COUNTERARGUMENTATION INHIBITION AS A MEDIATOR OF THE ROLE-PLAYING--ATTITUDE-CHANGE RELATIONSHIP

Thesis for the Degree of Ph. D.
MICHIGAN STATE UNIVERSITY
DOUGLAS M. LITTLE
1972

This is to certify that the

thesis entitled
COUNTERARGUMENTATION INHIBITION AS A MEDIATOR OF THE

ROLE-PLAYING--ATTITUDE-CHANGE RELATIONSHIP

presented by

Douglas M. Little

has been accepted towards fulfillment
of the requirements for

Ph. D. degree in Psychology

William A. Scott
Major professor

Date 8/10/72

O-7639

ABSTRACT

COUNTERARGUMENTATION INHIBITION AS A MEDIATOR OF THE ROLE-PLAYING--ATTITUDE-CHANGE RELATIONSHIP

By

Douglas M. Little

Two experiments were conducted to test the proposition that role-playing is an especially effective attitude change technique because it inhibits a person's ability to counterargue. Generally, the manipulations failed to have the predicted effects. Conditions which involved improvising a counterattitudinal speech (Study 1) or a letter (Study 2) had a tendency to lead to more rather than less counterargumentation and did not lead to more attitude change than conditions in which subjects were more passively involved and merely read the counterattitudinal material. Furthermore, in Study 1, a .42 second delay in auditory feedback while speaking did not lead to less counterargumentation or to more attitude change than the no delay condition. Finally, in Study 2, specific instructions to counterargue led to less supportive argumentation but not more counterargumentation or less attitude change than a condition in which subjects were not given such instructions.

Only the unexpected interaction in Study 1 between Delayed Auditory Feedback (DAF) and Sex of Subject resulted in effects consistent with the predicted inverse relationship between counterargumentation and attitude change. Male subjects counterargued more and demonstrated less attitude change when delivering a counterattitudinal speech under

conditions of no delay in auditory feedback than under conditions of a .42 second delay. Female subjects, on the other hand, counterargued more and demonstrated less attitude change under the .42 second delay interval. Females were affected by the DAF manipulation in a manner contrary to that expected but there was an inverse relationship between counterargumentation and attitude change.

The only significant effect on attitude change in Study 2 was for the interaction of Role (Improvise versus Read) and Instructions to Counterargue (Present versus Absent). When subjects were given specific instructions to counterargue, improvisation led to more attitude change than a more passive type of exposure. There were no differences in attitude change between the Improvise and Read conditions for those not given instructions to counterargue. These data in conjunction with supplementary evidence suggested that the enhanced effectiveness of role-playing may occur only when the sponsor or source appears to have benign and nonexploitative intentions.

Although it was found in Study 2 that Improvise conditions led to more attitude change than Read conditions when instructions to counterargue were given, there were no differences between these conditions in terms of the amount of counterargumentation that was generated. On the other hand, when no instructions to counterargue were given, Improvise conditions led to more counterargumentation but no more attitude change than Read conditions. Thus, Study 2 provided no evidence to indicate that role-playing is effective because it leads to a reduction in the incidence of counterargumentation.

The fact that, in both studies, counterargumentation was affected by more treatments and treatment combinations than was attitude change further highlighted the limitations of the proposed relationship

between role-playing, counterargumentation, and attitude change. However, the evidence with respect to the DAF-Sex of Subject interaction in Study 1 along with certain within condition correlational evidence indicated the need for further research.

It was noted that the hypotheses of this research failed to distinguish between the ability to counterargue and the motivation to counterargue. This latter factor was presumed to account for much of the obtained data. In a related matter, it was observed that pretreatment attitudes have a substantial impact on the degree of counterargumentation. As a result it was recommended that future research utilize pre-post designs. Effort justification, satisfaction with performance, and recall were not able to account for the attitude change data. Some of the differences in counterargumentation appeared to be attributable to demand characteristics and modifications of the measurement technique to eliminate such sources of contamination were suggested. Various methodological contributions in this research were also discussed.

COUNTERARGUMENTATION INHIBITION AS A MEDIATOR OF THE ROLE-PLAYING--ATTITUDE-CHANGE RELATIONSHIP

By

Douglas MARION Little

A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Psychology

1972

To Karen

ACKNOWLEDGMENTS

I am grateful to Drs. Bill Crano, Larry Messé, Eugene Jacobson, and Bob Ruh for their help as dissertation committee members. They provided as much guidance and advice as I requested and as much freedom as I needed. My chairman, Bill Crano, is especially responsible for the strengths of this research and has been exceptionally generous with his time and counsel. I must also note my appreciation for the "free-time" provided by Bob Ruh during the summer of '71.

Others to whom I am indebted include Karen Sanderson, Ken White, Ralph Cooper, and Gerry Stornant. There is not room for their stories but in various ways they provided essential support.

It is also appropriate here to recognize the sacrifices and contributions of my mother and father and grandparents. The road has been as tough for them as for me.

Finally, I would like to acknowledge the help of Lawrence O'Kelly and Roger Halley who expeditiously provided the funds for the coding and the analysis of the data.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

A sizeable body of evidence has been collected which substantiates the hypothesis that counterattitudinal-advocacy can be an effective technique for modifying attitudes (see reviews by Collins, 1970; Elms, 1967; Insko, 1967; Sears and Abeles, 1970). More intriguing are the findings which indicate that active participation in the expression of counterattitudinal material leads to a significantly greater amount of attitude change than does a more passive form of exposure to the counter-attitudinal material (Culbertson, 1957; Harvey and Beverly, 1961; Janis and King, 1954; Janis and Mann, 1965; King and Janis, 1956; Scott, 1957). This superiority of an active over a passive form of participation in changing attitudes has also been found in terms of temporal persistence (Elms, 1966; Mann and Janis, 1968; Watts, 1967). Termed the role-playing effect, this tendency for role-playing to lead to greater change than a more passive form of exposure is the primary focus of the present research.

While the occurrence of the role-playing effect has been well documented, numerous and repeated efforts to determine the mediating mechanisms responsible for its effectiveness have met with much less than complete success. In addition to the classical dissonance interpretation (Festinger and Carlsmith, 1959) and a dissonance-based effort-justification explanation (Zimbardo, 1965), improvisation (Janis and King, 1954), biased scanning (Janis and Gilmore, 1965), satisfaction

(Janis and King, 1954), attention (Janis and King, 1954) and self-perception (Bem, 1967) hypotheses have been put forth. Each of the proposed mechanisms has been shown to be limited or inadequate in certain respects. No single proposition has been able to account for all of the data with respect to the role-playing variable (Little, 1971). The present discussion presents the possibility of an integrative solution and examines yet another potential mediator of the role-playing effect.

Since the earliest investigations of counterattitudinal-advocacy, researchers have speculated about the critical role of defensive reactions (such as counterargumentation) in the role-playing--attitude-change relationship.[1] Indeed, in the early study by King and Janis (1956) it was observed that

> improvised role-playing might have been successful in helping to overcome resistance by reducing the intensity of those internal responses which normally interfere with the acceptance of persuasive messages. (p. 183)

By interfering responses, the authors had in mind such things as concerns about the consequences of accepting the discrepant material, concerns about the trustworthiness of the communicator of the counterattitudinal, role-structuring material, and counterargumentation. In an investigation of an especially involving and life-like type of role-playing, Janis and Mann (1965) attributed the persuasive effectiveness of the technique to its ability to break through a person's "defensive facade." Elms (1966) linked empathic fantasy ability to the increased effectiveness of active as compared with passive forms of role exposure. The fantasy ability

---

[1] Terms such as "counterattitudinal advocacy," "role-playing," and "active participation" have been used, more or less synonymously to refer to the behavior of a person who has been induced to attempt publicly an authentic portrayal of a point of view contrary to his private opinions.

trait was presumed to act so that, in some manner or another, one's own psychological defenses are circumvented, thus permitting cognitive contact with the new attitudinal position.

In addition to various speculation, secondary data from several studies are consistent with the notion that the persuasive impact of a counterattitudinal performance is related to the manner in which the performance affects processes of psychological resistance. In studies by Kelman (1953) and Cohen, Brehm and Fleming (1958) high justification conditions led to less attitude change than low justification conditions. More important for the present discussion, high justification subjects in both studies demonstrated more negative reactions to the manipulations than did low justification subjects. While various aspects of these studies force moderation in the confidence of conclusions that can be drawn from them, they do provide at least suggestive evidence that the effect of role-playing procedures on defensive reactions will determine the degree of attitude change. Further supportive evidence is contained in a study by Collins and Helmreich (1970), who observed that "consequence" subjects demonstrated less attitude change and a greater tendency to dissociate themselves from their performance than did "process" subjects.

Other evidence with a more direct bearing on the question, was provided by Greenwald (1969, 1970) who, in a series of studies, demonstrated that the assignment to play a counterattitudinal role leads to a less biased judgmental disposition with respect to the initially counterattitudinal arguments. Furthermore, it was found that this less biased disposition was followed by greater attitude change in the direction of the assigned role. (This shift in evaluative disposition was not found, however, when the counterattitudinal material was

presented just prior to role assignment.) Greenwald explicitly suggested that the impartial disposition resulting from role assignment led to less counterarguing and, consequently, more attitude change.

In spite of the suggestions and suggestive evidence, little has been done to assess directly the mediating role of defensive reactions in the role-playing--attitude-change relationship. Only the studies by Greenwald (1969, 1970) were expressly conducted to gauge the extent to which role-playing procedures disengage or moderate processes of resistance. Especially in an area that remains as controversial as role-playing, every alternative should be thoroughly considered. To correct for the relative neglect mentioned above, the present research was developed to explore the role of defensive reactions in mediating the attitudinal consequences of counterattitudinal advocacy.

While persuasion researchers have presented little systematic discussion or documentation of the nature of psychological resistance (with exceptions, e.g. McGuire, 1964), the rough outlines of the terrain have been noted. Freedman, Carlsmith, and Sears (1970) discussed several psychological processes commonly related to resisting the influence of a persuasion attempt, including: out-and-out rejection, source derogation, communication derogation, counterargumentation, and perceptual distortion of the material in the persuasive attempt (a contrast effect).

That these defensive processes (or their absence) could influence the outcome of a role-playing experience can be easily appreciated by considering the orientation of a person who, in accommodating the requirements of a psychological experiment, the demands of his occupation or social group, or legal prescriptions and proscriptions, expresses a position that is inconsistent with his private convictions. It seems

reasonable to assume that the overall set of a person in such a situation would be to use the available information (whether provided by the experimenter, normative communications, or formal laws) to ensure the satisfactory performance of the role requirements. As a consequence of this set, out-and-out rejection would be less likely since the person could not totally disregard the material. Furthermore, opportunities for counterargumentation and communicator and communication derogation would be greatly curtailed.

How counterattitudinal advocacy moderates any or all of the above mentioned defensive processes is yet to be empirically demonstrated. The most likely defensiveness variable to be affected by a verbal role-playing sequence is counterargumentation. A person who has been asked to present publicly only one side of a controversial topic would probably find it difficult to engage in any substantive amount of covert, subvocal cognitive work inconsistent with the public position being presented. At least there would be less opportunity for a person to counterargue while actively constructing a new attitude position than while being asked to do nothing more than receive the counterattitudinal message. Some research by Osterhouse and Brock (1970) has linked attitude change effects to counterargumentation inhibition and may have special relevance for role-playing research.

Basically, Osterhouse and Brock (1970) explored the relationship between distraction and communication acceptance. Experimental subjects in distraction conditions verbally monitored a sequence of flashes on a panel of lights while they simultaneously listened to a persuasive communication. As predicted, subjects in the high distraction condition produced fewer counterarguments than subjects in the other conditions, and were more favorable toward the advocated tuition increase.

It was concluded that distraction mediates attitude change by inhibiting counterargumentation.

Of significance for the present discussion were the contentions that in order for the distraction--acceptance relationship to hold, the "distraction" should interfere with subvocal counterarguing but not interfere with the reception of the counterattitudinal material.

If role-playing can be assumed to be a special case of the more general category of events referred to as "distraction" then the relevance of the Osterhouse and Brock study for an understanding of the role-playing--attitude change relationship is clear. Consistent with the conditions noted for a replication of the distraction-acceptance relationship, it would appear that role-playing procedures involve subjects in activities which make vocal or subvocal counterarguing extremely difficult. Furthermore, as research on the attention hypothesis has shown (Janis and King, 1954; King and Janis, 1956; Zimbarde, 1965), role-playing procedures do not seem to interfere with the reception of the counterattitudinal material.

From the preceding discussion, it is hypothesized that role-playing, like distraction, drastically reduces a person's ability to counterargue and, as a result, makes the person more susceptible to the impact of the attitude discrepant material. Thus, the major hypothesis of the present investigation is that role-playing leads to significantly less counterargumentation and, consequently, significantly more attitude change than does a more passive form of exposure to the counterattitudinal material.

CHAPTER II

EXPERIMENT ONE

One way of demonstrating the usefulness of the major hypothesis of the present study is to show that it can be used to explain the results of previous role-playing investigations. Space permitting, a number of studies of counterattitudinal advocacy could be reinterpreted in terms of the effect of the manipulations on defensive reactions. Results of Festinger and Carlsmith (1959), Carlsmith, Collins, and Helmreich (1966), Linder, Cooper, and Jones (1967), and Zimbardo (1965), for example, can be explained in terms of defensive reactions. The choice here will be to attempt to replicate the Zimbardo (1965) study. The effort-justification interpretation by Zimbardo has been perhaps the least challenged of all the current explanations of the role-playing effect. Interestingly, a recent empirical confirmation of the effort-justification hypothesis has warned about an alternative explanation in terms of counterargumentation. Linder and Worchel (1970) commented:

> The manipulation of effort in this experiment may have had the concomitant effect of preventing subjects from engaging in the use of counterarguments to reject the communication as it impinged upon them. (p. 444)

To assess something of the utility and robustness of the above proposition, two investigations are presented. The first study is a conceptual replication of Zimbardo (1965) and investigates the effort-justification interpretation of the role-playing effect. The second

study explores other parameters which can be expected to moderate defensive reactions.

In Zimbardo's (1965) experiment, subjects were either actively or passively exposed to counterattitudinal material (participation condition) under conditions of either long or short delayed auditory feedback (effort manipulation). Consistent with Zimbardo's predictions, subjects in high effort conditions demonstrated greater attitude change than low effort subjects. In extending this study, the most basic modification is the inclusion of a measure of counterargumentation along with other dependent variable measures.

It is assumed that Zimbardo's manipulation of effort actually established conditions varying the ease with which one could counterargue. His results then were the effect of differences in ability to counterargue rather than effort, per se. Thus, it is predicted that, when Zimbardo's effort manipulations are replicated, high effort conditions will lead to less counterarguing and, as a result, greater attitude change than low effort conditions.

In the present study, half of the subjects were asked to present, aloud, a speech based on a list of eight arguments against coeducational living. The other half of the subjects were asked to read aloud, as a speech, an essay of approximately 900 words containing the same eight arguments. Subjects delivered their "talk" under conditions of a .42 second delay in auditory feedback or no delay in auditory feedback. It is specifically hypothesized that active participation in the exposure to counterattitudinal material will lead to less counterarguing and more attitude change than a more passive form of exposure. It is also predicted that delayed auditory feedback will lead to less counterarguing and greater attitude change than no delay in auditory feedback.

The general hypotheses presented above are detailed more formally as follows:

HI: Improvising and presenting a speech from a list of arguments which support an attitudinal position discrepant from one's own leads to less counterargumentation than occurs from merely overtly reading as a speech an essay based on the same discrepant arguments.

HII: Improvising and presenting a speech from a list of arguments which support an attitudinal position discrepant from one's own leads to more attitude change than occurs from merely overtly reading as a speech an essay based on the same discrepant arguments.

HIII: Presenting a speech supporting an attitudinal position with which one does not agree results in less counterargumentation when there is a .42 second delay in auditory-feedback while speaking than when there is no delay in auditory feedback.

HIV: Presenting a speech supporting an attitudinal position with which one does not agree results in more attitude change when there is a .42 second delay in auditory feedback while speaking than when there is no delay in auditory feedback.

Method

Overview

A 2x2x2x2 factorial design was used to determine the influence of type of exposure (improvising or overtly reading a counterattitudinal communication), effort (.42 seconds delayed auditory feedback or no delay), order of measurement of attitudes and counterargumentation (attitudes before counterargumentation, or counterargumentation after attitudes), and sex on the cognitive and affective consequences of role-playing. Subjects were randomly assigned to the various treatment conditions in this pre-post design. Dependent variable measures were collected on attitudes, counterargumentation, performance related perceptions, and recall of the counterattitudinal materials.

Subjects

Eighty introductory psychology students (40 male, 40 female) were recruited for experimental credits to participate in a project entitled "Communications Research." Since the attitudinal issue to be used in the study concerned coeducational living in the campus residence halls, participation was limited to on-campus residents only. Only one subject was present at each experimental session.

Procedure

Common to all subjects was a set of introductory comments. As a matter of first order, the subjects were given their experimental credits. Next, in an attempt to highlight the salience of choice in the situation, the experimenter delivered a few remarks about the Psychology Department's policy with respect to research participation. In brief, the subjects were told that they were perfectly free to leave the study at any point that they found the procedures unpleasant or otherwise intolerable. The experimenter added that, in any case, the subject could retain the experimental credits, merely for having good faith and showing up.

Read--improvise manipulation. Both active and passive participants were told that the project was part of a program of research exploring interpersonal communication. "Read" subjects were told, "What we'll be looking at in the present study is the verbal presentation of topical material." "Improvise" subjects were told "What we'll be looking at in the present study is most commonly called improvisational speech."

After further elaboration common to both groups (See Appendices A and B for complete details of the instructions) the experimenter digressed from the experimental proceedings to ask for assistance with his efforts

to "find issues which are interesting to use in studies like these." The experimenter then administered a booklet containing 10 issues of local campus concern to be rated on a number of semantic differential scales. This served as a pretest; one of the issues, "coeducational living on the same floor where you live," was used as a premeasure of the major dependent attitudinal variable.

"Read" subjects were told that they would be provided with some materials on the issue of coeducational living and were instructed to:

> read these arguments aloud in your natural argumentative style as though you were presenting a speech. Try to be as sincere and convincing as possible as you present the material you will be given entitled: "A Position Paper: Coeducational Living at Michigan State University." You should try to be as natural as possible while reading the prepared material. You will be given three minutes to rehearse the speech silently."

Improvise subjects were similarly told about the materials and were instructed

> to use the arguments to present a speech in your natural argumentative style. Try to be as sincere and convincing as possible in presenting the *same* point of view as the one taken in the material you will be given entitled: "A Position Paper: Coeducational Living at Michigan State University." Use all the arguments listed and feel free to add any other arguments you want as long as they are consistent with the ones that have been provided. Try to be as comprehensive as possible when presenting the speech. You will be given three minutes to rehearse the speech silently.

The experimenter suggested to all subjects that they try to imagine that they actually were a person with beliefs like those expressed in the material on coeducational living, and further, that they were speaking to a small group of people eager to hear what they had to say about the issue. Subjects were reminded to be sincere and convincing and told to begin speaking when signaled at the end of the three minute preparation period.

Performance-structuring counterattitudinal materials. "Improvise" subjects were given a list of eight arguments to support the position that male and female occupation of the same residence hall would be undesirable. The arguments on the single sheet of paper headed "From A Position Paper: Coeducational Living at Michigan State University" were: (1) more inconvenience (noise, privacy), (2) less adequate study atmosphere, (3) an increase in room and board fees because of the cost of altering bathroom facilities, (4) agitation among many parents and other taxpayers, (5) more artificial male-female relationships (have to be "on-stage"), (6) more sexual incidents (pregnancies and physical assaults), (7) more difficult to get many types of hall activities going, and (8) there are enough adjustments to make as it is. "Read" subjects were presented with an essay which was ostensibly a student position paper. This essay of approximately 900 words contained in elaborated form the same eight arguments provided to "improvise" subjects.

Effort manipulation. Zimbardo (1965) manipulated effort by varying the interval between speaking and hearing one's own comments. The .25 second delayed auditory feedback (DAF) condition in Zimbardo's study created a considerably more effortful task than the .01 second DAF condition. Equipment available for the present research permitted feedback delay intervals of .00, .21, .27, .42, and .54 seconds. Pilot work suggested that either .21 or .27 delay interval would lead to substantial "dropout" problems (subject mortality). However, the .42 second interval did produce disruption of speech patterns and higher perceived difficulty ratings than the .00 delay interval. Thus, the .00 and .42 delay intervals were judged to be suitable parallels to

Zimbardo's manipulations and were used in this study to define effort operationally. The .42 second delay condition was the more effortful.

Shortly before distributing the material on coeducational living, the experimenter cautioned each subject not to be overly concerned about the "modifications of your voice by the recording equipment." Subjects in the .42 delay condition were further told: "You will notice a slight time lag in your speech which might be disturbing at first."

Manipulation of order and measurement. The final manipulation involved the order in which the attitude and counterargument measures were taken. Half of the subjects were randomly assigned to indicate their attitudes before a measure of counterargumentation was obtained. The other half of the subjects were given an opportunity to express counterarguments before they were asked about their attitudes. While there is no apparent reason for assuming that the order of measurement should make a difference in this situation, there is also no strong confidence that the order of measurement will be inconsequential. There is no precedent in this case; there are no investigations of role-playing which have also looked at counterargumentation.

An additional reason for examining order of measurement has to do with Miller and Baron's (1971) warning about the ambiguity surrounding causal interpretations of the relationship between attitude change and counterarguing. Miller and Baron (1971) correctly noted that even with perfect measures it would not be possible to establish the temporal priority of counterarguing. Thus it is possible that counterarguing is the consequence and not the cause of attitude change. Perhaps differences in order of measurement will shed some light upon the complexities

of this problem. In any case, at this primitive stage, an exploration of the potential of this manipulation seems justified.

Dependent Measures

At the completion of the subject's speech, the experimenter distributed a four-page postexperimental questionnaire. The pretest measure of attitudes had been distributed before subjects were given the role-structuring counterattitudinal material.

Measures of attitudes. Semantic differential scales were used to measure attitudes toward the critical issue, "coeducational living on the same floor where you live." The bipolar adjectives used on the pretest were: good-bad, beautiful-ugly, sweet-sour, nice-awful, fair-unfair. These bipolar adjectives were mixed with six other sets of bipolar adjectives. On the post-test, a parallel set of bipolar pairs was employed. The five sets of scales loading on the evaluative dimension were: honest-dishonest, clean-dirty, pleasant-unpleasant, fragrant-foul, kind-cruel.

Measurement of counterargumentation and other thought processes. As is to be expected with newly developed measures, procedures for eliciting and categorizing the subjects' previously covert thought processes have not been standardized. A number of different approaches to this measurement problem appear to be appropriate within the bounds of agreement which have already developed. In recognition of this lack of consensus, the present study has incorporated several alternative techniques for assessing counterargumentation and other thought processes. Many of the decisions with respect to this problem have been influenced by the research by Osterhouse and Brock (1970) and the excellent theoretical paper by Miller and Baron (1971).

It will be recalled that, in general, the basic mediating variables in this study are assumed to be covert processes which occurred during the reception and encoding of the counterattitudinal material. Counterargumentation is the type of thought process of most direct interest in this research. In establishing a valid measure, it is essential that the instrument reflect rather than create these thought processes. As Miller and Baron (1971) have warned, "it is quite possible that the measurement attempt itself and not the earlier anticipation of or actual exposure to a persuasive communication instigates counterarguing" (p. 4).

One suggestion for meeting the problems of reactivity is to use instructions which do not specifically ask the subject to produce counterarguments. To this end, the instructions for the counterargumentation measure were modeled after those used by Osterhouse and Brock (1971) and stated:

> While reading over and presenting the material concerning coeducational living at MSU you probably had many different reactions to the various ideas. List below any of these thoughts - either pro or con - which may have occurred to you. State your own thoughts and ideas as briefly as possible--IGNORE SPELLING, GRAMMAR, AND PUNCTUATION. You will have three minutes to write your ideas. Please stop writing immediately and go to the next page when asked to do so.

Paralleling the procedures of the Osterhouse and Brock study, 15 7-inch horizontal lines followed the instructions and filled out the remainder of the page. Each line was preceded by the word "idea."

To further ensure that those thoughts which are listed by the subjects were the same ones which spontaneously occurred to them during the processing of the counterattitudinal message, a limit was imposed on the amount of time given to record prior thoughts. The assumption is made that the more time provided to list thoughts, the less the

recorded thoughts would correspond to those actually evoked during the initial processing of the counterattitudinal material. "Readily available" as opposed to "spontaneously used" ideas (to use a distinction of Miller and Baron) would be more frequent. With unlimited time, the differences between subjects on a thought listing measure would be more a function of the subjects' initial motivation, attitudes, and knowledge about the issue. On the other hand, the less time available, the more likely it is that the previously occurring thoughts would be listed since presumably they should be more salient. Under such circumstances, those subjects who had been counterarguing during the reception of the persuasive material would be the ones most able to reproduce these thoughts.

A question is created, then, as to the most appropriate time limit to employ. Clearly, there are practical limitations on the time restriction. For instance, in all probability a limit of 5 seconds would not be sufficient to detect actual treatment effects. The optimal time interval (where optimal is defined in terms of the measure's sensitivity to theoretically appropriate treatment differences) can only be empirically determined. Osterhouse and Brock (1970) used a three minute limit and noted that a one minute period was not sufficiently sensitive. Miller and Baron (1971), in commenting on some of their previous research, indicated that a 45-second interval *was* sensitive to experimental manipulations.

In the present study, measures with respect to two time periods were obtained. While subjects were given three minutes within which to list their ideas about the coeducational living issue, the experimenter also obtained a measure of counterarguing after 45 seconds. To do this, the experiment unobtrusively glanced over the subject's shoulder after

45 seconds to determine which idea line number the subject was working on at the time. Consequently, it is possible to compare the pattern of treatment effects for the 45-second measure with those for the 3-minute measure.

The criteria for scoring counterarguments were adapted from Brock (1967), Osterhouse and Brock (1970), and Miller and Baron (1971). An idea was scored as a counterargument if it was a declarative statement which mentioned unfavorable or undesirable consequences of not having coeducational residence hall living. Refutations of arguments and proposed alternative solutions to the coed living plan were also scored as counterarguments. Consistent with the recommendation of Miller and Baron (1971), certain rhetorical questions were classified as counterarguments (i.e. rhetorical questions which seemed to challenge the validity or accuracy of an idea presented in the persuasive materials).

A statement was not scored as a counterargument if it was a statement of simple support (coeducational living is undesirable), an affective reaction (those arguments make me mad), or an attack on something other than the arguments against coeducational residence hall living (if people would only let Jesus into their lives, we wouldn't have these problems).

Brock (1967) had recommended that only one argument be counted per "idea" space. However, subjects are generally untrained in the use of the instrument and might list more than one idea per space. Thus, although the structure of the measure was set up for only one idea, more than one idea could be counted per space.

An ambiguous response to the counterargumentation measure is an idea which is repeated one or more times. It is possible that a subject could have been perseverating on an idea or looking at a single idea

from several perspectives. Repeated thoughts of this nature would seem to constitute more of a particular type of response than a single idea and thus should be weighted and counted appropriately. On the other hand, a repetition may indicate that the subject merely tried to clarify a thought previously written down. Or it may mean that the subject was stuck for an idea and repeated himself while trying to think of something different.

In the study by Brock (1967), ideas which appeared to be a repetition or mere rephrasing of an "idea" previously listed were not counted again. In the present study, a dual system was employed. In doing the content analysis of the item tapping subjects' thoughts, frequency counts for each variable were made both including and excluding repeated thoughts. This procedure permits a comparison of the utility of the two different assumptions by examining the sensitivity of the two measures to the various treatments.

Thus far, the discussion has focused on counterargumentation. There are, however, other types of likely reactions to a persuasive message. For one thing, source and communication derogation are considered to be, at least conceptually, distinct from responses of counterargumentation (Aronson, Turner, and Carlsmith, 1963; Brewer and Crano, 1968; Festinger and Maccoby, 1964; Freedman and Sears, 1965; Freedman, Carlsmith, and Sears, 1970). A response of general disagreement may be yet another independent type of resistance. In agreement with Miller and Baron's suggestion concerning defensive reactions and in line with existent conceptual distinctions in the persuasion area, separate categories were created for source derogation, communication derogation, general disagreement, and counterargumentation. Other categories existed for arguments supporting the persuasive material,

for ambivalent comments, and for comments irrelevant to or unclearly related to the attitude position in question. These seven categories exhaustively partitioned the response domain.

The rules for assigning thoughts to the counterargument category were previously noted; brief descriptions of the other categories follow below:

(1) General disagreement--any statement rejecting the main thesis of the arguments without mentioning specific reasons (e.g. "I didn't agree with any of the ideas.").

(2) Source derogation--any negative comment about the author(s) of the material about coed living (e.g. "The people who wrote this are weird.")

(3) Communication derogation--any negative comments about the structural aspects of the counterattitudinal materials (e.g. "These arguments were inconsistent with each other.").

(4) Supporting arguments--any statement consistent with the intent of the essay. This category for positive statements was not further subdivided as was the case for negative statements.

(5) Ambivalence--any single sentence indicating mixed feelings about coeducational living (e.g. "There are some good points and there are some bad points.").

(6) Unclear--any comment not related to the issue of coeducational living or to the performance with respect to this issue. Generally, anything not codeable into any other category.

Inter-rater agreement was employed to assess the reliability of the thought-listing instrument. Two judges, working independently and without knowledge of the subject's treatment condition, initially agreed on the placement of 92.5% of the responses to the thought listing question. A consensus was reached between the judges concerning the appropriate classification of the remainder of the responses. (For each of the four scoring systems, Appendix C lists the frequency of occurrence of each of the response categories.)

There are several advantages to the scoring system used in the present study. Of particular merit is the fact that the system makes

it possible to determine whether the several types of defensive reactions are differentially responsive to the particular types of manipulations employed. That is, for example, counterargumentation may be the typical mode of response for one set of circumstances while source and communication derogation may be used for others.

In the present study, roughly 8% of all responses were described by the categories of general disagreement, source derogation, and communication derogation. Since so few of the defensive responses fell into categories other than counterargumentation, analyses were completed for only two measures of psychological resistance. One measure is of counterargumentation alone; the other, referred to as total defensiveness, included source derogation, communication derogation, and general disagreement, in addition to counterargumentation. While the total defensiveness measure is heavily loaded with counterargumentation, it is of interest to determine if the broader measure is more sensitive to the treatments. It is also possible to determine if the supporting argument category is the mirror image of the defensiveness categories. Conceivably, responses consistent with and supportive of the persuasive message and responses antagonistic to the persuasive material are or can be independently influenced by various treatment combinations.

The reader should be forewarned that the wealth represented by the number of options for scoring the thought processes (evoked by persuasive material) is not without its liabilities. When the dependent variables are analyzed, the number of comparisons to be made (and potentially the amount of confusion) are manipulated correspondingly.

Other dependent variable measures and manipulation checks. In order to assess the effort manipulations and to test other interpretations of the role-playing effect, other items in the questionnaire asked subjects to rate: (1) the sincerity and convincingness of their performance; (2) the extent to which the arguments they presented were logical, and biased; (3) how difficult the performance was and how much effort and involvement it entailed; and (4) how satisfied they were with their performance. Subjects were also asked to evaluate the expertise and trustworthiness of the author of the role-structuring materials. The last question was a measure of recall of the supporting arguments. (See Appendix D for an example of the pretest measure of attitude toward coeducational living. Appendix E contains the materials included in the postexperimental questionnaire.)

Results

The purpose of this replication was to demonstrate that attitude change differences which Zimbardo attributed to effort-justification induced dissonance reduction could more accurately and efficiently be explained via treatment effects on defensive processes such as counter-argumentation.

Assessment of the Effort Manipulation

Two questions were used to index self-perceptions of the effort involved in the counterattitudinal performance. In terms of the first question, (Q1): "How difficult was it to present the speech?", both the delayed auditory feedback (DAF) and the improvisation manipulations had the intended effect. Subjects who performed under .42 second delay in auditory feedback reported substantially more difficulty ($p=.0005$) in presenting the speech than those who performed under no delay in

auditory feedback. "Improvise" subjects reported marginally more ($p=.06$) difficulty than did "Read" subjects. These findings are in accord with the experimenter's observations with respect to stuttering, body posture, foot shuffling, hand-wringing, sighs of relief upon completion of the task, and other similar subject behaviors. Subjects in the .42 second delay condition were quite visibly under more pressure or tension than subjects in the no delay condition. To a slightly lesser degree, the differences between read and improvise groups were apparent.

The data with respect to the second question (Q2) cast a certain amount of ambiguity over the just mentioned findings. In terms of the question, "How much effort did *you* put into presenting the speech?", there were no significant treatment effects. All subjects expressed a high level of effort; the mean for all subjects on the 10-point scale was 7.13. The means for .42 second delay, no delay, and improvise and read conditions were, respectively: 7.08, 7.20, 7.25, and 7.03. The correlation between the two questions intended to index the same phenomenological state was a nonsignificant -.118.

Perhaps the responses on this second question indicate a ceiling effect. Alternately, the data may indicate that the subjects found the question ambiguous. It may have been that the subjects initially found the second question highly similar to the first one asking about difficulty; but, since there were two questions, decided the second must be inquiring about a different aspect of their performance. The subjects may have perceived the first question as related to physical effort and the second to psychological. Zimbardo (1965) reported significant differences for physical effort ($p < .001$) but more attenuated effects for psychological effort ($p < .10$).

In view of the high degree of similarity between the present study and Zimbardo's, it seems unlikely that the kind and amount of effort elicited in the two studies would be radically different. As in the Zimbardo study, all subjects were given a few minutes within which to rehearse their speech. In both studies "read" subjects read a prepared essay and "improvise" subjects worked from a prepared list of eight arguments. Also, both studies involved a comparison of performance under high- and low-disruptive delayed auditory feedback.

If the results of the direct question (Q2) concerning effort are taken at face value, what modifications of Zimbardo's procedures could be responsible for the fact that Zimbardo found differences in perceived effort while there are none in the present study? Actually, in the former study effort ratings differed only between those subjects receiving less than .01 second delay between speaking and hearing and those subjects receiving a .25 second delay. Zimbardo found no differences between "read" and "improvise" subjects. As mentioned in the method section, the delayed auditory feedback (DAF) manipulation of this study was established by having half of the subjects perform under a .42 second delay, while the other half of the subjects performed under direct feedback. While the difference between DAF conditions in the present study may have been of a lower magnitude than that in the Zimbardo study, the effect of the difference between DAF conditions in the present study still appears to be substantial.

Subjects may have been puzzled by the second question on effort and wondered what it was asking that was not involved in their answer to the first question. While the situation may have been an ambiguous one for them, they responded to it in something other than a random fashion. The support for this observation can be obtained by examining

the correlations of the two effort questions with other self-ratings. If the subjects were totally confused by the second effort question (Q2) and responded arbitrarily, then this second question should not be very highly correlated with other items. As Table 1 indicates, the responses to both effort questions were substantially related to responses to other items. It appears that both items were reliably measuring something.

Table 1

Correlations of "Difficulty" and "Effort" Ratings with other Self-perceptions

Correlation between	Difficulty in Presenting Speech	Effort You Put Presenting Speech
Satisfaction with task fulfillment	-.493*	.337*
Performance rated relative to others	-.552*	.338*
Ability to get involved with task	-.388*	.504*
Sincerity of performance	-.080	.469*
Convincingness of performance	-.540*	.381*
Initial confidence in own attitudes	-.373*	.312*

Note.--The coefficients in this table are based on the total sample of 80 subjects.

*$p < .01$.

Since some resolution of this problem is necessary, the suggestion is hazarded that the first question, asking about difficulty, is in fact a valid measure of Zimbardo's concept of effort. When responding to

this question, it is assumed that subjects were indicating how hard they had to work in presenting the speech. When faced with the second question ("How much effort did *you* put into presenting the speech?"), subjects probably assumed that something different was involved. Since the question specifically focused on their personal contribution (by emphasizing the word you), subjects probably were indicating the extent to which they were able to perform unencumbered by aspects of the experimental materials and manipulations. That is, subjects were indicating how free they were to innovate with respect to content and/or style of delivery. The less "difficulty" (physical trouble) one had in delivering his speech, the more he should feel as though he had the freedom to innovate. The more "difficulty" one had in merely delivering the speech, the more he should feel that his ability to innovate was limited. The more difficult the conditions, the less he should feel that he was actually able to add to the already structured performance. The tendency for subjects confronting high difficulty to devalue their creative efforts and for subjects confronting low difficulty to enhance their elaborative efforts would result in a homogenizing effect on the second effort question. Consistent with this speculation, the second effort item did have the lowest variability of all 11 of the manipulation-check items.

The patterns of the correlations between the two effort questions and other self-perceptions can be seen as supportive of this speculation concerning the meaning of the items (see Table 1). With respect to the item asking about a subject's "ability to get involved," it appears that the more a person felt he was able to get involved in delivering the speech, the less difficulty ($r=-.388$) and the more effort (translate, ability to innovate), ($r=.504$) he reported. The finding that initial

confidence in one's opinions was negatively correlated (-.373) with ratings on the "difficulty" item but positively correlated (.312) with ratings on the "effort" item is also consistent with the above speculation about the subject's interpretations of the meaning of the two items. Consistent, that is, if it can be assumed that subjects with less confidence in their opinion would be more threatened and, thus, feel more constricted in their performance.

Whether the manipulations in this study created differences in degree of effort comparable to those of the Zimbardo study is somewhat ambiguous. In view of the fact that the procedures of the two studies are highly similar and in view of the data relating to the subject's rating of difficulty in delivering the speech, it is assumed that effort was appropriately and substantially manipulated. The assumption that the subjects interpreted the meaning of the second effort check item in terms of ability to perform in an unconstrained, unfettered fashion is reasonable post hoc speculation. Certainly, the disparate findings with respect to the treatment effects on the response to the two effort questions forces a degree of reserve in any interpretations concerning an effort-justification hypothesis. What this means, unfortunately, is that it will not be possible to refute or to support in any conclusive manner the role of effort in role-playing induced attitude change.

Tests of Hypotheses

Counterargumentation production. Before considering the hypothesized effects of Role (Improvise versus Read) and Delayed Auditory Feedback (.42 Second Delay versus No Delay) on counterargumentation, it is desirable to recall that the measurement of the thoughts evoked by the persuasive material was carried out with respect to four different

sets of procedures. That is, counterargumentation, as well as total defensiveness and supportive argumentation, were assessed according to four different though related sets of rules. These four variations were created by: (a) tallying the number and type of thoughts listed after 45 seconds and after 3 minutes, and (b) tallying the thoughts with repeated ideas either included or excluded.

At this stage in the development of a technique for measuring counterargumentation and similar covert processes there is a painfully noticeable lack of consensus as to the most appropriate procedures. This is especially unfortunate in view of the fact that the different scoring systems employed in this study are sensitive to different treatment effects. A comparison of the procedures clearly indicates that the differences that do exist among the scoring systems are not due solely to such psychometric considerations as test length. In spite of a high degree of overlap in terms of the sensitivity of the different techniques to the treatments, it is apparent that different conclusions might be drawn depending upon which of the different scoring systems was chosen for interpretation.

In light of this unavoidable ambiguity, a somewhat flexible policy with respect to interpretation of effects has been followed. Generally, more confidence has been placed in the validity of an effect, the more different systems of scoring detect it and the lower the probability level associated with its chance occurrence. This has led to the neglect in some places of findings which have only been established with respect to one scoring system or in terms of marginal probability levels. The effects receiving emphasis are those which appear to be the strongest, most consistent, and/or theoretically interesting. While this is certainly not the most desirable state, it does seem justified

in view of the current status of the construct validity of the measures in question and in view of the probable return on the time invested.

Table 2 contains the results of the analysis of variance for four different dependent variables: supporting arguments, counterarguments, total defensiveness, and total number of arguments. Table 2 also shows the results for each of the four separate scoring systems. The data are displayed in this manner to facilitate the simultaneous comparison of the treatment effects on the several dependent variables and of the different scoring systems.

It is desirable to take time for an explanatory word or two concerning Table 2 before turning to the hypotheses--a moment to render the table more intelligible and less frustrating. Consider, for instance, the cell representing the effect of order of measurement on supporting arguments. When repeated arguments were included in the tally for the 3 minute limit (3 min. RAI), the resulting F ratio for Order of Measurement had a probability of occurrence of less than or equal to seven times in a thousand (.007). The probability of the F ratio when repeated arguments were included with a 3-minute limit was .018. The results are highly similar for the other two techniques. To take just one other example, the effect of Role on counterargumentation was reliable ($p < .05$) only when the 45 second limit on thought listing was imposed and repeated arguments were included.

It was predicted that subjects would be less able to counterargue when: (a) improvising a counterattitudinal speech than when reading a prepared counterattitudinal speech, and (b) when performing under a .42 second delay in auditory feedback (.42 Delay) than when performing with no delay in auditory feedback (No Delay). In addition to Role and Delayed Auditory Feedback, Sex of Subject and Order of Measurement of

Table 2

Summary of Analysis of Variance of Scores for Supporting Arguments, Counterarguments, Total Defensiveness and Total Number of Arguments--With Separate Listings for Each of the Four Scoring Methods

Source of Variation	Type of Argument: Supporting Arguments	Counterarguments	Total Defense	Total Arguments
(Sex) A			$(.046)^{a}$	
(Delay) B				
(Role) C		$(.047)^{b}$		$(.022)^{c}$
(Order) D	$(.077)^{a}(.008)^{b}$ $(.018)^{c}(.027)^{d}$		$(.058)^{a}(.015)^{b}$ $(.032)^{c}(.072)^{d}$	
A x B		$(.080)^{a}(.045)^{c}$	$(.058)^{a}(.017)^{c}$	
A x C		$(.029)^{a}(.101)^{c}$	$(.074)^{a}$	
A x D		$(.080)^{a}(.047)^{b}$ $(.101)^{c}(.040)^{d}$	$(.074)^{a}(.042)^{b}$ $(.096)^{c}(.072)^{d}$	
B x C		$(.003)^{a}(.013)^{b}$ $(.018)^{c}(.011)^{d}$	$(.012)^{a}(.042)^{b}$ $(.043)^{c}(.026)^{d}$	
A x C x D	$(.028)^{a}(.014)^{c}$	$(.084)^{b}$		$(.069)^{a}(.088)^{c}$ $(.079)^{d}$
A x B x C x D	$(.077)^{a}$			

Note.--The B x D, C x D, A x B x C, A x B x D, and B x C x D interactions had no effects on the dependent measures under consideration and were, therefore, not listed. The probability levels for all F's with $p \leq .10$ are listed.

[a]Three minute time limit with repeated arguments included (3 min. RAI).

[b]Forty-five second time limit with repeated arguments included (45 sec. RAI).

[c]Three minute time limit with repeated arguments excluded (3 min. RAE).

[d]Forty-five second time limit with repeated arguments excluded (45 sec. RAE).

Attitudes and Counterargumentation were included as independent variables in the 2x2x2x2 analysis of variance conducted on the various dependent measures. As suggested by Table 2 the hypotheses were not supported. There was no effect of Delayed Auditory Feedback (DAF) on counterargumentation or total defensiveness. This result replicated across the different scoring systems. The effect of Role on counterarguing was detected only with the measurement system which counted repeated arguments and used the 45-second limit ($F = 2.81$, $df = 1,64$, $p = .047$). Contrary to predictions, "improvise" subjects listed more counterarguments in the first 45 seconds than did "read" subjects. No effects of Role were detected when the other scoring systems were employed. Regardless of the scoring system employed, Role had no effect on the total number of defensive arguments listed. In sum, the predicted differences in counterargumentation did not materialize. If anything, there was tendency for the role manipulation to have an effect opposite to that expected.

An analysis of the significant interaction of Role and Delay on counterargumentation (Role x Delay interaction for 3 min. REA system, $F = 5.91$, $df = 1,64$, $p = .018$) further illuminates the noncorrespondence of the data and the predicted relationships. As shown in Table 3,[2] the condition which should have resulted in the most counterargumentation (the No Delay--Read condition) actually resulted in the least counterargumentation. However, the condition which theoretically should have

---

[2]In Table 3 and throughout the remainder of this section, tables containing counterargumentation and total defensiveness measures are based on the scoring system which used the three-minute limit and excluded repeated arguments (3 min. RAE). As will be clarified later, all four of the scoring systems produced highly similar results. The various methods of scoring were virtually equal in terms of sensitivity to treatments. The reason for prefering the 3 min. REA system is that this measure demonstrates a sensitivity to effects which most directly corresponds to the treatment effects on attitude change.

Table 3

Mean Counterargumentation as a Function of Delayed Auditory Feedback Interval and Role

Delayed Auditory Feedback Interval	Role	
	Read	Improvise
.42 Second Delay	2.80	2.25
No Delay	1.80	3.15

Note.--The sample size for each cell is 20.

permitted the least amount of counterargumentation (the .42 Delay--Improvise condition) did result in a relatively low level of counterargumentation.

An analysis of variance of simple effects reveals that improvisation led to more counterargumentation than reading under the no delay condition ($F = 5.97$, $df = 1,64$, $p < .05$)--an effect inconsistent with predictions. The difference in counterargumentation between improvise and read conditions was in the direction predicted for subjects performing under the .42 second delay condition. This difference was, however, not significant ($F = .959$, $df = 1,64$). Controlling role, it can be seen that the delay manipulation had a tendency to work as predicted for improvise subjects (simple effects $F = 2.656$, $df = 1,64$). The .42 second delay produced less counterargumentation than no delay. On the other hand, "read" subjects had a tendency to counterargue more under the .42 second delay than under the no delay ($F = 3.279$, $df = 1,64$) condition. Again it is seen that the hypotheses cannot account for the counterargumentation data.

In addition to the Delay-Role interaction other significant effects in terms of counterargumentation and/or total defensiveness occurred for the main effect of Order of Measurement and the Sex-Delay, Sex-Role, and Sex-Order interaction (See Tables 2 and 4). Table 4 has been added to give a clearer picture of what treatments and treatment combinations had an impact on counterargumentation and total defensiveness.

Subjects who indicated their attitudes *after* they were given a chance to express counterarguments demonstrated more total defensiveness than did subjects who indicated their attitudes first ($F = 4.79$, $df = 1,64$, $p = .032$). This difference in total defensiveness appears to be closely related to the effect of order of measurement on the amount of supportive argumentation. As Table 5 indicates, those subjects who expressed their attitudes before counterarguments (A1) listed significantly more supportive arguments than did subjects who expressed their attitudes after being given an opportunity to express counterarguments (A2) ($F = 5.867$, $df = 1,64$, $p = .018$). Table 5 illustrates that the number of supportive arguments listed was inversely related to the number of defensive thoughts listed. Order of Measurement did not have a substantial effect on counterargumentation.

Even though the Sex-Order of Measurement interaction is of only borderline significance for three of the four scoring systems (for all but the 45 sec. RAI system), this interaction is quite important for any interpretations of the main effect of order of measurement. The cell means for the sex-delay interaction are presented in Table 6. Order of Measurement had no effect on men (simple effects $F = .125$, $df = 1,64$); women had fewer defensive thoughts when receiving the A1 order than when receiving the A2 order (simple effects $F = 7.523$, $df = 1,64$,

Table 4

Summary of Analysis of Variance of Counterargumentation and Total Defensiveness

Source		Counterargumentation MS	Counterargumentation F	Total Defensiveness MS	Total Defensiveness F
Sex	(A)	1.25	<1	2.81	<1
Delay	(B)	.05	<1	.01	<1
Role	(C)	3.20	1.05	2.11	<1
Order	(D)	5.00	1.64	15.31	4.79**
A x B		12.80	4.20**	19.01	5.95***
A x C		8.45	2.77*	6.61	2.07
A x D		8.45	2.77*	9.11	2.85*
B x C		18.05	5.92***	13.61	4.26**
B x D		.05	<1	.31	<1
C x D		.20	<1	1.51	<1
A x B x C		7.20	2.36	5.51	1.73
A x B x D		.20	<1	.31	<1
A x C x D		4.05	1.33	2.81	<1
B x C x D		1.80	<1	.61	<1
A x B x C x D		3.05	<1	.31	<1

*$p < .11$, df = 1,64

**$p < .05$, df = 1,64

***$p < .02$, df = 1,64

Table 5

Mean Total Defensiveness and Number of Supportive Arguments as a Function of Order of Measurement

Type of Thought	Attitudes Measured: Before Counterargumentation	Attitudes Measured: After Counterargumentation
Total Defensiveness	2.47	3.35
Supportive Arguments	2.45	1.42

Note.--The sample size for each cell is 40.

$p < .01$). Apparently, the main effect of order of measurement is due to female subjects who expressed their attitudes before listing their counterarguments.

Table 6

Mean Total Defensiveness as a Function of Sex of Subject and Order of Measurement

Sex of Subject	Attitudes Measured: Before Counterargumentation	Attitudes Measured: After Counterargumentation
Female	1.95	3.50
Male	3.00	3.20

Note.--The Sex x Order of Measurement interaction $F = 2.85$; $df = 1,64$; $p < .10$. The sample size in each cell is 20.

The interval of delay in auditory feedback seemed to interact with the sex of the subject in terms of its effect on counterargumentation. For male subjects, the .42 second delay led to less total defensiveness than the no delay treatment (Table 7). This is consistent with the hypothesized effect of the DAF manipulation (simple effects $F = 3.13$, $df = 1,64$, $p < .10$). For females, there was a tendency for the .42 delay condition to lead to more total defensiveness than the no delay condition--a result contrary to the predictions concerning the delay manipulation (simple effects $F = 2.86$, $df = 1,64$, $p < .10$). The pattern of means for counterargumentation is highly similar to that for total defensiveness presented in Table 7.

Table 7

Mean Total Defensiveness as a Function of Sex of Subject and Delayed Auditory Feedback Interval

Sex of Subject	Delayed Auditory Feedback Interval	
	No Delay	.42 Second Delay
Female	2.25	3.20
Male	3.60	2.60

Note.--The sample size in each cell is 20.

The Sex-Role interaction seems to be the least stable of all the effects. Using the three-minute limit with repeated arguments included (3 min. RAI), the mean number of counterarguments for female "read" and "improvise" subjects were, respectively, 2.70 and 2.25. The means for males in the read and improvise conditions were, respectively, 2.40 and

3.90. The interaction seems to be due to the fact that male-improvise subjects counterargued to an especially high degree.

To summarize: (a) contrary to predictions, delay in auditory feedback did not have an overall effect on counterargumentation, (b) Role (Improvise versus Read) did not affect counterargumentation as predicted, (c) Delayed Auditory Feedback influenced counterargumentation as predicted for improvise subjects, (d) the attitudes before counterargumentation order of measurement led to more supportive argumentation and to less total defensiveness than did the reverse order of measurement, (e) Sex of Subject interacted with Delay, Role, and Order of Measurement, although some of these interactions were of only marginal significance.

Attitude change. The major hypotheses of this study predicted that the delayed auditory feedback (DAF) variable and the role-playing variable would influence the amount of attitude change. Specifically, it was predicted that improvising a speech should lead to more attitude change than merely reading a prepared speech. A .42 second delay (.42-Delay) in auditory feedback between speaking and hearing was expected to produce more attitude change than no delay in auditory feedback (No Delay). No predictions were made concerning the influence of the Order of Measurement and Sex variables, which were included for the purposes of control.

The differences between Improvise and Read conditions and between .42-Delay and No-Delay conditions in terms of attitude change were in the predicted direction but did not attain conventional levels of significance. The Delay-Role interaction was also nonsignificant. Upon examination of the mean change scores for the various Role-Delay

conditions (Table 8), it is clear that the hypotheses with respect to attitude change were not supported.

Table 8

Mean Attitude Change as a Function of Delayed Auditory Feedback Interval and Role

Delayed Auditory Feedback Interval	Role	
	Read	Improvise
.42 Second Delay	-1.80	-1.80
No Delay	.45	- .40

Note.--For the main effect of Delay, $F = 2.35$; $df = 1,64$; $p = .13$. For the Role main effect, $F = .13$, $df = 1,64$. For the Delay x Role interaction, $F = .13$, $df = 1,64$. The sample size in each cell of the table above is 20.

The 2x2x2x2 analysis of variance of the attitude change scores reveals that the only significant effects were: a main effect for the Order of Measurement of attitudes and counterargumentation ($F = 7.57$, $df = 1,64$, $p = .008$) and an interaction of Sex and DAF ($F = 5.244$, $df = 1,64$, $p = .025$). Those subjects who expressed their attitudes before given an opportunity to express counterarguments (A1) demonstrated more attitude change than those subjects who expressed their attitudes *after* being given an opportunity to express counterarguments (A2) (Table 9).

In terms of the sex-delay interaction (Table 10), the effect of delayed auditory feedback on attitude change was as predicted for male subjects (simple effects $F = 7.310$, $df = 1,64$, $p < .01$). For women there was a tendency for the No Delay condition to lead to more attitude change than the .42 Delay condition, although the analysis of variance

Table 9

Mean Attitude Change as a Function of the Order of Measurement

Attitudes Measured	
Before Counterargumentation	After Counterargumentation
-2.52	.72

Note.--The more negative the number, the more change in the direction advocated in the persuasive materials. The sample size in each cell is 40.

Table 10

Mean Attitude Change as a Function of Delayed Auditory Feedback Interval and Sex of Subject

Sex of Subject	Delayed Auditory Feedback Interval	
	No Delay	.42 Second Delay
Female	-1.60	- .70
Male	1.65	-2.92

Note.--The more negative the number, the more change in the direction advocated in the persuasive materials. The sample size in each cell is 20.

for simple effects indicated that this difference was not significant ($F = .286$, $df = 1,64$).

The Correspondence Between Counterargumentation and Attitude Change. The hypotheses of this study predicted that certain manipulations would determine the amount of counterargumentation that is possible

while processing counterattitudinal material. The resulting differences in counterargumentation were in turn predicted to result in different amounts of attitude change. The more a person is able to counterargue, the less he should be influenced by counterattitudinal material.

Although counterargumentation and attitude change were not influenced by the manipulations as expected, there were certain patterns in the data which support the hypothesis concerning the mediating role of counterargumentation in role-playing induced attitude change. First of all, the relationship between order of measurement, counterargumentation, and attitude change was consistent with the predictions of this study. Those subjects who expressed attitudes before counterargumentation (A1) demonstrated: (a) less total defensiveness, (b) more supportive argumentation, and (c) more attitude change than those subjects who received the reverse order of measurement.

Secondly, the effect of the Sex-Delay interactions on counterargumentation and total defensiveness is paralleled by a Sex-Delay interaction in terms of attitude change. Men demonstrated more attitude change and less counterargumentation and total defensiveness when performing under the .42 second DAF interval than when there was no delay in auditory feedback. Women counterargued more, demonstrated more total defensiveness, and changed their attitudes less under the .42 second delay interval than with no delay in auditory feedback. Finally, the hypothesized relationship is supported by certain within treatment analyses. The overall within-cell correlation between change and counterargumentation was .299, the correlation of attitude change with total defensiveness was .306, and the correlation of attitude change

with supportive argumentation was -.373. All the correlations are significant at $p < .05$, $df = 77$.

Alternative Explanations of the Role-playing Effect--Secondary Analyses

Effort. The effort justification explanation of the role-playing effect asserts that the more effort a person expends in counterattitudinal behavior, the more the person should come to experience cognitive dissonance, and subsequently, the greater the acceptance of the counter-attitudinal behavior or the position represented by it (Zimbardo, 1965). In this study, "improvise" subjects expressed more difficulty with their counterattitudinal speech than did "read" subjects; those performing under a .42 second delay in auditory feedback expressed more difficulty with their task than did those with no delay in feedback. Contrary to the results of the Zimbardo (1965) study, neither of these manipulations had an overall effect on attitude change.

Attitudes were significantly affected by the Order of Measurement and by the Sex-Delay interaction. An analysis of variance of self-ratings in terms of the difficulty of the performance reveals that neither the Order of Measurement ($F < 1$) nor the Sex-Delay interaction ($F < 1$) had a significant impact. An analysis in terms of the more direct question concerning effort yielded similarly nonsignificant results. The overall within-cell correlation between rated difficulty of performance and attitude change was a nonsignificant -.033; for rated effort and attitude change the obtained correlation of -.134 was also nonsignificant. In sum, effort did not appear to be related to the amount of attitude change.

Recall. Janis and King (1954) were among the first to speculate that the superiority of an active form of exposure to counterattitudinal material over other techniques may be related to the effects of active participation on attention. That is, active participants may pay closer attention to the persuasive appeal, remember more, and thus be more influenced. On the other hand, McGuire (1969) has indicated that sometimes active participation may be less effective than other techniques because recipients are prevented from receiving the message. Results of a number of studies (e.g. King and Janis, 1956; Zimbardo, 1965) seem to suggest that recall of the counterattitudinal message can explain little if any of the attitude change variance in role-playing studies.

All subjects were provided with material listing eight reasons against the policy of coed living on the same floor of the residence hall where they lived. The last question in the postexperimental materials asked subjects to recall as many of the arguments as they could. A 2x2x2x2 analysis of variance of the recall scores indicated that (a) females recalled more arguments than males ($F = 4.83$, $df = 1,64$, $p = .032$), (b) "improvise" subjects recalled more arguments than "read" subjects ($F = 4.52$, $df = 1,64$, $p = .037$), (c) a significant interaction of Delay and Order of Measurement ($F = 6.54$, $df = 1,64$, $p = .013$), and (d) a significant interaction of Role and Order of Measurement ($F = 3.92$, $df = 1,64$, $p = .052$). None of these effects were matched by corresponding effects in terms of attitude change. The overall within condition correlation between recall and attitude change was a nonsignificant .085. Recall was not substantially related to the amount of attitude change.

Satisfaction. The satisfaction hypothesis which grew out of the early Janis and King (1954) study suggests that role-playing leads to attitude change to the extent to which the role player feels he has done a good job. In general, the higher the satisfaction with performance, the more attitude change expected.

In this study, two questions were used to index satisfaction with performance. The first (QS1) asked: "How satisfied were you with the way you fulfilled the task requirements?" The second (QS2) asked: "How would you rate your performance relative to other subjects who have taken part in this study?" Subjects responded by checking a space on a ten-point continuum.

Analyses of variance of the responses to the two items indicates that (a) males were more satisfied with their performance than females (for QS2, $F = 8.09$, $df = 1,64$, $p = .006$), (b) "no delay" subjects were more satisfied than ".42 second delay" subjects (for QS1 $F = 5.05$, $df = 1,64$, $p = .028$; for QS2 $F = 4.40$, $df = 1,64$, $p = .040$), and (c) "read" subjects were more satisfied than "improvise" subjects (for QS1, $F = 5.97$, $df = 1,64$, $p = .017$; for QS2, $F = 3.31$, $df = 1,64$, $p = .074$). None of these main effects were paralleled by main effects for attitude change. The overall within cell correlation between attitude change and satisfaction was -.023 when using QS1 and .076 when using QS2. Neither of the correlations were significant and it can be seen that satisfaction with performance was not related in any substantial manner to the amount of attitude change produced by the manipulations.

Attitude Change vis-a-vis Source and Communication

Evaluation. Ratings of the knowledgeability and trustworthiness of the anonymously presented list of arguments were submitted to an analysis

of variance, but none of the main effects or interactions were significant. The overall within cell correlation between attitude change and rated trustworthiness of the source was -.126; the correlation between change and rated knowledgeability was -.139. The more knowledgeable and trustworthy the source was perceived, the more attitude change in the direction advocated. However, these trends were not reliably established. Improvise subjects saw the arguments as less biased than did the read subjects ($F = 16.47$, $df = 1,64$, $p = .0005$). Furthermore, there was an interaction between Sex and Order of Measurement, such that women whose attitudes were measured after counterargumentation order saw the arguments as more biased than women who received the "attitudes first" order. For men, Order of Measurement had little effect on ratings of bias ($F = 6.43$, $df = 1,64$, $p = .014$). The overall within cell correlation between ratings of bias and attitude change was a nonsignificant -.145. More change was associated with the lower ratings of bias although the trend was not significant. An analysis of variance of ratings of how logical the arguments were indicated no significant effects. The overall correlation between attitude change and ratings of logic was a nonsignificant -.060. In sum, ratings of source's knowledge or trustworthiness or message logic or bias were not related to the observed attitude change.

Correlates of Counterargumentation and Total Defensiveness

In view of the fact that counterargumentation and total defensiveness were affected by so many treatment conditions and in such anticipated ways, it is of special interest to examine the correlates of these two variables. Table 11 presents the overall within condition correlations between the two defensiveness variables and several other variables.

While no speculation about the time order of events is necessary with respect to such variables as sex, initial attitude, or initial confidence, this is not the case with other of the variables in the table. Thus, with respect to several variables it is not possible to know with the data at hand whether they determined or were determined by counterargumentation or total defensiveness. Nevertheless, numerous alluring hypotheses about the determinants of the level of counterargumentation can be generated from the data.

The high correlations between pre-treatment attitude and counterargumentation (.387) and total defensiveness (.430) are in line with Brock's (1966) finding that communication discrepancy is a determinant of the amount of counterargumentation. In this study, the more discrepant the person's initial feelings from those advocated in the persuasive materials, the more the person counterargued. Of the variables measured, pretest attitude had the strongest correlation with counterargumentation and with total defensiveness.

Without followup on any of the leads at this time, it can be noted that: (a) the more a person rated his performance as sincere, the less counterargumentation and total defensiveness the person generated, (b) the more the source of the material was perceived to be knowledgeable and trustworthy and the more the material was perceived to be logical, the less counterargumentation and total defensiveness the person generated, (c) the more satisfied the subject was with his performance, the more counterargumentation and total defensiveness he generated. There was a slight tendency for women (relative to men) and those with a lower level of initial confidence in their feelings (relative to those with a higher level), to counterargue less. There was also a slight tendency for those who remembered more of the arguments to counterargue

Table 11

Coefficients[a] of Selected Correlates of Counterargumentation and Total Defensiveness

Correlate	Counterargumentation	Total Defensiveness
Pre-attitude	.387****	.430****
Pre-confidence in Feelings	.122	.147
Sex of Subject	-.161	-.213*
Recall	.174	.114
Ratings of Arguments		
how logical	-.161	-.252**
how biased	-.029	-.081
Ratings of Source		
trustworthiness	-.244**	-.336****
knowledgeability	-.263**	-.339****
Satisfaction with Performance		
task fulfillment	.288***	.335****
performance relative to others	.194*	.236**
Self-Ratings of Performance		
convincing	.069	.067
sincere	-.198	-.293***

Note.--All variables have been transformed so that high values indicate more of a value, with the exception of sex where females were arbitrarily assigned the value 2 and males were assigned the value 1. In terms of the pre-attitude measure, the larger the score, the more discrepant the persuasive materials from the person's initial attitude.

[a] overall within cell correlation.

* $p < .10$, df = 78

** $p < .05$, df = 78

*** $p < .02$, df = 78

**** $p < .01$, df = 78

more. Interestingly, no direct relationship was apparent between ratings of the bias of the arguments and either, counterargumentation (r=-.029) or total defensiveness (r=-.081).

In one further attempt to clarify the pattern of effects for counterargumentation and total defensiveness, this section contains a comparison of the mean amount of counterargumentation and total defensiveness in various treatment conditions with corresponding means of other variables potentially related to the tendency to counterargue. Comparisons are presented for several of the treatment interactions which were significant for either or both of the defensiveness variables. The post hoc nature of these comparisons and their inevitable limitations must of course be recognized.

One aspect of the unexpected Role-Delay interaction which was particularly disconcerting for the hypotheses of the present study was the finding that "read-no delay" subjects, who should have counterargued more than any other group, actually counterargued less. Table 12 presents the Role-Delay interaction means for counterargumentation, pre-treatment attitudes, ratings of the logic of the persuasive material, and ratings of the knowledge of the source of these materials. Notice that the read-no delay subjects had initial attitudes more consistent with the persuasive materials than any other group. This group also tended to find the arguments more logical and to give the source of the materials as high a knowledgeability rating as any other group. While pretest attitudes alone cannot explain the pattern of counterargumentation, it is possible that pretest attitudes interact with treatment differences to determine the degree of counterargumentation. The message may have been of such small discrepancy from the read-no delay subjects' own feelings that there was little reason to argue against the message.

Table 12

Mean Counterargumentation, Total Defensiveness, Pre-treatment Attitude, Rating of the Logic of Persuasive Materials, and Rating of Source's Knowledge in Relation to Delay-Role Condition

	Treatment Condition				
	No Delay Read	No Delay Improvise	.42 Second Delay Read	.42 Second Delay Improvise	Probability Level Role x Delay Interaction
Counterargumentation[a]	1.80	3.15	2.80	2.25	p = .018
Total Defensiveness[a]	2.35	3.50	3.15	2.65	p = .043
Pre-treatment[b] Attitude	23.25	24.35	27.15	24.20	p = .115
Ratings of[c] Persuasive Materials, re: Logical	7.55	6.30	5.85	6.15	p = .180
Ratings of Source[c] of Materials, re: Knowledgeable	7.20	6.50	6.40	7.20	p = .134

[a]Based on 3 minute time limit, repeated arguments excluded. The higher the score, the more counterargumentation or total defensiveness.

[b]The higher the score the more discrepancy between own position and advocated position.

[c]The higher the score, the more of the trait in question.

Thus far a case has been made that some of the differences in amount of counterargumentation are due to attitude differences prior to the treatments. In this vein, the fact that women were initially more in agreement with the position advocated by the persuasive materials ($F = 4.96$, $df = 1,64$, $p = .029$) may help account for the interaction of sex with the other independent variables in terms of counterargumentation. Table 13 examines the sex-delay interaction and the counterargumentation, pre-attitude level, and ratings of the bias of the arguments used to structure the role performance. While it was predicted that no delay in auditory feedback should result in more counterargumentation than a .42 second delay interval, the opposite case resulted for women. Part of the explanation of the particularly low degree of defensiveness produced by "no-delay" females may have been due to the fact that they were closer to the persuasive materials in initial attitude position than any of the other groups. It can also be noted that ".42 second delay" females had an initial level of attitude more discrepant from that advocated than did the "no delay" females.

No further comment on the results of Study 1 will be made at this time. In view of the high degree of similarity between the first and second studies, a general discussion of the results is deferred until after the results of Study 2 have been presented.

Table 13

Mean Counterargumentation, Pre-test Attitude, and Ratings of the Bias of the Arguments, as a Function of Sex and Delay in Auditory Feedback Interval

Treatment Condition	Counterargumentation	Pre-Attitude	Bias
Male .42 Delay	2.25	26.45	4.6
Male No Delay	3.00	25.85	4.2
Female .42 Delay	2.80	24.90	3.1
Female No Delay	1.95	21.75	4.4
(Probability level of Sex-Delay interaction)	(p = .045)	(p = .318)	(p = .089)

CHAPTER III

EXPERIMENT TWO

A fundamental assumption detailed in the introductory comments is that role-playing or counterattitudinal advocacy is a superior persuasive technique because, relative to other techniques, it drastically reduces the opportunities for the intended recipients to counterargue. Generalizing the logic of this assumption, it could be conjectured that other ways of exposing people to counterattitudinal material which affect the extent of counterarguing should also produce differences in attitude change such that those who counterargue least change their attitudes most. One very straightforward method of varying the degree to which a person will develop thoughts contrary to those he has been told to prepare for public presentation would be to vary whether or not the person is specifically instructed to think about such contrary thoughts. That is, instructions to counterargue (the presence or absence of such instructions) should have a strong and clear impact on this putative defensiveness variable.

From this perspective, it can be seen that the second study of this project was designed to provide less equivocal answers about the role of counterargumentation in the role-playing--attitude-change relationship. The second study includes two rather strong orthogonal manipulations of the likelihood of counterargumentation--namely, reading versus improvising and presence versus absence of instruction to counterargue. The inclusion of the instructional manipulation can provide a

more solid basis for conclusions since, unlike Read-Improvise or Delay-No Delay Auditory Feedback manipulations, this variation in counterargumentation is not as likely to be contaminated simultaneously by differences in effort, satisfaction, perceived pressure to change, or recall.

As was the case in the first study, it is predicted that improvising a counterattitudinal position will lead to less counterargumentation than reading the same counterattitudinal material. It is further predicted that, as a result of the differences in counterargumentation, improvisation will produce more attitude change than a more passive form of exposure to the counterattitudinal position. The predictions with respect to the instructional manipulation are parallel. Specific instructions to think about arguments contrary to the attitudinal position to be portrayed should produce more counterargumentation than a condition without such instructions. Consequently, specific instructions to counterargue should result in less attitude change than a condition without such instructions.

The general hypotheses presented above are detailed more formally as follows:

HI: Improvising a letter from a prepared list of arguments which support an attitudinal position discrepant from one's own leads to less counterargumentation than occurs from being exposed to the counterattitudinal position by reading it.

HII: Improvising a letter from a prepared list of arguments which support an attitudinal position discrepant from one's own leads to more attitude change than occurs from being exposed to the counterattitudinal position by reading it.

HIII: A person who has been induced to process counterattitudinal arguments thinks of more arguments against this initially counterattitudinal position when specifically asked to keep in mind arguments contrary to the counterattitudinal material than when no such request is made.

HIV: A person who has been induced to process counterattitudinal arguments accepts the counterattitudinal position less when specifically asked to keep in mind arguments contrary to the counterattitudinal material than when no such request is made.

Method

Overview

The design of the second study is highly similar to the first one. The major modification was the substitution of an "instructional" manipulation of counterargumentation for the Delayed Auditory Feedback manipulation. Half of the subjects were directly asked to think about arguments against the position they would be exposed to and work with. The attention of the other subjects was not directed toward counter-arguments. In an orthogonal manipulation of "role-playing", half of the subjects improvised a letter to the editor from a list of 10 arguments. The other half of the subjects read over the list of 10 arguments and a letter written by another subject in the study. As in the previous investigation, the influence of Order of Measurement (attitudes before counterargumentation or vice versa) and subject's sex were examined. Twenty subjects were randomly assigned to the various treatment conditions of the 2x2x2x2 after-only design. In addition to the major attitude and counterargumentation variables, measures of various subject perceptions and recall were obtained.

Subjects

Three hundred twenty introductory psychology students (160 female and 160 male) volunteered in exchange for class credits to participate in a study entitled "Cognitive Elaboration." To ensure as much homo-geneity on the critical attitude domain (a tuition increase) as possible, the sample was restricted to in-state students. The sign-up

sheets used to enlist participation permitted a maximum of 15 subjects per experimental session.

Procedure

As the subjects were arriving for the session, the experimenter signed their experimental credit forms. At the scheduled time to begin, the first set of materials was distributed face down. In his prefatory comments, the experimenter informed the subjects that there were several different kinds of activities involved in the study and that, as a result, different people would be working on different things, and at different times.

The subjects were also told that several of the tasks would be timed and that the experimenter was aware that these time limitations might make some parts of the study seem a little difficult. The experimenter noted: "I'm aware of these problems and what I'd like you to do is make the best out of the time available." These comments were included as a result of data from a pilot study which suggested that role-playing subjects involved in similar conditions to those of the present design had a tendency to dissociate themselves from their actions. This seemed to occur in the pilot study because subjects found the counterattitudinal letter writing task not only somewhat unpleasant but also extremely difficult to complete in the 17 minutes allotted. It was felt that if the experimenter explicitly acknowledged the difficulty to be encountered by the subjects, the subjects would be less likely to use this dissociation response to resist the impact of the counterattitudinal material. (Subjects in this study were given 30 minutes to complete the letter writing task.)

In order to reduce the possibility of contamination of the unit of analysis (the individual subject), the experimenter: (1) asked the subjects not to talk or make any comments while the experiment was in progress, (2) arranged the chairs so that they faced away from the center of the room, and (3) asked the subjects to sit in every other chair. The experimenter qualified his remarks by noting that it was very important that they clearly understand the instructions, but that if they had any questions, they should raise their hand rather than speak out.

Since several subjects were to be present at each session, it would have been ideal to schedule all treatment conditions simultaneously. A drawback to such a procedure in this study was the fact that the Read-Improvise and the Order of Measurement manipulation required overt instructions by the experimenter to advise subjects of pertinent time limits of their respective tasks. (The sex variable was a subject characteristic. The counterargumentation instructions were written and thus manipulable unobtrusively without verbal comment or experimenter's awareness.) It was felt that a great deal of confusion on the part of the subjects would be created if it were necessary for the subjects to work while, at the same time, listening to four different sets of instructions.

In order to maximize the number of treatment conditions concomitantly scheduled while minimizing subject confusion, it was decided to hold Order of Measurement constant for any given session. Thus, Role (Read-Improvise), Instructions to Counterargue (Present-Absent), and Sex (Male-Female) treatment conditions were permitted to vary during a given session and the Order of Measurement of attitudes and counterargumentation were held constant.

To further reduce the possibility of subject confusion related to listening to different sets of instructions, "read" and "improvise" subjects were given different colored slips of paper (either green or yellow). The experimenter explained to the subjects that they only needed to listen to his instructions when their group color was announced. The experimenter prefaced all remarks by reference to either "those in the green group," "those in the yellow group," or "both those in the green group and those in the yellow group."

Role (Read-Improvise) manipulation. The major hypothesis of this research was framed in terms of differences between active and passive forms of exposure, because it was felt that this comparison most adequately facilitated an isolation of the distinctive aspects of role-playing with respect to its relationship to attitude change. It was thus of great concern in the present study to equate, as nearly as possible, the breadth of counterattitudinal material to which active and passive participants were exposed. The need to equate exposure to information is obvious if unequivocal statements about the critical differences between role-playing and non-role-playing conditions are to be attempted (see Jones and Gerard, 1967, for example, for a comment on the importance of the exposure issue).

The procedures for the role manipulation were developed specifically to minimize the differences in information exposure (in terms of the range of information processed and in terms of the number of times the information was processed) between active and passive participants.

The initial instructions, common to both role-playing conditions (Read and Improvise), began as follows: On the following page you will be presented with a list of arguments concerning tuition at

Michigan State University. Some people in this study are asked to use this material to write a "letter to the editor." Others are asked to use the material to help them evaluate a letter written by another person.

The instructions for non-role-playing (Read condition) subjects continued:

> What I would like you to do is to use this list of arguments as an aid in judging how well another person did at writing the letter. The specific criteria for your judgments will be presented later. Those who were asked to write a letter were instructed to be as sincere and convincing as possible, to take the *same* point of view as the one represented by the arguments, and to use all the arguments listed. They were also told not to worry about spelling, grammar, or punctuation and were told they could add any other arguments, examples, or illustrations which were consistent with the listed arguments.
>
> You will be given two minutes to read the list of arguments used as a basis for the letter writing. When instructed, please turn the page and begin reading the list. When the two minute time limit is up, you will be given further instructions about the letter evaluation task.

On the second page the list of 10 arguments was presented. On the third page, the non-role-playing subjects were further instructed:

> On the following page you will find a "letter to the editor" written by another person who has taken part in this study. You will be given 10 minutes to read it over; it is suggested that you read it over at least twice.
>
> At the end of the 10 minute period, you will be provided with a set of questions. Please do not consult the letter you will read to answer these questions.

Non-role-playing subjects then read the letter improvised by an active role-player in a corresponding treatment condition. That is, for example, if a non-role-playing female subject had received instructions to counterargue, then she was assigned the letter of a female role-player who also had received specific instructions to counterargue.

Thus, read subjects were matched to improvise subjects in terms of the other independent variables.

After the 10 minute period for reading another person's letter, non-role-playing subjects were provided with a booklet containing the various dependent variable measures. So that "read" subjects would be involved with experimental tasks the same length of time as the "improvise" subjects, read subjects were given 18 minutes to answer another set of questions. This set of materials, which was constructed merely as a filler material, asked "read" subjects to write short essays about how creatively and sincerely the letter had been written and how they would have organized the letter differently.

After the instructions common to both read and improvise conditions, "improvise" subjects read the following:

> What I would like you to do is to use this list of arguments to write a "letter to the editor" of the *Lansing State Journal*. As sincerely and convincingly as possible, present the *same* point of view as the one taken in the material you will read. Use all the arguments listed and feel free to add any other arguments, examples, or illustrations you want to as long as they are consistent with the ones that are presented to you.
>
> Before you begin writing the letter, you will be given two minutes to read the list of arguments. When this time limit is up, you will be given further instructions about the letter writing task.

Following the page with the list of role-structuring arguments, instructions for "improvise" subjects continued:

> Following are four blank sheets of paper. The first one or two may be used to outline your letter, if you so desire; the others can be used to write the letter. Even though it may be difficult, try to imagine that you actually are a person with beliefs like those expressed in the preceding list of arguments. In the 30 minutes which you will be allotted try to write the most persuasive letter you can *in favor of* a tuition increase at Michigan State University.

> Since your work will be used in other parts of this study, please write as clearly, neatly, and legibly as possible. However, you need not be overly concerned about spelling, grammar, or punctuation.
>
> When you have completed the letter, please wait until requested to continue. Remember, use all the arguments provided and any others which are consistent with these. You may consult the list of arguments while writing your letter. Please sign your name on the back of the last page of your letter.

Both the "read" and the "improvise" subjects were started on their respective tasks at the same time. The experimenter stated the time limitations for the different conditions aloud.

Instructions to counterargue and other manipulations. The manipulation of presence or absence of instructions to counterargue was quite simply effected by inserting, for half of the subjects, a brief paragraph in the instructions which followed the list of role-structuring arguments. The instructions for "read" subjects stated:

> While reading over and evaluating this letter in favor of a tuition increase, you should also *keep in mind arguments against this position*. You will be asked about them later.

The instructions for "improvise" subjects stated:

> While working on this letter in favor of a tuition increase, you should also *keep in mind arguments against this position--even though you won't use them in the letter*. You will be asked about them later.

Other independent variables. Order of measurement variable was manipulated as in the first study. An equal number of male and female subjects were scheduled in each of the eight treatment conditions.

Performance-structuring counterattitudinal materials. All subjects were presented with a list of 10 arguments supporting the need for a tuition increase at Michigan State University. To suggest that the

arguments had been developed by someone other than the experimenter, they were headed by the title "from 'Tuition Increase: A Necessary Evil.'" In fact, nine of the ten arguments were culled from the arguments most frequently given by introductory psychology students during a pilot study designed to find out what arguments students could spontaneously generate. The list of arguments suggested that a tuition increase was needed in order to: (1) compensate for the increased cost in running the university, (2) hire more and better instructors, (3) provide smaller class size, (4) provide more and better equipment for student use, (5) improve inadequate student parking facilities, (6) offer more scholarships to those especially disadvantaged, (7) establish more special services for students, (8) provide more time for student-professor coordinating experiences, (9) provide better learning atmosphere by discouraging those just along for the ride, and (10) create a condition where students are paying a fair share. Examples were provided for arguments 1, 4, and 7.

Dependent Measures

Attitude measurement. After the subjects had either read or improvised a letter, they were given a 5-page booklet containing the various dependent measures. Contingent upon which order of measurement condition the subject was in, either the first two or the second and third pages asked a set of questions about the critical attitude issue, a tuition increase. The instructions for these 12 attitudinal items were as follows:

> To help us understand your reactions to the task requirements, we would like to have you answer several questions related to the topic you were working with. Circle the number under each statement which most directly corresponds to your feelings. Work quickly but carefully.

Under each item was an 11-point scale labeled: "Strongly Disagree" at the extreme left, "Neutral" in the middle, and "Strongly Agree" at the extreme right. As examples of the type of items included, the first and tenth items were, respectively: "A tuition increase at Michigan State University would cause more problems than it would solve," and "It would be desirable for M.S.U. to raise tuition." Five of the items were worded so that acceptance of the tuition increase was indicated by disagreement with the stem; five of the items were worded so that acceptance of tuition increase was indicated by agreement with the stem.

Two items, numbers two and six, did not ask about a tuition increase ("Out-of-state tuition should be the same as in-state tuition." and "Most students don't worry very much about the amount of tuition they pay."). These items were included to obscure somewhat the interest in attitude change. It was hoped that the subject would feel that the items were just about tuition in general and necessary to understand his reactions to the task requirements. (See Appendix G for the complete set of items.)

Counterargumentation measurement. The question used to elicit counterargumentation was virtually identical to the one employed in the first study. Modifications were made appropriate to the new issue and the new task requirements. It was also necessary to expand the category system. In the first study, both read and improvise subjects were (1) presented with counterattitudinal materials, and (2) asked to make a public presentation based on this material.

This was basically what "improvise" subjects were asked to do in this study. "Read" subjects in the present study, however, had an

additional set of stimuli to respond to--the letter to the editor of another subject. Thus it seemed likely that some "read" subjects would focus on the structure of the performance rather than its content. The result would be a statement of some ambiguity. How should a statement such as "The essay did not discuss all the points originally presented." be classified? Does it indicate acceptance of the idea of tuition increase, rejection of the idea, or ambivalence?

As a result of the foregoing considerations, a category for performance related comments was added. Statements were classified into this category if they referred to some aspect of the performance of the improvising subject without indicating pro or con feelings about the tuition issue.

As in Study 1, inter-rater agreement was employed to assess the reliability of the thought listing instrument. Two judges, working independently and without knowledge of the subject's treatment condition, initially agreed on the categorization of 86.8% of the responses to the thought listing question. Those responses that the judges did not initially agree upon were discussed and then assigned to the most appropriate category. (For each of the four scoring systems, Appendix F lists the frequency of occurrence of the major response categories.)

Other dependent variable measures. The last two pages in the dependent variables booklet contained questions to provide some information about plausible alternative explanations of the data. All of these items used 10-point scales. A number of the questions were related to other explanations of the role-playing effect. There were five questions asking for an evaluation of the constructed "letter to the editor." The dimensions for evaluation included: sincerity, convincingness, coherence, logic, and bias. Two questions asked about the amount of

effort put into writing the letter. For the first seven items, "improvise" subjects evaluated themselves; "read" subjects indicated their perceptions or estimations concerning the "improvise" subject's performance.

Two questions focused on an evaluation of the source of the role-structuring materials (how knowledgeable and how trustworthy). There were also two items designed to tap the subject's satisfaction with his task performance. It was assumed that "read" subjects would rate their own rather than the "improvise" subject's fulfillment of the task requirements. Also, there was one question asking subjects to indicate the extent to which they were able to become involved with the experimental task and a question asking about how much they felt pressured to change their opinions. The final question in the booklet was an open-ended recall item asking the subject to list the main thesis and supporting arguments of the list of 10 arguments provided to all subjects at the beginning of the study. (Appendix G contains the materials included in the postexperimental questionnaire.)

Results

Tests of Hypotheses

Counterargumentation and other thought processes. In presenting the results with respect to counterargumentation and other subject reactions to the counterattitudinal material advocating a tuition increase, the problem again arises as to which system is most appropriate. Again, more emphasis is given to an effect the more different measurement systems detect it and the more reliable the effect appears. Paralleling the first study, a summary table listing the probability levels for the analyses of variance will be presented with separate

listings for each method of scoring. The basic distinctions between scoring systems are whether the system used: (a) the three minute limit with repeated arguments included in the total (3-min. RAI), (b) the 45-second limit with repeated arguments included in the total (45-sec. RAI), (c) the three minute limit with repeated arguments excluded (3-min. RAE), and (d) the 45-second limit with repeated arguments excluded (45-sec. RAE). For the presentation of specific results in this section, the scoring system upon which the measurement was based will be noted in the table where the data appears.

Returning now to the hypotheses, counterargumentation was predicted to be greater (a) for those given specific instructions to think about arguments on the other side of the issue that they were being exposed to, relative to those for whom no mention of the other side of the issue was made and (b) for those exposed to the counter-attitudinal position by reading about it relative to those who improvised a letter. The Order of Measurement of attitudes and counterargumentation and Sex of subject were included for purposes of control and were not expected to affect counterargumentation. The probability values for the 2x2x2x2 analysis of variance of counterargumentation scores are presented in Table 14. Also included in the table are the results of the analyses for total defensiveness, supportive argumentation, and total number of arguments. Results for the four different scoring systems are also presented.

To summarize the complicated appearing set of results presented in Table 14, it can be said that each of the four independent variables appears to have an overall effect on one or more of the variables derived from the content analysis of subjects' thoughts. The importance of the interpretations of these effects is overshadowed, however, by

Table 14

Summary of Analysis of Variance of Scores for Supporting Arguments, Counterarguments, Total Defensiveness, and Total Number of Arguments--With Separate Listings for Each of the Four Scoring Methods

Source of Variation	Type of Argument: Supporting Arguments	Counterarguments	Total Defense	Total Arguments
(Role) A	$(.074)^{a}$	$(.093)^{a}_{d}(.014)^{b}$ $(.028)^{d}$		$(.019)^{a}_{b}(.007)^{d}$ $(.014)^{b}$
(Order) B	$(.028)^{b}_{d}(.078)^{c}$ $(.023)^{d}$	$(.093)^{a}(.085)^{b}$	$(.061)^{a}(.019)^{b}$ $(.109)^{c}(.037)^{d}$	
(Instructions) C	$(.033)^{a}_{c}(.060)^{b}_{d}$ $(.034)^{c}(.065)^{d}$			$(.046)^{a}(.028)^{c}$
(Sex) D		$(.064)^{b}(.038)^{d}_{c}$	$(.090)^{b}$	
A x C		$(.060)^{a}(.042)^{c}$	$(.105)^{a}(.098)^{b}$ $(.109)^{c}$	
A x D				$(.092)^{a}_{d}(.083)^{b}$ $(.059)^{d}$
B x D		$(.081)^{a}(.026)^{b}_{d}$ $(.061)^{c}(.020)^{d}$	$(.039)^{a}(.010)^{b}_{d}$ $(.048)^{c}(.007)^{d}$	$(.064)^{b}$
A x B x C				$(.099)^{c}$
A x B x D	$(.074)^{a}$			$(.026)^{a}$

Note.--The A x B, B x C, C x D, A x C x D, B x C x D, and A x B x C x D interactions had no effects on the dependent measures under consideration and were, therefore, not listed. The probability levels for all F's with $p \leq .10$ are listed.

[a]Three minute time limit with repeated arguments included (3 min. RAI).

[b]Forty-five second time limit with repeated arguments included (45 sec. RAI).

[c]Three minute time limit with repeated arguments excluded (3 min. RAE).

[d]Forty-five second time limit with repeated arguments excluded (45 sec. RAE).

the two significant interactions present in the data--the Role-Instructions to Counterargue interaction and the Sex-Order of Measurement interaction.

Both the Role and Instructions to Counterargue manipulations failed to have the predicted effects. While Role did have an overall effect on counterargumentation ($F = 4.80$, $df = 1,304$, $p = .028$, 45 sec. RAI system; $F = 6.08$, $df = 1,304$, $p = .014$, 45 sec RAE system), "improvise" rather than "read" subjects listed more counterarguments. The Role manipulation had no substantial effect on total defensiveness.

In terms of the Instructions to Counterargue Manipulation, the results are somewhat surprising. Basically, those people who were instructed to think of arguments on the other side of the issue that they were being exposed to produced significantly fewer supportive arguments than did subjects not given such instructions ($F = 4.43$, $df = 1,304$, $p = .034$, 3 min. RAE; $F = 4.51$, $df = 1,304$, $p = .033$, 3 min. RAI). Thus, instead of the instructions producing more counterarguments or total defensiveness as predicted, they led to fewer supportive arguments. According to the hypotheses, the "improvise" subjects not given instructions to counterargue should have demonstrated the least amount of counterarguing. As Table 15 reveals, the Improvise-Instructions Absent condition resulted in the greatest amount of counterargumentation.

The significant interaction between Role and Instructions to Counterargue is the result of the low amount of counterargumentation listed by "read--instructions-absent" subjects. This treatment condition also appears to be responsible for the main effect of Role. In fact, "improvise" subjects only listed more counterarguments than "read" subjects when there were no instructions to counterargue. The

Table 15

Mean Counterargumentation as a Function of Role and Instructions to Counterargue

Role	Instructions to Counterargue	
	Absent	Present
Improvise	2.36	2.15
Read	1.78	2.21

Note.--Scores were based on the three minute system with repeated arguments excluded (3 min. RAE). N = 80 in each cell.

analysis of variance for simple effects shows that the differences between improvise and read conditions was significant when subjects were not instructed to counterargue ($F = 6.64$, $df = 1,304$, $p < .05$) but was not significant when there were instructions to counterargue ($F = .075$, $df = 1,304$).

There was no a priori reason to expect that Order of Measurement and Sex of Subject would influence the degree of counterargumentation, but it can be seen in Table 14 that both of them did have an effect on both the amount of counterargumentation and total defensiveness. Table 16 illustrates this interaction in terms of total defensiveness. An analysis of variance for simple effects demonstrates that the interaction is a result of the effect of order of measurement on male subjects. Male subjects listed significantly fewer defensive thoughts when they indicated their attitudes after being given an opportunity to list counterarguments than when the order of measurement was reversed ($F = 11.42$, $df = 1,304$, $p < .01$). Order of Measurement had no effect on female subjects ($F = .208$, $df = 1,304$). This interaction helps account

for the observed main effect for women to counterargue more than men ($F = 7.36$, $df = 1,304$, $p = .007$, 45-sec. RAE system) and for the "attitudes-before-counterargumentation" order of measurement to lead to more total defensiveness ($F = 4.27$, $df = 1,304$, $p = .037$).

Table 16

Mean Total Defensiveness as a Function of Order of Measurement and Sex of Subject

Sex of Subject	Order of Measurement: Attitudes Measured Before Counterargumentation	Order of Measurement: Attitudes Measured After Counterargumentation
Female	1.12	1.18
Male	1.22	.76

Note.--Scores were based on the 45 second system with repeated arguments excluded (45 sec. RAE). N = 80 in each cell.

Attitude change. Very early in the experimental session, all subjects read a list of arguments supporting a tuition increase--a position which most were expected to find counterattitudinal. Those subjects who created a letter based on these arguments (improvise) were expected to accept them to a greater degree than those subjects who read a letter created by another subject (read). In addition, those subjects who were specifically instructed to think about arguments on the other side of the issue they would be working with were expected to demonstrate less agreement with the point of view of the list of arguments than were those subjects who were not so instructed.

The instrument constructed to measure attitudes toward a tuition increase was composed of twelve items related to tuition at Michigan State University. Ten of the items directly focused on feelings or

beliefs about the desirability of raising tuition. Half of these 10 items were worded so that agreement indicated acceptance of the tuition increase; half were worded so that disagreement indicated acceptance.

For items 1, 5, 7, 11, and 12 (those items for which disagreement indicated acceptance of the tuition increase) the item-total correlations were, respectively: .628, .713, .716, .324, .749. For items 3, 4, 8, 9, and 10 (those items for which agreement indicated acceptance of the tuition increase) the item-total correlations were, respectively: .732, .607, .651, .565, and .537. The high and generally uniform size of the coefficients suggests that the ten-item scale measured a unidimensional variable.

A message acceptance score was determined for each subject by summing the scores for the 10 items in the attitude toward tuition scale. With Order of Measurement and Sex included with Role and Instructions to Counterargue as independent variables, a 2x2x2x2 analysis of variance of the acceptance scores indicated that the only significant effect was for the Role-Instructions to Counterargue interaction ($F = 5.34$, $df = 1,304$, $p = .020$). Neither the overall effect of Role ($F = 1.60$, $df = 1,304$, $p = .20$) nor of Instructions to Counterargue ($F = .42$, $df = 1,304$) was substantial.

Table 17 indicates that when subjects were given instructions to counterargue while processing the counterattitudinal material, improvisation led to more change than reading (simple effects $F = 6.406$, $df = 1,304$, $p < .05$). When no mention was made of arguments on the other side of the issue from the one the subjects were working with, there was no significant difference between "read" and "improvise" subjects (simple effects $F = .544$, $df = 1,304$). The direction of the difference in attitude change between read and improvise was opposite from that predicted.

Table 17

Mean Acceptance of Counterattitudinal Arguments as a Function of Role and Instructions to Counterargue

Role	Specific Instructions to Counterargue	
	Absent	Present
Improvise	51.57	56.82
Read	53.42	50.47

Note.--The higher the score, the greater the acceptance of the advocated tuition increase. N = 80 in each cell.

The instructions to counterargue manipulation did not lead to differences in attitude change for read subjects (simple effects $F = 1.383$, $df = 1,304$), although there was a tendency for the instructions-absent condition to lead to greater acceptance for read subjects. For improvise subjects the effect of the instruction variable was opposite from that predicted (simple effects $F = 4.379$, $df = 1,304$, $p < .05$). Specific instructions to counterargue produced more acceptance than no instruction for improvise subjects.

The correspondence between counterargumentation and attitude change. The hypotheses of this study predicted that the manipulations would first affect the degree of counterargumentation and that, in turn, the degree of counterargumentation would moderate the amount of attitude change. Instructions to counterargue were expected to produce more counterargumentation and less attitude change than a condition without such instructions. Reading counterattitudinal material was expected to lead to more counterargumentation (thoughts contrary to those being

read) and less attitude change than improvising a letter based on the same counterattitudinal material.

While these independent variables did have main effects on the types of thoughts generated in response to the counterattitudinal material, they were not in the direction, or of the type, predicted and they were not paralleled by main effects in terms of acceptance of the counterattitudinal position. The "instructions-absent" condition led to more supportive arguments than did instructions to counterargue, and to more total number of thoughts listed. This manipulation had no overall effect on counterargumentation, total defensiveness, or attitude change, however. Contrary to predictions, "improvise" subjects had a tendency to list more counterarguments than "read" subjects, although this effect is obscured somewhat by the fact that there was also a tendency for "improvise" subjects to list more supporting arguments and more total arguments. The role manipulation had no overall effect on attitude change.

It must be noted that the results just presented do not constitute a disconfirmation of the hypothesis that role-playing mediates attitude change by inhibiting counterargumentation. Since the instruction to counterargue manipulation of this study failed to have an effect on counterargumentation, the major hypothesis of this study would not predict an overall effect of instructions on attitude change. A similarly ambiguous situation exists for the case of the role manipulation. There was a tendency for "improvise" subjects to produce more counterarguments than "read" subjects, but "improvise" subjects also tended to list more supportive arguments and a larger total number of arguments. If the greater counterargumentation of "improvise" subjects is merely a reflection of their overall higher response rate (a

difference balanced out by a corresponding difference in amount of supportive argumentation), then no differences in attitude change would be expected according to the major hypothesis of this study.

Partially supporting the predicted inverse relationship between counterargumentation on message acceptance was the fact that the significant interaction of role and instructions on counterargumentation was paralleled by an interaction of role and instructions on acceptance of the counterattitudinal message.

Unfortunately, the interactions do not match up as the hypotheses would predict. While improvise subjects showed greater acceptance of the tuition increase than read subjects when given instructions to counterargue, there were no significant differences between these two groups in terms of counterargumentation (compare Tables 12 and 14). On the other hand, while there were no significant differences in acceptance of the counterattitudinal material between improvise and read subjects not given instructions to counterargue, these improvise subjects counterargued to a greater extent than did read subjects under similar conditions. If the means for improvise subjects are assumed to be inflated by a constant of .50 (due perhaps to their longer period of attention on the counterattitudinal material) and are adjusted accordingly, the pattern of means for counterargumentation correspond exactly to those for communication acceptance. Barring this highly speculative possibility, the data do not provide much support for the proposed relationship between counterargumentation and attitude change.

The most conclusive evidence for the mediating role of counterargumentation in the role-playing effect is provided by within treatment analyses. The within-cell correlation between counterargumentation and

acceptance of the counterattitudinal position was -.304 (the counter-argumentation measure was based on the 3-minute limit with repeated arguments included). Acceptance of the advocated tuition increase was correlated -.346 with total defensiveness and .322 with the number of supportive arguments listed. With a sample size of 320, each of the correlation coefficients was significant at $p < .01$. Thus it appears that the more counterargumentation and total defensiveness the less acceptance of the persuasive material. The more supportive argumentation generated, the more acceptance.

Secondary analyses: Covariates of message acceptance, counterargumentation, and total defensiveness

The following section takes a brief look at several possible moderators of communication acceptance and of defensive processes. In a juxtaposition of the standard order of review, it can be summarily noted that none of the possibilities considered offer an explanation of pattern of effects on the major dependent variables. The communication acceptance data do not seem to be related to recall, satisfaction with performance, or to perceived pressure to change one's opinions. While there were no treatment effects on ratings of the persuasive material in terms of its logic or bias corresponding to the pattern of effects for acceptance, there was correlational evidence indicating that those who perceived the message to be less biased, accepted the persuasive materials more. There were also no treatment effects on ratings of the source's knowledge or trustworthiness to correspond to the treatment effects on attitudes. However, those who accepted the message the most also saw the source as more trustworthy. Within-treatment analyses revealed that the more knowledgeable and trustworthy the source was perceived, the less counterargumentation and total

defensiveness was generated. The more logical and the less biased the arguments were perceived to be, the fewer counterarguments and total defensiveness listed. (The correlates of communication acceptance and counterargumentation and total defensiveness are listed in Table 18.)

Acceptance of the persuasive material was not determined in any direct manner by recall of the persuasive arguments. The only significant effect arising from an analysis of variance of number of arguments recalled was a main effect for sex of subject. Women remembered significantly more arguments than did men (6.43 and 5.55, respectively). There was no difference in terms of message acceptance between male and female subjects and the overall within-cell correlation between recall and communication acceptance was .00. The correlation coefficients for selected correlates of communication acceptance are presented in Table 18.

Through an oversight, subjects were only asked to estimate the difficulty and effort involved in writing the letter. Thus, there is no data on how difficult or effortful "read" subjects considered their own tasks. As a result, it is not possible to check on differences between read and improvise conditions in terms of the effort expended. Without the comparative data a test of the effort justification explanation of the role-playing effect is not possible.

Satisfaction with one's performance of the experimental tasks also fails to account for the attitude change observed. Responses to the question, "How satisfied were you with the way you fulfilled the task requirements?" were significantly affected by the interaction of Sex and Instructions to Counterargue. Male's satisfaction was not influenced by the instructions to counterargue manipulation (mean instructions-absent, 6.43; mean instructions-percent, 6.16). Females

Table 18

Correlates for Communication Acceptance, Counterargumentation and Total Defensiveness (Product-moment correlations)

	Communication Acceptance	Counter-Argumentation	Total Defensiveness
Ratings of Communication			
logical	.061	-.147**	-.174***
biased	-.126**	.128**	.141**
Ratings of Source			
knowledgeable	.068	-.116**	-.143**
trustworthy	.159***	-.174**	-.212***
Satisfaction with Performance			
task fulfillment	-.043	-.017	-.036
relative to others	-.104*	-.004	-.013
Pressure to change opinion	.102*	-.028	-.017
Recall	.000	.092	.092
Counterargumentation[a]	-.304***	-	.948***
Total Defensiveness[a]	-.346***	.948***	-
Supportive Argumentation[a]	.322***	-.496***	-.542***

[a]Based on the 3 minute time limit with repeated arguments included.

*$p < .10$, df = 302

**$p < .05$, df = 302

***$p < .01$, df = 302

in the "instructions-absent" condition were significantly less satisfied with their performance than were females given instructions to counterargue (5.71 and 6.51, respectively). In terms of the question, "How would you rate your task performance relative to other subjects who have taken part in this study?" there was a marginal tendency ($F = 2.78$, $df = 1,304$, $p = .09$) for those with instructions to counterargue to be more satisfied. The patterns of means for acceptance of the tuition increase did not duplicate the pattern for satisfaction. The correlation between acceptance of the advocated tuition increase and satisfaction was -.043 when the first question above was used as a measure of satisfaction and -.104 when the second question was used. While neither of the correlations are significant the latter indicates a tendency for those who were more satisfied with their performance to show less acceptance of the persuasive material.

There were no significant effects for ratings of trustworthiness, but there were marginal trends for an Order of Measurement-Instruction to Counterargue interaction and an Instructions to Counterargue-Sex interaction. When there were no specific instructions to counterargue, the attitudes *after* counterargumentation order led to higher ratings of source trustworthiness. With specific instructions to counterargue, Order of Measurement had no effect on the ratings of the source's knowledge (interaction $F = 3.37$, $df = 1,304$, $p = .064$). There was a tendency for men to find the source less trustworthy when performing under instructions to counterargue than when there were no instructions to counterargue. Instruction to Counterargue did not affect the rating of trustworthiness for female subjects. While these borderline interactions did not correspond to treatment effects on attitudes, the overall within-cell correlation of .159 (see Table 18) does suggest

that message acceptance was greater the more the source was seen as trustworthy.

Unexplicably, subjects who indicated their attitudes before being given an opportunity to counterargue, perceived the source of the list of arguments as *less* knowledgeable ($F = 6.56$, $df = 1,304$, $p = .0110$). There was also an interaction of Role and Instruction to Counterargue on ratings of the source in terms of his knowledge ($F = 8.79$, $df = 1,304$, $p = .003$) (see Table 18). Subjects who improvised a letter found the source more knowledeable than read subjects did under conditions where there were no instructions to counterargue (simple effects $F = 6.004$, $df = 1,304$, $p < .05$). However, when there were instructions to counterargue, read subjects tended to find the source to be more knowledgeable than write subjects did ($F = 3.029$, $df = 1,304$). It was this Role-Instructions to Counterargue interaction which was also significant for attitude change. It becomes clear, however, that ratings of knowledgeability cannot explain the change data. A comparison of Tables 17 and 19 reveals that "instructions-absent--improvise" subjects and "instructions to counterargue-read" subjects gave the source the highest rating on knowledgeability but demonstrated the lowest amount of communication acceptance. The correlation between message acceptance and ratings of the source in terms of knowledgeability was a nonsignificant .068.

In terms of discussions of reactance and demand characteristics, it is relevant to draw attention to the finding that "improvise" subjects perceived themselves to be under much more pressure to change their opinions than did "read" subjects ($F = 23.86$, $df = 1,304$, $p = .0005$). Improvise subjects also had a tendency to counterargue more than read subjects although this effect seemed to be due to the low

Table 19

Mean Rating of Source's Knowledge as a Function of Role and Instructions to Counterargue

Role	Instructions to Counterargue	
	Absent	Present
Improvise	6.45	5.81
Read	5.58	6.42

amount of counterarguing produced by read subjects not given instructions to counterargue. There was also an effect of Order of Measurement and Sex of Subject on perceptions of pressure to change one's opinion. The interaction F of 7.13 (df = 1,304) was significant at p = .008. Male subjects tended to feel less pressure to change their opinions when their attitudes were measured after they were given an opportunity to counterargue (for simple effects F = 3.983, df = 1,304, $p < .05$). Female subjects tended to feel less pressure when their attitudes were measured before they were given an opportunity to counterargue. The Sex-Order of Measurement interaction in terms of counterargumentation did not exactly parallel that for perception of pressure to change. Male subjects reported less pressure to change and produced fewer counterarguments when attitudes were measured after counterargumentation. Females did not produce counterarguments differentially as a function of the order of measurement even though there were differences between order of measurement conditions in terms of perceived pressure to change. Acceptance of the tuition increase was not significantly influenced by Sex or Order of Measurement. The overall within-cell

correlation between communication acceptance and perceived pressure to change one's opinions was a nonsignificant .102. In sum, there is little reason to believe that perceptions of pressure to change one's opinions had a substantial impact on either communication acceptance or counterargumentation or total defensiveness.

All subjects were asked to indicate how logical and biased they felt the arguments presented in the letter to be. For the most part, the arguments presented in the letter were taken from the list of arguments which was provided for the subjects in the early part of the experiment. However, "improvise" subjects were encouraged and did actually think of new arguments which were consistent with the ones in the list. As a consequence, "read" and "improvise" subjects were making their ratings from slightly different perspectives.

An analysis of variance of the ratings of how logical the arguments had been revealed a Role-Sex interaction. Table 20 illustrates that the "female-read" and "female-improvise" subjects did not differ in their ratings. However, for male subjects, those in the read condition rated the arguments in the letter as significantly less logical than those in the improvise condition did (for the Role-Sex interaction, $F = 5.87$, $df = 1,304$, $p = .015$). The low ratings by male-read subjects accounted for the overall tendency for "improvise" subjects to see the arguments as more logical ($F = 11,51$, $df = 1,304$, $p = .001$) and the tendency for males to rate the arguments as less logical than females did ($F = 2.84$, $df = 1,304$, $p = .089$). This Role-Sex interaction did not appear for communication acceptance or for either of the measures of defensiveness. For subject's ratings of how biased the arguments had been there were no significant effects.

Table 20

Mean Subject-Ratings of Bias of Persuasive Material as a Function of Role and Sex of Subject

Role	Sex	
	Male	Female
Improvise	6.86	6.66
Read	5.28	6.40

CHAPTER IV

GENERAL DISCUSSION

In an introductory textbook discussion of role-playing Zimbardo and Ebbesen (1969) recently observed:

> The conclusion derived from this body of research is considered to be the most reliable in the area of attitude change: Active participation is more effective in changing attitudes than is passive exposure to persuasive communications. (p. 57)

Echoing this position, Weiss (1971) more recently noted:

> It is generally well established that opinion change is greater when the subjects participate actively in the persuasion (role playing) than it is when they passively receive the persuasive communication. (p. 29)

In a subsequent commentary on the role-playing area Insko and Schopler (1972) acknowledged the widespread confirmation of the phenomenon but candidly admitted they were not sure why it occurs.

From the vantage noted above and in the introduction, the failure to demonstrate a causal link between counterargumentation inhibition and the role-playing effect would not be particularly surprising. However, the inability to replicate this "reliable" effect under well controlled conditions should be reason for amazement if not alarm.

The findings of the present studies have done little to confirm the robustness of this effect. In attempting to determine the value of the present research for clarifying the role-playing controversy, the discussion begins with an exploration of the failure of the manipulations to have the expected effects on counterargumentation. Quite

naturally attention is, in turn, focused on the validity of measure of counterargumentation and other defensiveness variables. This is followed by an interpretation of the observed attitude change patterns and a re-analysis of the hypotheses of the study. Throughout the discussion, suggestions for future research are provided.

Possible Determinants of Counterargumentation

In sorting through the various findings of the two studies, one of the biggest hurdles in the way of any coherent and straightforward interpretation is the complexity of the counterargumentation data. Counterargumentation and the more general variable, total defensiveness, were significantly influenced by an overwhelming number of treatments and treatment combinations. Unfortunately, many effects appeared where none were predicted, and those that were predicted were not obtained.

In part, the confusion that has resulted appears to have derived from a set of expectations based on too narrow a conception of the determinants of these defensive processes. The place to begin is with the hypotheses. The major contention of this research was that the superior persuasive impact of role-playing results from the fact that the active participant is less *able* to think of counterarguments. One who is involved in the public presentation of a counterattitudinal position was presumed to have less opportunity to consider arguments on the other side of the issue than someone who is exposed to the counterattitudinal position with nothing else to do but evaluate the material. Thus the critical difference between active and passive participation was conceived of in terms of the *ability* to counterargue.

One factor overlooked in the development of the argument presented above is the subjects' *motivation* to counterargue. Indeed, there is good reason to believe that motivational aspects of the situation are

central in determining the amount of defensiveness. From a theoretical perspective, Brehm's theory of reactance (1966) predicts that the more a person's freedom to believe as he wishes is threatened, the more reactance experienced and consequently, the more resistance expressed. Thus, if an improvisation condition created more perceived threat than a passive exposure condition, Brehm's proposition would predict more resistance for subjects in the improvisation condition. Brock (1967) has demonstrated that counterargumentation is a direct function of the discrepancy between the message and the recipient's own position. (It can probably be assumed that the more discrepant the message, the more the subject was motivated to resist by counterarguing.) Brock also found that intent to persuade had a tendency to increase counter-argumentation. Osterhouse and Brock (1970) have demonstrated that the degree of threat in the communication situation can determine the amount of counterargumentation. It may also be the case that the more frustrated a person is by the experimental procedures or events, content issues aside, the more likely he is to counterargue.

Some of the patterns in the data do lend themselves to an interpretation in terms of motivation to counterargue. For instance, in Study 1 counterargumentation was affected by the interaction of Role and Delay (see Table 3). "No Delay-Read" subjects who were predicted to produce the most counterarguments actually produced the least. As was previously noted, this no delay-read group had pretreatment attitudes more consistent with the attitudinal position being advocated than any other group. Presumably, there was little reason for these subjects to counterargue since they were initially more inclined to accept the arguments.

A similar situation was found for the Sex-Delay interaction. Female subjects in the No Delay condition who should have counterargued more than their .42 Delay counterparts did not. On further inspection it was found that these No Delay-Female subjects had pretreatment attitudes more in line with the persuasive arguments than the other groups. Here we have two situations in which the ability or opportunity to counterargue was high but in which little counterargumentation resulted. It is assumed that, through the fortunes of random sampling, those subjects in the treatment conditions described had the least motivation to counterargue (since their pretreatment attitudes were more consistent with the position in the persuasive materials) and therefore produced less counterargumentation.

A word of warning is in order. The findings just discussed in terms of the Role-Delay and Sex-Delay interactions and those concerning the high within-cell correlations between pretest attitude and counterargumentation suggest the need for pre-post designs--perhaps even with blocking on initial level of attitude. Initial attitude level seems to have a sizeable impact on the amount of counterargumentation produced in response to counterattitudinal material.

There are theoretically embarrassing aspects of the data for which an explanation in terms of pretreatment attitude is not possible. In the Sex-Delay interaction just mentioned, females in the .42 second delay condition had a tendency to produce more counterarguments than males in the corresponding condition. Part of this higher level may reflect the fact that their motivation to counterargue was sufficient to overcome the situational restraints. Perhaps the females were more angered, frustrated, or threatened by the disruption of their speech than the males were.

There are two other instances where the hypotheses were more strongly contradicted. In examining the Role-Delay interaction (Study 1) it was found that under no-delay conditions, "improvise" subjects listed significantly more counterarguments than did "read" subjects. While part of this effect was previously accounted for in terms of the pretest attitudes of the "No Delay-Read" subjects, reference to Table 3 suggests that there is more to be explained.

Improvisation was also found to lead to more counterargumentation than reading in Study 2. Under conditions in which there were no instructions to counterargue "improvise" subjects listed more counterarguments than "read" subjects. With instructions to counterargue, there were no differences between improvise and read subjects. When there was no delay in auditory feedback in Study 1, and when there were no instructions to counterargue in Study 2 (analogs of standard role-playing manipulations to be found in literature), role-playing led to more counterargumentation than a more passive technique of exposure.

One possible interpretation of these findings is that there are conditions in which the enhanced motivation of the active participant can overcome or cancel out the typical effect of the reduced opportunity to counterargue. It is conceivable that improvise subjects could have relatively higher motivation to counterargue than read subjects, but a lower opportunity to counterargue. If the motivational factor is more powerful than the opportunity factor, the net effect could be more counterargumentation for improvise than for read subjects. Clearly, research on the conjoint impact of these two variables is in order. The implications of this are that the hypotheses were inadequate in that they did not specify the limiting conditions for the effect of

role-playing on counterargumentation. The "all other things equal" assumption implicit in the hypotheses of this study may be unreasonable for a large number of settings.

Another possible interpretation is that the observed tendency for improvise subjects to list more counterarguments than read subjects reflects a higher general response rate for improvise subjects. This higher response rate may derive from the fact that improvise subjects are performing in a manner that would function as a warm-up period for the counterargumentation measure since they are improvising in terms of the counterattitudinal material. It is also possible that a higher response rate could develop from a longer period of attention to the counterattitudinal material.

For response rate to be used to dismiss a finding of more counterargumentation for improvise subjects, it is necessary that "improvise" subjects also show a tendency to produce more supportive argumentation as well. In Study 2, "improvise" subjects listed more total number of arguments and more counterarguments than did read subjects. While the effect was only detected by one measurement technique, there was also a tendency for "improvise" subjects to list more supportive argumentation. Thus, in Study 2 the greater amount of counterargumentation produced by "improvise" subjects (with no instructions to counterargue) may be artifactual. However, even if the relative degree of counterargumentation is equal for read and improvise subjects, that still represents a contradiction of the hypotheses of the study. This suggests the need for a method of standardizing the amount of output of each type relative to the total output.

It should be noted that the conditions established in the two studies provide a conservative test of the effects of role-playing on

counterargumentation. In Study 1 the differences in opportunity to counterargue between read and improvise subjects were minimal. Read subjects were required to present the essay orally as though they were giving a speech. While they may have been less involved and did report less difficulty with their performance than improvise subjects, it can still be seen that the read subjects were quite active. In Study 2 improvise subjects were given 30 minutes to compose a letter to the editor; read subjects were given 10 minutes to examine a letter written by another subject. In Study 1 the passive participants were nearly as active as the active participants. In Study 2 active participants spent three times as much time working with the counterattitudinal material. Under these circumstances it should be difficult to find that improvisation led to less counterargumentation.

These problems have arisen from an inherent difficulty in research on the role-playing effect. That is, the role-playing effect is formulated in terms of a comparison between an active and a passive form of exposure to counterattitudinal material. Therein lies the problem since active participation differs from passive participation simultaneously on several dimensions--including effort, exposure to content, and time involved.

A partial solution to this problem is the inclusion of more control groups. In the present research the two studies were designed to complement each other and thus, in combination, rule out alternatives including effort and content differences. As a result the already complex designs were not further elaborated with extra control groups. Further attacks on the role-playing effect should be programatic efforts including a number of methodological pilot studies designed to assess the consequences of the confounds usually created in an active-passive participation manipulation.

Another explanation is highlighted by the finding that instructions to counterargue had an unanticipated effect. Those subjects instructed to counterargue produced significantly fewer supporting arguments than did subjects not given instructions to counterargue. An examination of the significant Role-Instructions to Counterargue interaction indicated that the instructions had a tendency to work as expected for read subjects. If anything, improvise subjects counterargued less with instructions to counterargue. It may be that improvise subjects were put at ease about the exploitative intent of the exercise by specific instructions to counterargue. The differences can only be suggestive since the noted differences were not significant. One interpretation of the differences in terms of supportive argumentation is that the manipulation had no substantial effect on counterargumentation. However, when it came time to list one's thoughts those subjects who had been given instructions to counterargue felt that it would be inappropriate for them to list supportive thoughts.

If that is the case, then the measured differences do not reflect actual differences in the number of supportive thoughts elicited by the counterattitudinal material. This suggests a degree of invalidity in the measures which were intended to reflect the thought processes of subjects while they were initially being exposed to counterattitudinal material. This very important question of the validity of the counterargumentation, total defensiveness, and supportive argumentation measures will be taken up following a summary of the conjecture presented above.

It is time to bring some closure to this discussion of the counterargumentation data. A number of factors have been summoned to account for the rather large number of unexpected findings. Briefly, it was

posited that the results were attributable to some combination of the following:

(a) Even though situational constraints on counterargumentation were low, subject characteristics (pretreatment attitudes) led to a low level of counterargumentation. (For example, the no delay-read subjects and the no delay-female subjects of Study 1.)

(b) The situation activated or aroused a motivation to counterargue which was more powerful than situational constraints on the opportunity to counterargue. (For example, the difference between "improvise" and "read" subjects not given instructions to counterargue.)

(c) Differences between the conditions in opportunity to counterargue were not substantially created or they were created in a manner that made confirmation difficult. (For example, the improvise-read manipulations in both studies.)

(d) The manipulation may have inadvertently reduced the extent to which the exploitative intent of the experimenter was salient. (For example, the instructions to counterargue may have had such an effect for improvise subjects.)

(e) The observed effect may be an artifact of measurement. (For example, the observed tendency for those with instructions to counterargue to list significantly fewer supportive arguments than did subjects without instructions to counterargue.)

Developing a Valid Measure of Counterargumentation

There is nothing very parsimonious about the preceding speculation. The total picture suggests that the hypotheses were not adequate to predict the amount of counterargumentation. Nevertheless there were some

conditions in the two experiments where treatment differences in counterargumentation occurred, and a few conditions where the results were as predicted. These instances will be further examined and analyzed from the perspective of concomitant attitude change patterns. But first it is appropriate to discuss the psychometric properties of the measures used to assess the thought processes of the communication recipients.

Much of the foregoing discussion was based on the assumption that the scores derived from the content analyses were valid measures of the extent to which a subject counterargued (thought of supportive arguments, or whatever) *during* the initial processing of the counter-attitudinal material. There is some evidence to suggest, however, that this assumption is only partially correct. A related matter involves the relative validities of the different scoring systems. This section addresses the evidence that can be brought to bear on these issues.

The most clearcut indication that the measures of counterargumentation were contaminated by unwanted factors is provided by the various order of measurement effects. The observed interactions in terms of counterargumentation, total defensiveness and supportive argumentation indicate that some of the recorded thoughts may have been evoked by the particular format of the measuring instrument rather than a reflection of the thoughts that had occurred during the initial processing of the counterattitudinal material.

An explanation for the sex-order of measurement interaction is not readily forthcoming. Women were affected by the order of measurement of attitudes and counterargumentation in Study 1 but not in Study 2. Men were influenced by the order of measurement in Study 2 but not in

Study 1. The attitudes *before* counterargumentation order suppressed the number of defensive responses for female subjects while the attitudes *after* counterargumentation order suppressed the amount of defensiveness for male subjects.

An effect of measurement which does appear to be more understandable was observed in Study 2. A manipulation of instructions to counterargue (either present or absent) was found to have no effect on the amount of counterargumentation produced. The manipulation did have a significant effect on the number of supportive arguments listed. One interpretation of the data was that the manipulation failed to have an effect on counterargumentation but that subjects who were told to counterargue felt that listing supporting arguments would not have been appropriate. Thus, the differences may primarily represent the demand characteristics of the situation.

Partial support for the validity of the measure is provided by those instances in which the manipulations had the expected effects. Unfortunately, this evidence is clouded by the large number of instances where the predictions were not confirmed. Nevertheless, previous research (especially that of Osterhouse and Brock, 1970) suggests the technique for assessing the nature of prior thought processes does have some validity. In addition, there seem to be a number of options for eliminating the bias discussed above.

Miller and Baron (1971) have suggested a number of innovations (including such things as the use of recognition rather than recall questions) which might yield more valid measures. Another solution, suggested by order of measurement effects, is to modify the instructions given to subjects. Perhaps the question format employed makes it difficult for a subject to cooperate in providing the desired information.

To illustrate the point, consider a hypothetical subject who has just finished reading or creating a counterattitudinal essay. At this point the subject is provided a booklet of questions. In short order, he is told: "You probably had many different reactions to the various ideas"; is faced with an overwhelming total of 15 numbered lines; and is told that he will be given three minutes to list any of his previous thoughts. Under such circumstances a subject is likely to feel a great deal of pressure to generate a large number of thoughts and may list any thought which would help fill the page. Any situational pressures encouraging a particular type of response would be readily noticed.

As a corrective it is suggested that subjects be informed that it is not necessary to complete any specific number of lines. Subjects might also be told that some participants only have a thought or two. Furthermore, a comment like the following could be added: "Think back carefully and try to remember what your reactions were. Please list *only* those thoughts which occurred to you while you were reading (working with) the material on _____. You will be given an opportunity later to express any of your subsequent reactions." To make sure that the instructions are attended to it might be helpful for the experimenter to read them aloud while the subject follows along. To facilitate this recall, the time limit would probably need to be extended. If it is possible for subjects to accurately recall their prior thoughts without substantial distortions, additions, or other modifications, the approach outlined above may be useful. This solution to the problems of validity is noticeably different from that which advocates the use of the smallest practical time limit. Research to test the utility of the two approaches is clearly called for.

While the primary emphasis in this research was not on methodological matters there are several noteworthy contributions in this regard which are relevant at this point during the discussion of validity. First, consider the evidence with regard to the assumption (by Brock, 1967) that repeated arguments should not be counted twice during the content analyses of subjects' thoughts. It can be seen from a comparison of Tables 2 and 14 that there is no reason to assume that including repeated arguments lowers the validity of the response measure. In fact, in Study 1 the three minute scoring system which *included* repeated arguments was the only one to detect differences in defensiveness between male and female subjects. Research by Brock (1967) and Osterhouse and Brock (1970) on the effect of communication discrepancy on counterargumentation would suggest that since the females had pretest attitudes more consistent with the persuasive materials, they would counterargue less than males. The mentioned finding strongly suggests that the scoring system is more valid when repeated arguments are included.

Overall it can be seen that the system including repeated arguments is virtually as sensitive to treatment effects as the system which excludes repeated arguments. Attitude change effects occurred in Study 1 for the sex-delay interaction and in Study 2 for the role-instructions to counterargue interaction. The 3 minute RAE system was slightly more sensitive in detecting corresponding treatment effects on counterargumentation but the differences are slight. Also the correlation between counterargumentation and attitude change is highest with the 3 minute RAI system, although this can partially be attributed to the fact that this measure is "longer" than the other.

A useful technique introduced in this research concerned the procedures with respect to the time limits on the thought listing question. While subjects were told that they would be given three minutes to list their thoughts concerning the material they had been working with, measures were also obtained after a 45 second interval. This was accomplished unobtrusively in Study 1; the experimenter merely looked over the subject's shoulder and noted the progress after 45 seconds. In Study 2 (in which subjects were scheduled in groups) after the first 45 seconds, the subjects were asked to draw a line through the last word they had written and then to continue with the question. Since the optimal time limit for this measure is yet to be determined, the advantages of two observations per subject, per session, are obvious.

Contrary to what Osterhouse and Brock (1970) reported for a one minute period, the 45 second interval was sensitive to many treatment effects. It can also be seen by examining Tables 2 and 14 that the 45-second limit measures were not as sensitive to as many effects as the 3 minute measures were. The measures with the shorter time limits did not detect differences in counterargumentation for treatment combinations which led to differences in attitude change, although the 3 minute measures did. The problem here is an unavoidable one in establishing the validity of a construct. If a measure does not indicate differences where they theoretically should be, it may be the fault of the theory or it may be the fault of the measure of the construct. In this case, since there is not enough evidence to reject the hypothesis that counterargumentation moderates the amount of attitude change resulting from role-playing, it is assumed that the 45-second measure is less valid than the 3 minute measure. The evidence is not all one-sided, however. A glance at Tables 2 and 14 reveals that in a majority

of the cases the shorter time-limit measure recorded effects at lower probability levels than their longer counterparts. While the magnitude of the differences is not great, the consistency of the direction should not be overlooked. It is probably as Miller and Baron (1971) have noted; the optimal time limit will vary from situation to situation and pilot work will be necessary in each case to determine satisfactory limits.

Future research can easily adapt the technique employed here and obtain two or more readings at whatever intervals seem appropriate. The value of the evidence with respect to time limits is not that it allows the selection of one technique over another, but rather that it provides a demonstration of a workable method for obtaining multiple measures within a single session for a single subject.

As a final methodological point, the category system used for classifying subjects' thoughts deserves some comment. In the present research categories existed not only for counterargumentation, but also for general disagreement, source, derogation, communication derogation, supportive argumentation, ambivalent reactions, comments related to performance or task, and statements with unclear bearing on the attitude position being studied. The differentiated set of categories for defensiveness was created in order to more accurately monitor the types of responses that are involved in resisting persuasive appeals. Theoretical discussions in the literature have suggested that there are several different types of defensive reactions and that they may function as alternative modes of resistance (Miller and Baron, 1971).

Several findings indicate the potential utility of the expanded category system. It was observed in Study 1 that order of measurement had a significant effect on total defensiveness but not on

counterargumentation. Moreover, in Study 2 the role manipulation affected counterargumentation but not total defensiveness. In sum, the two measures were differentially sensitive to the separate manipulations. This lends some credence to the proposition that each type of defensive reaction may be specific to certain sets of situations. Communication derogation may be more common than counterargumentation under some circumstances than others, for example. With the scoring system developed here it will also be possible to determine whether the role-playing effect is due to the suppression of counterarguments, the facilitation of supporting arguments, or some combination of the two.

The present research has not taken full advantage of the potential of the category system. For one thing, all arguments were assigned the same weight in analyses (except for repeated arguments). But is the reaction of general disagreement equivalent to a single counterargument? And, are all arguments of equal importance in supporting or refuting a given position? The answer to both questions is probably not. This seems to indicate that more precise estimates of the degree and importance of counterarguing will result from a system which assigns more weight to the thoughts that subjects feel are more important in forming an opinion on the issue. Future efforts could be beneficially directed toward this matter.

Evidence Concerning the Relationship Between Counterargumentation and Attitude Change

Attention is now turned to the major hypothesis of this research. An effort will be made to describe the evidence that can be brought to bear on the proposition that role-playing is particularly effective in

producing attitude change because it reduces the incidence of interfering responses such as counterargumentation.

The strongest support for the above hypothesis was found in Study 1 and involves the Sex-Delay interaction. Male subjects counterargued less and changed their attitudes more when they performed under a .42 delay in auditory feedback than when there was no delay. Women counterargued more and changed their attitudes less when presented with the .42 second delay than with no delay. While for both men and women there is an inverse relationship between counterargumentation and attitude change as predicted, the interaction was unexpected. Women counterargued more under conditions where they were expected to counterargue less.

One possibility is that women in the .42 second delay condition perceived the manipulation as the violation of a norm which states that women should be accorded the right to speak without being interrupted. Another possibility is that these women may have resented the attempt by a male experimenter to make them sincerely say that males and females should not live together on the same floor in a residence hall. The net effect of either of these possibilities might have been that women in the .42 second delay condition were more motivated to counterargue than "no delay" females or either of the male groups. As discussed before, if the motivation to counterargue was a more powerful determinant than the situational constraints, this may have resulted in the higher level of counterargumentation for these .42 second delay females. (Women with a higher verbal fluency may have found it easier than men to overcome the obstacles posed by the delivery of a speech.) If this line of speculation can be granted, then the data provide good support for the proposed link between counterargumentation and attitude change.

The other effect in Study 1 is a little less easy to deal with even though the covariation of counterargumentation and attitude change is as predicted. It was observed in the first study that subjects who indicated their attitudes *before* counterargumentation changed their attitudes more, thought of more supportive arguments, and fewer counterarguments than did subjects who indicated their attitudes *after* counterargumentation.

The most probable explanation is that the post-test, which came immediately after the subject had completed his performance, cued the subject that the experimenter was interested in whether his attitudes changed. In accommodating this implicit request the subject could have first expressed less positive feelings about coed living on the semantic differential and then listed a relatively high number of arguments supportive of the advocated policy. Subjects receiving the counterargumentation measure first, presumably were under less pressure to show any change in attitude because the first instruction they received sanctioned both pro and con thoughts about the issue. Thus there was less need to list supportive arguments and less reason to indicate more acceptance of the policy concerning coed living.

In Study 2, "improvise" subjects changed their attitudes more than "read" subjects but only under conditions in which instructions were given to consider counterarguments. The improvise-read manipulation had no differential impact when there were no instructions to counterargue. Supplementary data indicated that there was a marginal tendency for those with instructions to be more satisfied with their performance. This suggests that the effect of instructions to counterargue may have been to put subjects at ease about the exploitative intentions of the experimenter. From this starting point read subjects could have gone

on ahead with their assigned task of thinking about ideas contrary to the ones they were being exposed to. The result was a reduction in the tendency to accept the persuasive material for read subjects. The improvise subjects, freed from concerns of being deceived, were probably not as motivated to counterargue as improvise subjects not given instructions to counterargue and as a result were more persuaded.

An argument very similar to the preceding one was offered by Janis and Gilmore (1965) who suggested that a gain in attitude change would not be as likely to result from role-playing if there were negative incentives in the role-playing situation such as those provided by a sponsor with exploitative or self-aggrandizing characteristics. Data from research by Janis and Gilmore (1965) and by Elms and Janis (1965) on actively role-playing subjects supported the hypothesis about the effect of sponsor characteristics on attitude change. Perhaps the implications of these different bits of evidence is that the role-playing effect occurs only when the sponsor or source is benign and nonexploitative in nature.

The biggest problem with this explanation is that there were no counterargumentation differences between read and improvise subjects who were given instructions to counterargue--even though there were significant differences between these groups in terms of communication acceptance. What is more, of those subjects who were not given instructions to counterargue, "read" subjects listed fewer counter-arguments than "improvise" subjects but did not have significantly more favorable attitudes. Taken at face value the data do not support the hypothesis that role-playing is especially effective because it leads to a reduction in the incidence of counterargumentation and other interfering responses.

A comment was made previously that a correction should be made in the scores of improvise subjects because they listed significantly more total number of responses, more supportive arguments, and more counterarguments. However, when the score values for each type of response are converted to percentages for each group, the same pattern of differences arises as when absolute number of responses was considered. Again the evidence just does not seem to support the hypothesized relationships.

The only other evidence bearing on the hypotheses is that with regard to within-cell correlations. In Study 1 the correlation of counterargumentation and total defensiveness, respectively, with attitude change was .299 and .306. In Study 2 the corresponding correlations were .304 and .346. Both these suggest that those people change their attitudes most who counterargue least. It is important to note that these data and the data with respect to the experimental manipulations do not unequivocally establish the fact that counterargumentation came first and that the attitudes followed as a consequence. It is just as possible that people change their attitudes and then develop arguments to be consistent with them.

In view of the equivocality about the time order and the difficulty of manipulating counterargumentation with role-playing manipulations, it is suggested that a more direct method of manipulating counterargumentation is needed. DePolito[3] has proposed one such method. Essentially subjects would be presented with a list of arguments. After each argument, the subject would be required to write either another argument consistent with it or one opposed to it. In this manner the

---

[3]Personal communication.

relative degree of counterargumentation could be manipulated. While this technique would not rule out the possibility that anticipatory attitude change would occur before the subject had a chance to counterargue, the tendency for this to occur could be assessed and accounted for.

In summary, the basic findings of the two studies were that:

(a) There was little evidence to support the notion that there is less counterargumentation for active participation role-players than for passive exposure subjects.

(b) While the manipulations of Study 1 apparently created different levels of effort under moderately high free choice circumstances, the attitude change effects were not explainable in terms of an effort justification hypothesis.

(c) Satisfaction with task performance and recall of counterattitudinal arguments could not account for the attitude change patterns.

(d) On a post hoc basis, the data for the sex-delay interaction in Study 1 was interpreted as supportive of the hypothesized mediating role of counterargumentation in the role-playing effect. However, the data for the role-instructions to counterargue interaction in Study 2 was not consistent with the hypotheses.

In a methodological vein, the research has demonstrated the:

(a) need for research on the modification of the instructions on counterargumentation measures to reduce the demand for irrelevant and invalid responses.

(b) need for the utilization of pre-post designs, since counterargumentation is to a large extent a function of initial position.

(c) utility of a thought listing procedure which permits multiple time-limit measures for each subject.

(d) utility of a scoring system which includes several types of defensive reactions as well as supportive responses.

REFERENCES

REFERENCES

Aronson, E., Turner, J. A., and Carlsmith, J. M. Communicator credibility and communication discrepancy as determinants of opinion change. *Journal of Abnormal and Social Psychology*, 1963, 67, 31-36.

Bem, D. J. Self-perception: an alternative interpretation of cognitive dissonance phenomena. *Psychological Review*, 1967, 74, 183-200.

Brehm, J. W. *A Theory of Psychological Reactance*. New York: Academic Press, 1966.

Brewer, M. B., and Crano, W. D. Attitude change as a function of discrepancy and source of influence. *Journal of Social Psychology*, 1968, 76, 13-18.

Brock, T. C. Communication discrepancy and intent to persuade as determinants of counterargument production. *Journal of Experimental Social Psychology*, 1967, 3, 296-309.

Carlsmith, J. M., Collins, B. E., and Helmreich, R. L. Studies in forced compliance: I. The effect of pressure for compliance on attitude change produced by face-to-face role playing and anonymous essay writing. *Journal of Personality and Social Psychology*, 1966, 4, 1-13.

Cohen, A. R., Brehm, J. W., and Fleming, W. H. Attitude change and justification for compliance. *Journal of Abnormal and Social Psychology*, 1958, 56, 276-278.

Collins, B. E. *Social Psychology*. Reading, Mass.: Addison-Wesley, 1970.

Collins, B. E., and Helmreich, R. L. Studies in forced compliance II: Contrasting mechanisms of attitude change produced by public-persuasive and private-true essays. *Journal of Social Psychology*, 1970, 81, 253-264.

Culbertson, F. M. Modification of an emotionally held attitude through role playing. *Journal of Abnormal and Social Psychology*, 1957, 54, 230-233.

Elms, A. C. The influence of fantasy ability on attitude change through role-playing. *Journal of Personality and Social Psychology*, 1966, 4, 36-43.

Elms, A. C. Role playing, incentive, and dissonance. *Psychological Bulletin*, 1967, 68, 132-148.

Elms, A. C. and Janis, I. L. Counter-norm attitudes induced by consonant versus dissonant conditions of role-playing. *Journal of Experimental Research in Personality*, 1965, 1, 50-60.

Festinger, L., and Carlsmith, J. M. Cognitive consequences of forced compliance. *Journal ofAbnormal and Social Psychology*, 1959, 58, 203-210.

Freedman, J. L., Carlsmith, J. M. and Sears, D. O. *Social Psychology*. New Jersey: Prentice-Hall, 1970.

Freedman, J., and Sears, D. Warning, distraction and resistance to influence. *Journal of Personality and Social Psychology*, 1965, 1, 262-266.

Greenwald, A. G. The open-mindedness of the counter-attitudinal role player. *Journal of Experimental Social Psychology*, 1969, 5, 375-388.

Greenwald, A. G. When does role playing produce attitude change? Toward an answer. *Journal of Personality and Social Psychology*, 1970, 16, 214-219.

Harvey, O., and Beverly, G. Some personality correlates of concept change through role playing. *Journal of Abnormal and Social Psychology*, 1961, 63, 125-130.

Insko, C. A. *Theories of Attitude Change*. New York: Appleton-Century Crofts, 1967.

Insko, C. A., and Schopler, J. *Experimental Social Psychology*. New York: Academic Press, 1972.

Janis, I. L., and Gilmore, J. B. The influence of incentive conditions on the success of role playing in modifying attitudes. *Journal of Personality and Social Psychology*, 1965, 1, 17-27.

Janis, I. L., and King, B. T. The influence of role-playing in opinion change. *Journal of Abnormal and Social Psychology*, 1954, 49, 211-218.

Janis, I. L., and Mann, L. Effectiveness of emotional role-playing in modifying smoking habits and attitudes. *Journal of Experimental Research in Personality*, 1965, 1, 84-90.

Jones, E. E., and Gerard, H. B. *Foundations of Social Psychology*. New York: Wiley, 1967.

King, B. T., and Janis, I. Comparison of the effectiveness of improvised vs. non-improvised role playing in producing opinion changes. *Human Relations*, 1956, 9, 177-186.

Linder, D. E., Cooper, J., and Jones, E. E. Decision freedom as a determinant of the role of incentive magnitude in attitude change. *Journal of Personality and Social Psychology*, 1967, 6, 245-254.

Linder, D. E., and Worchel, S. Opinion change as a result of effortfully drawing a counterattitudinal conclusion. *Journal of Experimental Social Psychology*, 1970, 6, 432-448.

Little, D. M. Suspension of critical judgment: an approach to role-playing induced attitude change. Unpublished master's thesis, Michigan State University, 1971.

McGuire, W. J. Inducing resistance to persuasion: Some contemporary approaches. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology*. Vol. 1. New York: Academic Press, 1964. Pp. 191-229.

McGuire, W.J. The nature of attitudes and attitude change. In G. Lindzey and E. Aronson (Eds.), *The Handbook of Social Psychology*. Vol. 3. Reading, Mass.: Addison-Wesley, 1969.

Mann, L., and Janis, I. L. A follow-up study on the long-term effects of emotional role playing. *Journal of Personality and Social Psychology*, 1968, 8, 339-342.

Miller, N., and Baron, R.S. On measuring counterarguing. Paper presented at American Psychological Association, Washington, D.C., September, 1971.

Osterhouse, R. A., and Brock, T. C. Distraction increases yielding to propaganda by inhibiting counterarguing. *Journal of Personality and Social Psychology*, 1970, 15, 344-358.

Scott, W. Attitude change through reward of verbal behavior. *Journal of Abnormal and Social Psychology*, 1957, 55, 72-75.

Sears, D. O., and Abeles, R. P. Attitudes and opinions. In P. Farnswroth (Ed.), *Annual Review of Psychology*, 1969, 20, 253-288.

Watts, W. A. Relative persistence of opinion change induced by active compared to passive participation. *Journal of Personality and Social Psychology*, 1967, 5, 4-15.

Weiss, R. F. Role playing and repetition effects on opinion strength. *Journal of Social Psychology*, 1971, 85, 29-35.

Zimbardo, P. G. The effect of effort and improvisation on self-persuasion produced by role-playing. *Journal of Experimental Social Psychology*, 1965, 1, 103-120.

Zimbardo, P., and Ebbesen, E. B. *Influencing Attitudes and Changing Behavior*. Mass.: Addison-Wesley, 1969.

APPENDICES

APPENDIX A

INSTRUCTIONS FOR "READ" CONDITIONS (STUDY 1)

APPENDIX B

INSTRUCTIONS FOR "IMPROVISE" CONDITIONS (STUDY 1)

The research project scheduled for today is part of a program of research systematically exploring interpersonal communication. What we'll be looking at in the present study is most commonly called improvisational speech. Basically, we are trying to find out how several different variables are related to the manner in which a person presents a talk on a topic of current interest. To put it another way, our interest is in the things which affect and are affected by how a person favorably expresses himself when on the spur of the moment he is asked to speak on a controversial issue. This will become clearer as we proceed.

But before we get into that, there's another matter I'd like to have you help me with. And that is, I'm trying to find issues which are interesting to use in studies like these. So I have a number of issues which I'd like to have you rate on some rating scales.

To get on with the specifics of this particular study, what we would like you to do is present a talk--a sort of speech-discussion. You will be provided with some materials on the issue of (in this case) coeducational dormitory living. Your task will be to use these arguments to present a speech in your natural argumentative style. Try to be as sincere and convincing as possible in presenting the *same* point of view as the one taken in the material you will be given entitled: "A position paper: Coeducational living at Michigan State University." Use all the arguments listed and feel free to add any other arguments

or examples you want to as long as they are consistent with the ones that have been provided. Try to be as comprehensive as possible when presenting the speech. You will be given three minutes to rehearse the speech silently. Even though the circumstances are rather unique and the task is perhaps a little difficult, try to imagine that you actually are a person with beliefs like those expressed in the material on coeducational living. Don't be overly concerned by the modifications of your voice by the recording equipment. (Delay subjects are to be told: You will notice a slight time lag in your speech which might be disturbing at first.) Remember, try to be as sincere and convincing as possible. It may help to imagine you are speaking to a small group of people who are eager to hear what you have to say about the issue. After the three minute preparation period, I will signal you. Begin and continue until finished talking despite any experimental variations you may notice.

APPENDIX B

INSTRUCTIONS FOR "IMPROVISE" CONDITIONS (STUDY 1)

APPENDIX C

FREQUENCY OF OCCURRENCE OF EACH RESPONSE CATEGORY (STUDY 1)

APPENDIX C

FREQUENCY OF OCCURRENCE OF EACH RESPONSE CATEGORY (STUDY 1)

	Scoring System			
Category	3 min. RAE[a]	45 sec. RAE[b]	3 min. RAI[c]	45 sec. RAI[d]
Supportive Arguments	155 (38.46%)	67 (42.95%)	180 (38.96%)	70 (42.68%)
Counter-arguments	202 (50.12%)	64 (41.03%)	225 (48.70%)	65 (39.63%)
General Disagreement	21 (5.21%)	15 (9.62%)	23 (4.97%)	18 (10.98%)
Communication Derogation	7 (1.74%)	5 (3.20%)	10 (2.17%)	6 (3.66%)
Source Derogation	3 (.74%)	0 (.00%)	3 (.65%)	0 (.00%)
Ambivalence	5 (1.24%)	3 (1.92%)	10 (2.17%)	4 (2.44%)
Unclear	10 (2.48%)	2 (1.28%)	11 (2.38%)	1 (.61%)
Total	403 (100.00%)	156 (100.00%)	462 (100.00%)	164 (100.00%)

Note.--N=80.

[a]Three minute time limit with repeated arguments excluded.

[b]Forty-five second time limit with repeated arguments excluded.

[c]Three minute time limit with repeated arguments included.

[d]Forty-five second time limit with repeated arguments included.

APPENDIX D

PRETEST MEASURE OF ATTITUDE TOWARD COEDUCATIONAL LIVING (STUDY 1)

APPENDIX D

PRETEST MEASURE OF ATTITUDE TOWARD COEDUCATIONAL LIVING (STUDY 1)

COEDUCATIONAL LIVING ON THE SAME FLOOR WHERE YOU LIVE

Good	:___:___:___:___:___:___:___:	Bad
Mild	:___:___:___:___:___:___:___:	Intense
Beautiful	:___:___:___:___:___:___:___:	Ugly
Sweet	:___:___:___:___:___:___:___:	Sour
Strong	:___:___:___:___:___:___:___:	Weak
Nice	:___:___:___:___:___:___:___:	Awful
Fair	:___:___:___:___:___:___:___:	Unfair
Large	:___:___:___:___:___:___:___:	Small
Hot	:___:___:___:___:___:___:___:	Cold
Even	:___:___:___:___:___:___:___:	Uneven
Important	:___:___:___:___:___:___:___:	Unimportant

How certain are you of your opinion regarding this issue?

Very Certain :___:___:___:___:___:___:___: Very Uncertain

Circle the statement which best describes your position concerning coeducational living on the same floor where you live.

1. I am very much in favor of it.
2. I am in favor of it.
3. I honestly have no opinion about the issue.

4. I am opposed to it.

5. I am very much opposed to it.

APPENDIX E

MATERIALS INCLUDED IN POSTEXPERIMENTAL QUESTIONNAIRE (STUDY 1)

APPENDIX E

MATERIALS INCLUDED IN POSTEXPERIMENTAL QUESTIONNAIRE (STUDY 1)

While reading over and presenting the material concerning coeducational living at M.S.U. you probably had many different reactions to the various ideas. List below any of these thoughts--either pro or con--which may have occurred to you. State your own thoughts and ideas as *briefly* as possible--IGNORE SPELLING, GRAMMAR, AND PUNCTUATION. You will have three minutes to write your ideas. Please stop writing immediately and go on to the next page when asked to do so.

1. idea_____
2. idea_____
3. idea_____
4. idea_____
5. idea_____
6. idea_____
7. idea_____
8. idea_____
9. idea_____
10. idea_____
11. idea_____
12. idea_____
13. idea_____
14. idea_____
15. idea_____

COEDUCATIONAL LIVING ON THE SAME FLOOR WHERE YOU LIVE

Simple	:___:___:___:___:___:___:___:	Complex
Honest	:___:___:___:___:___:___:___:	Dishonest
Clean	:___:___:___:___:___:___:___:	Dirty
Pleasant	:___:___:___:___:___:___:___:	Unpleasant
Active	:___:___:___:___:___:___:___:	Passive
Fragrant	:___:___:___:___:___:___:___:	Foul
Kind	:___:___:___:___:___:___:___:	Cruel
Fast	:___:___:___:___:___:___:___:	Slow
Soft	:___:___:___:___:___:___:___:	Loud
Loose	:___:___:___:___:___:___:___:	Tight
Important	:___:___:___:___:___:___:___:	Unimportant

How certain are you of your opinion regarding this issue?

Very Certain :___:___:___:___:___:___:___: Very Uncertain

1. How sincerely did you present the speech?

Not at all Sincerely :___:___:___:___:___:___:___:___:___:___: Very Sincerely

2. How convincingly did you present the speech?

Not at all Convincingly :___:___:___:___:___:___:___:___:___:___: Very Convincingly

3. How logical were the arguments which you presented?

Not at all Logical :___:___:___:___:___:___:___:___:___:___: Very Logical

4. How biased were the arguments which you presented?

Not at all Biased :___:___:___:___:___:___:___:___:___:___: Very Biased

5. How difficult was it to present the speech?

Not at all Difficult :___:___:___:___:___:___:___:___:___:___: Very Difficult

6. How much effort did *you* put into presenting the speech?

None at all :___:___:___:___:___:___:___:___:___:___: A great deal

7. How satisfied were you with the way you fulfilled the task requirements?

Not at all :___:___:___:___:___:___:___:___:___:___: Very much

8. How would you rate your performance relative to other subjects who have taken part in this study?

Bottom 10% :___:___:___:___:___:___:___:___:___:___: Top 10%

9. To what extent were you able to get involved in presenting the speech?

Not at all :___:___:___:___:___:___:___:___:___:___: Very much

10. How knowledgeable about the issue were the people who wrote the arguments which you read?

Not at all :___:___:___:___:___:___:___:___:___:___: Very

11. How trustworthy a source of information were the people who wrote the arguments which you read?

Not at all :___:___:___:___:___:___:___:___:___:___: Very

---

12. Briefly list the main thesis and supporting arguments of the material which you were presented concerning coeducational living. Use the back side on this page if necessary.

APPENDIX F

FREQUENCY OF OCCURRENCE OF THE MAJOR RESPONSE CATEGORIES (STUDY 2)

APPENDIX F

FREQUENCY OF OCCURRENCE OF THE MAJOR RESPONSE CATEGORIES
(STUDY 2)

Category	Scoring System			
	3 min. RAE	45 sec. RAE	3 min. RAI	45 sec. RAI
Supportive Arguments	656[a] (43.76%)	263[b] (41.81%)	744[c] (42.93%)	269[d] (40.45%)
Counter-arguments	680 (45.36%)	302 (48.01%)	775 (44.72%)	319 (47.97%)
Defensiveness other than Counter-arguments	66 (4.41%)	42 (6.68%)	82 (4.73%)	45 (6.77%)
Neither Supportive nor Defensive	97 (6.47%)	22 (3.50%)	132 (7.62%)	32 (4.81%)
Total	1499 (100%)	629 (100%)	1733 (100%)	665 (100%)

[a]Three minute system with repeated arguments excluded.

[b]Forty-five second system with repeated arguments excluded.

[c]Three minute system with repeated arguments included.

[d]Forty-five second system with repeated arguments included.

APPENDIX G

MATERIALS INCLUDED IN POSTEXPERIMENTAL QUESTIONNAIRE (STUDY 2)

APPENDIX G

MATERIALS INCLUDED IN POSTEXPERIMENTAL QUESTIONNAIRE (STUDY 2)

While presenting the material concerning a tuition increase at M.S.U., you probably had many different reactions to the various ideas. List below any of these thoughts--either pro or con--which may have occurred to you. State your *own* thoughts and ideas as *briefly* as possible--IGNORE SPELLING, GRAMMAR, AND PUNCTUATION. You will have three minutes to write your ideas. When asked to do so, please stop writing immediately and go to the next page.*

1. idea _____
2. idea _____
3. idea _____
4. idea _____
5. idea _____
6. idea _____
7. idea _____
8. idea _____
9. idea _____
10. idea _____
11. idea _____
12. idea _____
13. idea _____
14. idea _____
15. idea _____

*The format and order of this question was varied according to experimental treatment condition.

To help us understand your reactions to the task requirements, we would like to have you answer several questions related to the topic you were working with. Circle the number under each statement which most directly corresponds to your feelings. Work quickly but carefully.

1. A tuition increase at Michigan State University would cause more problems than it would solve.

1	2	3	4	5	6	7	8	9	10	11
Strongly Disagree					Neutral					Strongly Agree

2. Out-of-state tuition should be the same as in-state tuition.

1	2	3	4	5	6	7	8	9	10	11
Strongly Disagree					Neutral					Strongly Agree

3. I like the idea of a tuition increase at M.S.U.

1	2	3	4	5	6	7	8	9	10	11
Strongly Disagree					Neutral					Strongly Agree

4. A tuition increase would facilitate a few needed changes here at M.S.U.

1	2	3	4	5	6	7	8	9	10	11
Strongly Disagree					Neutral					Strongly Agree

5. A tuition increase is not necessary at M.S.U.

1	2	3	4	5	6	7	8	9	10	11
Strongly Disagree					Neutral					Strongly Agree

6. Most students don't worry very much about the amount of tuition they pay.

1	2	3	4	5	6	7	8	9	10	11
Strongly Disagree					Neutral					Strongly Agree

7. Even a moderate increase in tuition at M.S.U. would be unfair.

1	2	3	4	5	6	7	8	9	10	11
Strongly Disagree					Neutral					Strongly Agree

8. I would be willing to write a letter to a paper such as the *State News* advocating a tuition increase at M.S.U.

1	2	3	4	5	6	7	8	9	10	11
Strongly Disagree					Neutral					Strongly Agree

9. The taxpayers are responsible for too great a percentage of the cost of educating a student.

1	2	3	4	5	6	7	8	9	10	11
Strongly Disagree					Neutral					Strongly Agree

10. It would be desirable for M.S.U. to raise tuition.

1	2	3	4	5	6	7	8	9	10	11
Strongly Disagree					Neutral					Strongly Agree

11. A tuition increase at M.S.U. would not help cure any of the major problems of the University.

1	2	3	4	5	6	7	8	9	10	11
Strongly Disagree					Neutral					Strongly Agree

12. Even the present cost of tuition is too high.

1	2	3	4	5	6	7	8	9	10	11
Strongly Disagree					Neutral					Strongly Agree

DO NOT TURN THE PAGE UNTIL ASKED TO CONTINUE

For each of the questions below, place an X in the space between the dots that most closely corresponds to your feelings. If you wrote a letter, evaluate that letter where asked; if you read a letter written by someone else, evaluate that letter.

1. How sincerely was the letter written?

Not at all Sincerely :___:___:___:___:___:___:___:___:___:___:___: Very Sincerely

2. How convincingly was the letter written?

Not at all Convincingly :___:___:___:___:___:___:___:___:___:___:___: Very Convincingly

3. How coherently was the letter written?

Not at all Coherently :___:___:___:___:___:___:___:___:___:___:___: Very Coherently

4. How logical were the arguments presented in the letter?

Not at all Logical :___:___:___:___:___:___:___:___:___:___:___: Very Logical

5. How biased were the arguments presented in the letter?

Not at all Biased :___:___:___:___:___:___:___:___:___:___:___: Very Biased

6. How difficult was it to write the letter?

Not at all Difficult :___:___:___:___:___:___:___:___:___:___:___: Very Difficult

7. How much effort was put into writing the letter?

None at all :___:___:___:___:___:___:___:___:___:___:___: A great deal

8. How knowledgeable about the issue were the people who wrote the list of arguments you read?

Not at all Knowledgeable :___:___:___:___:___:___:___:___:___:___:___: Very Knowledgeable

9. How trustworthy a source of information were the people who wrote the list of arguments which you read?

Not at all Trustworthy :___:___:___:___:___:___:___:___:___:___:___: Very Trustworthy

10. How satisfied were you with the way you fulfilled the task requirements?

Not at all :___:___:___:___:___:___:___:___:___:___:___: Very much

11. How would you rate your task performance relative to other subjects who have taken part in this study?

Bottom 10% :___:___:___:___:___:___:___:___:___:___: Top 10%

12. To what extent were you able to get involved in the experimental tasks?

Not at all :___:___:___:___:___:___:___:___:___:___: Very much

13. How much did you feel pressured to change your opinions?

Not at all :___:___:___:___:___:___:___:___:___:___: Very much

14. Briefly list the main thesis and supporting arguments of the material you were presented concerning a tuition increase. Use the back side of this page if necessary.