker and a female speaker on students' sex role attitude scores three weeks after treatment. Results supported the hypothesis: the F of .521 was not significant.

Research Hypothesis Nine stated there would be no significant difference between the effects of a low credibility speaker and a high credibility speaker on students' sex role attitude scores three weeks after treatment. Results rejected the hypothesis: the F of 6.338 was significant beyond the .05 level. This significant impact may be seen in the difference of the average mean of 137.74 of the low credibility cells (see Table VI—136.23 + 137.30 + 137.20 + 140.21 / 4 = 137.74) with the average mean of 141.15 of the high credibility speaker cells (see Table VI—139.67 + 142.45 + 141.25 + 141.22 / 4 = 141.15). The difference between the two means indicated that the "low" credibility speaker had more of an effect in reducing students' stereotypic sex role attitude scores three weeks after treatment.

Research Hypothesis Ten stated there would be no significant difference between the effects of an anti-stereotypic
message and a pro-stereotypic message on students' sex role attitude scores three weeks after treatment. Results, shown in Table VIII, supported the hypothesis: the $F$ of 1.483 was not significant.

Research Hypothesis Eleven stated there would be no significant interaction between the speaker sex factor and the speaker credibility factor in affecting students' sex role attitude scores three weeks after treatment. Results supported the hypothesis: the $F$ of .421 was not significant.

Research Hypothesis Twelve stated there would be no significant interaction between the speaker credibility factor and the message content factor in affecting students' sex role attitude scores three weeks after treatment. Results supported the hypothesis: the $F$ of .048 was not significant.

Research Hypothesis Thirteen declared there would be no significant interaction between the factor of speaker sex and the message content factor in affecting students' sex role attitude scores three weeks after treatment. Results supported the hypothesis: the $F$ of .036 was not significant.

Research Hypothesis Fourteen stated there would be no significant interaction among the factors of speaker sex, speaker credibility, and message content in affecting students' sex role attitude scores three weeks after treatment. Results supported the hypothesis: the $F$ of .036 was not significant.
In an attempt to support the findings reached by the factorial design analyses of attitude scores immediately following treatment (Hypothesis I through VII) and those scores three weeks later (Hypothesis VIII through XIV), a control group consisting of thirty-four students was used in which each treatment cell attitude mean score was tested against the control group attitude mean score immediately following treatment and three weeks after treatment for significant differences. Table IX displays the control group's pretest mean, unadjusted and adjusted means (covariate—pretest PAQ scores) for both posttest measurement periods.

**Table IX**

CONTROL GROUP DEPICTING 34 SUBJECTS' PAQ PRETEST MEANS, UNADJUSTED AND ADJUSTED POSTTEST MEAN SCORES AND STANDARD DEVIATIONS IMMEDIATELY AFTER TREATMENT AND THREE WEEKS LATER

<table>
<thead>
<tr>
<th>Pretest Scores</th>
<th>Posttest Scores</th>
<th>Immediate*</th>
<th>Delayed**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>S.D.</td>
<td>Unadj. Mean</td>
<td>S.D. Mean</td>
</tr>
<tr>
<td>145.56</td>
<td>17.15</td>
<td>144.41</td>
<td>17.35</td>
</tr>
</tbody>
</table>

*PAQ mean scores and standard deviations immediately following treatment.

**PAQ mean scores and standard deviations three weeks after treatment.

Mean scores of subjects in the control group reveal some interesting points. Pretest scores indicate that the
students possess stereotypic sex role attitudes as means of "143" through "146" are indicative of stereotypic scores on the PAQ.

An analysis of covariance, employing the pretest as a covariate, was performed on the eight cells and control group's (336 subjects) PAQ scores immediately following treatment to determine if at least two means differed significantly from each other. Results are displayed in Table X.

**TABLE X**

ANALYSIS OF COVARIANCE OF SEX ROLE ATTITUDE SCORES IMMEDIATELY FOLLOWING TREATMENT REPRESENTING 336 SUBJECTS IN THE EIGHT TREATMENT GROUPS AND THE CONTROL GROUP

<table>
<thead>
<tr>
<th>Source</th>
<th>Adjusted Sums of Squares</th>
<th>Mean Square</th>
<th>D.F.</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Group</td>
<td>3190.24</td>
<td>398.78</td>
<td>8</td>
<td>3.67*</td>
</tr>
<tr>
<td>Within Group</td>
<td>35463.07</td>
<td>108.78</td>
<td>326</td>
<td></td>
</tr>
</tbody>
</table>

*p<.05

Results indicate that at least two means were significantly different from each other represented by the F of 3.67 that was significant at the .05 level. To ascertain which groups were different from each other, an analysis of the data was made using the Dunnett Test (2), a multiple comparison technique in which probabilities of occurrence by chance of significant differences between the groups were given. Results of this analysis are displayed in Table XI.
TABLE XI

RESULTS OF DUNNETT TEST PERFORMED ON 336 SUBJECTS' ATTITUDE SCORES IMMEDIATELY AFTER TREATMENT AS TO A SIGNIFICANT DIFFERENCE OCCURRING BY CHANCE BETWEEN EACH CELL MEAN AND CONTROL GROUP MEAN

<table>
<thead>
<tr>
<th>Cell Number***</th>
<th>Mean Score Occurring by Chance Between Control Group and Each Cell**</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>(.005)*</td>
</tr>
<tr>
<td>Two</td>
<td>(.001)*</td>
</tr>
<tr>
<td>Three</td>
<td>(.118)</td>
</tr>
<tr>
<td>Four</td>
<td>(.102)</td>
</tr>
<tr>
<td>Five</td>
<td>(.135)</td>
</tr>
<tr>
<td>Six</td>
<td>(.001)*</td>
</tr>
<tr>
<td>Seven</td>
<td>(.706)</td>
</tr>
<tr>
<td>Eight</td>
<td>(.229)</td>
</tr>
</tbody>
</table>

*\(p < 0.05\)

**Refers to the probability of occurrence of a significant difference in the mean scores between a particular cell and the control group occurring by chance.

***Cell Numbers refer to the following treatments:
1—Male high cred. speaker—anti-stereotypic speech
2—Male low cred. speaker—anti-stereotypic speech
3—Male high cred. speaker—pro-stereotypic speech
4—Male low cred. speaker—pro-stereotypic speech
5—Female high cred. speaker—anti-stereotypic speech
6—Female low cred. speaker—anti-stereotypic speech
7—Female high cred. speaker—pro-stereotypic speech
8—Female low cred. speaker—pro-stereotypic speech

The application of the Dunnett multiple comparison technique revealed the following results. Three treatment groups' means were found to be significantly different than the control group's mean.

Research Hypothesis Fifteen stated there would be no significant difference in sex role attitude scores immediately
following treatment between the subjects of each experimental group and the subjects in the control group. The results rejected the hypothesis: the overall F of 3.67 (see Table X) was significant. Three treatment groups had significantly lower posttest mean scores immediately following treatment than the control group mean score of 144.15 (see Table IX): (1) the treatment group that had a high credibility speaker deliver an anti-stereotypic message which had a mean score of 137.40 (see Table VI), (2) the treatment group that had a low credibility speaker deliver an anti-stereotypic message which had a mean score of 135.77 (see Table VI), and (3) the treatment group that had a low credibility female deliver an anti-stereotypic message which had a mean score of 134.04 (see Table VI).

With regard to support of the factorial design's analysis which found the independent effects of a "low" credibility speaker and an "anti-stereotypic" message to significantly reduce students' stereotypic attitudes, the three treatment groups' mean scores found to be significantly lower than the control group's mean score added support to the factorial findings in that two cell groups both contained the factor level of "anti-stereotypic" message.

Attention is now turned to the control group mean-cell mean comparisons of those PAQ attitude scores three weeks
after treatment. This is with regard to support of the factorial findings (Hypotheses VIII through XIV) at this point in time.

An analysis of covariance, employing the pretest as a covariate, was performed on the eight cells and control group's (336 subjects) PAQ scores obtained three weeks after treatment to determine if at least two means differed significantly from each other. Results are depicted in Table XII.

TABLE XII

ANALYSIS OF COVARIANCE OF SEX ROLE ATTITUDE SCORES THREE WEEKS AFTER TREATMENT REPRESENTING 336 SUBJECTS IN THE EIGHT TREATMENT GROUPS AND THE CONTROL GROUP

<table>
<thead>
<tr>
<th>Source</th>
<th>Adjusted Sums of Squares</th>
<th>Mean Square</th>
<th>D.F.</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Group</td>
<td>2226.55</td>
<td>278.22</td>
<td>8</td>
<td>2.09*</td>
</tr>
<tr>
<td>Within Group</td>
<td>43515.15</td>
<td>133.48</td>
<td>326</td>
<td></td>
</tr>
</tbody>
</table>

*p<.05

Results indicate that at least two means were significantly different from each other represented by the F of 2.09 which was significant at the .05 level. To ascertain which groups were different from each other, an analysis of the data was made using the Dunnett Test (2), a multiple comparison technique in which probabilities of occurrence by chance of significant differences between the groups were given. Results of this analysis are displayed in Table XIII.
TABLE XIII

RESULTS OF DUNNETT TEST PERFORMED ON 336 SUBJECTS' ATTITUDE SCORES THREE WEEKS AFTER TREATMENT AS TO A SIGNIFICANT DIFFERENCE OCCURRING BY CHANCE BETWEEN EACH CELL MEAN AND CONTROL GROUP MEAN

Significant Difference in
Mean Score Occurring by
Chance Between Control
Group and Each Cell**

Cell Number***

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td></td>
<td>(.054)*</td>
<td></td>
</tr>
<tr>
<td>Two</td>
<td></td>
<td>(.001)*</td>
<td></td>
</tr>
<tr>
<td>Three</td>
<td></td>
<td>(.381)</td>
<td></td>
</tr>
<tr>
<td>Four</td>
<td></td>
<td>(.007)*</td>
<td></td>
</tr>
<tr>
<td>Five</td>
<td></td>
<td>(.183)</td>
<td></td>
</tr>
<tr>
<td>Six</td>
<td></td>
<td>(.006)*</td>
<td></td>
</tr>
<tr>
<td>Seven</td>
<td></td>
<td>(.192)</td>
<td></td>
</tr>
<tr>
<td>Eight</td>
<td></td>
<td>(.104)</td>
<td></td>
</tr>
</tbody>
</table>

*p<.05

**Refers to the probability of occurrence of a significant difference in the mean scores between a particular cell and the control group occurring by chance.

***Cell Numbers refer to the following treatments:
1--Male high cred. speaker--anti-stereotypic speech
2--Male low cred. speaker--anti-stereotypic speech
3--Male high cred. speaker--pro-stereotypic speech
4--Male low cred. speaker--pro-stereotypic speech
5--Female high cred. speaker--anti-stereotypic speech
6--Female low cred. speaker--anti-stereotypic speech
7--Female high cred. speaker--pro-stereotypic speech
8--Female low cred. speaker--pro-stereotypic speech

Application of the Dunnett multiple comparison technique revealed the following results. Four treatment groups' means were found to be significantly different than the control group's mean.

Research Hypothesis Sixteen stated there would be no significant difference in sex role attitude scores three weeks after treatment between subjects of each experimental
groups and subjects in the control group. The results rejected the hypothesis: the overall F of 2.09 (see Table XII) was significant. Four treatment groups had significantly lower posttest mean scores three weeks after treatment than the control group mean scores of 144.81 (see Table IX): (1) the treatment group that had a high credibility speaker deliver an anti-stereotypic message which had a mean score of 139.67 (see Table VI), (2) the treatment group that had a low credibility speaker deliver an anti-stereotypic message which had a mean score of 136.23 (see Table VI), and (3) the treatment group that had a low credibility male deliver a pro-stereotypic message which had a mean score of 137.30 (see Table VI), and (4) the treatment group that had a low credibility female deliver an anti-stereotypic message which had a mean score of 137.20 (see Table VI).

With regard to support of the factorial design's analysis of the scores three weeks after treatment, which found the independent effects of a "low" credibility speaker to significantly reduce students' stereotypic attitudes, three of the four treatment groups' mean scores found to be significantly lower than the control group's mean score added support to the factorial findings in that all three contained the factor level of "low" speaker credibility. Attention is now turned to an examination of the relationships of the seven student correlates with the two sets of posttest scores.
Findings Concerning Contributions of the Student Correlates As They Relate to the Effectiveness Question

In trying to facilitate an understanding of the complexities that enter into the "effectiveness" question, seven correlates consisting of students' sex, marital status, type of program enrollment, issue involvement, response involvement, speaker credibility evaluation and persuasive communication evaluation were considered for the significance of their relationships with students' PAQ attitude scores immediately following treatment and three weeks later. A simultaneous regression model (1) was used to test the significance of the unique contribution of each of the seven variables. Relationships with the attitude scores immediately following treatment are considered first.

An overall F test was used to determine if one or more of the correlates' unstandardized regression coefficients were significantly different from zero. Table XIV displays results.

TABLE XIV

OVERALL F TEST OF THE RELATIONSHIP OF ONE OR MORE OF THE SEVEN CORRELATES WITH 302 SUBJECTS' SEX ROLE ATTITUDE SCORES IMMEDIATELY FOLLOWING TREATMENT

<table>
<thead>
<tr>
<th>Source</th>
<th>D.F.</th>
<th>Sums of Squares</th>
<th>Mean Square</th>
<th>F</th>
<th>Total R^2</th>
<th>Multiple R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>8</td>
<td>5892.83</td>
<td>735.35</td>
<td>2.82*</td>
<td>0.0715</td>
<td>0.2674</td>
</tr>
<tr>
<td>Residual</td>
<td>293</td>
<td>76394.14</td>
<td>260.70</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05
A significant F of 2.82 indicated that one or more of the seven correlates' regression coefficients were significantly different from zero, meaning that one or more of the correlates had a significant relationship with students' attitude scores when all other variables were partialed out. Table XV contains a breakdown as to the significance level of each variable's unique contribution to the total amount of variance, which was 7 percent (see Table XIV), accounted for in students' attitude scores immediately after treatment.

### Table XV

**SEPARATE F TESTS OF THE UNIQUE RELATIONSHIP OF EACH OF THE STUDENT CORRELATES WITH 302 SUBJECTS' ATTITUDE SCORES IMMEDIATELY FOLLOWING TREATMENT**

<table>
<thead>
<tr>
<th>Correlate**</th>
<th>Unstandardized Regression Coefficient</th>
<th>Std. Error of Regression Coefficient</th>
<th>F</th>
<th>Correlation With PAQ Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>0.0705</td>
<td>1.5125</td>
<td>0.002</td>
<td>0.028</td>
</tr>
<tr>
<td>Two</td>
<td>5.4238</td>
<td>2.4259</td>
<td>4.998*</td>
<td>.165</td>
</tr>
<tr>
<td>Three</td>
<td>5.2718</td>
<td>2.1404</td>
<td>6.066*</td>
<td>.149</td>
</tr>
<tr>
<td>Four</td>
<td>-1.3138</td>
<td>2.0008</td>
<td>.431</td>
<td>-.081</td>
</tr>
<tr>
<td>Five</td>
<td>4.1948</td>
<td>2.1744</td>
<td>3.722</td>
<td>.086</td>
</tr>
<tr>
<td>Six-A</td>
<td>-3.9583</td>
<td>2.6664</td>
<td>2.204</td>
<td>-.050</td>
</tr>
<tr>
<td>Six-B</td>
<td>1.9227</td>
<td>3.0856</td>
<td>.388</td>
<td>.062</td>
</tr>
<tr>
<td>Seven</td>
<td>-4.3918</td>
<td>2.5259</td>
<td>3.023</td>
<td>-.049</td>
</tr>
<tr>
<td>(Constant)</td>
<td>137.6374</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<.05

**Refers to the following seven student correlates:
One—Student Response Involvement
Two—Student Gender
Three—Student Marital Status
Four—Student Program Enrollment
Five—Student Issue Involvement
Six-A—Student Message Evaluation (fair or not)
Six-B—Student Message Evaluation (biased and no reaction)
Seven—Student Evaluation of Speaker Credibility
Individual F tests of the correlates revealed the following information. The two correlates of student gender and marital status had a significant unique relationship with students' sex role attitude scores immediately after treatment while the following five student correlates did not: (1) program enrollment, (2) issue involvement, (3) response involvement, (4) speaker credibility evaluation, and (5) persuasive message evaluation.

Attention is now turned to the relationships of the seven correlates with the students' PAQ sex role attitude scores three weeks after treatment. Again, a simultaneous regression model was used to test the significance of the unique contribution of each of the seven variables.

An overall F test was used to determine if one or more of the correlates' unstandardized regression coefficients were significantly different from zero. Table XVI displays the results.

**TABLE XVI**

OVERALL F TEST OF THE RELATIONSHIP OF ONE OR MORE OF THE SEVEN CORRELATES WITH 302 SUBJECTS' SEX ROLE ATTITUDE SCORES THREE WEEKS AFTER TREATMENT

<table>
<thead>
<tr>
<th>Source</th>
<th>D.F.</th>
<th>Sums of Squares</th>
<th>Mean Square</th>
<th>F</th>
<th>Total R²</th>
<th>Multiple R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>8</td>
<td>5189.09</td>
<td>648.64</td>
<td>2.43*</td>
<td>0.0621</td>
<td>0.2492</td>
</tr>
<tr>
<td>Residual</td>
<td>293</td>
<td>73362.25</td>
<td>267.45</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<.05
A significant F of 2.43 indicated that one or more of the seven correlates' regression coefficients were significantly different from zero, meaning that one or more of the correlates had a significant relationship with students' attitude scores when all other variables were partialed out. Table XVII contains a breakdown as to the significance level of each variable's unique contribution to the total amount of variance, which was 6 percent (see Table XVI), accounted for in students' attitude scores three weeks after treatment.

**TABLE XVII**

**SEPARATE F TESTS OF THE UNIQUE RELATIONSHIP OF EACH OF THE STUDENT CORRELATES WITH 302 SUBJECTS' ATTITUDE SCORES THREE WEEKS AFTER TREATMENT**

<table>
<thead>
<tr>
<th>Correlate**</th>
<th>Unstandardized Regression Coefficient</th>
<th>Std. Error of Regression Coefficient</th>
<th>F</th>
<th>Correlation With PAQ Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>-0.3188</td>
<td>1.5319</td>
<td>.043</td>
<td>-0.001</td>
</tr>
<tr>
<td>Two</td>
<td>3.9390</td>
<td>2.4570</td>
<td>2.570</td>
<td>.115</td>
</tr>
<tr>
<td>Three</td>
<td>4.8657</td>
<td>2.1678</td>
<td>5.038*</td>
<td>.139</td>
</tr>
<tr>
<td>Four</td>
<td>-1.0623</td>
<td>2.0264</td>
<td>.275</td>
<td>-.060</td>
</tr>
<tr>
<td>Five</td>
<td>5.7546</td>
<td>2.2022</td>
<td>6.828*</td>
<td>.115</td>
</tr>
<tr>
<td>Six-A</td>
<td>.4227</td>
<td>-7.7005</td>
<td>.025</td>
<td>.026</td>
</tr>
<tr>
<td>Six-B</td>
<td>4.6890</td>
<td>3.1251</td>
<td>2.251</td>
<td>.078</td>
</tr>
<tr>
<td>Seven</td>
<td>-2.5701</td>
<td>2.5582</td>
<td>1.009</td>
<td>-0.071</td>
</tr>
<tr>
<td>(Constant)</td>
<td>135.2040</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05

**Refers to the following seven student correlates:
One—Student Response Involvement
Two—Student Gender
Three—Student Marital Status
Four—Student Program Enrollment
Five—Student Issue Involvement
Six-A—Student Message Evaluation (fair or not)
Six-B—Student Message Evaluation (biased and no reaction)
Seven—Student Evaluation of Speaker Credibility
Individual F tests of the correlates revealed the following information. The two correlates of student marital status and issue involvement had a significant unique relationship with students' sex role attitude scores three weeks after treatment while the following five student correlates did not: (1) gender, (2) program enrollment, (3) response involvement, (4) speaker credibility evaluation, and (5) persuasive message evaluation.

Attention is now turned to an exploration of the variables that were found to have significant relationships with the attitude scores to determine the nature of their relationships. Student gender and its relationship with scores immediately following treatment is examined first followed by student issue involvement and its relationship with scores at the three week point, and finally, student marital status and its relationship with both sets of scores is examined last.

As a means of exploring the relationship of student sex to the students' attitude scores immediately after treatment, the variable was placed within another simultaneous regression model framework containing three variables: pretest PAQ attitude scores, student gender, and the interaction of student gender and pretest scores. An overall F test was used to determine if one or more of the three variables' coefficients were significantly different from zero. Table XVIII depicts the results.
TABLE XVIII
OVERALL F TEST OF THE RELATIONSHIP OF ONE OR MORE OF THE VARIABLES OF PRETEST ATTITUDE SCORES, STUDENT SEX, AND THE INTERACTION VARIABLE WITH 302 SUBJECTS' ATTITUDE SCORES IMMEDIATELY AFTER TREATMENT

<table>
<thead>
<tr>
<th>Source</th>
<th>D.F.</th>
<th>Sums of Squares</th>
<th>Mean Square</th>
<th>F</th>
<th>Total R²</th>
<th>Multiple R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>3</td>
<td>46946.99</td>
<td>15648.99</td>
<td>131.99*</td>
<td>0.5706</td>
<td>0.7553</td>
</tr>
<tr>
<td>Residual</td>
<td>298</td>
<td>35329.98</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05

Results indicate that the F of 131.99 was significant: one or more of the variables' coefficients were significantly different from zero. Table XIX contains a breakdown with regard to the significance level of each variable's unique contribution to the total amount of variance, which was 57 percent (see Table XVIII), accounted for in students' scores.

TABLE XIX
F TESTS OF THE UNIQUE RELATIONSHIP OF EACH OF THE VARIABLES OF PRETEST ATTITUDES, STUDENT SEX, AND THE INTERACTION WITH 302 SUBJECTS' ATTITUDE SCORES IMMEDIATELY AFTER TREATMENT

<table>
<thead>
<tr>
<th>Variable</th>
<th>Unstandardized Regression Coefficient</th>
<th>Std. Error of Regression Coefficient</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest PAQ (A)</td>
<td>0.9995</td>
<td>0.0561</td>
<td>316.532*</td>
</tr>
<tr>
<td>Subject Sex (B)</td>
<td>53.0091</td>
<td>15.0447</td>
<td>12.415*</td>
</tr>
<tr>
<td>A x B (Constant)</td>
<td>-0.3398</td>
<td>0.1017</td>
<td>11.159*</td>
</tr>
</tbody>
</table>

*p < .05
Each of the variables of student pretest PAQ scores, student sex, and the interaction of pretest and sex had a significant relationship with students' attitude scores immediately after treatment. Since the interaction is significant, this is a negation of homogeneity of regression slopes. The interaction relationship is plotted in Figure 1.

Data examination reveals that the relationship between the students' sex role attitude scores immediately after treatment and student gender varies as a function of the students' pretest attitude scores. Specifically, females
who hold low stereotypic attitudes before treatment are predicted to score even lower immediately after treatment irrespective of treatment while the opposite is predicted for males. Toward the ceiling of the PAQ, which indicates highly stereotypic attitudes, females are predicted to score even higher than their pretest scores irrespective of treatment while the opposite is predicted for males. Closer to the mean, sex differences become negligible.

The correlate of student issue involvement is now explored as to its relationship with students' attitude scores three weeks after treatment. To explore this relationship, the variable was placed within another simultaneous regression framework containing three variables: pretest PAQ attitude scores, issue involvement, and the interaction variable. An overall F test was used to determine if one or more of the three variables' coefficients were significantly different from zero. Table XX depicts the results.

**TABLE XX**

OVERALL F TEST OF THE RELATIONSHIP OF ONE OR MORE OF THE VARIABLES OF PRETEST ATTITUDE SCORES, STUDENT ISSUE INVOLVEMENT AND THE INTERACTION VARIABLE WITH 302 SUBJECTS' ATTITUDE SCORES THREE WEEKS AFTER TREATMENT

<table>
<thead>
<tr>
<th>Source</th>
<th>D.F.</th>
<th>Sums of Squares</th>
<th>Mean Square</th>
<th>F</th>
<th>Total R²</th>
<th>Multiple R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>3</td>
<td>41165.32</td>
<td>13721.77</td>
<td>96.47*</td>
<td>0.4927</td>
<td>0.7019</td>
</tr>
<tr>
<td>Residual</td>
<td>298</td>
<td>42386.02</td>
<td>142.23</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05
Results indicate that the F of 96.47 was significant: one or more of the variables' coefficients were significantly different from zero. Table XXI contains a breakdown with regard to the significance level of each variable's unique contribution to the total amount of variance, which was 49 percent (see Table XX), accounted for in students' scores.

**TABLE XXI**

*F TESTS OF THE UNIQUE RELATIONSHIP OF EACH OF THE VARIABLES OF PRETEST ATTITUDES, STUDENT ISSUE INVOLVEMENT, AND THE INTERACTION WITH 302 SUBJECTS' ATTITUDE SCORES THREE WEEKS AFTER TREATMENT*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Unstandardized Regression Coefficient</th>
<th>Std. Error of Regression Coefficient</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest PAQ (A)</td>
<td>0.8138</td>
<td>0.0762</td>
<td>114.068*</td>
</tr>
<tr>
<td>Subject Issue Involvement (B)</td>
<td>-6.7381</td>
<td>14.9773</td>
<td>.202</td>
</tr>
<tr>
<td>A x B</td>
<td>0.0723</td>
<td>0.1024</td>
<td>0.499</td>
</tr>
</tbody>
</table>

*p<.05

Only the pretest had a significant relationship with the students' sex role attitude scores three weeks after treatment. No significant relationship was seen with regard to the variable of issue involvement or its interaction with the pretest whereas in the regression equation containing all seven variables it was found to be significant (see Table XVII). A possible explanation for this occurrence may be termed "classical suppression" (1, pp. 87-91) in which the correlate of issue involvement may suppress
some of the variance in another correlate that may be significantly related to the dependent variable of attitude scores. This "suppression" allowed issue involvement to become significant in the presence of the other variables (see Table XVII) yet was unable to do so when not in the presence of the other variables (see Table XXI).

The correlate of student marital status is now explored for the nature of its relationship with students' attitude scores immediately after treatment. As a means of examining this relationship, the variable was placed within another simultaneous regression model framework containing three variables: pretest PAQ attitude scores, student marital status, and the interaction variable. An overall F test was used to determine if one or more of the three variables' coefficients were significantly different from zero. Table XXII depicts the results.

TABLE XXII
OVERALL F TEST OF THE RELATIONSHIP OF ONE OR MORE OF THE VARIABLES OF PRETEST ATTITUDE SCORES, STUDENT MARITAL STATUS, AND THE INTERACTION VARIABLE WITH 302 SUBJECTS' ATTITUDE SCORES IMMEDIATELY AFTER TREATMENT

<table>
<thead>
<tr>
<th>Source</th>
<th>D.F.</th>
<th>Sums of Squares</th>
<th>Mean Square</th>
<th>F</th>
<th>Total R²</th>
<th>Multiple R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>3</td>
<td>45935.65</td>
<td>15317.88</td>
<td>125.67*</td>
<td>0.5585</td>
<td>0.7473</td>
</tr>
<tr>
<td>Residual</td>
<td>298</td>
<td>36323.32</td>
<td>121.89</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<.05
Results indicate that the overall $F$ of 125.67 was significant: one or more of the variables' coefficients were significantly different from zero. Table XXIII contains a breakdown with regard to the significance level of each variable's unique contribution to the total amount of variance, which was 56 percent (see Table XXII), accounted for in the students' attitude scores.

**TABLE XXIII**

**F TESTS OF THE UNIQUE RELATIONSHIP OF EACH OF THE VARIABLES OF PRETEST ATTITUDES, STUDENT MARITAL STATUS, AND THE INTERACTION WITH 302 SUBJECTS' ATTITUDE SCORES IMMEDIATELY FOLLOWING TREATMENT**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Unstandardized Regression Coefficient</th>
<th>Std. Error of Regression Coefficient</th>
<th>$F$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest PAQ (A)</td>
<td>1.1020</td>
<td>0.0969</td>
<td>129.118*</td>
</tr>
<tr>
<td>Subject Marital Status (B)</td>
<td>39.3185</td>
<td>15.9949</td>
<td>6.043*</td>
</tr>
<tr>
<td>A x B</td>
<td>-0.2658</td>
<td>0.1114</td>
<td>5.695*</td>
</tr>
<tr>
<td>(Constant)</td>
<td>-21.3167</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* $p < .05$

Each of the variables of student pretest scores, student marital status and the interaction of the pretest and marital status had a significant relationship with the students' attitude scores immediately following treatment. Since the interaction is significant, this is a negation of homogeneity of regression slopes. The nature of this relationship is plotted in Figure 2.
Data examination reveals that the relationship between students' sex role attitude scores immediately following treatment and students' marital status varies as a function of the students' pretest attitude scores. Married students who hold low stereotypic sex role attitudes before treatment are predicted to score slightly lower immediately following treatment irrespective of treatment factor level combinations while the opposite is predicted for single students. Toward the ceiling of the PAQ, which indicates highly stereotypic attitudes, married students are predicted to score slightly higher immediately following treatment irrespective of the
treatment factor level combinations while the opposite is predicted for single students. Closer to the mean, marital status differences become negligible.

Attention is now turned to an exploration of the correlate of student marital status and the nature of its relationship with attitude scores three weeks after treatment. As a means of examining this relationship, the variable was placed within another simultaneous regression model framework containing three variables: pretest PAQ attitude scores, student marital status, and the interaction variable. The overall F test was used to determine if one or more of the three variables' coefficients were significantly different from zero. Table XXIV depicts the results.

**TABLE XXIV**

OVERALL F TEST OF THE RELATIONSHIP OF ONE OR MORE OF THE VARIABLES OF PRETEST ATTITUDE SCORES, STUDENT MARITAL STATUS AND THE INTERACTION VARIABLE WITH 302 SUBJECTS' ATTITUDE SCORES THREE WEEKS AFTER TREATMENT

<table>
<thead>
<tr>
<th>Source</th>
<th>D.F.</th>
<th>Sums of Squares</th>
<th>Mean Square</th>
<th>F</th>
<th>Total R²</th>
<th>Multiple R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>3</td>
<td>40898.58</td>
<td>13632.86</td>
<td>95.25*</td>
<td>0.4895</td>
<td>0.6996</td>
</tr>
<tr>
<td>Residual</td>
<td>298</td>
<td>42652.76</td>
<td>143.13</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<.05

Results indicate that the overall F of 95.25 was significant: one or more of the variables' coefficients were significantly different from zero. Table XXV contains a
breakdown with regard to the significance level of each variable's unique contribution to the total amount of variance, which was 49 percent (see Table XXIV), accounted for in the students' attitude scores.

**TABLE XXV**

**F TESTS OF THE UNIQUE RELATIONSHIP OF EACH OF THE VARIABLES OF PRETEST ATTITUDES, STUDENT MARITAL STATUS, AND THE INTERACTION VARIABLE WITH 302 SUBJECTS' ATTITUDE SCORES THREE WEEKS AFTER TREATMENT**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Unstandardized Regression Coefficient</th>
<th>Std. Error of Regression Coefficient</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest PAQ (A)</td>
<td>1.0273</td>
<td>0.1051</td>
<td>95.550*</td>
</tr>
<tr>
<td>Subject Marital Status (B)</td>
<td>34.5900</td>
<td>17.3326</td>
<td>3.983*</td>
</tr>
<tr>
<td>A x B</td>
<td>-0.2333</td>
<td>0.1207</td>
<td>3.935*</td>
</tr>
<tr>
<td>(Constant)</td>
<td>-10.0234</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<.05

Each of the variables of student pretest PAQ scores, the correlate of student marital status, and the interaction of the pretest PAQ scores and the correlate of marital status had a significant relationship with students' attitude scores three weeks after treatment. Since the interaction is significant, this is a negation of homogeneity of regression slopes. The nature of this relationship is plotted in Figure 3.
An examination of the data reveals that the relationship between students' sex role attitude scores three weeks after treatment and the students' marital status varies as a function of the students' pretest scores as it did with scores immediately following treatment (see Figure 2). At the three weeks point, married students who hold low stereotypic sex role attitudes before treatment are predicted to score slightly lower three weeks following treatment irrespective of treatment factor level combinations while the opposite is predicted for single students. Toward the
ceiling of the PAQ which indicates highly stereotypic attitudes, married students are predicted to score slightly higher three weeks following treatment irrespective of treatment factor level combinations while the opposite is predicted for single students. Closer to the mean, marital status differences become negligible. Approximately the same was true for attitude scores immediately following treatment.

Summary of Findings

The first part of the chapter was concerned with the presentation of data surrounding construction of a preservice treatment program to modify teacher education students' stereotypic sex role attitudes. Summarily, two levels for each of the three factors of speaker sex, speaker credibility, and message content were established as a result of studies pertaining to each factor considered to be an integral part of the persuasive communication approach to attitude change.

The second part of the chapter dealt with findings surrounding the effects of the simultaneous manipulations of the three factors within the treatment program. As for the effects of the three factors on students' attitude scores immediately following treatment, there was a significant main effect of speaker credibility (low credibility speaker significantly lowered scores), and of message content (anti-stereotypic message significantly lowered scores). There
was no significant main effect of speaker sex, nor were any interactions significant. With regard to the effects of the three factors on students' attitude scores three weeks after treatment, there was a significant main effect of speaker credibility again (low credibility speaker significantly lower scores) but there was no main effect at the three week point for speaker sex or message content. No interactions were significant either. The findings of the comparisons of the control group with each of the eight treatment groups supported the factorial findings.

Finally, the last part of the chapter dealt with facilitating comprehension of the effectiveness question by examining the relationships of the seven student correlates with the two sets of posttest sex role attitude scores. As for relationships with students' scores immediately following treatment, student sex and marital status possessed a significant relationship with the scores, but both varied as a function of the students' pretest attitude scores. The other five variables possessed no significant relationships with the scores immediately following treatment. As for scores three weeks after treatment, student marital status possessed a significant relationship with the scores but varied as a function of the students' pretest attitude scores. A significant relationship was found between student issue involvement and the scores, but the nature of the relationship could not
be ascertained. The other five variables possessed no significant relationships with the scores three weeks after treatment.
CHAPTER BIBLIOGRAPHY


CHAPTER V

SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purposes of this study were

1. To develop a brief preservice treatment program to help teacher education programs comply with the principles of equality and Title IX legislation regarding the reduction of sexist attitudes in the schools,

2. To determine the degrees of effectiveness of the selected experimental treatments pertaining to the changing of teacher education students' expressed attitudes toward male and female roles in society,

3. To facilitate understanding of the complexities that enter into the "effectiveness" question by assessing the contributions of selected variables, and

4. To help teacher education faculties gain insight into the long term reduction of sex discrimination in the schools of teacher education and, ultimately, the reduction of sex discrimination in elementary and secondary schools.

Frameworks were devised to accomplish these purposes in which basic assumptions were made as well as limitations recognized.
To accomplish the purposes, the population from which samples were drawn consisted of students enrolled in the elementary and secondary undergraduate teacher education program at North Texas State University in Denton, Texas. A time frame for student sample participation included the Second Summer Session and Fall Semester, 1980.

A brief preservice treatment program to modify teacher education students' stereotypic sex role attitudes was developed beginning with a survey of the literature related to the persuasive communication approach to attitudinal change. As a result of the literature search, the three factors of speaker sex, speaker credibility and message content were identified and incorporated within the treatment model.

As a means of identifying the effects of these factors, two levels had to be established for each one. One male and one female speaker were acquired to complete the requirements of the speaker sex factor while a preliminary study in which a sample of eleven classrooms representing 165 students established two levels of speaker credibility (high and low). Another preliminary investigation was conducted to obtain content material for the persuasive messages in which the same 165 students participated who had done so for the speaker credibility study. After constructing the two messages which included the obtained content material, a panel of judges established the two distinct levels
("anti-stereotypic" message advocating a cessation of stereotypic sex role attitudes and "pro-stereotypic" message advocating a continuation of such attitudes).

As a means of ascertaining the effectiveness of the treatment program, a $2 \times 2 \times 2$ factorial design was used in which this approach allowed for comparing the effects of simultaneously varying the three factors: speaker sex (male versus female), speaker credibility (high versus low), and message content (anti-stereotypic versus pro-stereotypic). The Personal Attributes Questionnaire (PAQ) (4), a sex role attitude evaluation scale, measured the students' pretreatment attitudes as well as the effects of the simultaneous factor manipulations upon the undergraduate teacher education students' attitudes. Specifically, samples in the form of intact classes from this population were randomly assigned to the eight treatment cells ranging in size from thirty-three to forty-two students per cell representing a total of 302 students. Effects of the manipulation were measured immediately following treatment as well as three weeks after treatment. A separate analysis was conducted with each set of posttest scores by employing a three-way analysis of covariance approach with the students' pretest PAQ scores acting as the covariate.

A control group was also employed to lend additional support to the factorial design findings using the same pretest and two posttest rationale for collecting data as the
eight cells by means of the PAQ. Samples from the undergraduate teacher education student population were also randomly assigned to the control group which resulted in four classrooms representing thirty-four students. Data from each of the two posttest measurement periods were analyzed employing an analysis of covariance approach with a multiple comparison technique to compare the means among the nine groups representing one control and eight treatment groups with specific emphasis being placed on control group-individual cell comparisons.

In addition to analyzing the effectiveness of the three factors in changing students' stereotypic sex role attitudes, seven student correlates were considered with regard to their part in influencing the students' reactions to the treatment factors irrespective of factor level combinations in hopes of facilitating an understanding of the complexities that enter into the "effectiveness" question. Data on the socio-demographic correlates and issue involvement were gathered by the Socio-Demographic Questionnaire and the "Issue" Involvement Scale (6) respectively during the pre-test phase while data on the correlates of student response involvement, speaker credibility evaluation, and persuasive message evaluation were respectively collected by the "Response" Involvement Scale (1), McCrosky Scale (3), and the Communication Evaluation Scale (7) during the posttest phase immediately following treatment. Data were analyzed
employing the simultaneous regression model in which each of the two sets of posttest PAQ scores acted as the criterion and the correlates as the independent variables.

Data pertaining to the first three purposes were collected, analyzed and presented. This was accomplished to help teacher education faculties gain insight into the long-term elimination of sexism in the schools of teacher education and ultimately the elimination of sexism in elementary and secondary schools.

Summary of Findings

Major findings resulting from this study were as follows.

1. There was no significant effect of speaker sex upon students' expressed sex role attitudes immediately following treatment as well as upon those expressed attitudes three weeks after treatment thereby, accepting Research Hypotheses One and Eight.

2. There was a significant main effect of speaker credibility upon students' expressed sex role attitudes immediately following treatment as well as upon those expressed attitudes three weeks after treatment thereby rejecting Research Hypotheses Two and Nine. Specifically, students' stereotypic sex role attitude scores were significantly lowered at both measurement periods by the independent effects of a "low" credibility speaker.
3. There was a significant main effect of message content upon students' expressed sex role attitudes immediately following treatment thereby rejecting Research Hypothesis Three. Specifically, students' stereotypic sex role attitude scores were significantly lowered immediately following treatment by the independent effects of an "anti-stereotypic" persuasive message. There was no significant main effect of message content upon students' expressed sex role attitudes three weeks after treatment, thereby accepting Research Hypothesis Ten.

4. There were no significant interactions between or among the three factors in affecting students' expressed sex role attitudes immediately following treatment as well as upon those expressed attitudes three weeks after treatment, thereby accepting Research Hypotheses Four, Five, Six, Seven, Eleven, Twelve, Thirteen, and Fourteen.

5. Three treatment group mean scores obtained by measurement immediately following treatment were found to be significantly different from the control group mean score, thereby rejecting Research Hypothesis Fifteen in that all three treatment groups' sex role attitude mean scores were significantly lower than the control group sex role attitude mean score. Accordingly, all three treatment groups contained the "low" credibility speaker factor as well as the "anti-stereotypic" persuasive message factor, thereby giving
additional support to the significant main effects findings under the factorial design.

6. Four treatment group mean scores obtained by measurement three weeks after treatment were found to be significantly different from the control group mean score, thereby rejecting Research Hypothesis Sixteen in that all four treatment group sex role attitude mean scores were significantly lower than the control group sex role attitude mean scores. Accordingly, three of the four treatment groups contained the "low" credibility speaker factor, thereby giving additional support to the significant main effect finding under the factorial design.

7. The following student correlates possessed no significant relationship with the students' expressed sex role attitudes immediately following treatment as well as with those expressed attitudes three weeks after treatment: Type of program enrollment (elementary or secondary), response involvement, student persuasive message evaluation and speaker credibility evaluation.

8. There was a significant relationship between the correlate of student sex and the students' expressed sex role attitudes immediately following treatment, which varied as a function of the students' expressed pretest attitudes. There was no significant relationship between the correlate of student sex and the students' expressed sex role attitudes three weeks after treatment.
9. There was a significant relationship between the correlate of student marital status and students' expressed sex role attitudes immediately following treatment as well as with those expressed attitudes three weeks after treatment, which varied as a function of the students' expressed pretest attitudes in both instances.

10. There was no significant relationship between the correlate of student issue involvement and the students' expressed sex role attitudes immediately following treatment. There was a significant relationship between this correlate and the students' expressed sex role attitudes three weeks after treatment; however upon further investigation the nature of the relationship could not be determined, leading to inconclusive results with regard to this variable.

Conclusions

Based on the findings, the following conclusions seem to be appropriate.

1. The teacher education student population is predominantly female who were found, along with males in the program, to hold stereotypic attitudes toward the roles that males and females engage in, yet the students were not affected by the male or female speaker in regard to changing their sexist attitudes toward males and females. This may have been influenced by their reactions to the personality and physical characteristics of the speaker delivering the
speech as well as to the environmental circumstances surrounding the persuasive communication attempt rather than the sex of the speaker.

2. A sample of teacher education students in a preliminary study perceived a psychologist as a high credibility source and a realtor as a low credibility source to speak on the topic of sex roles; however, in the main study, the person identified as the realtor was more effective in modifying their stereotypic sex role attitudes than the person identified as the psychologist. Although the psychologist would generally be expected to be a more credible speaker regarding the topic of sex roles than a realtor in our society, the attitudes of the subjects in this study were not influenced by the psychologist to the degree that they were by the realtor. There is the possibility that their attitudes were influenced by the speaker personality and physical characteristics, as well as the environmental situation, to a greater degree than the credibility of the speaker.

3. The attainment of a significant effect of the message content factor—acting independently of the speaker gender and speaker credibility factors—upon teacher education students' stereotypic sex role attitudes initially but not at the three week point indicates that students' attitudes appear to be significantly affected initially but not over an extended period of time by the "anti-stereotypic"
persuasive message. This conclusion is in line with conclusions drawn by Hovland, Harvey, and Sherif (2), which advocates maximum change when discrepancy is at an intermediate level. The lack of any significant effect of the factor upon students' attitudes over an extended period of time is in agreement with Watts and McGuire's conclusions (5) with regard to the decay of induced attitude change over a period of time.

4. The lack of a significant effect of any interaction between or among the three treatment factors of speaker sex, speaker credibility and message content upon teacher education students' stereotypic sex role attitudes indicates that students' attitudes appear not to be affected initially nor over any extended period of time by any specific interactions between or among the three factors incorporated within this persuasive communication approach to sex role attitude modification.

5. The initial effects of the three factors of speaker sex, speaker credibility, and message content acting independently or in combination with one another upon students' stereotypic sex role attitudes could have been influenced by student pretesting or the differential selection of subjects. After an extended period of time effects of the three factors upon students' attitudes could have been influenced by pretesting, student absence for testing at the three week point, differential selection of subjects as well as
the occurrence of events outside the control of the experimental situation.

6. With regard to recommending student variables that facilitate comprehension of the "effectiveness" question, which are worthy of appraisal and examination, knowledge of the student correlates of

   a. Type of program enrollment (elementary or secondary), "issue" involvement, "response" involvement, speaker credibility evaluation, and persuasive message evaluation were not helpful in ascertaining students' reactions initially or after an extended period of time to any of the treatments presented;

   b. Marital status was helpful to a minor extent in ascertaining students' reactions initially as well as after an extended period of time to any of the treatments presented;

   c. Subject gender was helpful to a minor extent in ascertaining students' reactions initially to any of the treatments presented but knowledge of the variable was not helpful after an extended period of time.

Recommendations

Based on the findings and conclusions, the following recommendations are made.

1. As a means of determining the range of teacher education students' sex role attitudes, it is recommended
that attitudes be assessed employing the **Personal Attributes Questionnaire** (4).

2. Before this treatment approach could be recommended a thorough evaluation should be undertaken concerning the relationships among the following student attitudes: attitude toward the situation in which the persuasive communication occurs, attitude toward male and female roles in society, and attitudes toward the speaker's characteristics, gender, and credibility. Perhaps a more comprehensive appraisal of this nature may help to answer the "effectiveness" question.

3. Before teacher education institutions attempt multiple treatment approaches such as workshops, consciousness raising groups, and women's studies courses, a review of the research is recommended, as inconsistencies are apparent in these "active participation" approaches to attitude change.

4. Teacher education institutions should focus concern on teacher education students' stereotypic sex role attitudes and should seek ways of modifying these attitudes to be more in accordance with Title IX legislation.

5. It is recommended that teacher education faculties become aware of the influential power of the persuasive communication technique as a possible alternative to "active participation" approaches such as workshops and group strategies with regard to changing attitudes in general.
Recommendations for Further Study

1. Additional research is needed to clarify the findings of low credibility speakers being more effective than high credibility speakers in reducing teacher education students' stereotypic sex role attitudes. This may answer the "effectiveness" question more succinctly.

2. Studies should be made regarding the relationship of teacher education students' selected personality variables and acceptance of an anti-stereotypic persuasive message espousing varying degrees of conformity to acceptance of nonstereotyped views of male and female roles in society. Conceivably, this would answer some key questions pertaining to why public school teachers still continue to stereotype students because of their sex in the public schools.

3. With regard to the receiver variable of "issue" involvement found to be questionably significant, additional research is needed to clarify this variable in isolation. Possibly, this may help to place into perspective the apparent disregard that many teachers exhibit toward the intent of Title IX legislation.

4. Additional study should be conducted to evaluate the relationship between public school teachers' sex role attitudes and specific as well as generalized patterns of behavior in the classroom with regard to this issue. This research is needed to better identify the relationship
between teachers' expressed sex role attitudes and their specific as well as general patterns of behavior in this area as a means to better comprehend the topic of sex discrimination.

5. A behaviorally oriented alternative approach to the measurement of sex role attitudes is recommended. New techniques are needed in the field of education to support the comprehensive investigation of sex discrimination.
CHAPTER BIBLIOGRAPHY


APPENDIX A

PROTOCOLS AND QUESTIONNAIRE PACKETS WITH REFERENCE TO PRELIMINARY STUDIES CONCERNING SOURCE CREDIBILITY AND PERSUASIVE MESSAGE CONSTRUCTION
PART ONE

TEST MONITOR HANDBOOK INSTRUCTIONS TO TEACHER
OF A CLASS THAT PARTICIPATED IN THE STUDY

To serve as an introduction, the following lines were read by the teacher to his or her class that participated in the study:

"I would like to introduce Eric Christensen who is conducting some research for the benefit of education. I am asking that you give him your cooperation."

The teacher subsequently turned over control of group to Test Monitor.

Refer to Part Two for verbal introduction given by Test Monitor.
PART TWO

TEST MONITOR INTRODUCTION AND INSTRUCTIONS TO ACCOMPANY SOURCE CREDIBILITY QUESTIONNAIRE PACKET

The Test Monitor gave the following introduction:

"Some interesting things are being done for the field of education this Fall. One of these activities is that some guest speakers are being invited to speak. As a result of this decision inquiries were sent out into the local geographical area asking for individuals to speak on the following topic: The Roles of Males and Females in Our Society. Speaker biographies were received from these individuals containing information relating to their backgrounds. It is felt that the students who are enrolled in the program would be the best judge of who is fit to speak on the topic and who is not. So I am asking for your cooperation in filling out the short questionnaire that I am going to pass out to you at this time. Please wait until everyone gets one and then I will give some brief instructions to assist you in filling them out."

The Test Monitor passed out the "Source Credibility Questionnaire Packet." Following this activity the following instructions were given:

"Please turn to the first page containing the biography that you are to rate as to this person's fitness to speak on the topic of the roles of males and females in our society. What do I mean by the fitness of a person to speak on that topic? By this I mean a person's suitability, aptness and qualifications to speak on the topic. Now read the biography and follow the instructions that are self-explanatory on the next page for the questionnaire that evaluates this speaker."

Upon completion of the questionnaire the next task was introduced which dealt with obtaining content material for the persuasive messages. (Refer to Part Four for verbal introduction given by the Test Monitor).
PART THREE

"SOURCE CREDIBILITY QUESTIONNAIRE PACKET"

Cover Sheet--Page 140

The subject received only one of the four biographies listed from Pages 141 through 144 for evaluation:

Female Realtor--Page 141
Male Realtor--Page 142
Female Psychologist--Page 143
Male Psychologist--Page 144

McCrosky Scale for the Measurement of Ethos--Page 145
The following packet contains some questionnaires that are to be filled out. Please read the directions as they come in sequence as they pertain to each questionnaire. Please do not skip any questions as all information is needed. Please do not confer with your classmates on these questions.

(Your first name and first letter of last name)
Read the following Biography:

Janice Harrison is a real estate agent for Red Carpet Realtors in Ft. Worth. Her major objective is to locate, appraise and sell property to the public. In addition to being a high school graduate, she holds a real estate license in the state of Texas and is also a member of the Ft. Worth Realtor's Association which regulates the activities dealing with this line of work. Her work carries her into Tarrant County as well as other locations within the North Texas area.

She is married and has lived in the Ft. Worth area for a number of years. Her activities include hospital volunteer work as well as reading for the visually impaired person.

After having read the biography, please rate the fitness of the person described above to speak on the following topic:

THE ROLES OF MALES AND FEMALES IN OUR SOCIETY

Rate the speaker by following the instructions on the next page.

(Please turn the page)
(Male Realtor)

Read the following biography:

Royce Harrison is a real estate agent for Red Carpet Realtors in Ft. Worth. His major objective is to locate, appraise and sell property to the public. In addition to being a high school graduate, he holds a real estate license in the state of Texas and is also a member of the Ft. Worth Realtor's Association which regulates the activities dealing with this line of work. His work carries him into Tarrant County as well as other locations within the North Texas area.

He is married and has lived in the Ft. Worth area for a number of years. His activities include hospital volunteer work as well as reading for the visually impaired person.

After having read the biography, please rate the fitness of the person described above to speak on the following topic:

THE ROLES OF MALES AND FEMALES IN OUR SOCIETY

Rate the speaker by following the instructions on the next page.

(Please turn the page)
Read the following biography:

Dr. Elaine McCormick is Director of Counseling Services for the Texas Employment Commission in Dallas. Dr. McCormick received her Ph.D. degree in Psychology from the University of Colorado. She has initiated and has been responsible since her assignment to the state agency for providing programs dealing with assisting employers concerning the hiring, placement, and retention of men and women. Her work has led to extensive research concerning the societal roles of males and females. The findings and implication of this ongoing research have been published in several professional journals such as the Journal of Social Psychology, Journal of Experimental Social Psychology, and Sex Roles: A Journal of Research. She is currently co-authoring a text on the subject with Dr. Thompson from the University of Texas.

After having read the biography, please rate the fitness of the person described above to speak on the following topic:

THE ROLES OF MALES AND FEMALES IN OUR SOCIETY

Rate the speaker by following the instructions on the next page.

(Please turn the page)
(Male Psychologist)

Read the following biography:

Dr. James W. McCormick is Director of Counseling Services for the Texas Employment Commission in Dallas. Dr. McCormick received his Ph.D. degree in Psychology from the University of Colorado. He has initiated and has been responsible since his assignment to the state agency for providing programs dealing with assisting employers concerning the hiring, placement, and retention of men and women. His work has led to extensive research concerning the societal roles of males and females. The findings and implications of this ongoing research have been published in several professional journals such as the Journal of Social Psychology, Journal of Experimen
tal Social Psychology, and Sex Roles: A Journal of Research. He is currently co-authoring a text on the subject with Dr. Thompson from the University of Texas.

After having read the biography, please rate the fitness of the person described above to speak on the following topic:

THE ROLES OF MALES AND FEMALES IN OUR SOCIETY

Rate the speaker by following the instructions on the next page.

(Please turn the page)
INSTRUCTIONS: Please indicate your response to the following items by placing an X beside your choice. Mark only one blank per question. The choices are as follows for each question:

- Strongly Agree
- Agree
- Undecided
- Disagree
- Strongly Disagree

1. I respect this speaker's opinion on the topic.
2. This speaker is not of very high intelligence.
3. This speaker is a reliable source of information on the topic.
4. I have confidence in this speaker.
5. This speaker lacks information on the subject.
6. This speaker has high status in our society.
7. I would consider this speaker to be an expert on the topic.
8. This speaker's opinion on the topic is of little value.
9. I believe that this speaker is quite intelligent.
10. The speaker is an unreliable source of information on the topic.
11. I have little confidence in this speaker.
12. The speaker is well informed on this subject.
13. The speaker has low status in our society.
14. I would not consider this speaker to be an expert on this topic.
15. This speaker is an authority on the topic.
16. This speaker has had very little experience with this subject.
17. This speaker has considerable knowledge of the factors involved with this subject.
18. Few people are as qualified to speak on this topic as this speaker.
19. This speaker is not an authority on the topic.
20. This speaker has very little knowledge of the factors involved with the subject.
21. This speaker has had substantial experience with this subject.
22. Many people are much more qualified to speak on this topic than this speaker.
Upon completion of the "Source Credibility Questionnaire Packet", the Test Monitor introduced the next task:

"Now that everyone has finished this questionnaire I have a final short questionnaire that will be of interest to you. A survey is being conducted into what helps a person to identify the typical male and the typical female. I am asking for your cooperation in assisting with this project.

The Test Monitor passed out the "Spontaneous Elicitation Questionnaire Packet" (see Part Five) and the following instructions were given:

"Now that everyone has a questionnaire please put on the cover sheet whether you are a male or female. Let's read the instructions."

The Test Monitor read the instructions printed on the cover sheet.

"On the following two pages you are asked to list some of the primary characteristics, traits, or qualities that you believe would be indicative of each sex. They can be single words, phrases, sentences, or any combination."

"By this I do not mean physical characteristics such as characterizing the male as tall and dark, or the female as blonde and fair. Basically, I mean what characteristics, traits, or qualities help you to identify a male and a female. For example, let's take the word 'artistic'. Does this help you to identify the male or the female or maybe neither one in your case? How about the word 'talkative'? Does this help you to identify the male or the female or maybe neither one in your case? I'm sure you can come up with something better than I have come up with for examples. Try to come up with at least five to ten for each sex. Spend no more than three minutes on each sex. I will remind you when three minutes are up so you can switch to the other sheet."

The Test Monitor called time after six minutes and collected the questionnaires.
PART FIVE

"SPONTANEOUS ELICITATION QUESTIONNAIRE PACKET"

Cover Sheet--Page 148
"Female Characteristics" Answer Sheet--Page 149
"Male Characteristics" Answer Sheet--Page 150
On the following two pages you are asked to list some of the primary characteristics, traits, or qualities that you believe would be indicative of each sex.

They can be single words, phrases, sentences, or any combination.
What do you consider to be some of the primary characteristics, traits, or qualities of females in general?
What do you consider to be some of the primary characteristics, traits, or qualities of males in general?
APPENDIX B

"PRO-STEREOTYPIC" AND "ANTI-STEREOTYPIC" PERSUASIVE MESSAGES
PART ONE

"PRO-Stereotypic" Persuasive Message

The life styles pertaining to the roles that men and women play that we practice today have been established by our society throughout the past generations and have become a worthy part of our heritage. Who are we to tamper with this pattern that has so ably served the populace in the past? Generations before the advent of the so-called women's rights or the so-called equalization of the sexes, men and women carried out normal healthy patterns of living in which each sex was allowed to develop in his or her own way according to each person's sex. Neither sex imposed itself upon the other's domain. Our society just does not work that way. It was set up for men to do certain things and for women to do certain things.

I am going to give you some examples that will relieve your mind that you are being restricted in your way of living irrespective of sex. For instance, males are supposed to be good in math and science. Females are supposed to be good in art and music. Now what girl wants to fix the car, the lawn mower or some other mechanical device? This is the domain of boys. Girls can develop themselves in areas such as art and music for example or some other area that is appropriate for girls. Each sex can stay within his or her own domain and be very successful and never have to cross over to the area of the opposite sex. What's wrong with little boys wearing blue and little girls wearing pink? What's wrong with little boys playing with trucks and little girls playing with dolls? Absolutely nothing! Children have been doing this for years and both sexes have seemed to turn out O.K.

1. Let's take aggressive behavior--What is wrong with all of us considering it the male's role to play and not the females? Most things that males do call for aggressiveness and applying strength while the activities and pursuits established for females by society do not call for these kinds of behavior. The same pattern of behavior holds for a male playing the more independent role and the female acting in a dependent way. So what's wrong with the teacher rewarding the boy for being aggressive and independent and the girl for being less so? There is nothing wrong with this! Society has established this and it has worked in the past and it will continue to work in the future.
2. Let's take emotional behavior—What is wrong with everyone believing that a female is more emotional than a male? This is a part of femininity as are the behavioral traits of sensitivity and showing more affection. Sure, females cry more easily—males don't cry—this is not manly behavior and does not fit in with their lifestyle nor should it. Women's roles accept more emotionality, sensitivity, and affection while men's roles generally do not. Teachers should respect these roles that have been established and promote them for the common good.

3. Let's take intellectual interests—we feel that a male is turned toward more intellectual interests than a female. Society has advocated this over a long period of time and society is generally run by the male so why wouldn't this belief be true? Men need to pursue areas that require knowledge in areas of the administration of society. There are plenty of interests for girls to pursue and to achieve success according to what society has fostered.

4. Let's take athletic behavior—Males are more athletic than females. Just body structure alone makes this quite evident. Anyone teaching school needs to be aware of this and orient males and females along these societally determined lines for the common good of all. Also, males are generally more mechanically inclined and more business oriented. Does it not look rather ridiculous for a girl to change oil on a car? This is definitely not feminine behavior. Females may pursue a considerable number of activities such as teaching and nursing rather than the male dominated field of business. Usually anyone—male or female—attempting to cross sex role occupational lines has difficulties of adjustment in the area. Over the years these lines of behavior have been established by society for the male and female to pursue. Irrespective of what you hear, these occupational lines for the male and for the female have been successfully carried out over the years with no problems. Teachers need to be definitely aware of what society calls for and work in accordance with these demands.

**Summation**

I have mentioned some issues that a number of you have not given serious consideration heretofore. It is time that we as responsible men and women recognize the roles that society has established for males and females to engage in which are in our best interests. Contrary to popular belief it does not restrict a male or female's creativity, ambitions, or desires to stay within the boundaries as outlined by our
society with regard to the roles that each sex should play. As future teachers, think a moment how unfair you would be acting toward your students to promote inappropriate sex role behavior. Society cannot afford to tolerate it; these patterns of behavior are so interwoven into the fabric of our lives that it would tend to weaken the very basis of our society which relies so heavily upon these sex role behaviors that it has determined for the benefit of all.
Do you feel handicapped by what our society says a man can do and what he cannot do or what a woman can do and what she cannot do? Does this restrict your talents and your abilities? For instance, we generally believe that males are supposed to like and to be good in math and science while the male is not supposed to work in art and music. It is assumed that he is to be mechanically inclined while just the opposite is true for females. They are supposed to be good in art and music and shy away from math and science. We also generally believe that females are supposed to be religious and attend church regularly while males are really not expected to perform such behavior.

If you stop and think about it, society really puts males and females into nice tight little compartments. The way that a lot of people look at it is that society dictates your life style leaving you little opportunity to make your choice as to what you want to do or what you are capable of doing. Do you know where all of this starts? Early childhood. Little boys wear blue and little girls wear pink. Little boys play with trucks and little girls play with dolls. Preschool and regular school is a continuation of these early stereotypic attitudes and it is played to the hilt.

1. Let's take aggressive behavior--We generally believe that males are aggressive while females are supposed to be somewhat passive. It is also generally believed that males are supposed to be independent while females are supposed to be dependent. What is wrong with allowing the person to be himself or herself free of the old societally determined sex role behaviors that tend to limit the individual? What is wrong with the person irrespective of sex being aggressive in a situation calling for it and in another being passive when that behavior is called for? There is absolutely nothing wrong with this—it promotes a healthy individual capable of responding in a wide variety of ways and not just in a certain way that society has said the person will perform based upon the sex of the individual. Should you as future teachers reward the males for aggressiveness and independence and the females for passivity and dependence all the time? Does that really sound logical?
2. Let's take emotional behavior—We generally believe that females are to show their emotions while males are to hide them. Society also believes that females are supposed to be sensitive and affectionate while males are supposed to display just the opposite in feelings and behavior. In the educational system for instance, teachers accept girls crying easily and becoming overly excited while they are just the opposite with boys. Think about it, does that sound logical or reasonable? Not hardly! The person be it male or female should be able to act in a fashion that is not dominated by outdated restrictions placed upon them according to her or her sex.

3. Let's look at intellectual interests—We generally believe that males are supposed to have more intellectual interests than females. Is this not a hindrance to both sexes? Maybe you as a male are not turned in that direction and maybe you as a female are oriented in this direction. As a rule females are expected to play rather dumb and the male know everything. All of us know that game. Is that not slamming the door in a number of faces? It definitely is! Many opportunities are lost by both sexes with this type of societal expectation. The person should be able to function at his or her own best level in accordance with his or her desires and abilities.

4. Let's take athletic behavior—We generally believe that males are supposed to be athletically inclined while females are not. Society also believes that males are supposed to be business oriented and mechanically inclined while females are supposed to partake of other areas of interest more "suitable" for their sex. Are all males to fit in this mold and all females to fit in the other molds? Don't you think that persons irrespective of sex should be allowed to make this decision for themselves rather than society preplanning this decision for them? The more you think about it, the more ridiculous it becomes in just stereotyping someone into a nice little role that one has difficulty moving out of.

Summation

I have mentioned some issues that a number of you have not given serious consideration heretofore. It is high time that men and women awaken to the "out-of-date" societal expectations that tend to misguide a lot of our behavior that really works against the person by stifling an individual's creativity, her or her desires, ambitions and really everything that a person wanted to do irrespective of his or her
sex. Think about it, the next time that you label a person or yourself with this restricted sex appropriate behavior you are limiting yourself as well as others. As future teachers, think about the students a moment that you will be teaching and how unfair you would be if you support these out of date societal expectations that have been handed down to you that have overshadowed your lifestyle. This is the twentieth century and we have a great need for breaking these antiquated chains and letting a person do what is in accordance with his or her abilities and desires rather than just what society expects a male to do and a female to do. It really does not fit our lifestyle anymore.
APPENDIX C

PROTOCOLS AND TESTING PACKETS WITH REFERENCE TO THE EIGHT TREATMENT GROUPS
PART ONE

TEST MONITOR HANDOUT INSTRUCTIONS TO TEACHER
OF A CLASS THAT PARTICIPATED IN THE STUDY

To serve as an introduction, the following lines were read by the teacher to his or her class that participated in the study:

"I would like to introduce Eric Christensen who is conducting some research for the benefit of education. I am asking that you give him your cooperation."

The teacher subsequently turned over control of group to Test Monitor.

Refer to Part Two for verbal introduction given by Test Monitor.
PART TWO

TEST MONITOR INTRODUCTION AND INSTRUCTIONS
TO ACCOMPANY "PRETEST PACKET"

After receiving control of the group from the teacher, the Test Monitor gave the following introduction:

"We in education are interested in your attitudes and ideas on various subjects so that the program may be kept abreast of your needs and interests by making periodic changes. I am going to distribute some short questionnaires in a packet to each one of you and ask that you follow the directions that are printed on each sheet."

The Test Monitor passed out the "Pretest Packet" (see Part Three) and issued the following instructions:

"Please put your first name and first letter of your last name on the space provided. The reason for putting your first name and initial on this is that I will pass out additional information pertaining to this material later on and will need your name so as to match you up with your previous material. All of this material is kept strictly confidential and will in no way be divulged to anyone on a personal name basis; rather everything is treated as group data. Your cooperation would be appreciated. If you have any questions please hold up your hand as we go along. Please make no comments to your classmates as you work."
PART THREE

"PRETEST PACKET"

Cover Sheet—See Appendix A, Part Three, for a copy
Socio-Demographic Questionnaire—Page 162
Personal Attributes Questionnaire—Pages 163-166
"Issue" Involvement Scale—Pages 167-168
(Socio-Demographic Questionnaire)

INSTRUCTIONS: Place an X in the space beside the one that pertains to you:

1. Your Sex:
   __ Male   __ Female

2. Your Marital Status
   __ Single   __ Married

3. Which Department of Education are you enrolled? (If you are working on an all-level certificate, please make a choice as to your preference)
   __ Elementary Education   __ Secondary Education
Scoring Directions: On each five-point Self Scale, the extreme "masculine" alternative is indicated by the letter, A or E. Choice of the specified alternative is scored 4, the adjacent choice 3, etcetera. (Thus, A=4, B=3,---E=0 or E=4, D=3,---A=0). Similarly, on each five point Stereotype Scale, the alternative indicating maximum sex differences in the stereotypic direction is indicated by the letter A or E. Choice of the specified alternative is scored 4, the adjacent choice 3, etcetera.

Self Scale

On the following pages are a series of five-point scales which describe a variety of psychological characteristics. For each one, you are to rate yourself on that characteristic. For example, how artistic are you? On the scale below "very artistic" is indicated at the far right and "not at all artistic" at the far left.

Not at all artistic A B C D E Very artistic

If you think you are moderately artistic, your answer might be D; if you are very unartistic, you should choose A, etcetera.

For each of the following scales, select the letter on the scale that best describes you and indicate it by drawing a circle around it. Please be sure to answer every item.

**********

(Note to the reader: all Self Scale items are set up as shown above: the two verbal labels being separated by a five-point scale labeled by the letters A through E. For convenience, only the verbal labels are shown, the "A" response on the left and the "E" response on the right.)

<table>
<thead>
<tr>
<th>Scoring Criteria</th>
<th>Label, Scale Point A</th>
<th>Label, Scale Point B</th>
</tr>
</thead>
<tbody>
<tr>
<td>E 1.</td>
<td>Not at all aggressive</td>
<td>Very aggressive</td>
</tr>
<tr>
<td>E 2.</td>
<td>Not at all independent</td>
<td>Very independent</td>
</tr>
<tr>
<td>A 3.</td>
<td>Not at all emotional</td>
<td>Very emotional</td>
</tr>
<tr>
<td>E 4.</td>
<td>Does not hide emotions at all</td>
<td>Almost always hides emotions</td>
</tr>
<tr>
<td>A 5.</td>
<td>Nonconforming to social expectations</td>
<td>Conforming to social expectations</td>
</tr>
<tr>
<td>A 6.</td>
<td>Not at all considerate</td>
<td>Very considerate</td>
</tr>
<tr>
<td>Scoring Criteria</td>
<td>Label, Scale Point A</td>
<td>Label, Scale Point B</td>
</tr>
<tr>
<td>------------------</td>
<td>----------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>A 7.</td>
<td>Not at all easily influenced</td>
<td>Very easily influenced</td>
</tr>
<tr>
<td>A 8.</td>
<td>Very ungrateful</td>
<td>Very grateful</td>
</tr>
<tr>
<td>E 9.</td>
<td>Very submissive</td>
<td>Very dominant</td>
</tr>
<tr>
<td>E 10.</td>
<td>Dislikes math and science very much</td>
<td>Likes math and science very much</td>
</tr>
<tr>
<td>E 11.</td>
<td>Poor at sports</td>
<td>Good at sports</td>
</tr>
<tr>
<td>A 12.</td>
<td>Not at all excitable in a major crisis</td>
<td>Very excitable in a major crisis</td>
</tr>
<tr>
<td>A 13.</td>
<td>Not at all excitable in a minor crisis</td>
<td>Very excitable in a minor crisis</td>
</tr>
<tr>
<td>E 14.</td>
<td>Very passive</td>
<td>Very active</td>
</tr>
<tr>
<td>A 15.</td>
<td>Not at all able to devote self completely to others</td>
<td>Able to devote self completely to others</td>
</tr>
<tr>
<td>A 16.</td>
<td>Very blunt</td>
<td>Very tactful</td>
</tr>
<tr>
<td>A 17.</td>
<td>Weak conscience</td>
<td>Very strong conscience</td>
</tr>
<tr>
<td>A 18.</td>
<td>Very rough</td>
<td>Very gentle</td>
</tr>
<tr>
<td>A 19.</td>
<td>Not at all helpful to others</td>
<td>Very helpful to others</td>
</tr>
<tr>
<td>E 20.</td>
<td>Not at all competitive</td>
<td>Very competitive</td>
</tr>
<tr>
<td>E 21.</td>
<td>Very home oriented</td>
<td>Very worldly</td>
</tr>
<tr>
<td>E 22.</td>
<td>Not at all skilled in business</td>
<td>Very skilled in business</td>
</tr>
<tr>
<td>A 23.</td>
<td>Knows the way of the world</td>
<td>Does not know the way of the world</td>
</tr>
<tr>
<td>A 24.</td>
<td>Not at all kind</td>
<td>Very kind</td>
</tr>
<tr>
<td>E 25.</td>
<td>Low mechanical aptitude</td>
<td>High mechanical aptitude</td>
</tr>
<tr>
<td>A 26.</td>
<td>Indifferent to other's approval</td>
<td>Highly needful of other's approval</td>
</tr>
<tr>
<td>A 27.</td>
<td>Feelings not easily hurt</td>
<td>Feelings easily hurt</td>
</tr>
<tr>
<td>E 28.</td>
<td>Not at all adventurous</td>
<td>Very adventurous</td>
</tr>
<tr>
<td>A 29.</td>
<td>Not at all aware of feelings of others</td>
<td>Very aware of feelings of others</td>
</tr>
<tr>
<td>A 30.</td>
<td>Not at all religious</td>
<td>Very religious</td>
</tr>
<tr>
<td>E 31.</td>
<td>Not at all outspoken</td>
<td>Very outspoken</td>
</tr>
<tr>
<td>E 32.</td>
<td>Not at all interested in sex</td>
<td>Very interested in sex</td>
</tr>
<tr>
<td>A 33.</td>
<td>Can make decisions easily</td>
<td>Has difficulty making decisions</td>
</tr>
<tr>
<td>E 34.</td>
<td>Gives up very easily</td>
<td>Never gives up easily</td>
</tr>
<tr>
<td>E 35.</td>
<td>Very shy</td>
<td>Very outgoing</td>
</tr>
<tr>
<td>A 36.</td>
<td>Never cries</td>
<td>Cries very easily</td>
</tr>
</tbody>
</table>
INSTRUCTIONS: You will now be asked to consider the same attributes again. This time you will be given a description at only one end of the scale. In each case, you are being asked to compare the typical male and the typical female on the characteristic. For example, how artistic is the typical male student in comparison to the typical female student? Indicate the letter which best expresses your judgment on the characteristic by putting a circle around it.

<table>
<thead>
<tr>
<th>Scoring Criteria</th>
<th>Label, Scale Point A</th>
<th>Label, Scale Point B</th>
</tr>
</thead>
<tbody>
<tr>
<td>E 37.</td>
<td>Almost never acts as a leader</td>
<td>Almost always acts as a leader</td>
</tr>
<tr>
<td>E 38.</td>
<td>Very neat in habits</td>
<td>Very sloppy in habits</td>
</tr>
<tr>
<td>E 39.</td>
<td>Very quiet</td>
<td>Very loud</td>
</tr>
<tr>
<td>E 40.</td>
<td>Not at all intellectual</td>
<td>Very intellectual</td>
</tr>
<tr>
<td>E 41.</td>
<td>Not at all self-confident</td>
<td>Very self-confident</td>
</tr>
<tr>
<td>E 42.</td>
<td>Feels very inferior</td>
<td>Feels very superior</td>
</tr>
<tr>
<td>A 43.</td>
<td>Not at all creative</td>
<td>Never sees self as running the show</td>
</tr>
<tr>
<td>A 44.</td>
<td>Always sees self as running the show</td>
<td>Never takes a stand</td>
</tr>
<tr>
<td>A 45.</td>
<td>Always takes a stand</td>
<td>Very understanding of others</td>
</tr>
<tr>
<td>A 46.</td>
<td>Not at all understanding of others</td>
<td>Very warm in relations with others</td>
</tr>
<tr>
<td>A 47.</td>
<td>Very cold in relations with others</td>
<td>Very warm in relations with others</td>
</tr>
<tr>
<td>A 48.</td>
<td>Very little need for security</td>
<td>Very strong need for security</td>
</tr>
<tr>
<td>E 49.</td>
<td>Not at all ambitious</td>
<td>Very ambitious</td>
</tr>
<tr>
<td>A 50.</td>
<td>Dislikes children</td>
<td>Likes children</td>
</tr>
<tr>
<td>A 51.</td>
<td>Does not enjoy art and music at all</td>
<td>Enjoys art and music very much</td>
</tr>
<tr>
<td>E 52.</td>
<td>Easily expresses tender feelings</td>
<td>Does not express tender feelings at all</td>
</tr>
<tr>
<td>E 53.</td>
<td>Goes to pieces under pressure</td>
<td>Stands up well under pressure</td>
</tr>
<tr>
<td>E 54.</td>
<td>Retiring</td>
<td>Forward</td>
</tr>
<tr>
<td>A 55.</td>
<td>Not at all timid</td>
<td>Very timid</td>
</tr>
<tr>
<td>Scoring Criteria</td>
<td>Attribute</td>
<td>Scoring Criteria</td>
</tr>
<tr>
<td>------------------</td>
<td>----------------------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>A 1.</td>
<td>Aggressive</td>
<td>E 34.</td>
</tr>
<tr>
<td>A 2.</td>
<td>Independent</td>
<td>E 35.</td>
</tr>
<tr>
<td>A 5.</td>
<td>Conforming to social expectations</td>
<td>A 38.</td>
</tr>
<tr>
<td>A 6.</td>
<td>Considerate</td>
<td>A 39.</td>
</tr>
<tr>
<td>A 7.</td>
<td>Easily influenced</td>
<td>A 40.</td>
</tr>
<tr>
<td>A 8.</td>
<td>Grateful</td>
<td>A 41.</td>
</tr>
<tr>
<td>A 9.</td>
<td>Dominant</td>
<td>A 42.</td>
</tr>
<tr>
<td>A 10.</td>
<td>Likes math and science very much</td>
<td>A 43.</td>
</tr>
<tr>
<td>A 11.</td>
<td>Good at sports</td>
<td>A 44.</td>
</tr>
<tr>
<td>A 12.</td>
<td>Excitable in a major crisis</td>
<td>A 45.</td>
</tr>
<tr>
<td>A 13.</td>
<td>Excitable in a minor crisis</td>
<td>A 46.</td>
</tr>
<tr>
<td>A 14.</td>
<td>Passive</td>
<td>A 47.</td>
</tr>
<tr>
<td>A 15.</td>
<td>Able to devote self completely to others</td>
<td>A 48.</td>
</tr>
<tr>
<td>A 16.</td>
<td>Tactful</td>
<td>A 49.</td>
</tr>
<tr>
<td>A 17.</td>
<td>Strong conscience</td>
<td>A 50.</td>
</tr>
<tr>
<td>A 18.</td>
<td>Gentle</td>
<td>A 51.</td>
</tr>
<tr>
<td>A 19.</td>
<td>Helpful to others</td>
<td>E 52.</td>
</tr>
<tr>
<td>A 20.</td>
<td>Competitive</td>
<td>E 53.</td>
</tr>
<tr>
<td>A 21.</td>
<td>Home oriented</td>
<td>E 54.</td>
</tr>
<tr>
<td>A 22.</td>
<td>Skilled in business</td>
<td>E 55.</td>
</tr>
<tr>
<td>A 23.</td>
<td>Knows the way of the world</td>
<td></td>
</tr>
<tr>
<td>A 24.</td>
<td>Kind</td>
<td></td>
</tr>
<tr>
<td>A 25.</td>
<td>High mechanical aptitude</td>
<td></td>
</tr>
<tr>
<td>A 26.</td>
<td>Needful of other's approval</td>
<td></td>
</tr>
<tr>
<td>A 27.</td>
<td>Feelings easily hurt</td>
<td></td>
</tr>
<tr>
<td>A 28.</td>
<td>Adventurous</td>
<td></td>
</tr>
<tr>
<td>A 29.</td>
<td>Aware of feelings of others</td>
<td></td>
</tr>
<tr>
<td>A 30.</td>
<td>Religious</td>
<td></td>
</tr>
<tr>
<td>A 31.</td>
<td>Outspoken</td>
<td></td>
</tr>
<tr>
<td>A 32.</td>
<td>Interested in sex</td>
<td></td>
</tr>
<tr>
<td>A 33.</td>
<td>Makes decisions easily</td>
<td></td>
</tr>
</tbody>
</table>
The purpose of this questionnaire is to measure the meanings of certain things to various people by having them judge them against a series of descriptive scales. In taking this test, please make your judgments on the basis of what these things mean to you. You will find a concept to be judged and beneath it a set of scales. You are to rate the concept on each of these scales in order.

The concept is: "Inflation" (for example)

Here is how you are to use these scales:

If you feel that the concept ("Inflation") is very closely related to one end of the scale, you should place your check-mark as follows:


or


If you feel that the concept is quite closely related to one or the other end of the scale (but not extremely), you should place your check-mark as follows:


or


If the concept seems only slightly related to one side as opposed to the other (but not really neutral), then you should check as follows:


or


The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the thing you're judging.

If you consider the concept to be neutral on the scale, both sides of the scale equally associated with the concept, or if the scale is completely irrelevant, unrelated to the concept, then you should place your check-mark in the middle space:

"Issue" Involvement Scale, continued

IMPORTANT: (1) Place your check-marks in the middle of spaces, not on the boundaries:

(This) (Not This)

(2) Do not omit any scales
(3) Never put more than one check-mark on a single scale.

**********

Rate the following concept on the scales below:

"The lifting of society's restrictions against females for daring to think, feel, or act in ways that heretofore were reserved for or were characteristic of males only. Also equally, the lifting of society's restrictions against males for daring to think, feel, or act in ways that heretofore were reserved for or were characteristic of females only."


PART FOUR

TEST MONITOR'S INTRODUCTION FOR SPEAKERS

Following collection of the "Pretest Packet", the Test Monitor gave the following introduction:

"Today, we are privileged to hear an individual speak on a current topic that I feel will be of interest to all of you. I am going to pass out some personal information on the speaker that you will hear. Please read it carefully so that you will be knowledgeable of the background of the speaker."

The Test Monitor passed out the biography appropriate for that particular treatment group (see Chapter III for details—for the four biographies that were presented during the course of the experimental treatments, refer to Part Four of this appendix).

Time was given to read the biography. The Test Monitor then opened the door and ushered in the speaker.

"May I present (name of speaker)."
PART FIVE

SPEAKER BIOGRAPHIES EMPLOYED IN THE TREATMENTS

Male/Female Realtor Biography--Page 171
Male/Female Psychologist Biography--Page 172
Read the following biography:

Royce/Janice Harrison is a real estate agent for Red Carpet Realtors in Ft. Worth. His/her major objective is to locate, appraise and sell property to the public. In addition to being a high school graduate, he/she holds a real estate license in the state of Texas and is also a member of the Ft. Worth Realtor's Association which regulates the activities dealing with this line of work. His/her work carries him/her into Tarrant County as well as other locations within the North Texas area.

He/she is married and has lived in the Ft. Worth area for a number of years. His/her activities include hospital volunteer work as well as reading for the visually impaired person.

IMPORTANT: You will have to pay close attention to what this speaker has to say if you are to understand its meaning.
(Male/Female Psychologist Biography)

Read the following biography:

Dr. James W./Jane McCormick is Director of Counseling Services for the Texas Employment Commission in Dallas. Dr. McCormick received his/her Ph.D. degree in Psychology from the University of Colorado. He/she has initiated and has been responsible since his/her assignment to the state agency for providing programs dealing with assisting employers concerning the hiring, placement, and retention of men and women. His/her work has led to extensive research concerning the societal roles of males and females. The findings and implications of this ongoing research have been published in several professional journals such as the Journal of Social Psychology, Journal of Experimental Social Psychology, and Sex Roles: A Journal of Research. He/she is currently co-authoring a text on the subject with Dr. Thompson from the University of Texas.

IMPORTANT: You will have to pay close attention to what this speaker has to say if you are to understand its meaning.
PART SIX

TEST MONITOR'S INSTRUCTIONS FOR "POSTTEST PACKET"
IMMEDIATELY FOLLOWING TREATMENT

Following the speaker's presentation the Test Monitor made the following statement:

"We thank (name of speaker for his/her presentation)."

Test Monitor ushered speaker out of room.

"Now I have a questionnaire packet that I would like you to fill out."

Test Monitor passed out "Posttest Packet" (see Part Seven of this appendix) and issued the following instructions:

"Please put your first name and the first letter of your last name on the packet for identification purposes. As I stated earlier your name is used to match you up with your previous packet. All of this material is kept strictly confidential and will in no way be divulged on a personal name basis; rather everything is treated as group data. Your cooperation will be appreciated. If you have any questions hold up your hand as we go along. Please make no comments to your classmates as you work."

After collection of the packets the group was thanked for their cooperation and was told that their participation would be solicited to answer some additional short questionnaires approximately three weeks from this date.
PART SEVEN

"POSTTEST PACKET" IMMEDIATELY FOLLOWING TREATMENT

Cover Sheet--(see Appendix A, Part Three, for a copy)

Personal Attributes Questionnaire--(see Appendix C, Part Three, for a copy)

"Response" Involvement Scale--Page 175

Communication Evaluation Scale--Page 176

McCrosky Scale for the Measurement of Ethos--(see Appendix A, Part Three, for a copy)
("Response" Involvement Scale)

INSTRUCTIONS: "In general, how much thought and effort did you seem to have to go through in order to see the arguments and recommendations as logically following from one another in the speech presented by the speaker?"

Draw a circle around the number on the following six point scale that best represents the amount of thought and effort you put into it.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>None</td>
</tr>
</tbody>
</table>

very great moderate slight very at
great deal amount amount slight all
deal amount
(Communication Evaluation Scale)

**INSTRUCTIONS:** Please evaluate the speech that you have just heard in terms of its fairness and objectivity. **Draw a circle around your choice.**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Quite fair</td>
<td>Generally fair</td>
<td>Difficult for me</td>
<td>Somewhat biased</td>
<td>Quite biased</td>
</tr>
<tr>
<td></td>
<td>and impartial</td>
<td>and to say impartial</td>
<td>and propagandistic</td>
<td>and propagandistic</td>
<td>propagandistic</td>
</tr>
</tbody>
</table>
PART EIGHT

TEST MONITOR'S INTRODUCTION AND INSTRUCTIONS
FOR "POSTTEST PACKET" THREE WEEKS
AFTER TREATMENT

The Test Monitor made the following statement:

"I have a short questionnaire packet that I would like you to fill out."

The Test Monitor passed out the "Posttest Packet" (refer to Part Nine in this appendix) and issued the following instructions:

"Please put your first name and the first letter of your last name on the packet for identification purposes. As I stated at an earlier date, your name is used to match you up with your previous packet. All of this material is kept strictly confidential and will in no way be divulged on a personal name basis; rather everything is treated as group data. Your cooperation will be appreciated. If you have any questions hold up your hand as we go along."
PART NINE

"POSTTEST PACKET" THREE WEEKS AFTER TREATMENT

Cover Sheet—(see Appendix A, Part Three, for a copy)

Personal Attributes Questionnaire—(see Appendix C, Part Three, for a copy)
APPENDIX D

PROTOCOLS AND TESTING PACKETS WITH REFERENCE TO THE CONTROL GROUP
PART ONE

TEST MONITOR HANDOUT INSTRUCTIONS TO TEACHER OF A CLASS THAT PARTICIPATED IN THE STUDY

Refer to Appendix C, Part One for a copy of the instructions.
PART TWO

TEST MONITOR INTRODUCTION AND INSTRUCTIONS
TO ACCOMPANY "PRETEST PACKET"

Refer to Appendix C, Part Two, for a copy of the introduction and instructions.
PART THREE

"PRETEST PACKET"

Refer to Appendix C, Part Three.
PART FOUR

TEST MONITOR'S INTRODUCTION AND INSTRUCTIONS
FOR PLACEBO TREATMENT

Following collection of the "Pretest Packet", the Test Monitor gave the following introduction:

"Today I have something that I would like each one of you to read carefully."

Test Monitor passed out "Alcohol Persuasive Message" (see Part Five of this appendix) and gave the following instructions:

"Please make no comments to your classmates as you read."
"ALCOHOL PERSUASIVE MESSAGE"

(PLACEBO)

(The following reading is taken from Dr. J. W. Wilson's report to the Council for Mental Health/Mental Retardation—Dallas Office)

"Alcohol is detrimental to young people in a number of ways. First it is very injurious to the physical body. Medical authorities have proven this assertion by conducting a number of medical studies which resulted in documented evidence which reveal that it damages the liver beyond recovery and places undue strain on the kidneys in attempting to carry off the poisons that pollute the blood stream. Also the heart suffers additional pressure because it is called upon to work overtime in order to serve the needs of one's body.

Moreover, the mind is even more seriously affected as it exaggerates all thought because of the intake of intoxicating liquor thereby causing it to make rash judgments that result in dire and undesirable outcomes. Many individuals suffer serious injuries that render them helpless for life or in many instances cause instant death. Proof of such allegations are to be found on the front page of the daily newspapers that relate the sad accidents whether it be auto smashups, stabbings, or shootings. Hence, it becomes quite evident that alcohol is very undesirable in any form and should not be available to students."
PART SIX

TEST MONITOR'S INSTRUCTIONS FOR "POSTTEST PACKET"
IMMEDIATELY FOLLOWING PLACEBO TREATMENT

After having observed that all subjects had read the Alcohol Persuasive Message, the Test Monitor made the following statement:

"Now that you have read this sheet I am going to pass out a questionnaire packet that I would like you to fill out."

Test Monitor passed out "Posttest Packet" (see Part Seven of this appendix) and issued the following instructions:

"Please put your first name and the first letter of your last name on the packet for identification purposes. As I stated earlier your name is used to match you up with your previous packet. All of this material is kept strictly confidential and will in no way be divulged on a personal name basis; rather everything is treated as group data. Your cooperation will be appreciated. If you have any questions hold up your hand as we go along. Please make no comments to your classmates as you work."

After collection of the packets the group was thanked for their cooperation and was told that their participation would be solicited to answer some additional short questionnaires approximately three weeks from this date.
PART SEVEN

"POSTTEST PACKET" IMMEDIATELY FOLLOWING TREATMENT

Cover Sheet—(see Appendix A, Part Three, for a copy)

Alcohol Scale—Page 187

Personal Attributes Questionnaire—(see Appendix C, Part Three, for a copy)
INSTRUCTIONS: Please indicate your response to the following items by placing an X beside your choice. Mark only one blank per question. The choices are as follows for each question:

___ Strongly Agree
___ Agree
___ Undecided
___ Disagree
___ Strongly Disagree

1. Alcoholic beverages should not be sold or made available to high school students.
2. Liquor has a bad influence upon high school students.
3. Discotheques only promote alcoholism.
4. Liquor damages the thinking processes.
5. It is more acceptable for boys to drink than girls.
6. High Schools should provide more activities for all its students.
PART EIGHT

TEST MONITOR'S INTRODUCTION AND INSTRUCTIONS
FOR "POSTTEST PACKET" THREE WEEKS
AFTER TREATMENT

Refer to Appendix C, Part Eight, for a copy of the introduction and instructions.
PART NINE

"POSTTEST PACKET" THREE WEEKS AFTER TREATMENT

Cover Sheet--(see Appendix A, Part Three, for a copy)

Personal Attributes Questionnaire--(see Appendix C, Part Three, for a copy)
APPENDIX E

LIST OF PANEL OF JUDGES
LIST OF PANEL OF JUDGES

William R. DeMougeot  
Professor of Speech Communication and Drama  
Department of Speech Communication and Drama  
North Texas State University  
Denton, Texas

Thomas H. Hurt  
Associate Professor of Speech Communication and Drama  
Department of Speech Communication and Drama  
North Texas State University  
Denton, Texas

Victoria O'Donnell  
Associate Professor of Speech Communication and Drama  
Department of Speech Communication and Drama  
North Texas State University  
Denton, Texas
APPENDIX F

STANDARDS FOR SPEAKER SELECTION
STANDARDS FOR SPEAKER SELECTION

The following standards as advocated by Smith\textsuperscript{1} and Thonssen and Scanlan\textsuperscript{2} were adopted by this investigator to serve as criteria for speaker selection:

1. Speaker must be able to use wide range of pitch and intonation to convey emotional aspects of the persuasive message.

2. Speaker must display appropriate eye contact with suitable facial gestures to convey his or her investment in the speech.

3. Speaker must display respect for his or her listeners.

4. Speaker must display sincerity by showing that he or she believes in his or her utterances and the welfare of those who listen.

5. Speaker must display adequate control over intonation, eye contact, gestures, and displayed sincerity.


\textsuperscript{2}Lester Thonssen and Ross Scanlan, \textit{Speech Preparation and Delivery} (New York, 1942), pp. 74-88.
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