



12-1-1977

## A Comparison of Attitude Change in Senior Citizen and College Age Subjects

Carl R. Westphal

[How does access to this work benefit you? Let us know!](#)

Follow this and additional works at: <https://commons.und.edu/theses>

---

### Recommended Citation

Westphal, Carl R., "A Comparison of Attitude Change in Senior Citizen and College Age Subjects" (1977).  
*Theses and Dissertations*. 2684.

<https://commons.und.edu/theses/2684>

This Dissertation is brought to you for free and open access by the Theses, Dissertations, and Senior Projects at UND Scholarly Commons. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of UND Scholarly Commons. For more information, please contact [und.common@library.und.edu](mailto:und.common@library.und.edu).

1977  
W528

A COMPARISON OF ATTITUDE CHANGE IN SENIOR CITIZEN  
AND COLLEGE AGE SUBJECTS

by

Carl R. Westphal

Bachelor of Science, Kansas State University, 1970  
Master of Arts, University of North Dakota, 1974

A Dissertation

Submitted to the Graduate Faculty

of the

University of North Dakota

in partial fulfillment of the requirements

for the degree of

Doctor of Philosophy

Grand Forks, North Dakota

December  
1977

663795

This dissertation submitted by Carl R. Westphal in partial fulfillment of the requirements for the Degree of Doctor of Philosophy from the University of North Dakota is hereby approved by the Faculty Advisory Committee under whom the work has been done.

Alice T. Clark  
(Chairman)

James R. Antle

Paul H. Wright

Steve Lonsin

James H. Larson

A. William Johnson  
Dean of the Graduate School

Permission

Title A COMPARISON OF ATTITUDE CHANGE IN SENIOR CITIZEN AND  
COLLEGE AGE SUBJECTS

Department Psychology

Degree Doctor of Philosophy

In presenting this dissertation in partial fulfillment of the requirements for a graduate degree from the University of North Dakota, I agree that the Library of this University shall make it freely available for inspection. I further agree that permission for extensive copying for scholarly purposes may be granted by the professor who supervised my dissertation work or, in his absence, by the Chairman of the Department or the Dean of the Graduate School. It is understood that any copying or publication or other use of this dissertation or part thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to the University of North Dakota in any scholarly use which may be made of any material in my dissertation.

Signature Carl R. Westphal

Date 9/29/77



## ACKNOWLEDGMENTS

I would like to express my appreciation to the following people for their assistance in this dissertation project: Mrs. Helen Bendickson for her help in recruiting subjects, Mr. Mike Rowe for his help in the mystical world of computers, and the members of my committee, Dr. Steve Levinson, Dr. James Antes, Dr. James Larson, and Dr. Paul Wright for their guidance and support. In particular I would like to thank Dr. Alice Clark, the committee chairperson, for her support and guidance throughout my graduate training.

TABLE OF CONTENTS

	Page
ACKNOWLEDGMENTS . . . . .	iv
LIST OF TABLES . . . . .	vii
LIST OF FIGURES . . . . .	viii
ABSTRACT . . . . .	ix
INTRODUCTION . . . . .	1
Statement of Problem	
LITERATURE REVIEW . . . . .	7
Attitude Functions	
Variables Affecting Attitude Change	
Methodological Considerations	
Theories of Attitude Change	
Summary	
METHOD . . . . .	23
Overview	
Preliminary Study	
Design	
Subjects	
Method	
RESULTS . . . . .	33
Initial Measure of Target Attitude	
Post Appeal Attitude Measure (Posttest)	
Three Week Follow-up Measure	
DISCUSSION . . . . .	44
Synopsis of Results	
Interpretation of Posttest Results	
Posttest Credibility Effects	
Posttest Source Age Effects	
Follow-up Findings	
Limitation of Findings	

Implications of Findings  
Implications for Further Research

APPENDIX A. Instructions and Surveys for Preliminary Subjects . . . . 58

APPENDIX B. Instructions, Surveys, Biographical Descriptions,  
and Change Message for Formal Study Subjects . . . . . 71

REFERENCES . . . . . 83

LIST OF TABLES

Table	Page
1. Means and t Test Comparisons of Preliminary Senior Citizens and College Age Scores on Target Attitude, Credibility, and Self Esteem . . . . .	30
2. Means for All Experimental Conditions . . . . .	34
3. Means and t Test Comparisons of Preliminary and Actual Subjects Scores on the Target Attitude . . . . .	35
4. Summary of Analysis of Variance of Pretest (Measure 1) . .	36
5. Summary of Analysis of Variance for Posttest (Measure 2) Adjusted for Covariates . . . . .	38
6. Pretest, Posttest, and Follow-up Means and Standard Deviations of College Age and Senior Citizen Target Attitudes . . . . .	38
7. Means and t Test Comparisons of Changes Over Time Within Both College Age and Senior Citizen Groups . . .	39
8. Summary of Analysis of Variance for Follow-up (Measure 3) Adjusted for Covariates . . . . .	41
9. Analysis of Variance Using Time as an Independent Variable (Adjusted for Covariates) . . . . .	42

LIST OF FIGURES

Figure	Page
1. College Age and Senior Citizen's Mean Attitude Ratings Toward the E.R.A. at Pretest, Posttest, and Follow-up . . . . .	40

## ABSTRACT

The present study was designed to examine the validity of generally held assumptions of decreased attitudinal flexibility in the aged. A preliminary study preceded the formal study and identified a target attitude, sources of varying credibility, and evaluated self-esteem as a possible confounding variable. Subsequently 40 college age and 40 senior citizen subjects' attitude toward the Equal Rights Amendment were measured by a paper and pencil survey. Two weeks later an anti-E.R.A. attitude change message, attributed to sources of varying age and credibility, was presented and its impact measured by a posttest survey. Follow-up measures were taken three weeks later.

An analysis of covariance yielded a significant subject age effect at the posttest with greater attitude change exhibited by the senior citizens. Neither source age nor source credibility main effects reached significance and there were no significant interactions. On the follow-up measure there were no significant main effects or interactions, though subject age approached significance. The results were interpreted as being contrary to assumptions of increased rigidity in the elderly and not supportive of the decrement model of aging. Methodological difficulties were discussed with respect to the results found and further research was recommended.



## INTRODUCTION

For the past several years there has been a steady increase in the number and proportion of senior citizens in the population of the United States. Currently there are approximately 27 million persons over 65 years of age living in this country, accounting for 13% of the total population (Atchley, 1972). Persons at or above the retirement age of 65 have variously been referred to as senior citizens, elderly, aged, seniors, and oldsters.

Interest in this age group has quickened with their increasing numbers in the population. Evidence of this heightened curiosity is the establishment of the President's Commission on Aging and the rise in the number of federal programs for senior citizens. The overall focus of these programs appears to be the improvement of the quality of life for the aged. Physical aspects of the standard of living, such as housing, transportation, medical care, and nutrition have received the most attention.

More active concern for the elderly is also apparent in the increased social science research directed toward this age group. Psychology is one discipline taking a new look at the aged and the aging process.

The changes in perception and reaction time that occur with age have been studied by psychologists for many years (Birren, 1964). The general result of this research has been the development of a decrement model of the effects of aging on psychological functions (Schaie and



Gribbin, 1975). This model has been supported by the findings of learning psychologists with respect to the age variable; the speed of learning and the amount of material learned generally decrease with age (Birren, 1964).

The research findings mentioned above are consistent with the decrease in physical stamina and ability that occurs with advanced age. They are also in accord with general societal stereotypes regarding the aged. Advanced age is commonly associated with decreased attitudinal flexibility. This assumption is apparent in such everyday expressions as "you can't teach an old dog new tricks," and "old age is the time when broad minds and narrow waistlines exchange places," and may play an important role in the general expectations of the elderly. Persons over 65 are perceived as having decreased ability to learn and adapt, and are viewed as being difficult to change, both attitudinally and behaviorally (Rosencranz and McNevin, 1969).

Kilty and Feld (1976) report that attitudes toward the elderly are ambivalent, with both positive and negative characteristics being attributed to the aged. Positive attributes of the elderly, such as their love for life and their relaxing effect on those around them exist concurrently with such negative attributes as being self-centered and holding onto their opinions. Demographic characteristics of the subjects of this research, such as age, sex, education level, and income, had no significant relationship to the attitudes held toward the elderly. This suggests that these attitudes are generally held by the population.

In a study similar to Kilty and Feld's work, Weinberger and Millham (1975) found that on questionnaires college students rated persons 70 years old as being significantly less well adjusted and less adaptable than persons 25 years old. So while it is clear that the aged are not rated negatively on all characteristics, the research to date indicates that older persons are generally perceived to be inflexible and unlikely to change their opinions.

The assumptions of decreasing ability to learn or to change attitudes have had negative consequences for the aging population. In the past 10 years forced retirement, sometimes at ages below 60, has become a reality in business and in education (Atchley, 1972). One reason given for this so-called retirement, and for shifts to jobs of less responsibility, has been the belief that older workers are generally unable to change with the times (Edison, 1976). It is also possible that acceptance of the decrement model of aging accounts for the disproportionately low number of senior citizens that are deemed as suitable candidates for psychotherapy (Coleman, 1964). The fact that the old themselves subscribe to the decrement model is apparent in their reluctance to participate in research such as the present study. The decrement model may become for senior citizens themselves a self-fulfilling prophesy in which negative assumptions regarding their age are perpetuated by the failure to become involved in activities which may refute those pessimistic views.

In the past five years evidence has been burgeoning which brings into question the decrement model of aging. Studies on the adjustment to retirement have focused on the many changes which persons must make



at or during retirement. A partial list of these changes to which retirees must adjust includes such things as decreased income, loss of friends to death, changes in housing, increased spare time, increased transportation difficulties, increased health problems, and more dependence on others. The results of a series of studies summarized by Eisdorfer and Lawton (1973) indicate that the large majority of older persons make these adjustments successfully, as measured by life satisfaction scales and frequency of contact with helping professions.

Results of recent research in learning psychology, using old age subjects, run contrary to the decrement model of aging. It has been found by Leech and Witte (1971) that providing appropriate social and material rewards improves performance of an operant task by the elderly. In another study, biofeedback conditioning has been learned as well by older subjects as by college age subjects (Woodruff and Birren, 1972). Schaie and Gribbin (1975) point out that decreased perceptual ability and slowed reaction time in the elderly has resulted in poor performance on learning tasks, and that this poor performance has been interpreted as a decreased ability to learn.

While the attitudes of the elderly have been the subject of considerable research, attitude change in the old age population has received very little attention. The lack of apparent interest in this area may be taken to mean that social psychologists accept the decrement model of aging as it relates to increasing rigidity in attitude patterns as aging occurs. The dearth of research in the area is puzzling, especially in view of the massive amount of work done in the area of attitude change using college age subjects. One might conclude that the

decrement model of aging, with respect to attitude change, is well ingrained in the assumptions of social psychologists, as well as in those of society in general.

It is the intent in the present study to determine if societal folklore about decreased attitudinal flexibility in the aged is warranted. The learning research cited above, as well as elderly persons' generally successful adaptation to retirement suggest that their attitudes are not as inflexible as they are generally assumed to be. It was generally hypothesized that the attitudes of senior citizens are no more inflexible than are those of college age individuals, and that variables affecting attitude change in the college age population affect attitude change in the elderly as well. If this hypothesis was confirmed there would be obvious implications in several areas, including forced retirement, psychotherapy with the aged, and the validity of the general decrement model of aging. The more data that is gathered about this age group, the more the aged can be dealt with in a realistic manner, rather than being responded to as a stereotype.

#### Statement of Problem

This study, built on previous attitude change work, incorporated traditional methodology to examine attitude change in the senior citizen population. The primary purpose of the present study was to extend the receiver age variable beyond childhood and early adulthood. It was specifically hypothesized that senior citizen subjects would not differ significantly from college age subjects in the amount that their attitudes regarding a common issue could be changed by a standard communication. It was also hypothesized that both subject age groups would be

significantly more influenced by a credible source than by a non-credible source. The final hypothesis was that both age groups would exhibit significantly more attitude change when the source's age was similar to the subject's age than they would when the source's age was dissimilar to the subject's age. The following chapter details relevant variables and methodology found in the attitude change literature.



## LITERATURE REVIEW

Research in the realm of attitude change is so extensive and diverse that it precludes a comprehensive literature review within the confines of this study. This review encompasses those areas of research which bear directly or indirectly on either the methodology or goals of the present study, as well as a cursory look at theories of attitude change. For in-depth discussions of attitude change research and theory the reader is referred to McGuire (1969) and Fishbein and Ajzen (1975).

Attitudes as defined by Insko and Shopler (1967) are "evaluative feelings of pro or con, favorable or unfavorable, with regard to particular objects which may be concrete representations of things, persons, events, or abstract concepts." Observable behavior, whether it be responses to questionnaires or specific behavior toward the attitude object, is the way in which the attitude is manifested.

Attitudes have generally been viewed (Brown, 1965; Sheriff and Cantril, 1945; and McGuire, 1969) as consisting of interrelated cognitive, affective, and conative components. The cognitive component refers to the person's belief system regarding the attitude object. The affective component is evaluative in nature and deals with a person's like or dislike of the attitude objects. The conative component of attitude consists of the behavior toward the attitude object. For example, a person's attitude toward alcohol might consist of the belief that alcohol is harmful (cognitive), a general dislike for alcohol

(affective), and a pattern of avoiding places which serve alcoholic beverages (behavioral or conative).

#### Attitude Functions

Why attitudes exist has been pondered by numerous theorists including Katz (1969) and Smith, Bruner, and White (1956). It is generally agreed that attitudes exist to serve some function. The basic functions that attitudes perform are classified by McGuire (1969), following Katz (1960), as utilitarian (adaptive), economic (knowledge), expressive, and ego-defensive.

The utilitarian function of attitude serves to dispose persons to respond to objects or events in the environment in such a way as to maximize the achievement of goals. Therefore, the attitudes which people adopt generally increase the probability of their gaining the ends they desire.

The attitude function of economy simplifies the decision making process. This function enables persons to fit their experience into an established system of attitudes much as a scientist fits data into a theory.

Attitudes provide a means of expressing opinions on a variety of subjects. By taking a stand on sundry issues a person creates his own identity. Therefore, the expressive function allows the individual to tell others who he is by the attitudes he or she expresses.

The ego-defensive function of attitudes provide ways of dealing with internal conflict. In this conceptualization attitudes may be related to internal needs (i.e., dependency or authoritarianism) and may be only tangentially related to the object of the attitude.



Other functions of attitudes, such as justification for behavior and cognitive consistency, have been suggested by Murdock (1948), Brehm and Cohen (1962), and Festinger (1957).

Attitude change is the process by which an individual's predisposition to evaluate objects in a particular direction is modified. Attitude change involves changes in all three components of attitude, and is theoretically related to the function that the attitude serves (Fishbein and Ajzen, 1975).

#### Variables Affecting Attitude Change

A number of variables have been found to be related to the degree to which an individual's attitudes can be modified. Research regarding those variables is discussed and is followed by an examination of methodological considerations, by a brief review of theories of attitude change, and by the statement of the present research problem.

McGuire (1969) grouped variables related to attitude change into five categories: source factors, receiver factors, message factors, channel factors, and destination factors. Variables from all of these categories are related to the goals and methodology of the present study and are therefore discussed in detail.

#### Source Factors

Source variables refer to the attributes of the perceived source of a message conveyed in an attitude change attempt. The study of source factors in attitude change has typically been concerned with variations in the purported, rather than the actual source of the

persuasive message. Source attributes may be famous names, professional affiliations, or simply demographic descriptions.

Source characteristics consistently found to be related to attitude change, as measured by survey behavior, are source credibility, attractiveness, and power. Source power, the amount of direct influence the source has over the subject, has generally been studied under the social psychological headings of conformity and compliance, and for that reason is not discussed here.

It has been consistently demonstrated that highly credible sources are more persuasive, i.e., they produce more attitude change, than do sources of low credibility (Hovland, Janis, and Kelly, 1953; Aronson and Golden, 1962; Bauer, 1965; Rhine and Severance, 1970; Johnson and Izzett, 1972; and Mills and Harvey, 1972). The general strategy of these researchers has been to establish the credibility of various sources by pre-testing, and then to present a persuasive message attributed to a high credibility source to one group of subjects, and the same persuasive message attributed to a low credibility source of another group, all other variables being held constant between groups. Highly credible sources reliably produce significantly more attitude change. It may be noted that advertisers and political campaigners have been aware of this relationship for many years. Sources typically identified as credible are viewed by subjects as being trustworthy and possessing some expertise on the issues being addressed in the persuasive communication. The authors cited above disagree as to the relative importance of expertise and trustworthiness, but all agree that both are components of credibility.



Source attractiveness as a variable in attitude change has been studied under the labels of familiarity, similarity, and liking, the relationship among these variables having been demonstrated by Byrne (1969), Griffitt (1966), and others.

Sources whom subjects perceive as being similar to themselves are more influential than are sources whom subjects perceive as being dissimilar to themselves (Newcomb, 1956; Stotland and Dunn, 1962; Sampson and Insko, 1964). The "like you" method of influence is also prevalent in commercial advertising. Familiarity, shown to be positively related to attractiveness by Sherif and Sherif (1953), is also positively related to attitude change (McGuire, 1969).

A subject's liking for the source, highly correlated with perceived similarity and familiarity (Byrne, 1969), is hypothesized by McGuire (1969) to be related to the amount that the subject's attitude can be modified by the source's persuasive appeals. McGuire's hypothesis is supported by the work of Thrasher (1954) and Sampson and Insko (1964). In both of these studies the so-called liking variable was examined and the results indicate that the more a source is liked, the more attitude change that source can effect. In summary, the highly correlated variables of similarity, familiarity, and liking have all been demonstrated to be positively related to attitude change.

The impact of the source's age on attitude change is reported in a study of source-subject similarity by Triandis and Fishbein (1963). Using college age subjects Triandis and Fishbein found that sources who were demographically most similar to the subjects were the most influential. Unfortunately the variables of race, nationality, occupation,

sex, and age were varied together so that the relative impact of each variable was not determined.

#### Receiver Factors

Receiver factors are those characteristics of subjects which are related to the degree to which the subject's attitudes can be influenced. Receiver factors consistently demonstrated to be correlated with attitude change are age, sex, ego-involvement with the attitude (how important the area is to the subject), and self-esteem.

The relationship of age and influenceability has been studied extensively using subjects under twenty-five years of age. In his review of the literature, McGuire (1969) cites several studies which demonstrate that maximum influence generally occurs at age eight or nine, and that after age nine there is a steady decline in influenceability until adolescence, after which it levels off. Janis and Rife (1959) hypothesize that resistance to change gradually increases throughout the life span. This hypothesis parallels the general decrement model of aging discussed in the Introduction chapter.

Females have generally been shown (Knower, 1935; King, 1959; Janis and Field, 1959; and Lockwood, 1974) to be more susceptible to influence than males in typical attitude change experiments. Hovland and Janis (1959) interpret these results as reflecting culturally imposed conformity demands on females which result in an increased tendency to yield. McGuire (1969), taking a different position, suggests that the greater influenceability of females results from their more effective message reception. McGuire bases his interpretation on



the fact that females are generally more verbal, and therefore may be more likely to attend and comprehend a written communication.

Using subjects drawn from a normal population Hovland, Janis, and Kelly (1953) found the relationship between intelligence and attitude change to be nonsignificantly negative. This study is in agreement with Murphy, Murphy, and Newcomb (1937) who concluded that there was no significant relationship between susceptibility to persuasion and mental age or intelligence. There is no published research which reports the relationship between susceptibility to attitude change and years of educational background.

The importance of the attitude area (ego-involvement) to the receiver is another variable which is related to the amount that his or her attitudes regarding the area can be changed. Lockwood (1974) reports that as ego-involvement increases attitude change decreases. The more important an area is to a subject, the less likely his or her attitude(s) will change.

Self-esteem is the individual difference variable which has been the focus of the greatest amount of research in connection with attitude change. Employing such standard measures of self-esteem as the Tennessee Self Concept Scale and the Self-Esteem Scale, researchers (Cohen, 1959; Janis, 1954; Gelfand, 1962; Cox and Bauer, 1964; and Rule and Rehill, (1970) have found an inverted U relationship between self-esteem and attitude change. Those subjects with very high and those with very low self-esteem were more resistant to standard attitude change attempts than were those subjects in the middle range on self-esteem.

McGuire's (1969) interpretation of this relationship is that persons of very high self-esteem are somewhat arrogant, are accustomed to being right, and are therefore unlikely to easily change their opinions. Persons who are low on the self-esteem dimension are interpreted by McGuire as being insecure and defensive, and unlikely to change their opinions because acknowledging being wrong would make them feel even more insecure. Persons in the middle range of self-esteem are perceived by McGuire as recognizing their own fallibility, but being secure enough to change their opinions without feeling threatened.

#### Message Factors

Those characteristics of the persuasive message, commonly referred to as message factors, have received considerable research attention. Several such factors have been shown to be reliably related to attitude change.

Logical appeals are those which rely on a logical presentation of reasons why a person should change his attitude regarding an attitude object, and emotional appeals are those which do not rely on a rational approach, but instead attempt to arouse affect, usually fear, in the hope that this will modify the person's attitudinal position. In studies using college age subjects logical appeals have not been shown to be demonstrably different from emotional appeals (Matthews, 1947; Weiss, 1960), in their ability to effect change. To date there have been no studies comparing the two types of appeal in the old age population.

Explicit conclusions in an attitude change message draw specific conclusions about what will or will not occur if the attitude



is modified. Implicit conclusions are not specific with regard to the consequences of changing attitudes, but allow the subject to draw his or her own conclusions. Explicit conclusions in the persuasive message have generally been shown to lead to more attitude change than implicit conclusions (Hadley, 1953; Schwilk, 1965; Fine, 1957). Allowing a subject to draw his or her own conclusions results in little attitude change.

The discrepancy between the position advocated by the persuasive message and the receiver's initial position is the attitudinal distance between the two positions, and has generally been measured by a rating scale. The persuasive appeal has typically been constructed so that it represents one extreme of the attitude scale presented to the subject. Studies of the effect of the discrepancy between the persuasive message and the receiver's position have led to two alternative hypotheses. Anderson and Hovland (1957) propose that as the discrepancy between the receiver's position and the message position increases, the amount of attitude change effected would increase. Sherif and Hovland (1961) later took the position that the maximum amount of attitude change results when the discrepancy is in an intermediate range, with the message being neither extremely discrepant from, nor similar to, the receiver's position. Subsequent research suggests that these inconsistent conclusions result from the interaction between discrepancy and source credibility, and the interaction between discrepancy and ego-involvement with the attitude object (Bergin, 1962; Freedman, 1964; Miller, 1965; Bochner and Insko, 1966; and Rhine and Severance, 1970).



### Channel Factors

Another group of factors consistently demonstrated to be related to attitude change are channel or mode factors. These factors refer to the method by which a message is communicated to the receiver. Early research indicated that the spoken word was more persuasive than written communication (Knower, 1935; Cantril and Allport, 1935; and Elliot, 1937). However, studies by Tannenbaum and Kerrick (1954) and Kumata (1958) failed to find a difference between the two modalities. Based on Byrne's (1969) summary of research in attraction it might be expected that source characteristics, such as age, physical attractiveness, race, voice quality, and height would be confounded with the verbal mode, especially when face to face communication was used.

### Destination Factors

Destination factors, the final group of variables reliably shown to affect attitude change, refer to what happens to the subject's attitudes with the passage of time after the change attempt has been made. Findings in this area are somewhat contradictory. Several studies report a decay of the attitude change with the passage to time (Chen, 1935; Cherrington and Miller, 1933; and McGuire, 1957) while others report an increase in the amount of change or a delayed action effect (Hovland and Weiss, 1951; and Bogartz, 1965). Whether delayed action or decay occurs appears to be related to the interaction of time passage and source, receiver, and message factors (McGuire, 1969). No current theory satisfactorily explains the rather complicated effects of such interactions.

### Methodological Considerations

While considerable research has been devoted to the investigation of variables related to attitude change, methodological issues related to attitude change research have also received a considerable amount of research attention. In spite of this attention, questions still remain as to the best way to measure attitudes and attitude change.

As a matter of convenience and simplicity, most research regarding attitude change relies on paper and pencil surveys, rather than on other behavioral observations for its assessment of a subject's position regarding a specific issue. However, several studies report that a person's verbal report of his or her attitude toward an object has a low correlation with his or her behavior toward that object (Festinger, 1964; Mann, 1959; Saenger and Gilbert, 1950).

Wicker (1969) interprets the low correlation between verbal report and other behavior as being a result of the influence of what he calls other variables on behavior. Possible variables cited by Wicker are other attitudes, competing motives, the presence of other people, and expected or actual consequences of the behavior.

Other attitudes and competing motives can contribute to the apparent inconsistency between attitudes and behavior by a process of competition. For example a person whose verbal report is strongly in favor of a particular political candidate may not support that candidate because of a lack of money or because the candidate is not running in the person's home state.

Warner and DeFleur (1969) found that verbal responses differed significantly between conditions where anonymity was guaranteed and



conditions where it was not. When subjects had to justify their attitudes to others, either other subjects or the experimenter, the attitudes expressed differed significantly from those expressed when no justification was required. Apparently the presence of other persons who knew what the subject's response was affected the response made. Wicker postulates that the more important the other person is to the subject the more impact there will be on the subject's responses.

Expected or actual consequences of overt behavior also may account for the discrepancy between verbal report and other behavior. For example, a psychologist may be in favor of elimination of the publish or perish requirements of academic employment, but this person may be employed in a lucrative position by an institution which is clearly in favor of the publish or perish philosophy. The person, because of the expected consequence of speaking out, may be reluctant to express his own views, and may in fact express the "company line" at least while at work. Economic consequences are predictably powerful.

Wicker's (1969) viewpoint has been supported by the work of Green (1972) in which other variables such as the presence of other subject, and intimacy between subject and experimenter were found to affect behavior toward the object of the attitude. Additional support for the "other variables" hypothesis is research on conformity which shows that the opinions and behavior of others present affects the behavior of a subject (Asch, 1958; and Lewis, Langan, and Hollander, 1972). The low correlation between verbal report and other behavior appears to be related to situational factors.

The paper and pencil continues to be a popular method of measuring attitudes because of its convenience. Fishbein and

Ajzen (1975) suggest that the concept of "pure attitude" represented by such measurement strategies will continue to be viable because of the complexity of behavior in the natural environment.

Several different types of scales have been used to measure attitudes, including the Likert, Guttman, Thurstone, and Osgood Semantic Differential scales. Fishbein and Ajzen (1975) state that all such traditional scales attempt to arrive at a single attitude score which represents the subject's attitude toward the object. High inter-scale reliability is reported by Shaw and Wright (1967) and by Robinson and Shaver (1969), suggesting that the various types of scales are measuring the same thing.

The effect of pretest commitment on attitude change has been examined by several investigators. Comparing before-after designs with after only designs Lana and King (1960), and Hicks and Spanner (1962) found that the use of a pretest may enhance opinion change. Research along the same vane by Hovland, Lumsdaine, and Sheffield (1949), Lana (1966) and Rosnow and Suls (1970), found contradictory results; i.e., use of a pretest decreased the amount of attitude change. In investigating these inconsistent findings Calabrese and Lana (1974) found in their own study, and in their review of the literature, that volunteer subjects who were pretested showed less attitude change, while non-volunteer subjects who were pretested showed more attitude change than did posttest only controls. This suggests an experimental demand and commitment interaction, and implies that if two groups are being compared, both should be either volunteers or non-volunteers.



Studies of the effect of subject deception as to the intent of the experiment on the amount of attitude change have generally found that forewarning subjects has no appreciable effect on attitude change (McGinnies and Donelson, 1963; Allyn and Festinger, 1961; and McGuire and Millman, 1965). Sears (1965) found however that forewarning the subjects actually enhanced the amount of attitude change. This study suggests that subjects may try to meet the expectations of the experiment or the demand characteristics of the situation.

#### Theories of Attitude Change

Theories of attitude change have generally been classified as learning theory, perception theory, and consistency theory (McGuire, 1969; and Fishbein and Ajzen, 1975). According to McGuire the different theories, more often than not, make the same prediction, though for different reasons. However, McGuire and Fishbein and Ajzen agree that no one theory can satisfactorily account for all the findings in attitude change research, and conclude that the theories should be viewed as being complementary rather than competitive.

Learning theorists generally view attitude change as a learning situation. Mediating variables such as anxiety, motivation, and reinforcement are used to explain why attitude change does, or does not, occur. Knowledge of independent variable relationships to learning are used to predict their relationship to attitude change. For example, if it is known that older people learn more slowly, it may be predicted that this age group will change attitudes less after being presented a persuasive message. Learning theorists also discuss general

influenceability in terms of a response set which is acquired by modeling and reinforcement of flexibility.

The perception theory approach to attitude change has its roots in the conformity research done by Asch (1952, 1956). Persuasion, according to this formulation, results when the object of the attitude is placed in a different cognitive "category" which has a different valence than the original category. An example of this view might be a person who does not like U.S. President Jimmy Carter. The person may have originally placed Carter in the "politician" category, which for the person might have a negative valence. After a persuasive message which emphasizes Carter's religious beliefs, the subject may change Carter to the "Christian" category, which has a positive valence for the person. The valence of "politicians" has not changed, but the category of the attitude object has changed. The clinical applications of this concept of attitude change are discussed by Haley (1973) who refers to it as reframing.

Consistency theories of attitude change include such theories as balance theory (Heider, 1946), cognitive consistency theory (McGuire, 1960), congruity theory (Osgood and Tannenbaum, 1955), and dissonance theory (Festinger, 1957). The central theme in the consistency theories is that a person strives to maintain consistency within his belief system and between his belief system and his overt behavior. This internal consistency need not be logically consistent due to outside pressures which result in distortion of the person's cognitive system. Consistency theory best explains the low correlation found between attitude and behavior, as it takes into account other non-attitudinal forces,



such as the situational factors described by Wicker (1969), which affect behavior.

As McGuire points out, the main value of these various theories has been to stimulate research interest. The existence of these many theories side by side is evidence of the lack of a general theory which satisfactorily explains attitude change.

#### Summary

Studies in attitude change comprise a substantial proportion of social psychological research. Variables consistently demonstrated to be related to attitude change have been grouped into five categories: source, receiver, message, channel, and destination factors. The methodology which has evolved around the investigation of these variables generally involves taking a premeasure of an attitude, presenting a persuasive message while simultaneously manipulating possible variables affecting change, and then taking a second measure to determine the impact of the persuasion attempt. Usually only one or two variables are manipulated at one time, while attempts are made to hold other factors constant.

In spite of the large amount of work done in the area, there are still gaps in the understanding of attitude change. For example, little has been done to evaluate the impact of educational experience on attitude change, or to identify precisely the effect of various situational factors. The low correlation between verbal report and other behavior, while dealt with on a theoretical level, has, because of its complexity, not been empirically investigated.



## METHOD

### Overview

The general strategy of the present study followed that of the research presented in the preceding chapter. Old age and college age subjects were pre-tested as to their attitude toward a particular subject, subsequently a change attempt in the form of a persuasive message was presented, and post-test and three week follow up measure of the target attitude were taken in order to assess change on the target attitude. However, before the formal study could be implemented a number of methodological and logistical problems had to be solved.

Practically all research done on attitude change has employed college age subject. The ease of recruiting these subjects probably accounts for their popularity as subjects. Recruitment of elderly persons as research subjects was the first problem encountered. The method which succeeded in recruiting the needed subjects was to have a senior citizen assistant ask for volunteers at various social and religious functions. This method was superior to telephone solicitation and appeals by the experimenter to social groups. On the basis of recruitment experience it appears that older persons had more trust for other older persons.

The selection of older person volunteers was limited to those individuals who were independently functioning in their own homes. The assumption behind this decision was that these persons were not

suffering significant loss of mental function, as evidenced by their autonomy.

Another potential problem in using the aged as subjects was the manner in which data was collected. College student subjects have usually, for reasons of convenience, been run in groups of 20 to 80 individuals (Fishbein and Ajzen, 1975). Individual and group running of these subjects were compared in Wicker's (1969) review of the literature. He reports no differences in results, except in conditions in which the experimenter spent time becoming intimate with the subjects prior to the change attempt. In that situation subjects responded to the demand characteristics of the situation and evidenced more change in attitudes.

Wicker also states that the presence of others can affect attitude change. Since, being from small communities, many of the senior citizens knew each other quite well, the methodological question became whether to risk influence from the experimenter or from friends. To avoid possible influence from their friends and to simplify matters logistically, senior citizens were run individually. There was not judged to be a significant risk of friend influence in the college age group, who were run at the beginning of the semester before significant friendships usually develop. College subjects were, therefore, run in groups.

A final problem anticipated with the senior citizen subjects was their lack of experience with paper and pencil surveys. For that reason care was taken to ensure that all directions given were as clear, specific, and complete as possible.

Among the relevant methodological considerations highlighted in the literature review were message, channel, source, and receiver factors.

The most cogent of the message factors was the selection of the target attitude at which change was to be directed. The literature suggested that an ideal target attitude would be one on which subjects had strong opinions either pro or con, on which there was agreement among subjects, and on which subjects agreed as to its importance. In order for between group comparisons to be legitimate, it was important that the groups be comparable with regard to these variables.

Beginning with a unipolar opinion also made it possible to use a single persuasive message, eliminating the need to ensure that two opposing messages had equal impact. Selecting a target attitude on which there was similar ego-involvement helped control the impact of that variable on attitude change.

The mode of presentation of the appeal, a channel characteristic, was another methodological issue requiring resolution. Messages presented orally, in person, have generally been shown to produce more attitude change. However, as McGuire (1969) discusses, source characteristics such as attractiveness, voice quality, and likability may be confounded with the method of presentation. In order to avoid the possibility of such confounding, and as a matter of convenience, the written mode was selected.

Whether to deceive or forewarn subjects as to the intent of the experiment was yet another methodological choice. Forewarning college students has been shown to have no inhibitory effect on change, and has in one study been reported to enhance change (McGuire, 1969). Whether



forewarning the elderly has the same effect is unknown. To attempt to ensure that all subjects experienced the same demand characteristics regarding the experiment, and to avoid the use of deception, it was decided to forewarn subjects as to the intent of the experiment.

Identification of credible and non-credible sources was necessary so that the relative impact of this source attribute on attitude change could be ascertained. Trustworthiness, one component of credibility, was assessed in the preliminary study. Various sources were rated as to this characteristic. Since source age was another variable which was to be manipulated independently of source credibility, the ratings of trustworthiness were based on written biographical descriptions, rather than on actual persons.

The receiver characteristic of self-esteem has reliably been demonstrated to be related to attitude change. For that reason it was necessary to measure self-esteem in the two subject age groups to determine if subject matching on that variable would be necessary. Possible sex differences in resistance to change necessitated matching on that variable.

Matching as to years of educational experience was not done since the elderly had all completed school at least 45 years ago and there was no way of knowing if the education received by the two age groups was equivalent. Research reviewed reported no significant relationship between intelligence and attitude change or between educational experience and change.

### Preliminary Study

Before the formal research design could be implemented it was necessary to do preliminary work in the following areas: identifying the target attitude at which change was directed, selecting credible and non-credible sources of communication, and administering self-concept measures to both age groups to determine if subject matching on self-concept was necessary.

Subjects for the preliminary study were 50 introductory psychology students and 50 senior citizens. Older subjects were recruited by the experimenter from several local senior citizens clubs and from a housing project for retired.

After subjects had agreed to participate they were presented three paper and pencil surveys described below. Instructions for the completion of these surveys can be found in Appendix A. Following completion of the surveys, which the senior citizens completed in their homes and the college students completed in a lecture hall, subjects were debriefed as to the reasons for their being asked to complete the surveys and an opportunity was provided for them to ask questions.

The first of the three surveys completed by each subject, Survey A found in Appendix A, was designed to identify an attitude area toward which a change attempt could be directed. Of the twenty attitude statements presented on Survey A, the item chosen was the one on which there was the most agreement and least variance between groups, and on which there was the greatest polarity, i.e., the mean closest to the scale extremes. Using the criteria of agreement, polarity, and between group variance, it was decided that the



subjects at whom the change attempt was being directed were starting at the same point, and that a standard communication could be used to attempt the change. The importance of each attitude area was also measured by Survey A. The attitude item chosen was the one on which there was the greatest agreement and the least variance as to its importance, since the amount of change which can be effected has been shown to be related to the importance of the topic to the subject. Means and variances for all items of Survey A may be found in Appendix A.

Since the credibility of the communicator was one of the independent variables to be examined in this research it was necessary to empirically identify credible and non-credible sources. Survey B, a copy of which is included in Appendix A, served this function. This survey presented twenty brief biographical descriptions which were rated by the subjects as to their trustworthiness. Descriptions were used rather than actual names in order to avoid the confounding of credibility with age, race, political party, or other variables. This method allowed age of the communicator, another independent variable, to be manipulated independently of credibility.

It was recognized that source credibility was not necessarily independent of the attitude topic because of the impact that the expertise component has on credibility. Therefore, an attempt was made to match credible and non-credible sources with an attitude topic about which they might reasonably be expected to possess some expertise.

The self-concept of both subject groups was measured, using the Tennessee Self-Concept Scale, in order to determine if there was a significant difference between the two subject age groups on that variable.



Had the groups been significantly different on that variable, it would have been necessary to match subjects on the self-esteem variable, since self-esteem has been shown to be related to attitude change.

The results of the preliminary study indicated that the attitude area which met the above mentioned criteria of agreement, polarity, and importance most closely was the Equal Rights Amendment item, number 20 on Survey A.

The source who might be reasonably expected to possess some knowledge regarding the Equal Rights Amendment (ERA), and who was rated as being highly trustworthy by both subject age groups was a female Christian missionary (item 18, Survey B). A female legal advisor to the American Communist Party (item 5, Survey B), another source who might be assumed to be knowledgeable regarding the E.R.A., was rated as being of very low trustworthiness by both subject age groups. Therefore the female Christian missionary was selected as the high credibility source, and the female legal advisor to the American Communist Party was chosen as the low credibility source. Female sources were used for both high and low credibility sources to avoid a possible confounding source sex difference. Mean ratings and variances for all descriptions on Survey B may be found in Appendix A.

Self-esteem was not significantly different between age groups (see Table 1). Subject matching on self-esteem was determined to be unnecessary.

#### Design

The experimental design employed in this research was a 2 (age of subject) X 2 (age of communicator) X 2 (credibility of communicator)

TABLE 1

MEANS AND  $t$  TEST COMPARISONS OF PRELIMINARY SENIOR CITIZENS AND COLLEGE AGE SCORES ON TARGET ATTITUDE, CREDIBILITY, AND SELF ESTEEM

	College Age		Senior Citizen		$t^a$ value
	Mean	Standard Deviation	Mean	Standard Deviation	
Target Attitude	4.31	1.44	4.29	1.41	.063
Importance	2.90	.94	2.90	.83	.00
Non-Credible Source	3.98	.86	3.60	1.18	1.73
Credible Source	1.55	.67	1.52	.81	.18
Self Esteem (TSCS)	327.02	31.64	332.79	27.86	.87

<sup>a</sup>df for all comparisons = 98

$p < .05$

factorial design. Each of the eight cells of the design had ten subjects for a total of eighty subjects [forty college age and forty senior citizens (persons over 65 years of age)].

#### Subjects

The 40 senior citizen subjects, mean age 79, were recruited by a senior citizen assistant from area senior citizen organizations and clubs. Senior citizen participants were not recruited from nursing or convalescent homes in order to avoid possible confounding by obvious loss of mental function. The 40 college subject volunteers were recruited from Introductory, Developmental, and Abnormal Psychology courses. Students older than 22 were excluded from the study.

Subjects were randomly assigned to the communicator credibility and communicator age conditions of the design. There were only 3 males in the senior citizen subject sample. Therefore only 3 college age males were used, these being matched to the same experimental conditions to which the elderly males had been assigned.

#### Method

After agreeing to participate, subjects were given Survey A-I, found in Appendix B, in order to determine their initial opinion regarding the target attitude (E.R.A.). Survey A-I is identical to Survey A except that the importance items were deleted.

Senior citizens were administered the surveys in their homes by the experimenter and college age subjects were given the surveys by the experimenter in groups of 10 to 15 in a lecture hall. The senior citizen assistant accompanied the experimenter to the homes of the senior citizen subjects and introduced him. Instructions given to both sets of subjects are included in Appendix B.

Following a two week waiting period a standard written communication aimed at changing the subject's opinion with regard to the target attitude was presented by the experimenter to all subjects. The communication used was an adaptation of an editorial opposing the E.R.A. by James J. Kilpatrick (1975). The communication is presented in Appendix B. The source to whom the communication was attributed was presented via a brief biographical description prior to the presentation of the persuasive message. Instructions to the subjects at this time are presented in Appendix B. Subjects then completed Survey A-1 again.



Three weeks following the change attempt and the second measure of the target attitude, a third measure of the attitude toward the E.R.A. was made, again using Survey A-I. This third measure was taken to check for any decay or increase in attitude change over time. After the participants completed the final measure of the target attitude, the research strategy was explained to them and they were afforded an opportunity to ask questions or to give feedback to the experimenter. As before, college age subjects were run in groups and the elderly were run individually in their own homes.

The data obtained were analyzed using an analysis of variance strategy to determine if there were significant differences between old and young subjects on the amount that their attitudes were changed, and to determine if communicator age and credibility differentially affected the amount of change in either subject age group.

It had been hypothesized that there would be no significant difference, no subject age effect, in the change scores of each age group. It was further hypothesized that there would be a significant main effect of source credibility, and a significant interaction effect between source age and source credibility in which each subject age group would be affected most by credible sources whose ages were similar to the subject's ages. The results of the data analysis are presented in the following chapter.

## RESULTS

### Initial Measure of Target Attitude

Data from the pretest (Measure 1) of the target attitude in the formal study were analyzed for several reasons. First, it was important to determine if subject in the preliminary study differed from subjects in the formal study with respect to their position on the target attitude, the Equal Rights Amendment (E.R.A.). Second, it was necessary to ascertain the respective position of college age and senior citizen subjects on the target attitude so that posttest comparisons could be made. Third, an analysis of variance of the data from the pretest indicated whether or not subject had been randomly assigned to the communicator age and communicator credibility conditions.

Table 1, presented in the Method chapter, indicated that the differences on the target attitude between college age and senior citizen preliminary subjects did not approach significance. Table 2 presents the means and standard deviations for all conditions at each measure of the target attitude.

The scores of preliminary and formal study subjects were compared using t tests which, in addition to group means, are presented in Table 3. There were no statistically significant differences between preliminary and formal study participant's rating of the Equal Rights Amendment. Both preliminary and formal study subjects favored the E.R.A., as can be seen in the mean ratings presented in

TABLE 3

MEANS AND t TEST COMPARISONS OF PRELIMINARY AND ACTUAL SUBJECTS  
SCORES ON THE TARGET ATTITUDE

	Preliminary Subjects		Actual Subjects	
	$\bar{X}$	s	$\bar{X}$	s
	Means			
College Age	4.31	2.06	4.40	1.54
Senior Citizen	4.29	2.00	3.85	1.78
	t Test Comparisons Preliminary Subjects			
	College Age		Senior Citizens	
	t value <sup>a</sup>	p	t value <sup>a</sup>	p
College Age Actual Subjects	.318	.75	.391	.70
Senior Citizen	1.57	.12	1.52	.13

Table 3. All subject groups were polarized on the issue to a similar degree. Within group variance differed somewhat, however, with actual subjects showing less variability in their opinions. Only four of the senior citizens and two of the college age subjects were initially opposed to the E.R.A. The agreement and polarity of subjects supported the use of a single direction change attempt.

A t test comparison between senior citizen and college subjects in the formal study approached significance  $t(72) = 1.886$ ,  $p = .064$ . This difference, though not statistically significant, suggested that the data analysis of the posttest and follow-up target attitude scores



employ a covariant adjustment for the pretest differences between age groups.

The analysis of variance performed on the data from the pretest are presented in Table 4. The subject age group main effect which approached significance  $F(1,72)=3.57$ ,  $p=.063$  was consistent with the  $t$  test comparisons reported in the preceding paragraph. This finding

TABLE 4  
SUMMARY OF ANALYSIS OF VARIANCE OF PRETEST (MEASURE 1)

Source	SS	df	MS	F	Significance
A: Subject Age Group	6.050	1	6.050	3.570	.063
B: Communicator Age Group	0.050	1	0.050	0.030	>0.500
C: Communicator Credibility	0.200	1	0.200	0.118	>0.500
A x B	1.250	1	1.250	0.738	0.394
A x C	1.800	1	1.800	1.062	0.307
B x C	7.200	1	7.200	4.249	0.043
A x B x C	0.200	1	0.200	0.118	>0.500
Within	122.000	72	1.694		

supported the use of a covariant adjustment strategy on subsequent data analysis. Although there were no significant main effects in the analysis of variance on the pretest, the interaction between communicator age and communicator credibility reached significance  $F(1,72)=4.249$ ,  $p=.043$ .

Since subjects on the pretest completed the attitude survey without having been exposed to any information regarding the communicator or any persuasive message, the significant interaction indicated a possible non-random assignment of subjects to the experimental conditions of communicator age and communicator credibility. The lack of significance of either communicator age or communicator credibility main effects was interpreted to mean that the bias in assignment of subjects to experimental conditions was not marked. The use of an analysis of covariance on the data analysis of posttest and follow-up scores was further supported by this significant communicator age by communicator credibility interaction.

#### Post Appeal Attitude Measure (Posttest)

The covariant adjustment data analysis of posttest scores on the target attitude is presented in Table 5. Posttest data were gathered immediately following the presentation of source descriptions and the persuasive message.

Subject age group was the only main effect which reached significance on the posttest measure  $F(1,72)=36.33, p < .001$ . The communicator variables of age and credibility did not approach significance. The only interaction which approached significance was the three way interaction among subject age group, communicator age, and communicator credibility  $F(1,72)=3.725, p=.058$ .

Table 6 presents the means and standard deviations of each age group's scores on the target attitude at pretest, posttest, and follow-up measures. Table 6 also contains posttest and follow-up means

TABLE 5

SUMMARY OF ANALYSIS OF VARIANCE FOR POSTTEST (MEASURE 2)  
ADJUSTED FOR COVARIATES

Source	SS	df	MS	F	Significance
A: Subject Age Group	42.491	1	42.491	36.328	0.001
B: Communicator Age Group	1.289	1	1.289	1.102	0.298
C: Communicator Credibility	0.274	1	0.274	0.234	>0.500
A x B	2.203	1	2.203	1.730	0.193
A x C	2.395	1	2.395	2.048	0.157
B x C	0.282	1	0.282	0.241	>0.500
A x B x C	4.357	1	4.357	3.725	0.058
Covariates	21.655	1	21.655	18.515	<0.001
Within	83.045	71	1.170		

TABLE 6

PRETEST, POSTTEST, AND FOLLOW-UP MEANS AND STANDARD DEVIATIONS OF  
COLLEGE AGE AND SENIOR CITIZEN TARGET ATTITUDES

	Pretest		Posttest		Follow-up	
	$\bar{X}$	s	$\bar{X}$	s	$\bar{X}$	s
College Age	4.40	1.24	3.95	1.41	4.03	1.49
(Adjusted for Covariates)	--	--	3.83	--	3.84	--
Senior Citizen	3.85	1.33	2.25	1.01	3.17	1.34
(Adjusted for Covariates)	--	--	2.34	--	3.36	--



adjusted for covariates. The changes for each age group on the target attitude are represented graphically in Figure 1.

An examination of Figure 1 and Table 6 indicated that the senior citizen age group changed more from their original position than did the college age group. As can be seen from t test comparisons of target attitude scores on pretest, posttest, and follow-up, presented in Table 7, both age groups change significantly from pretest to posttest. However, the significant age group main effect found in the covariate adjustment (Table 5) signified that the two age groups did not change at the same rate, with the means presented in Table 6 suggesting more attitudinal change in the senior citizen group.

TABLE 7

MEANS AND t TEST COMPARISONS OF CHANGES OVER TIME WITHIN BOTH COLLEGE AGE AND SENIOR CITIZEN GROUPS

	College Age $\bar{X}$ s		Senior Citizen $\bar{X}$ s	
	Means			
Pretest	4.40	1.24	3.85	1.33
Posttest	3.95	1.41	2.25	1.01
Follow-up	4.03	1.49	3.17	1.34
	t test Comparisons <sup>a</sup>			
	Pretest-Posttest t value	Posttest-Follow-up t value	Pretest-Follow-up t value	
College Age	3.38 <sup>b</sup>	.83	2.42 <sup>c</sup>	
Senior Citizen	6.50 <sup>d</sup>	5.97 <sup>d</sup>	3.08 <sup>b</sup>	

<sup>a</sup>df for all comparisons = 39

<sup>b</sup><sub>p</sub> < .01

<sup>c</sup><sub>p</sub> < .05

<sup>d</sup><sub>p</sub> < .001

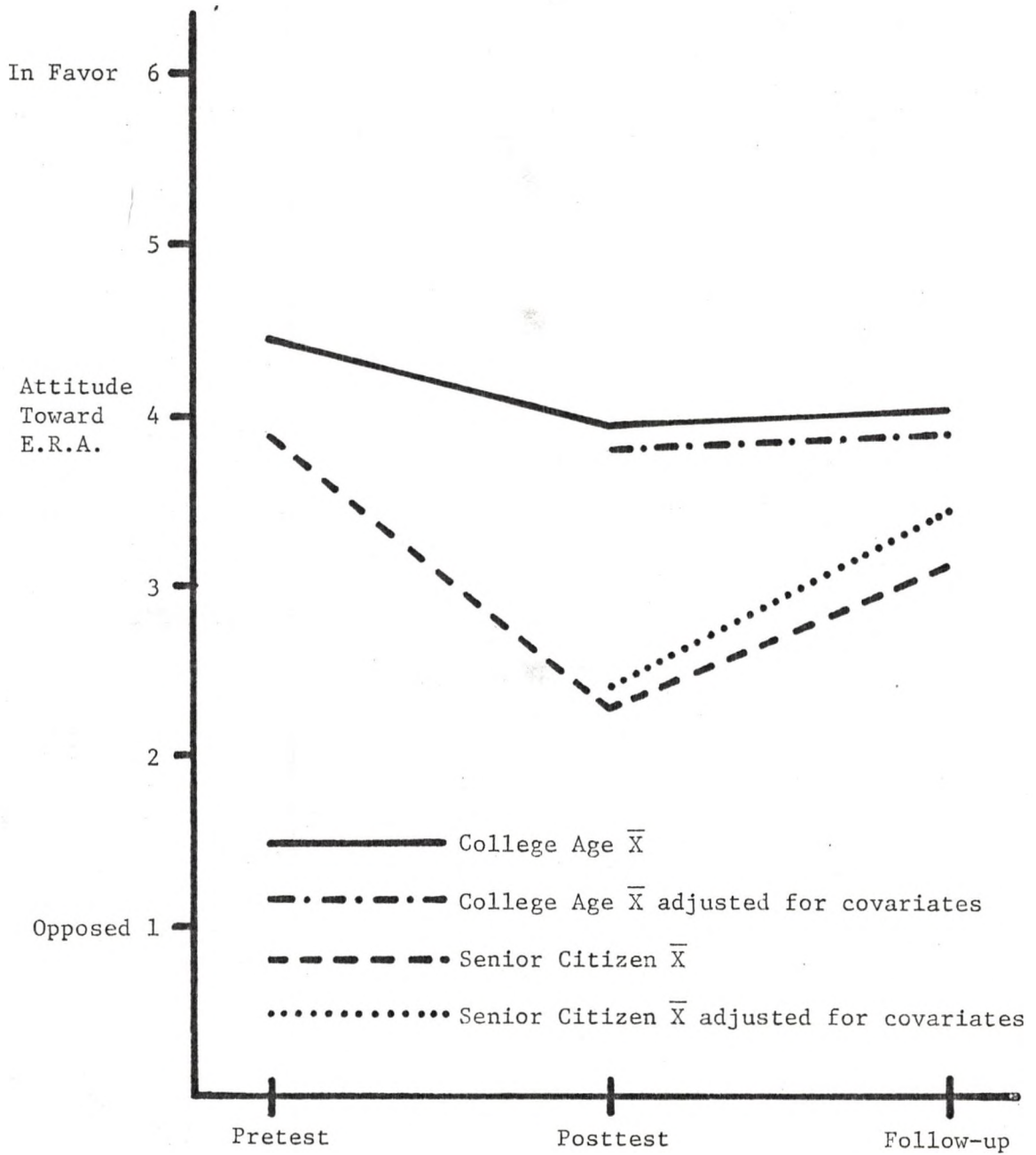


Fig. 1. College Age and Senior Citizens' Mean Attitude Ratings Toward the E.R.A. at Pretest, Posttest, and Follow-up.

Three Week Follow-up Measure

The covariate adjustment of the target attitude scores at the time of the follow-up, presented in Table 8, demonstrated that no main effects or interactions reached significance. However, both the subject age group main effect and the subject age group by communicator credibility interaction approached significance.

TABLE 8

SUMMARY OF ANALYSIS OF VARIANCE FOR FOLLOW-UP (MEASURE 3)  
ADJUSTED FOR COVARIATES

Source	SS	df	MS	F	Significance
A: Subject Age Group	4.546	1	4.546	3.707	0.059
B: Communicator Age Group	0.090	1	0.090	0.073	>0.500
C: Communicator Credibility	2.671	1	2.671	2.178	0.145
A x B	2.944	1	2.944	2.401	0.126
A x C	4.041	1	4.041	3.295	0.074
B x C	0.001	1	0.001	<0.001	>0.500
A x B x C	1.991	1	1.991	1.623	0.207
Covariates	52.722	1	52.722	42.987	<0.001
Within	87.078	71	1.226		

Referring to Table 7 it can be seen that senior citizen scores on the follow-up were significantly different from their scores on both the pretest and posttest. College age scores on the follow-up were not significantly different than pretest scores.



Further evidence for differences between groups over time is found in Table 9 in which the repeated measure was represented by the

TABLE 9  
ANALYSIS OF VARIANCE USING TIME AS AN INDEPENDENT VARIABLE  
(ADJUSTED FOR COVARIATES)

Source	SS	df	MS	F	Significance
A: Subject Age Group	37.417	1	37.417	19.566	0.001
B: Communicator Age Group	1.030	1	1.030	0.539	0.466
C: Communicator Credibility	2.328	1	2.328	1.217	0.274
A x B	4.924	1	4.924	2.575	0.113
A x C	6.329	1	6.329	3.310	0.074
B x C	0.154	1	0.154	0.081	0.500
A x B x C	6.119	1	6.119	3.200	0.078
Covariates	70.978	1	70.978	37.117	0.001
Within	135.772	71	1.912		
(Regression coefficients for preceding error term = 0.539)					
D: Time	10.506	1	10.506	20.038	0.001
A x D	7.656	1	7.656	14.603	0.001
C x D	0.506	1	0.506	0.966	0.330
A x B x D	0.156	1	0.156	0.298	0.500
A x C x D	0.306	1	0.306	0.584	0.448
B x C x D	0.006	1	0.006	0.012	0.500
A x B x C x D	0.306	1	0.306	0.584	0.448
Covariates	0.000	0			
Time x Within	37.750	72	0.524		
(Regression coefficients for preceding error term = 0.0)					

variable "time" in another covariate adjustment. The results of this procedure was that "time" was a significant main effect, and that there was a significant interaction between time and age group. The results of a Newman-Keuls test performed on the covariate adjusted means of each age group at the posttest, and follow-up paralleled the t test findings presented in Table 6. The only non-significant difference found was between the posttest and follow-up of the college age group.

The small number of males in both age groups made sex difference comparisons futile. A discussion of the results, their interpretation and implications, follows in the Discussion chapter.

## DISCUSSION

### Synopsis of Results

Contrary to the hypothesis of no difference in attitudinal flexibility between the two subject age groups, a significant main effect of subject age group was evident in the posttest analysis of variance. While both subject age groups changed significantly from pretest to posttest, as demonstrated by significant  $t$  test and Newman-Keuls analyses, the senior citizen group changed significantly more, as shown in the analysis of covariance. The main effects of source age and source credibility failed to reach significance on the posttest measure, and there were no significant interactions.

On the follow-up attitude measure there were no significant main effects, though the subject age effect did approach significance. At the time of the follow-up the elderly subject group's opinions had changed markedly back toward their initial, or pretest, position. This suggests a decay of the substantial change noted in that group on the posttest measure. There were no significant interactions on the follow-up measure, though the subject age by communicator credibility interaction approached significance, with the elderly maintaining more change when the message source was credible.

### Interpretation of Posttest Results

At the posttest measure the senior citizen group's attitude toward the E.R.A. changed significantly more than did the attitude



of the college age group. Elderly subjects substantially modified their reported attitude toward the E.R.A. after receiving the anti-E.R.A. message. College age subjects posttest attitudes, while significantly different from their pretest position, did not exhibit the marked degree of change evident in the senior citizen group.

The willingness of the senior citizen group to change suggests an active response to the different situational factors. This finding is contrary to the rigidity and lack of active responding suggested by the detachment theory of aging. The importance of situational factors, stressed by Wicker (1969), is supported by the senior citizens' sensitivity to the demand characteristics of this experiment. It appeared that elderly persons' expressions of their attitudes were subject to influence by such situational factors.

The interpretation of the elderly subjects' sensitivity to the demand characteristics of the experimental situation may follow either of two avenues. The first, a rather pessimistic viewpoint, is that senior subjects were unsure of their own opinions and therefore tried to meet the expectations of the experimenter by expressing the attitude represented in the change message. This interpretation implies that as people grow older their confidence in the validity of their own opinions diminishes and they become less resistant to change attempts.

A second interpretation, more optimistic with regard to the changes which occur with age, is that the senior citizens, after a lifetime of seeing the world around them change, have become aware of the importance of situational variables and the demand characteristics of particular situations. These persons, having made a successful

adjustment to retirement, may have had to change many of their attitudes in order to adapt. Reinforcement for change may have increased their sensitivity to situational variables suggesting change. This adaptation process may have served as practice in attitude change and resulted in increased receptivity to change attempts. It is also possible that increasing age in already well-adjusted people may be associated with decreasing defensiveness.

Support for the optimistic interpretation is the fact that elderly subjects in this study were persons independently functioning in their own homes or apartments. Additionally, preliminary measures on comparable subjects indicated that the old age participant's self esteem was at least as high as that of the college age subjects.

An examination as to the possible reasons for the difference between the two age groups must include a consideration of the differences in the methodology employed with the two subject age groups. Elderly subjects were run individually while college age subjects were run in groups. While instructions to both age groups were identical, procedural differences may have resulted in different demand characteristics for the respective age groups. Possible differences in time per subject, rapport, and perceived confidentiality, suggests that these variables be examined in subsequent research to determine their impact on attitude change. The lack of equivalence in methodology may have contributed to the results found and must be taken into account when interpreting the findings of this study.



### Posttest Credibility Effects

One of the most consistently reported source variables affecting attitude change has been the credibility of the source. The failure of the present study to find a credibility factor on the posttest measure was not congruous with other studies. The lack of consistency with other research with respect to the effects of source credibility suggests that methodology in the present study may have varied from the methodology of previous research.

The present study followed the conceptualization of source credibility, presented in earlier work, as being comprised of trustworthiness and expertise. The preliminary study identified sources judged to be trustworthy and those judged to be untrustworthy by both college age and senior citizen subjects, but did not measure the perceived expertise of the sources. The experimenter selected for use in the formal study those sources judged to be trustworthy who might have been expected to possess some expertise regarding the attitude area employed, the Equal Rights Amendment. The failure to use preliminary measures to identify sources perceived as expert regarding the E.R.A. may have resulted in the selection of sources who were not perceived by subjects as being expert, and therefore not credible.

Another possible reason for the failure of the credibility variable to manifest itself may have been some lack of clarity on the subjects' part as to who was responsible for the message. In spite of instructions to the contrary, subjects may have attributed the message to the experimenter instead of to the source presented in the biographical sketch. The immediacy of the experimenter may have served to make



the biography an irrelevant situational variable. If this was the case, all subjects were in the same condition, one of unknown credibility.

#### Posttest Source Age Effects

The failure to find a significant source age effect was unanticipated. It was expected that subjects would be more influenced by a source whose age was similar to that of the subject than by a source whose age was dissimilar. This expectation was based on the research on similarity and attraction (Byrne, 1969) in which persons similar to a subject were generally perceived in a positive way. It was anticipated that sources whose age was similar to the subjects' would be perceived more positively and would thus induce more change.

Negative results with regard to the source age variable may have been the consequence of the subjects attributing the message to the experimenter rather than to the source described in the biographic sketch. The situational variable of the experimenter's presence for the elder subjects may have taken precedence over the source. Another possibility which may have been related to the failure of the source variable to make an impact was the manner in which the source's age was presented to the subjects, i.e., a brief written description. Previous studies have employed written descriptions of sources, sometimes accompanied with photographs or videotape. No difference has been reported in the impact of the various modes of presentation. Maximizing the salience of the source age variable by accompanying the biography with photographs pre-rated as to attractiveness may have increased the impact of that variable.

Follow-up Findings

The analysis of covariance of the follow-up data indicated no significant main effects, though source age and source age by source credibility approached significance. With the elderly subjects the marked change evident at the time of the posttest had deteriorated, but the follow-up attitude position of this group was still significantly less favorable toward the E.R.A. than was their initial position. The college age subjects, on the other hand, changed less from the pretest to the posttest, but maintained that change through the follow-up.

Within the elderly subjects a particular pattern of attitude change emerged. Older subjects in the low source credibility condition moved back toward their original position more than did elderly subjects in the high source credibility condition. This trend may be responsible for the near significant source credibility by subject age interaction. It may also suggest that source characteristics were remembered by the elderly and thus affected the attitudes expressed by them.

If the follow-up attitudes of both subject age groups are examined from an experimental demand viewpoint, it appears that the college age subjects responded to the follow-up demand characteristics much in the same fashion as they did to the posttest demands, there being no significant difference between their posttest and follow-up position. The senior citizens, however, complied with the demands of the posttest to a greater degree than they did to the demands of the follow-up. It is not clear whether the difference noted in the elderly group was due to a change in the subjects' willingness to comply or whether it was



due to a change in the demand characteristics at the time of the follow-up measure, i.e., the lack of the attitude change message.

#### Limitations of Findings

A discussion of the implications of the results of this study leads first to an examination of the methodological difficulties encountered.

The failure to find clear evidence of either source credibility or source age effects, contrary to the findings of previous research, strongly suggests that either the source characteristics were not presented in a salient manner, or that other situational factors, such as the presence of the experimenter, took precedence over the source characteristics presented with the change message. Either of these possibilities might explain the unpredicted lack of impact of the source characteristics.

The manner in which the different age group subjects were run is another aspect of the methodology which bears consideration. It is possible that the dissimilar methods of running subjects may be in part responsible for the differences in attitude change found between the college age and senior citizen subjects. It may be recalled that for logistical reasons college age subjects were run in groups and senior citizen subjects were run individually.

The arbitrary use of a logical appeal, as opposed to an emotional appeal, could conceivably have had an impact on the results attained. With college age subjects neither type of appeal has been demonstrated to be superior to the other in the amount of attitude change it can induce. The lack of research regarding message factors with senior



citizens makes it risky to assume that the two types of appeals are equivalent with respect to the amount of change they can promote in that age group. The difference in attitude change between the two age groups, then, may be related to a difference in responses to a logical appeal. If older persons are particularly susceptible to logical appeals the difference found between them and college age subjects may have been enhanced by the type of message.

The exclusion of nursing home resident or other dependently functioning elderly bears on the generalizability of the results of this study. While independently functioning elderly persons appear to be receptive to attitude change messages this receptivity may not be the case for all elderly. Eisdorfer and Lawton (1973) report that the self-esteem of older persons living in nursing homes is markedly lower than that of elderly living in their own homes. Since low self-esteem is associated with increased resistance to attitude change, it is reasonable to expect that persons living in nursing homes would be less likely to change their attitudes.

Another question which might be raised is whether similar results would be found had an issue other than the Equal Rights Amendment been the target attitude. Since the subjects' ego-involvement with an issue is positively correlated with resistance to change, results on other issues might vary somewhat. However, preliminary measures were used to assure equal ego-involvement both within and between subject age groups. With comparable ego-involvement it is expected that regardless of the target attitude, the differences between the two subject age groups would be maintained.

### Implications of Findings

Despite the possible bias introduced by the different methods of running the two subject age groups, the results do demonstrate that the elderly respond to situational variables and change their reported attitude toward a specific issue. Irrespective of the cause or causes of the change of attitude in the elderly, the fact that change occurred has implications with regard to the decrement model of aging. Autonomously functioning elderly still appear to heed situational variables in their environment. They are not rigidly unchanging nor are they immune to attempts to influence them.

This finding is consistent with research in the area of human learning discussed in the Introduction chapter, which suggests that cognitive functions in the elderly do not necessarily deteriorate with age, as do physical and perceptual functions. Continued or perhaps increased willingness to change may be related to changes in personality variables such as dogmatism and defensiveness which may occur with aging. The general decrement model of aging suggests a general decrease in attitudinal flexibility in the aged. The present study, although unable to identify precisely the cause of attitude change, does not support the decrement model's assumption of decreasing flexibility.

Since attitudes of the elderly in this study have been shown to be susceptible to change, it is of interest to speculate on age-related features which may mediate against such change, and may therefore be responsible for the inflexible stereotype of the senior citizen. As reported in the review of learning studies with the aged, loss of sensory acuity may interfere with the learning of new material.



Since attitude change is dependent upon similar mechanisms, i.e., perceiving and understanding communication, it may be that sensory losses affect attitude change by preventing new information from being processed.

Another factor which may mediate against attitude change in the senior citizen group is presented in Thomae's (1970) theory of disengagement in aging. Proponents of this disengagement theory of aging suggest that as persons grow older they disengage or isolate themselves from society around them. This disengagement may serve to limit the amount of information the older person receives from the environment and therefore reduce the probability that the person will be affected by contrary opinions. Disengagement is accompanied by a reduced expectation of involvement with the environment which may serve to further reduce the amount of information received by the elderly person.

#### Implications for Further Research

The methodological shortcomings which are evident in the present study suggest that further research employing a similar strategy to study attitude change in the elderly should be preceded by studies aimed at clarifying these inconsistencies. Possible bias introduced by individual vs. group administration of the change message and surveys suggests research in this area. If differences in time per subject, rapport, and perceived confidentiality affect the degree to which attitudes can be changed in both college age and elderly subjects, modifications to the methodology would be in order.

The relative impact of logical and emotional appeals on the elderly is another area requiring investigation. Methods ensuring a



salient presentation of the message and source characteristics must also be developed if the traditional strategy of investigating attitude change is to be pursued.

The present study clearly points out the need to examine situational variables described, but not fully explained, by Wicker (1969). It is imperative that, if attitude change is to be completely understood, those situational variables outside the traditional realm be thoroughly investigated as to their impact on change. The presence or absence of peers, anonymity in the experimental situation, and the rapport developed with the source suggesting change are all variables whose contribution remains unclear.

Understanding how such situational factors affect different age groups may help in understanding differences between age groups in their responses to an attitude or behavior change message. A more complete appreciation of situational variables may also have implications for psychotherapy with the aged, as well as helping with adjustment to retirement.

This emphasis on situational variables inherently present in the experimental situation is not an attempt to ignore or de-emphasize previous research on source, message, and other factors. It is instead the recognition of the importance of here-and-now variables which may be expected to have more impact than variables of a lower priority. For example, an individual hearing an attitude change attempt in the presence of an admired associate may be influenced more by the position of the associate than by the message, its source, or the manner in which it was presented. In addition to identifying important

situational variables, it would be desirable to determine the priority with which they were considered by subjects.

Related research may follow in several other directions. It may be possible to identify personality traits which are related to the manner in which situational variables affect different subjects. Such traits as introversion-extraversion, or locus of control may be involved in the manner in which individuals are affected by situational variables. Changes in personality traits with age may then be associated with any differences between the manner in which young and older subjects respond to situational variables in attitude change attempts.

A related area of study is sex differences in the senior citizen population. Due to the small number of elderly males participating in the present study no meaningful comparisons could be made between male and female senior citizens with regard to their resistance to attitude change. Though it is difficult to recruit elderly males in large numbers, it would be of interest to know if there are sex differences in the elderly population on the attitude change dimension.

Hypnotic susceptibility in the elderly is another research topic suggested by the present study. If aged persons are less resistant to counter attitudinal communication, are they less resistant to hypnotic suggestions, or suggestions in general? Standard hypnotic susceptibility scales might be employed to answer this question.

A final area of interest is in the solicitation of senior citizens as research subjects. The author had the good fortune of meeting a senior citizen who was interested in this research and who volunteered to recruit elderly participants. Her success at this task indicated that



senior citizens were willing to volunteer for this type of research when the recruiter was similar in age to themselves. Subject recruitment is one of the most difficult aspects of doing research with the aged. Using a senior citizen recruiter may be one method of gaining better access to the senior citizen population.

#### Practical Applications of Results

As previously discussed, one of the ramifications of the assumption of increasing rigidity in senior citizens is forced retirement. These findings indicate that such a rationale may be questionable. While generalizability to all senior citizens is lacking because of the exclusion of institutionalized elderly, it seems appropriate to suggest that each senior citizen's abilities be evaluated on an individual basis.

Evidence of attitudinal flexibility in the aged also suggests that persons providing nursing or retirement home care be taught to maximize those situational variables which may be found to facilitate attitude change in order to promote adjustment to and prevent detachment from the environment.

Another area in which this study may have practical implications is psychotherapy. Currently psychotherapy with senior citizens is perceived as a low return endeavor, with older persons generally being seen as poor therapy candidates. More often than not, older persons with psychological difficulties are referred to nursing home care (Atchley, 1972). If, as do Goldstein and Simonson (1971), one considers psychotherapy as a form of attitude change, senior citizens may be more amenable to psychotherapy than previously assumed.



Summary

This chapter has focused and elaborated on the results of this study. An exploration into methodological considerations highlighted weaknesses which limit the interpretation of the findings of significant differences between college age and elderly subjects with respect to attitude change. The fact that the elderly did change, contrary to stereotypes about them was discussed with regard to the decrement model of aging and was interpreted positively.

The importance of situational factors other than those experimentally manipulated was stressed and further research to identify these variables and their respective priorities was suggested. Research in related areas and practical application of the present findings were also discussed.

APPENDIX A

INSTRUCTIONS AND SURVEYS FOR PRELIMINARY SUBJECTS

## Instructions to Preliminary Subjects

General Instructions (given verbally): The research you are participating in involves your attitudes and opinions. Today you will be completing three opinion questionnaires. Please give your own opinion on each of the questions and leave none blank. Your responses to all items will be kept absolutely confidential. After completing all surveys you will be given an opportunity to ask questions you may have about this research.

Survey A: This survey contains several issues about which people's opinions vary. Please check the one blank on each item which corresponds most closely with your own opinion regarding that issue. After indicating your opinion on each issue, please rate the importance of each issue to you on one of the blanks providing for rating importance.

Survey B: see Survey B in this Appendix.

Tennessee Self Concept Scale (TSCS): See Instructions on the following page of this appendix.



## INSTRUCTIONS--TSCS

On the top line of the separate answer sheet, fill in your name and the other information except for the time information in the last three boxes. You will fill these boxes in later. Write only on the answer sheet. Do not put any marks in this booklet.

The statements in this booklet are to help you describe yourself as you see yourself. Please respond to them as if you were describing yourself to yourself. Do not omit any item! Read each statement carefully, then select one of the five responses listed below. On your answer sheet, put a circle around the response you chose. If you want to change an answer after you have circled it, do not erase it but put an X mark through the response and then circle the response you want.

When you are ready to start, find the box on your answer sheet marked time started and record the time. When you are finished, record the time finished in the box on your answer sheet marked time finished.

As you start, be sure that your answer sheet and this booklet are lined up evenly so that the item numbers match each other.

Remember, put a circle around the response number you have chosen for each statement.

Responses:	Completely false	Mostly false	Partly false and Partly true	Mostly true	Completely true
	1	2	3	4	5

You will find these response numbers repeated at the bottom of each page to help you remember them.

## SURVEY A

(Means of Both Subject  
Age Groups)  $\bar{X}$  s

1. Most birth control techniques are a good thing.				C.A. <sup>a</sup>	2.22	1.22
<u>(1)</u>	strongly agree			S.C. <sup>b</sup>	2.37	.91
<u>(2)</u>	agree					
<u>(3)</u>	mildly agree					
<u>(4)</u>	mildly disagree					
<u>(5)</u>	disagree					
<u>(6)</u>	strongly disagree					
Importance of this issue to me: (please check one)				C.A.	3.10	.80
<u>(1)</u>	<u>(2)</u>	<u>(3)</u>	<u>(4)</u>	S.C.	2.80	.91
Not	Slightly	Moderately	Very			
important	important	important	important			
to me	to me	to me	to me			
2. I believe that only the father should discipline children.				C.A.	4.99	1.40
___	strongly agree			S.C.	5.47	.84
___	agree					
___	mildly agree					
___	mildly disagree					
___	disagree					
___	strongly disagree					
Importance of this issue to me: (please check one)				C.A.	3.33	.86
<u>Not</u>	<u>Slightly</u>	<u>Moderately</u>	<u>Very</u>	S.C.	3.44	.79
important	important	important	important			
to me	to me	to me	to me			
3. I feel that people should generally ignore group opinion if they disagree with it.				C.A.	4.35	1.52
___	strongly agree			S.C.	3.78	1.78
___	agree					
___	mildly agree					
___	mildly disagree					
___	disagree					
___	strongly disagree					
Importance of this issue to me: (please check one)				C.A.	2.77	.84
<u>Not</u>	<u>Slightly</u>	<u>Moderately</u>	<u>Very</u>	S.C.	2.87	.81
important	important	important	important			
to me	to me	to me	to me			

		$\bar{X}$	s
4. I think smoking in public places should be prohibited.		C.A. 2.96	1.39
_____ strongly agree		S.C. 2.92	1.43
_____ agree			
_____ mildly agree			
_____ mildly disagree			
_____ disagree			
_____ strongly disagree			

Importance of this issue to me: (please check one)

_____	_____	_____	_____			
Not	Slightly	Moderately	Very			
important	important	important	important			
to me	to me	to me	to me			
				C.A.	2.75	.96
				S.C.	3.04	.95

5. I feel that war is sometimes necessary to solve world problems.		C.A. 4.20	1.59
_____ strongly agree		S.C. 3.99	1.45
_____ agree			
_____ mildly agree			
_____ mildly disagree			
_____ disagree			
_____ strongly disagree			

Importance of this issue to me: (please check one)

_____	_____	_____	_____			
Not	Slightly	Moderately	Very			
important	important	important	important			
to me	to me	to me	to me			
				C.A.	3.04	.89
				S.C.	3.14	.90

6. I believe that only the woman of the family should handle finances.		C.A. 5.31	1.16
_____ strongly agree		S.C. 5.18	.96
_____ agree			
_____ mildly agree			
_____ mildly disagree			
_____ disagree			
_____ strongly disagree			

Importance of this issue to me: (please check one)

_____	_____	_____	_____			
Not	Slightly	Moderately	Very			
important	important	important	important			
to me	to me	to me	to me			
				C.A.	3.22	.86
				S.C.	3.34	.75



		$\bar{X}$	s
7. I believe that men adjust to stress better than women.		C.A. 3.86	1.55
_____ strongly agree		S.C. 3.51	1.49
_____ agree			
_____ mildly agree			
_____ mildly disagree			
_____ disagree			
_____ strongly disagree			
Importance of this issue to me: (please check one)			
		C.A. 2.49	.97
_____ Not important to me	_____ Slightly important to me	S.C. 2.80	.79
	_____ Moderately important to me		
	_____ Very important to me		
8. Bussing to achieve racial balance in public schools is a mistake.		C.A. 3.02	1.32
_____ strongly agree		S.C. 2.98	1.48
_____ agree			
_____ mildly agree			
_____ mildly disagree			
_____ disagree			
_____ strongly disagree			
Importance of this issue to me: (please check one)			
		C.A. 1.98	.81
_____ Not important to me	_____ Slightly important to me	S.C. 2.70	1.98
	_____ Moderately important to me		
	_____ Not important to me		
9. I am opposed to a property tax for senior citizens.		C.A. 1.30	1.04
_____ strongly agree		S.C. 3.27	2.37
_____ agree			
_____ mildly agree			
_____ mildly disagree			
_____ disagree			
_____ strongly disagree			
Importance of this issue to me: (please check one)			
		C.A. 2.29	1.01
_____ Not important to me	_____ Slightly important to me	S.C. 2.29	1.08
	_____ Moderately important to me		
	_____ Not important to me		

		$\bar{X}$	s
10. I am generally in favor of extramarital sexual relations.	C.A.	4.12	1.86
_____ strongly agree	S.C.	4.78	1.25
_____ agree			
_____ mildly agree			
_____ mildly disagree			
_____ disagree			
_____ strongly disagree			

Importance of this issue to me: (please check one)

		C.A.	3.35	.82
_____ Not important to me	_____ Slightly important to me	_____ Moderately important to me	_____ Very important to me	S.C. 3.26 .92

11. I am opposed to people drinking alcoholic beverages.	C.A.	4.67	1.29
_____ strongly agree	S.C.	4.40	1.20
_____ agree			
_____ mildly agree			
_____ mildly disagree			
_____ disagree			
_____ strongly disagree			

Importance of this issue to me: (please check one)

		C.A.	2.94	.84
_____ Not important to me	_____ Slightly important to me	_____ Moderately important to me	_____ Very important to me	S.C. 3.04 .64

12. I believe that there is a God.	C.A.	1.37	.87
_____ strongly agree	S.C.	1.26	.57
_____ agree			
_____ mildly agree			
_____ mildly disagree			
_____ disagree			
_____ strongly disagree			

Importance of this issue to me: (please check one)

		C.A.	3.65	.72
_____ Not important to me	_____ Slightly important to me	_____ Moderately important to me	_____ Very important to me	S.C. 3.76 .66

	$\bar{X}$	s
13. Daylight savings time is a good idea.		
_____ strongly agree	C.A. 4.12	1.86
_____ agree	S.C. 4.78	1.25
_____ mildly agree		
_____ mildly disagree		
_____ disagree		
_____ strongly disagree		

Importance of this issue to me: (please check one)

				C.A. 2.37	.85
_____ Not	_____ Slightly	_____ Moderately	_____ Very	S.C. 2.56	.95
important	important	important	important		
to me	to me	to me	to me		

14. There is too much violence on television.		
_____ strongly agree	C.A. 2.63	1.39
_____ agree	S.C. 2.10	1.17
_____ mildly agree		
_____ mildly disagree		
_____ disagree		
_____ strongly disagree		

Importance of this issue to me: (please check one)

				C.A. 2.82	.80
_____ Not	_____ Slightly	_____ Moderately	_____ Very	S.C. 2.80	.90
important	important	important	important		
to me	to me	to me	to me		

15. I am in favor of the showing of X-rated movies in my home town.		
_____ strongly agree	C.A. 3.51	1.64
_____ agree	S.C. 4.39	1.43
_____ mildly agree		
_____ mildly disagree		
_____ disagree		
_____ strongly disagree		

Importance of this issue to me: (please check one)

				C.A. 2.16	.86
_____ Not	_____ Slightly	_____ Moderately	_____ Very	S.C. 2.56	1.01
important	important	important	important		
to me	to me	to me	to me		



- |  |   | $\bar{X}$ | s    |
|--|---|-----------|------|
| 16. The U.S. should be independent of foreign oil, regardless of how much it costs.                |   | C.A. 3.37 | 1.23 |
| <input type="checkbox"/> strongly agree  |   | S.C. 3.79 | 1.32 |
| <input type="checkbox"/> agree   |   |           |      |
| <input type="checkbox"/> mildly agree  |   |           |      |
| <input type="checkbox"/> mildly disagree   |   |           |      |
| <input type="checkbox"/> disagree  |   |           |      |
| <input type="checkbox"/> strongly disagree   |   |           |      |
| Importance of this issue to me: (please check one)   |   |           |      |
|  |   | C.A. 2.61 | .87  |
| <input type="checkbox"/> Not important to me   | <input type="checkbox"/> Slightly important to me   | S.C. 2.84 | .87  |
|  | <input type="checkbox"/> Moderately important to me |           |      |
|  | <input type="checkbox"/> Very important to me       |           |      |
| 17. Social Security taxes should be increased so that Social Security benefits could be increased. |   | C.A. 4.26 | 1.16 |
| <input type="checkbox"/> strongly agree  |   | S.C. 3.80 | 1.46 |
| <input type="checkbox"/> agree   |   |           |      |
| <input type="checkbox"/> mildly agree  |   |           |      |
| <input type="checkbox"/> mildly disagree   |   |           |      |
| <input type="checkbox"/> disagree  |   |           |      |
| <input type="checkbox"/> strongly disagree   |   |           |      |
| Importance of this issue to me: (please check one)   |   |           |      |
|  |   | C.A. 2.80 | .80  |
| <input type="checkbox"/> Not important to me   | <input type="checkbox"/> Slightly important to me   | S.C. 2.80 | 1.04 |
|  | <input type="checkbox"/> Moderately important to me |           |      |
|  | <input type="checkbox"/> Not important to me        |           |      |
| 18. The death penalty should be brought back for certain crimes.                                   |   | C.A. 3.49 | 1.94 |
| <input type="checkbox"/> strongly agree  |   | S.C. 4.02 | 1.71 |
| <input type="checkbox"/> agree   |   |           |      |
| <input type="checkbox"/> mildly agree  |   |           |      |
| <input type="checkbox"/> mildly disagree   |   |           |      |
| <input type="checkbox"/> disagree  |   |           |      |
| <input type="checkbox"/> strongly disagree   |   |           |      |
| Importance of this issue to me: (please check one)   |   |           |      |
|  |   | C.A. 3.10 | .67  |
| <input type="checkbox"/> Not important to me   | <input type="checkbox"/> Slightly important to me   | S.C. 2.91 | 1.02 |
|  | <input type="checkbox"/> Moderately important to me |           |      |
|  | <input type="checkbox"/> Not important to me        |           |      |

		$\bar{X}$	s
19. Physicians should be immune from malpractice suits so that medical costs to patients could be lowered.	C.A.	3.80	1.70

	S.C.	3.82	1.45
--	------	------	------

- strongly agree  
 agree  
 mildly agree  
 mildly disagree  
 disagree  
 strongly disagree

Importance of this issue to me: (please check one)

	C.A.	3.06	.86
--	------	------	-----

- |                                  |                                       |   |                                   |
|----------------------------------|---------------------------------------|---|-----------------------------------|
| <u>Not</u><br>important<br>to me | <u>Slightly</u><br>important<br>to me | <u>Moderately</u><br>important<br>to me | <u>Very</u><br>important<br>to me |
|----------------------------------|---------------------------------------|---|-----------------------------------|

	S.C.	3.02	.83
--	------	------	-----

20. I am in favor of passage of the Equal Rights Amendment to the U.S. Constitution.

	C.A.	2.69	1.43
--	------	------	------

- strongly agree  
 agree  
 mildly agree  
 mildly disagree  
 disagree  
 strongly disagree

	S.C.	2.71	1.41
--	------	------	------

Importance of this issue to me: (please check one)

	C.A.	2.90	1.83
--	------	------	------

- |                                  |                                       |   |                                   |
|----------------------------------|---------------------------------------|---|-----------------------------------|
| <u>Not</u><br>important<br>to me | <u>Slightly</u><br>important<br>to me | <u>Moderately</u><br>important<br>to me | <u>Very</u><br>important<br>to me |
|----------------------------------|---------------------------------------|---|-----------------------------------|

	S.C.	2.90	.94
--	------	------	-----

<sup>a</sup>C.A. = College Age Subjects

<sup>b</sup>S.C. = Senior Citizen Subjects

## Survey B

Listed below are brief descriptions of occupations of several persons. Using only these descriptions, please rate the general trustworthiness of each occupation.

(Means of Both Subject  
Age Groups)

1. U.S. Senator, male, with 4 years prior experience in the U.S. House of Representatives; currently active in several Senate committees.					$\bar{X}$	s
	_____	_____	_____	_____	C.A. <sup>a</sup>	2.51 .88
Completely trustworthy		Neutral		Completely untrustworthy	S.C. <sup>b</sup>	2.20 .76
2. Former aide, male, to the cabinet of the Nixon administration.					C.A.	3.57 .76
	_____	_____	_____	_____	S.C.	3.34 1.12
Completely trustworthy		Neutral		Completely untrustworthy		
3. Male judge on the U.S. Court of Appeals.					C.A.	2.12 .91
	_____	_____	_____	_____	S.C.	1.80 .86
Completely trustworthy		Neutral		Completely untrustworthy		
4. Female county commissioner with 6 years experience.					C.A.	2.22 .67
	_____	_____	_____	_____	S.C.	2.28 .81
Completely trustworthy		Neutral		Completely untrustworthy		
5. Leader in the women's rights movement.					C.A.	2.69 .79
	_____	_____	_____	_____	S.C.	2.70 .84
Completely trustworthy		Neutral		Completely untrustworthy		
6. Male rocket scientist with the U.S. space program.					C.A.	1.82 .77
	_____	_____	_____	_____	S.C.	1.87 .88
Completely trustworthy		Neutral		Completely untrustworthy		
7. Female medical doctor involved in cancer research.					C.A.	1.59 .73
	_____	_____	_____	_____	S.C.	1.34 .56
Completely trustworthy		Neutral		Completely untrustworthy		



					$\bar{X}$	s
8. Female professor at a small college in South Carolina.						
Completely trustworthy	Neutral	Completely untrustworthy	C.A.	1.98	.86	
			S.C.	2.04	.83	
9. Male Chiropractor working in the local area.						
Completely trustworthy	Neutral	Completely untrustworthy	C.A.	2.84	1.21	
			S.C.	2.83	1.21	
10. Male executive for one of the nation's largest oil companies.						
Completely trustworthy	Neutral	Completely untrustworthy	C.A.	3.43	.91	
			S.C.	3.21	1.20	
11. Male TV news analyst appearing regularly on the nightly news.						
Completely trustworthy	Neutral	Completely untrustworthy	C.A.	2.53	.83	
			S.C.	2.40	.92	
12. Quarterback for one of the teams in the National Football League.						
Completely trustworthy	Neutral	Completely untrustworthy	C.A.	2.71	.76	
			S.C.	2.53	1.00	
13. Famous novelist, female, whose books concern the life style of the "jet set."						
Completely trustworthy	Neutral	Completely untrustworthy	C.A.	2.86	.87	
			S.C.	2.92	1.10	
14. Well known male faith healer from the East coast.						
Completely trustworthy	Neutral	Completely untrustworthy	C.A.	3.68	1.14	
			S.C.	3.69	1.06	
15. Female legal advisor to the American Communist Party.						
Completely trustworthy	Neutral	Completely untrustworthy	C.A.	3.98	.86	
			S.C.	3.60	1.18	

				$\bar{X}$	s
16. Male consumer advocate actively working for socialized medicine.					
Completely trustworthy	Neutral	Completely untrustworthy	C.A.	2.80	1.06
			S.C.	2.46	.90
17. Male C.I.A. agent assigned to Washington, D.C.					
Completely trustworthy	Neutral	Completely untrustworthy	C.A.	3.31	.97
			S.C.	2.98	1.14
18. Female Christian missionary working in Peru.					
Completely trustworthy	Neutral	Completely untrustworthy	C.A.	1.55	.67
			S.C.	1.52	.81
19. Male violinist who plans with the New York Philharmonic Orchestra.					
Completely trustworthy	Neutral	Completely untrustworthy	C.A.	2.39	.83
			S.C.	2.26	.94
20. Male editor of a large Chicago newspaper.					
Completely trustworthy	Neutral	Completely untrustworthy	C.A.	3.10	.76
			S.C.	3.08	.94

<sup>a</sup>C.A. = College Age Subjects

<sup>b</sup>S.C. = Senior Citizen Subjects

APPENDIX B  
INSTRUCTIONS, SURVEYS, BIOGRAPHICAL DESCRIPTIONS, AND  
CHANGE MESSAGE FOR FORMAL STUDY SUBJECTS



## Instructions Given to Formal Study Subjects

Pretest (verbal instructions): The research in which you are participating involves attitudes and attitude change. Over the next six weeks you will be given three separate attitude surveys. Please give your own opinion on each issue and leave none blank. Take as much time as you need; there is no time limit. Your responses will be kept completely confidential. Please do not discuss this research with anyone else until the third and final survey has been completed. At that time you will be provided an opportunity to ask questions and make comments to the experimenter. The next survey will be given to you in two weeks. Thank you for your participation.

Posttest (verbal instructions): Today you will be completing the second of the three attitude surveys in this experiment. Before you complete the survey, please read carefully the three pages preceding the survey. These first three pages describe an individual and her opinion regarding one of the attitude issues on the survey. There is no time limit. Please answer with your own opinions. All responses will be kept completely confidential. Please do not discuss this experiment with anyone until after the third and final survey which will be given to you in approximately three weeks. Thank you for your participation.

Follow-up (verbal instructions): Today you will be completing the third and final attitude survey. There is no time limit. Please answer with your own opinions. All responses will be kept confidential. After you complete the survey you will be provided an opportunity to make comments and ask questions about this research. Thank you for your participation.

Written Instructions Included with Survey A-I at Pretest, Posttest, and Follow-up: This survey contains several issues about which people's opinions vary. Please check the one blank on each item which corresponds most closely with your own opinions regarding that issue.

## Attitude Survey A-I

1. Most birth control techniques are a good thing. (please check one)

strongly agree  
 agree  
 mildly agree  
 mildly disagree  
 disagree  
 strongly disagree

2. I believe that only the father should discipline children. (please check one)

strongly agree  
 agree  
 mildly agree  
 mildly disagree  
 disagree  
 strongly disagree

3. I feel that people should generally ignore group opinion if they disagree with it. (please check one)

strongly agree  
 agree  
 mildly agree  
 mildly disagree  
 disagree  
 strongly disagree

4. I think smoking in public places should be prohibited. (please check one)

strongly agree  
 agree  
 mildly agree  
 mildly disagree  
 disagree  
 strongly disagree

5. I feel that war is sometimes necessary to solve world problems. (please check one)

strongly agree  
 agree  
 mildly agree  
 mildly disagree  
 disagree  
 strongly disagree

6. I believe that only the woman of the family should handle finances. (please check one)
- strongly agree  
 agree  
 mildly agree  
 mildly disagree  
 disagree  
 strongly disagree
7. I believe that men adjust to stress better than women. (please check one)
- strongly agree  
 agree  
 mildly agree  
 mildly disagree  
 disagree  
 strongly disagree
8. Bussing to achieve racial balance in public schools is a mistake. (please check one)
- strongly agree  
 agree  
 mildly agree  
 mildly disagree  
 disagree  
 strongly disagree
9. I am opposed to a property tax for senior citizens. (please check one)
- strongly agree  
 agree  
 mildly agree  
 mildly disagree  
 disagree  
 strongly disagree
10. I am generally in favor of extramarital sexual relations. (please check one)
- strongly agree  
 agree  
 mildly agree  
 mildly disagree  
 disagree  
 strongly disagree



11. I am opposed to people drinking alcoholic beverages. (please check one)

strongly agree  
 agree  
 mildly agree  
 mildly disagree  
 disagree  
 strongly disagree

12. I believe that there is a God. (please check one)

strongly agree  
 agree  
 mildly agree  
 mildly disagree  
 disagree  
 strongly disagree

13. Daylight savings time is a good idea. (please check one)

strongly agree  
 agree  
 mildly agree  
 mildly disagree  
 disagree  
 strongly disagree

14. There is too much violence on television. (please check one)

strongly agree  
 agree  
 mildly agree  
 mildly disagree  
 disagree  
 strongly disagree

15. I am in favor of the showing of X-rated movies in my home town. (please check one)

strongly agree  
 agree  
 mildly agree  
 mildly disagree  
 disagree  
 strongly disagree

16. The U.S. should be independent of foreign oil, regardless of how much it costs. (please check one)

strongly agree  
 agree  
 mildly agree  
 mildly disagree  
 disagree  
 strongly disagree

17. Social Security taxes should be increased so that Social Security benefits could be increased. (please check one)

strongly agree  
 agree  
 mildly agree  
 mildly disagree  
 disagree  
 strongly disagree

18. The death penalty should be brought back for certain crimes. (please check one)

strongly agree  
 agree  
 mildly agree  
 mildly disagree  
 disagree  
 strongly disagree

19. Physicians should be immune from malpractice suits so that medical costs could be lowered. (please check one)

strongly agree  
 agree  
 mildly agree  
 mildly disagree  
 disagree  
 strongly disagree

20. I am in favor of passage of the Equal Rights Amendment to the U.S. Constitution. (please check one)

strongly agree  
 agree  
 mildly agree  
 mildly disagree  
 disagree  
 strongly disagree

(Biographich Sketch - Young Credible Source)

I

Mary C. is a 26 year old woman who is currently working as a Christian missionary in Peru. She has worked in this position for 2 years. The following statement is her opinion regarding passage of the Equal Rights Amendment to the United States Constitution. Please read her opinion carefully and then complete the attitude survey on the following pages.



(Biographich Sketch - Old Credible Source)

## II

Martha D. is a 66 year old woman who is currently working as a Christian missionary in Peru. She has worked in this position for 2 years. The following statement is her opinion regarding passage of the Equal Rights Amendment to the United States Constitution. Please read her opinion carefully and then complete the attitude survey on the following pages.

(Biographic Sketch - Young Non-Credible Source)

## III

Gloria A. is a 26 year old woman who is currently working as a legal advisor to the American Communist Party. She has been employed in this position for 2 years. The following statement is her opinion regarding passage of the Equal Rights Amendment to the United States Constitution. Please read her opinion carefully and then complete the attitude survey on the following pages.

(Biographic Sketch - Old Non-Credible Source)

## IV

Susan B. is a 66 year old woman who is currently working as a legal advisor to the American Communist Party. She has been employed in this position for 2 years. The following statement is her opinion regarding passage of the Equal Rights Amendment to the United States Constitution. Please read her opinion carefully and then complete the attitude survey on the following pages.



Though the Equal Rights Amendment is attractive at first glance, I am opposed to its ratification for the following reasons. It is 1) unnecessary, 2) uncertain, and 3) undesirable.

1) The amendment is unnecessary.

It is a sound proposition that constitutional amendment should be viewed as a political act of last resort. Ordinary statutes come and go; Supreme Court decisions can be modified or reversed; but the pending Equal Rights Amendment, once ratified, is here to stay.

If any other effective way can be found to cure political illness, surely the alternatives should be tried first. In fact, such alternatives are already being applied: Congress has already prohibited discrimination by sex in employment; One by one, outdated state laws are being repealed; The Supreme Court, by its actions, is writing the Equal Rights Amendment into the Constitution anyhow.

Doubtless, many women still suffer discrimination in employment, but these problems are not matters of law, but rather of law enforcement.

2) The amendment is uncertain.

The impending Equal Rights Amendment is written in terms which are vague and ambiguous. It speaks of equal rights, but does not specify what those rights are. In a matter as important as a constitutional amendment, the meaning should be clear and the wording specific. As the Equal Rights Amendment is written now, it is subject to several interpretations.

3) The amendment is undesirable.

The law that we currently live under is the result of all that we as people have learned from past experience. Laws that treat women differently in certain circumstances, for their own protection, have sound reasons behind them. It is therefore undesirable to pass an amendment which throws out a system based on such a large body of past experience. The Equal Rights Amendment is an undesirable and possibly dangerous addition to our Constitution.

## REFERENCES

- Allyn, J., & Festinger, L. The effectiveness of unanticipated persuasive communications. Journal of Abnormal and Social Psychology, 1961, 62, 35-40.
- Anderson, N. H., & Hovland, C. I. The representation of order effects in communication research. In C. I. Hovland (Ed.), The order of presentation in persuasion. New Haven: Yale University Press, 1957.
- Aronson, E., & Golden, B. W. The effect of relevant and irrelevant aspects of communicator credibility on attitude change. Journal of Personality, 1962, 30, 135-146.
- Asch, S. E. Social psychology. Englewood Cliffs, N.J.: Prentice-Hall, 1952.
- Asch, S. E. Studies of independence and conformity: A minority of one against a unanimous majority. Psychology Monographs, 1956, No. 9.
- Asch, S. E. Effects of group pressures upon modification and distortion of judgments. In E. E. Macoby, T. M. Newcomb, and E. L. Hartley (Eds.), Readings in social psychology (3rd ed.). New York: Holt, Rinehart, and Winston, 1958.
- Atchley, R. C. The social forces in later life: An introduction to social gerontology. Belmont, Ca.: Wadsworth, 1972.
- Bauer, R. A. A revised model of source effect. Presidential address of the Division of Consumer Psychology, American Psychological Association annual meeting, Chicago, 1965.
- Bergin, A. E. The effect of dissonant persuasive communications on changes in a self-referring attitude. Journal of Personality, 1962, 30, 423-438.
- Birren, J. E. The Psychology of Aging. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1964.
- Bochner, S., & Insko, C. A. Communicator discrepancy, source credibility and opinion change. Journal of Personality and Social Psychology, 1966, 4, 614-621.
- Bogartz, R. S. On the assumption of a steeper avoidance gradient in Miller's conflict theory. Psychology Review, 1965, 72, 162-163.



- Brehm, J., & Cohen, A. R. Explorations in cognitive dissonance. New York: Wiley, 1962.
- Brown, R. Social psychology. New York: Free Press, 1965.
- Byrne, D. Advances in experimental social psychology. New York: Academic Press, 1969.
- Calabrese, F. J., & Lana, R. E. The inhibitory and enhancing influence of pretest commitment. Educational and Psychological Measurement, 1974, 4, 859-869.
- Cantril, H., & Allport, G. W. The psychology of radio. New York: Harper, 1935.
- Chen, W. K. The influence of oral propoganda material upon students' attitudes. Archives of Psychology, 1935, No. 150.
- Cherrington, B. M., & Miller, L. W. Changes in attitude as a result of lecture and of reading similar material. Journal of Social Psychology, 1933, 4, 479-487.
- Cohen, A. R. Communication discrepancy and attitude change: A dissonance theory approach. Journal of Personality, 1959, 27, 63-73.
- Coleman, J. C. Abnormal psychology and modern life. Glenview, Ill.: Scott, Foresman, and Company, 1964.
- Cox, D. F., & Bauer, R. A. Self-confidence and persuasibility in women. Public Opinion Quarterly, 1964, 28, 453-466.
- Edison, B. W. Getting rid of 65 and out. Business Review, 1976, 60-61.
- Eisdorfer, C., & Lawton, M. P. The psychology of adult development and aging. Washington, D.C.: APA, 1973.
- Elliott, F. R. Eye versus ear in moulding opinion. Public Opinion Quarterly, 1937, 3, 83-87.
- Festinger, L. A theory of cognitive dissonance. Stanford: Stanford University Press, 1957.
- Festinger, L. Behavioral support for opinion change. Public Opinion Quarterly, 1964, 28, 404-417.
- Fine, B. J. Conclusion-drawing, communicator credibility and anxiety as factors in opinion change. Journal of Abnormal and Social Psychology, 1957, 54, 369-374.
- Fishbein, M., & Ajzen, I. Belief, attitude, intention, and behavior. Reading, Mass.: Addison-Wesley, 1975.

- Freedman, J. L. Involvement, discrepancy and opinion change. Journal of Abnormal and Social Psychology, 1964, 69, 290-295.
- Gelfand, D. M. The influence of self-esteem on the rate of verbal conditioning and social matching behavior. Journal of Abnormal and Social Psychology, 1962, 65, 259-265.
- Goldstein, A., & Simonson, N. Social psychology approaches to psychotherapy. In A. Bergin and S. Garfield (Eds.), Handbook of psychotherapy and behavior change. New York: Wiley, 1971.
- Green, J. A. Attitudinal and situational determinants of intended behavior toward blacks. Journal of Personality and Social Psychology, 1972, 22, 13-17.
- Griffitt, W. B. Interpersonal attraction as a function of self-concept and personality similarity-dissimilarity. Journal of Personality and Social Psychology, 1966, 4, 581-584.
- Hadley, H. D. The non-directive approach in advertising appeals. Journal of Applied Psychology, 1953, 37, 496-498.
- Haley, J. Uncommon therapy. New York: Norton, 1973.
- Heider, F. Attitudes and cognitive organization. Journal of Psychology, 1946, 21, 107-112.
- Hicks, J. M., & Spaner, F. E. Attitude change and mental hospital experience. Journal of Abnormal and Social Psychology, 1962, 65, 112-120.
- Hovland, C. I., & Janis, I. L. Personality and persuasibility. New Haven: Yale University Press, 1959.
- Hovland, C. I., & Weiss, W. The influence of source credibility on communication effectiveness. Public Opinion Quarterly, 1951, 15, 635-650.
- Hovland, C. I., Janis, I. L., & Kelley, H. H. Communication and persuasion. New Haven: Yale University Press, 1953.
- Hovland, C. I., Lumsdaine, A. A., & Sheffield, F. D. Experiments on mass communication. Princeton: Princeton University Press, 1949.
- Insko, C. A., & Shopler, J. Triadic consistency: A statement of affect-cognitive-conative consistency. Psychological Review, 1967, 74, 361-376.
- Janis, I. L. Personality correlates of susceptibility to persuasion. Journal of Personality, 1954, 22, 504-518.



- Janis, I. L., & Field, P. B. Sex differences and personality factors related to persuasibility. In C. I. Hovland and I. L. Janis (Eds.), Personality and persuasibility. New Haven: Yale University Press, 1959.
- Janis, I. L., & Rife, D. Persuasibility and emotional disorder. In C. I. Hovland and I. L. Janis (Eds.), Personality and persuasibility. New Haven: Yale University Press, 1959.
- Johnson, H. H., & Izzett, R. R. The effects of source identification on attitude change as a function of the type of communication. Journal of Social Psychology, 1972, 1, 81-87.
- Katz, D. The functional approach to the study of attitude. Public Opinion Quarterly, 1960, 24, 163-204.
- Kilpatrick, J. J. The case against E.R.A. Nations Business, 1975, 63, 9-10.
- Kilty, K. M., & Feld, A. Attitudes toward aging and toward the needs of older people. Journal of Gerontology, 1976, 31, 586-594.
- King, B. T. Relationships between susceptibility to opinion change and child rearing practices. In C. I. Hovland and I. L. Janis (Eds.), Personality and persuasibility. New Haven: Yale University Press, 1959.
- Knower, F. H. Experimental studies of change in attitude: I. A study of the effect of oral arguments on changes of attitudes. Journal of Social Psychology, 1935, 6, 315-347.
- Kumata, H. Attitude change and learning as a function of prestige of instructor and mode of presentation. Michigan State University, 1958. (ERIC Document Reproduction Service No. ED 014223)
- Lana, R. E. Inhibitory effects of a pretest on opinion change. Educational and Psychological Measurement, 1966, 26, 139-150.
- Lana, R. W., & King, D. J. Learning factors as determiners of pretest sensitization. Journal of Applied Psychology, 1960, 44, 189-191.
- Leech, S., & Witte, K. L. Paired-associate learning in elderly adults as related to pacing and incentive conditions. Developmental Psychology, 1971, 5, 180.
- Lewis, A. A., Langan, C. J., & Hollander, E. P. Expectation of future interaction and the choice of less desirable alternatives in conformity. Sociometry, 1972, 35, 440-447.
- Lockwood, D. L. Sex and persuasibility: A new approach. Paper presented at the Central States Speech Association, Milwaukee, 1974. (ERIC Document Reproduction Service No. ED 098649)



- Mann, J. H. The relationship between cognitive, behavioral and affective aspects of racial prejudice. Journal of Social Psychology, 1959, 49, 223-228.
- Matthews, J. The effect of loaded language on audience comprehension of speeches. Speech Monographs, 1947, 14, 176-187.
- McGinnies, E., & Donelson, E. Knowledge of experimenter's intent and attitude change under induced compliance. College Park: Department of Psychology, University of Maryland, 1963.
- McGuire, W. J. Order of presentation as a factor in "conditioning" persuasiveness. In C. I. Hovland (Ed.), Order of presentation in persuasion. New Haven: Yale University Press, 1957.
- McGuire, W. J. Cognitive consistency and attitude change. Journal of Abnormal and Social Psychology, 1960, 60, 345-353.
- McGuire, W. J. The nature of attitudes and attitude change. In Lindzey, G., and Aronson, E. (Eds.), Handbook of social psychology. Reading, Mass.: Addison-Wesley, 1969.
- McGuire, W. J., & Millman, S. Anticipatory belief lowering following forewarning of a persuasive attack. Journal of Personality and Social Psychology, 1965, 2, 471-479.
- Miller, N. Involvement and dogmatism as inhibitors of attitude change. Journal of Experimental Social Psychology, 1965, 1, 121-132.
- Mills, J., & Harvey, J. Opinion change as a function of when information about the communicator is received and whether he is attractive or expert. Journal of Personality and Social Psychology, 1972, 1, 52-55.
- Murdock, G. P. Baseball: It's waged on Truk. Newsweek, 1948, 32, 69-70.
- Murphy, G., Murphy, L. B., & Newcomb, T. N. Experimental social psychology (rev. ed.). New York: Harper, 1937.
- Newcomb, T. M. The prediction of interpersonal attraction. American Psychologist, 1956, 11, 575-586.
- Osgood, C. E., & Tannenbaum, P. H. The principle of congruity in the prediction of attitude change. Psychological Review, 1955, 62, 42-55.
- Rhine, R. J., & Severance, L. J. Ego-involvement, discrepancy, source credibility, and attitude change. Journal of Personality and Social Psychology, 1970, 2, 175-190.

- Robinson, J. E., & Shaver, P. R. Measures of social psychological attitudes. Ann Arbor, Mich.: Institute for Social Research, 1969.
- Rosencranz, H. A., & McNevin, T. E. A factor analysis of attitudes toward the aged. Gerontologist, 1969, 9, 55-59.
- Rosnow, R. L., & Suls, J. M. Reactive effects of pre-testing in attitude research. Journal of Personality and Social Psychology, 1970, 4, 338, 343.
- Rule, B. G., & Rehill, D. Distraction and self-esteem effects on attitude change. Journal of Personality and Social Psychology, 1970, 4, 359-365.
- Saenger, G., & Gilbert, E. Consumer reactions to the integration of Negro sales personnel. International Journal of Opinion and Attitude Research, 1950, 4, 57-76.
- Sampson, E. E., & Insko, C. A. Cognitive consistency and conformity in the autokinetic situation. Journal of Personality and Social Psychology, 1964, 68, 189-192.
- Schaie, K. W., & Gribbin, K. Adult development and aging. In M. R. Rosenzweig and L. W. Porter (Eds.), Annual review of psychology. Palo Alto, Ca.: Annual Reviews Inc., 1975.
- Schwilk, G. L. An experimental study of the effectiveness of direct and indirect methods of character education. Union College Studies on Character Education, 1965, 1, 199-299.
- Sears, D. O. Effects of the assassination of President Kennedy on political partisanship. In B. S. Greenberg and E. B. Parker (Eds.), The Kennedy assassination and the American public. Stanford: Stanford University Press, 1965.
- Shaw, M. E., & Wright, J. M. Scales for the measurement of attitudes. New York: McGraw-Hill, 1967.
- Sherif, M., & Cantril, H. The psychology of attitudes: I. Psychology Review, 1945, 52, 295-319.
- Sherif, M., & Hovland, C. I. Social judgment. New Haven: Yale University Press, 1961.
- Sherif, M., & Sherif, C. W. Groups in harmony and tension. New York: Harper and Row, 1953.
- Smith, M. B., Bruner, J. S., & White, R. W. Opinions and personality. New York: Wiley, 1956.



- Stotland, E., & Dunn, R. Identification, "oppositeness," authoritarianism, self-esteem and birth order. Psychology Monographs, 1962, No. 9.
- Tannenbaum, P. H., & Kerrick, J. Effects of newcasts' items leads upon listener interpretation. Journalism Quarterly, 1954, 31, 33-37.
- Thomae, H. Theory of aging and cognitive theory of personality. Human Development, 1970, 13, 1-16.
- Thrasher, J. Interpersonal relations and gradations of stimulus structure as factors in judgmental variations: An experimental approach. Sociometry, 1954, 17, 228-241.
- Triandis, H. C., & Fishbein, M. Cognitive interaction in person perception. Journal of Abnormal and Social Psychology, 1963, 67, 446-453.
- Warner, L. G., & DeFleur, M. L. Attitude as an interactional concept. American Sociological Review, 1969, 34, 153-169.
- Weinberger, L. E., & Millham, J. A multi-dimensional method analysis of attitudes toward the elderly. Journal of Gerontology, 1975, 30, 343-348.
- Weiss, W. Emotional arousal and attitude change. Psychology Reports, 1960, 6, 267-280.
- Wicker, A. W. Attitudes vs. actions: The relationship of verbal and overt behavioral responses to attitude objects. Journal of Social Issues, 1969, 25, 41-78.
- Woodruff, D. S., & Birren, J. E. Biofeedback control of the EEG alpha rhythm and its effects on reaction time in the young and old. Unpublished Ph.D. dissertation, University of Southern California, 1970.