The effects of distraction and discrepancy size on counterargument production and attitude change.

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THE EFFECTS OF DISTRACTION AND DISCREPANCY SIZE ON COUNTERARGUMENT PRODUCTION AND ATTITUDE CHANGE

A Thesis Presented
By
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Festinger and Maccoby (1964) while studying the effects of distraction upon attitude change concluded that counterarguing is the mediator of distraction effects, while Haaland and Vankatesan (1968) concluded that comprehension is the major mediator. Possibly, then, counterargument production is only elicited under a limited set of conditions. Brock's (1967) research indicated that counterargument production increases as the discrepancy between the subject's own position and that advocated by the communication increases. Thus, it was hypothesized that counterarguing mediates the effects of distraction upon attitude change only when the discrepancy is sufficient to evoke counterarguing. To test this hypothesis, the following study was conducted.

The present study experimentally manipulated both visual distraction and discrepancy size. Neither of the independent variables was found to have had a significant impact on the attitude scores. However, distracted subjects did comprehend less, as well as counterargue less. Weak support for Brock's finding that counterarguing increases with discrepancy was also obtained. The implications of these dependent measure responses are discussed as mediators of the effects of distraction upon attitude change.
INTRODUCTION

In an early formulation of the effects of distraction upon attitude change, Festinger and Maccoby (1964) hypothesized that distraction interferes with an individual's ability to counterargue the content of a persuasive communication. Furthermore, they hypothesized, reduced counterargument production mediates attitude change. Since then, studies which have attempted to test this hypothesis have shown mixed results. The purpose of this study is to introduce discrepancy size as an additional variable which may clear up some of the disagreement over both results and proposed mediators of attitude change.

A part of the confusion over experimental results may be traced to the types of distraction which have been used. One such distraction involves the rating of the personality of the Communicator. (Freedman and Sears, 1965; Baron and Miller, 1968, 1969; Miller and Baron, 1968) In the basic paradigm, the subject is asked to attend either to the personality of the speaker (distraction) or to the content of the communication (no distraction). The present analysis does not consider these studies to be an adequate test of the original Festinger and Maccoby (1964) hypothesis since as Miller and Baron (1968) have attempted to demonstrate, the personality-rating distraction probably increases the salience of the speaker credibility cues. A distraction of this type leads to increased attitude change only when the credibility of the speaker is high. Therefore, Miller and Baron hypothesize that
credibility, and not counterarguing, is the mediator of attitude change in the personality-rating distraction studies.

Nevertheless, studies which have used an irrelevant distraction have also shown mixed results. In a series of three studies, Festinger and Maccoby (1964) had fraternity and non-fraternity men listen to a communicator argue strongly against campus fraternities. Distracted subjects viewed a humorous film upon which was superimposed the anti-fraternity communication while non-distracted subjects viewed a film of the communicator presenting his opinions. In the first two studies, the authors failed to find any differences in attitude change between distracted and non-distracted subjects or between fraternity and non-fraternity men. They explained their results by noting that neither of the schools where the studies were conducted had particularly strong fraternity systems. The third study, conducted at a school with a strong fraternity system, did show that distracted fraternity men changed their attitudes concerning fraternities toward that advocated by the message more than non-distracted fraternity men. In attempting to demonstrate that counterarguing is the mediator of attitude change, Festinger and Maccoby hypothesized that if one is unable to counterargue a communication, there should be a positive correlation between resistance to influence and rejection of the speaker. Moreover, the correlations should be higher for distracted subjects than for non-distracted subjects assuming distraction interferes with one's ability to counterargue a communication. This hypothesis was confirmed
for distracted and non-distracted men.

In a study by Haaland and Vankatesan (1968), distraction was found to reduce attitude change, a finding contrary to those of the Festinger and Maccoby (1964) study. Subjects in the Haaland and Vankatesan study listened to either pro or con arguments concerning lowering the voting age to 18. Two types of distraction (visual or behavioral) were varied in a 2 X 2 factorial design. A humorous film constituted the visual distraction while non-distracted subjects viewed a communicator presenting his speech as in the Festinger and Maccoby (1964) study. In addition, subjects in the behavioral distraction condition filled out questionnaires while viewing the presentation. The results indicated that distraction, either visual or behavioral, results in less attitude change than no distraction, findings which clearly contradict the Festinger and Maccoby (1964) results. Haaland and Vankatesan also measured recall of communication content. They found that non-distracted subjects comprehended the message better than distracted subject.

Gardner (1966), studying persuasive marketing appeals, had subjects rate five first run movies on a desirability scale. A communication advocating the second most desired movie was prepared. Subjects were either not distracted or distracted by (a) having subjects guide a single slot car rapidly around a track, or (b) having subjects guide two slot cars simultaneously around a track. While his results indicated no significant attitude change effects, he did show
that recall of message content decreased as degree of distraction increased.

Not only is there inconsistency in experimental results but there is also disagreement regarding the mediators of the observed effects of distraction on attitude change. It should be remembered that Festinger and Maccoby (1964) presented indirect evidence that distraction interferes with counterargument production. By noting that a positive relationship between source rejection and resistance to influence implies reduced counterargument production, Festinger and Maccoby (1964) hypothesized a reduction in counterargument production as the mediator of attitude change in distraction studies. However, Haaland and Vankatesan (1968) favored a learning theory interpretation. They argued that the subject must comprehend the content of the message in order to learn the new attitude. Distraction, by reducing comprehension, interferes with the learning process. Thus, there should be less attitude change in distraction conditions. Their results are consistent with this interpretation. Gardner's (1966) results also yielded reduced message comprehension for distracted subjects. However, due to the methodological weaknesses of this study and the non-significance of the attitude change results, interpretation of recall measures in light of the comprehension mediator argument is extremely tenuous.

Since the distraction studies do not provide direct evidence that either comprehension or counterarguing mediate the distraction effects on attitude change, it is appropriate
to examine the general attitude change literature in order to
determine the status of the comprehension mediator and the
counterargument mediator. In his review of the comprehension
mediator literature, Greenwald (1968) points out that learning
an argument is neither a necessary nor a sufficient condition
for persuasion. In addition, Greenwald notes that empirical
support for the comprehension mediator is generally weak.

Counterargument production has not been widely studied
though numerous investigators have assumed that an individual
evokes, subvocally, arguments which attempt to refute arguments
presented by the communicator. Due to the covert nature of
the phenomenon it is difficult to obtain direct evidence of
counterarguing. For example, counterarguing may be an aspect
of McGuire's (1964) "inoculations" against attitude change.
McGuire found that a refutational defense is more effective
than a supportive defense in inducing resistance to attitude
change. Inoculation involves presenting a weak attack on a
cultural truism while providing counterarguments to refute the
attack. According to McGuire, these refutational arguments
"inoculate" the subject against a much stronger attack later and,
thus, increase an individual's resistance to persuasion. It
would appear reasonable to assume that these "inoculation"
provide the material from which counterarguments are constructed.
Therefore, McGuire's research program on resistance to
persuasion indicates indirect support for the position that
counterarguing mediates resistance to attitude change.

The warning literature also provides indirect support
for the counterargument mediator approach. Freedman and Sears (1965) informed subjects of the topic of a counterattitudinal communication either ten minutes or two minutes before the presentation of the speech. In addition, distraction was manipulated by instructing some subjects to attend to the content of the communication (no distraction) while others were instructed to attend to the personality of the communicator (distraction). While not obtaining any effects of distraction on attitude change, the authors did find that the ten minute forewarning made subjects more resistant to attitude change than the subjects who received no warning. It might be argued that forewarning a subject as to the content of the message allows him time to marshal counterarguments to refute the communicator's arguments. Although Freedman and Sears neither provided nor measured counterarguments they did allow the subject time to develop his own counterarguments.

Janis and Terwilliger (1962), in studying the effects of various fear appeals on attitude change, developed a device termed the "auditory feedback suppressor", which allowed a subject to speak without hearing himself. It was hoped that this device would make overt any covert thoughts or ideas concerning the communication. Subjects heard either a high or low fear arousing communication regarding smoking and cancer. Janis and Terwilliger found that low threat was more effective in changing attitudes than high even though this finding is tempered by its low level of significance \( p < .10 \). However, the authors found that there were more
communication rejection statements in the high threat condition than in the low threat condition. If these rejection statements may be termed counterarguments, then this study also provides some evidence that counterarguing mediates resistance to attitude change.

Having demonstrated indirect support for the counterarguing mediator position, it becomes relevant to ask what determines counterargument production. Perhaps counterarguing functioned as a mediator of attitude change in the Festinger and Maccoby (1964) study and yet not in other studies because counterarguing is a salient response only under a set of limited conditions. In investigating these limited conditions, Brock (1967) hypothesized that as the discrepancy between the subject's position on a given issue and that advocated by the persuasive communication increases, the amount of counterg-argument production increases. Brock told subjects that they would be reading a message advocating a tuition increase at their university. Discrepancy was varied by proposing different amounts of increase. Before reading the actual message, subjects were asked to list "thoughts and ideas" concerning the tuition increase. These thoughts and ideas were subsequently scored for counterg-argument production. His results clearly indicated that counterg-argument production increases directly with discrepancy.

If counterg-argument increases as discrepancy increases, then distraction, by interfering with counterg-argument production, is likely to lead to reduced resistance to attitude change only
when discrepancy is moderate to high. If the discrepancy is insufficient to evoke much counterarguing, then distraction should have little effect on attitude change through the counterargument mediator. It should be remembered that in the Festinger and Maccoby (1964) study, fraternity and non-fraternity men were distracted while listening to a strongly worded anti-fraternity communication. If, in fact, discrepancy is important, distraction should lead to increased attitude change for fraternity men and no change for non-fraternity men since the message was clearly discrepant for the former group and probably not very discrepant for the latter group. Inspection of the Festinger and Maccoby results indicate that fraternity men who were distracted did change their attitudes more than non-distracted fraternity men, and that there were no differences in attitude change for non-fraternity men.

The issue employed in the Gardner (1966) research was only mildly discrepant since the message advocated the second most desirable movie from a list of five. While Gardner did not find any effect of distraction on attitude change, he did find that distracted subjects recalled less of the content of the message than did non-distracted subjects. These results appear to indicate that when discrepancy is low, one attends more to the distraction and thus does not comprehend the message.

Haaland and Vankatesan (1968) had subjects listen to either pro or con messages concerning an 18 year old voting age. Subjects were divided into the pro or con message groups on the basis of an issue pretest. Since all subjects who
responded on the con side of the mid-point of a seven point scale were placed in the pro message group and subjects on the pro side were placed in the con group, the message was highly discrepant for only those subjects with highly polarized attitudes. Therefore, it is felt that on the average the degree of discrepancy between a subject's initial position and that advocated by the communication is only mild, or perhaps moderate. Recalling Brock's (1967) findings on discrepancy and counterargument production, it should be noted that a mild discrepancy only evokes minimal counterarguing. If reduced counterarguing mediates the effect of distraction on attitude change and mild discrepancy only evokes minimal counterarguing, it is probable that distraction does not affect attitude change through the counterarguing mediator at mild discrepancy levels. Yet the Haaland and Vankatesan results indicated that distraction reduced attitude change. They also found that distraction interfered with message comprehension. This pattern of findings can be explained if one assumes that with a mildly discrepant message subjects attend more to the distraction than to the message, a tendency which reduces comprehension and thus attitude change.

In conclusion, previous research supports the hypothesis that the amount of discrepancy determines whether or not counterarguments are produced, and, therefore, whether or not distraction reduces resistance to attitude change by reducing counterargument production. If discrepancy is sufficient to evoke counterarguments (moderate to high), and distraction
interferes with counterargument production, then reduced counterarguing should lead to reduced resistance to persuasion. If the discrepancy is mild, counterarguments are not evoked to any great extent and therefore are unable to affect attitude change. In the mild discrepancy condition, if the distraction is sufficiently interesting, the subject may attend more to the distraction than to the communication. Increased attention to the distraction may result in reduced message comprehension. The previous two sentences are logical if one assumes that a mildly discrepant communication is neither as interesting nor as attention arousing as a highly discrepant communication. If the reduced attention assumption is correct, the mild discrepancy conditions should show reduced message comprehension.

The present study will investigate these predictions by systematically varying discrepancy and by including measures of attitude change, counterarguing, and message comprehension.

METHOD

Subjects

Subjects (N = 133) were students at the University of Massachusetts, approximately half of which were fulfilling an experimental participation requirement in introductory psychology. Other subjects recruited from the dormitories participated voluntarily. Subjects were randomly assigned to the experimental conditions described below so that each condition contained nineteen subjects. For convenience, subjects were run in small groups varying in size from 1 to 7.
Design

The design was a 2 X 3 factorial with two distraction conditions (present or absent) and three discrepancy levels (low, moderate, or high) as the independent variables. Since subjects were not pretested, an additional group of nineteen subjects served as controls. The control group simply filled out a series of attitude scales to obtain a base line attitude from which change could be measured.

Manipulations

Distraction. Distraction, as in previous research (Festinger and Maccoby, 1964; Haaland and Vankatesan, 1968), consisted of a humorous film (Overs and Outs) upon which was superimposed a persuasive communication. Non-distracted subjects viewed a film of the communicator presenting his speech. All films were taped on 1/2 inch Scotch Video Tape and presented on an 18 inch television monitor connected to a Sony AV-3200 Video Tape Recorder.

Discrepancy. Results of an issue pretest conducted with a different group of subjects indicated that students were initially opposed to increasing the amount of time faculty members should be required to spend conducting research and reducing the amount of time faculty members spend teaching. Therefore, since this topic is clearly counterattitudinal, a ten minute communication was developed advocating increased research time for faculty members. Discrepancy was varied by manipulating the percentage of time that the communication advocated faculty should spend in the laboratory as opposed
to the classroom. The communication stated that presently faculty are required to spend 35 percent of their time conducting research and 65 percent of their time teaching. A series of consistent and logical arguments were then presented to the effect that the research percentage should be increased. It was felt that the cogency of these arguments would prevent any outright rejection of the communication. At the end of the communication specific recommendations concerning the research-teaching issue were made. In the low discrepancy condition, it was recommended that 45 percent of a faculty member's time should be spent doing research and 55 percent of his time should be spent teaching. In the moderate discrepancy condition, the advocated split was 60 percent for research and 40 percent for teaching. In the high discrepancy condition, the communicator argued for increasing research time to 75 percent and reducing teaching time to 25 percent.

**Procedure**

Subjects in small groups were seated in front of a television set. The experimenter introduced himself and then explained that he was conducting an evaluation of a proposed Educational Television series. Subjects were given the following instructions.

You will shortly be viewing a pilot program for a projected Educational Television series concerning the quality of academic life. Since the sponsors would like some type of evaluation of the program before it is publicly presented, the Psychology Department has volunteered to conduct an evaluation. So, I would like you to carefully watch the program and then fill out a questionnaire at its conclusion. This particular program concerns faculty time spent
on teaching and research. The speaker is Dr. Andrew Sherwood, Assistant Professor of Psychology at UCLA. Subjects were also told that the communicator would be reading his talk and thus there were some errors in pronunciation as well as pauses. In addition subjects were warned that they may see something unusual since ETV was studying different types of presentation.

At this point the television was turned on and the subjects viewed a program fulfilling the requirements of one of the six experimental groups mentioned above. At the completion of the program, subjects were handed a booklet containing the dependent measures described more fully below. After they had completed all the scales in the booklet, subjects were fully debriefed as to the manipulations and purposes of the experiment and dismissed. Control group subjects were not given the above instructions but merely told that they were to complete a series of questions concerning the quality of academic life. As with the others, control subjects were debriefed as to the purposes and manipulations of the experiment.

Dependent Measures

Attitude. Attitude toward the communication was determined by a single attitude item. Subjects indicated their feelings by checking any position along a seven point response scale. The end points of the scale were labeled either "completely agree" or "completely disagree". Specifically, the item asked the subjects if they felt that faculty members should spend more time doing research and less time teaching.
Comprehension. As a check on whether or not subjects comprehended the message, subjects were asked to list as many of the arguments presented in the speech as they could remember. In addition, six multiple choice type items were included to check the comprehension of specific facts in the communication.

Counterargument Production. Subjects were asked to respond with either a "yes" or "no" to a question asking them if they had any "thoughts, ideas, or reactions to the communication while listening to it." If a subject answered "yes", he was asked to estimate the percentage of his reactions which were relevant to the communication. In addition, he was asked to list these relevant thoughts and ideas which had occurred to him while listening to the persuasive communication. A lined page in the booklet was provided for these reactions with the word "idea" to the left of each line. In one analysis these ideas were scored as counterarguments according to the criteria described by Brock (1967). To be scored as a Brock counterargument, the idea must have been a declarative statement specifically against increasing faculty research time which mentions an undesirable consequence of such an action. Simple statements of opposition, statements in favor of the communication, and alternative proposals were not counted as Brock counterarguments. If two or more Brock counterarguments were similar, they were counted as one single counterargument.

These "ideas" were also scored for message and source rejection counterarguments. To qualify as a message rejection
counterargument the declarative statement must have expressed some doubt as to the veracity of either the total communication or a specific argument contained within the communication. Moreover, the sentence must not have indicated an undesirable consequence of adopting the communication recommendation. Doubt could be expressed through either outright rejection (e.g., "I don't believe....") or by expressing reservations (e.g., "I doubt that......"). To be scored as a source rejection counterargument the sentence must contain some type of source derogation. While these two classifications do not involve specifying an undesirable consequence of adopting the recommendation, they do provide a means of coping with a counterattitudinal communication and are thus types of counterarguments.

Other Measures. In addition to the preceding, measures of source rejection, message rejection, recall of message recommendation, and the degree to which the distraction was perceived as distracting were obtained. Also, a measure designed to tap the reinforcement value of the humorous film presentation was included. These measures were included to give an additional check on the effects of the various manipulations.

Finally, subjects were asked to describe the purposes of the study in order to determine if there was any awareness of the experimental hypotheses.

RESULTS

A series of analyses of variance was calculated to
determine the effectiveness of the independent variable manipulations. A measure of the degree to which the presentation was found to be distracting yielded a highly significant main effect of distraction ($F = 117.07$, $df = 1/108$, $p < .001$). This main effect indicated that viewing a humorous film while listening to a communication was much more distracting than simply viewing a communicator present a message. In addition, an estimate of how much time each subject spent thinking about the message while it was being presented yielded a strong main effect of distraction ($F = 26.43$, $df = 1/108$, $p < .001$) with distraction inhibiting thought about the communication. Thus, both measures are indicative of a strong distraction manipulation. Measures asking subjects to state the advocated percentages of time to be spent on teaching and research for the messages they heard resulted in significant main effects of discrepancy for both the teaching recommendation ($F = 387.50$, $df = 2/108$, $p < .001$) and the research recommendation ($F = 341.45$, $df = 2/108$, $p < .001$). While the teaching recommendation measure did not yield any other effects, the research recommendation measure did result in a significant interaction ($F = 3.51$, $df = 2/108$, $p < .05$) between distraction and discrepancy. Inspection of the cell means indicated that distracted subjects inflated the research recommendation manipulation at mild discrepancies ($\bar{X} = 48.16$), recalled the recommendation almost perfectly at moderate discrepancy, and overrecalled it at high discrepancy ($\bar{X} = 72.89$). No distraction subjects underrecalled the research recommendation
manipulation at low discrepancy ($\bar{X} = 44.74$) and specified it almost perfectly at moderate and high discrepancy levels. Since deviations from the manipulated discrepancy levels are slight, the manipulation was still highly significant for both levels of distraction.

The attitude data (Table 1) did not yield significant main effects of either distraction or discrepancy. Moreover, there was no interaction. However, a Dunnett's test demonstrated that each experimental group differed from the control group at

Insert Table 1 about here

at least the .01 level on the attitude measure which attests to the persuasive impact of the message. A comprehension measure requesting a list of the specific arguments used in the communication yielded a significant effect of distraction ($F = 8.46$, $df = 1/108$, $p < .01$) as did scores from a series of multiple choice comprehension questions ($F = 6.12$, $df = 1/108$, $p < .05$). Both measures indicated that the distracted subjects were less able to comprehend the message. Summing the two comprehension measures also yielded a highly significant main effect of distraction ($F = 11.57$, $df = 1/108$, $p < .005$) confirming the previous findings. Table 2 presents the combined comprehension score means for the experimental groups.

Insert Table 2 about here

Table 3 presents the data for the three types of counterarguments as well as the mean total counterarguments for each
experimental condition. Since the data for each of the three types of counterarguments (Brock, message rejection, and source rejection) were nearly dichotomous with many subjects making only one counterargument while others failed to counterargue, the F statistic was inappropriate. Therefore, a \( X^2 \) for multiple classification designs (Sutcliffe, 1957) using a yes-no classification pooling all subjects who counterargued and all subjects who did not counterargue was computed for each type of counterargument. Analysis of the counterargument data scored according to criteria established by Brock (1967) indicated weak effects of both distraction (\( X^2 = 2.89, df = 1, p < .10 \)) and discrepancy (\( X^2 = 5.70, df = 2, p < .10 \)) in the expected directions and no interaction. That is to say, fewer subjects counterargued in the distraction condition and the frequency of subjects who did counterargue increased as discrepancy size increased. The \( X^2 \) analysis for source rejection counterarguments yielded a significant main effect of distraction (\( X^2 = 5.59, df = 1, p < .01 \)) with more subjects in the no distraction condition rejecting the source. A \( X^2 \) analysis for message rejection counterarguments resulted in no significant effects. Inspection of the data indicated that summing all counterarguments yielded a distribution of total counterarguments which did not seriously deviate from normality. Therefore, an analysis of variance was computed for these data and resulted in a significant main effect of distraction (\( F = 7.34, df = 1/108 \),
p < .01) with distracted subjects counterarguing less.

When the source rejection items were summed and an analysis of variance calculated, a significant interaction between distraction and discrepancy ($F = 4.94, df = 2/108, p < .01$) resulted. Table 4 presents the mean source rejection scores for all experimental conditions. Tests of the simple effects of distraction at levels of discrepancy indicated that the only significant effect of distraction occurred at the high discrepancy level ($F = 7.66, df = 2/108, p < .001$), with $\bar{X} = 7.26$ for no distraction, high discrepancy and $\bar{X} = 9.63$ for distraction, high discrepancy. Similarly, message rejection items were summed before an analysis of variance was computed. While message rejection scores did not result in any significant effects, the pattern of message rejection means did parallel the pattern obtained for source rejection means. Finally, an analysis of variance calculated for a measure designed to tap the reinforcement value of distraction yielded a main effect of distraction ($F = 6.15, df = 1/108, p < .05$). This final analysis of variance indicated that a humorous film distraction was found to be aversive rather than reinforcing.

A series of correlations between attitude change and responses that are potential mediators of the effect of distraction on attitude change was examined. Combined comprehension, total counterarguing, source rejection, and reinforcement value of distraction were selected as potential mediators
since all exhibited significant effects of distraction in the analyses of variance. Table 5 presents the correlations between attitude scores and these potential mediators for both distraction conditions as well as collapsed over all subjects. The reported correlations are pooled over discrepancy levels. Inspection of Table 5 indicates that the correlations between attitude scores and combined comprehension are all non-significant. Thus, there is no consistent relationship between these two measures in this study. The highly significant correlations between attitude scores and total counterargument production indicates that the more one is able to counterargue the communication, the less he accepts it. The correlations between attitude scores and source rejection are weak although the correlation collapsed over all subjects is significant due to an increase in the df. The latter correlation indicates that the more one rejects the source, the less likely he is to accept the communication. All correlations between attitude scores and the reinforcement value of distraction are non-significant indicating no clear relationship between these two measures.

DISCUSSION

Festinger and Maccoby (1964) hypothesized that distraction, by interfering with counterargument production, leads to increased attitude change. Haaland and Vankatesan (1968), however, found a decrease in attitude change for distracted subjects and concluded that distraction, by reducing message
comprehension, leads to reduced attitude change. The present investigation takes the point of view that these two studies might be compatible if counterargument production is elicited under a limited set of conditions. Recalling Brock’s (1967) findings that counterargument production increases as the discrepancy between the subject’s own position and that advocated by the persuasive communication increases, it was decided that discrepancy could be the variable which could resolve the conflicting experimental results. Thus, the present study was conducted. It was hypothesized that distraction would yield increased attitude change in those discrepancy conditions (moderate and high) in which counterarguing would be strongly evoked. In the low discrepancy condition where counterarguing would not be evoked to any extent, distraction should lead to reduced attitude change. Unfortunately, the attitude measure in this study did not yield any significant main effects or an interaction. An explanation of the non-significance of this measure will be proposed later in this section. However, comprehension measures did indicate that distracted subjects were less able to comprehend the message. A measure of total counterarguing also resulted in a main effect of distraction with distracted subjects less able to counterargue. The $X^2$ analyses of the three types of counterarguments yielded mixed results. While analysis of Brock counterarguments resulted in weak effects of both distraction and discrepancy at the .10 level of significance, analysis of message rejection counterarguments
resulted in no significant effects. However, the analysis of source rejection counterarguments yielded a significant main effect of distraction.

In addition to the preceding, two other measures yielded interesting effects. The first, a measure of the reinforcing value of a humorous film distraction, indicated that the distraction was found to be aversive rather than reinforcing. The second, a measure of source rejection, yielded a significant interaction between distraction and discrepancy. This interaction which was not predicted may be related to the fact that the distracting presentation was found to be more aversive than the non-distracting one. Possibly, subject reactions to a highly discrepant communication coupled with a presentation found to be aversive combined to yield an especially strong source rejection response for distracted subjects at the high discrepancy level. Inspection of the data indicates that this interpretation is at least plausible. The implications of the source rejection measure for the attitude data will be explored later in this section.

Unfortunately, the predicted discrepancy interaction between distraction and discrepancy with distracted subjects counterarguing less and non-distracted subjects counterarguing more as discrepancy increased failed to materialize. However, it should be noted that Brock counterarguments yielded a weak effect of discrepancy (.10 level of significance) which lends some support to Brock's (1967) findings that counterarguing increases with discrepancy. The overall failure of
discrepancy to yield significant results could be attributed to a general failure of the discrepancy manipulation. However, the appropriate manipulation checks indicated that this interpretation is unlikely since subjects did perceive the intended differences in the various discrepancy recommendations. Since subjects were informed of both the general recommendation of the communication as well as the discrepancy recommendation specific to an experimental condition, it could be argued that the subjects rejected so strongly the general recommendation that research time be increased that the specific recommendation designed to manipulate discrepancy had no impact on attitude. However, this interpretation tends to be contradicted by the results of the Dunnett's tests (comparing each experimental group's attitude scores with those of the control group) which indicated that the communication did have a significant impact on subjects' attitudes.

The failure of the discrepancy manipulation to yield significant effects becomes more understandable if one views the message recommendation as an attack on a type of cultural truism (McGuire, 1964). In his development of inoculation theory, McGuire defines a cultural truism as a widely held belief which is rarely, if ever, attacked. However, when attacked, cultural truisms are more susceptible to change than are other beliefs because the subject lacks counter-arguments in his cognitive files to refute the attack. Since the teaching-research issue is a lively topic of controversy
on many university campuses, one might argue that subjects would have readily available numerous counterarguments concerning the issue. However, debate on the issue usually centers around how much faculty members should increase teaching time and decrease research time, which is the opposite of the general recommendation. Since rarely is anyone heard advocating an increase in research time while decreasing teaching time, there is little reason for subjects to have available refutational arguments to counter the advocated position. Therefore, it is felt that the general message recommendation could constitute an attack on a cultural truism, for which subjects had few refutational arguments to counter the message. The extremely low frequency of counterarguing in general and Brock counterarguments specifically (see Table 3) is indicative of a lack of appropriate counterarguments in a subject's cognitive file. Thus, without counterarguments in a subject's cognitive file, it was impossible for the discrepancy manipulation to operate. In order to determine whether discrepancy is simply not of importance as an elicitor of counterarguments in the distraction situation or whether discrepancy failed to operate in the predicted manner due to the issue employed, further research should be conducted. In order to examine this explanation, future research should use a larger sample of subjects as well as employing a counterattitudinal issue for which a subject's exposure to counterarguments is experimentally manipulated.
The failure of the attitude measure to yield significant effects is puzzling. It is possible that some or all of the four proposed mediators (combined comprehension, total counter-argument production, source rejection, and the reinforcement value of distraction) of the effects of distraction upon attitude change combined psychologically in such a manner as to cancel one another's effects on attitudes. In order to investigate the effects of these potential mediators of attitude change, certain correlational data were computed. However, in an after-only experimental design such as the present study, correlations involving attitudes need to be interpreted with reservation since they may, in part, reflect how an initial position on a given issue correlates with another variable rather than how attitude change relates to the other variable. This interpretation is inconsistent, however, with the fact that the variance of the attitude scores in the control group was very small ($\bar{X} = 6.26$, $SD = .97$) and significantly different from the experimental groups ($\bar{X} = 3.98$, $SD = 1.69$) by an $F$ test ($F = 3.04$, $df = 113/17$, $p < .01$). Therefore, individual differences in attitude scores in the experimental groups primarily represent attitude change.

It should be remembered that Haaland and Vankatesan (1968) proposed that comprehension mediates the distraction effects resulting in reduced attitude change for distracted subjects. While the results of the present study confirmed that distracted subjects comprehended less, the correlations
between attitude scores and combined comprehension yielded no significant relationships between these two variables. Therefore, the assumption that comprehension mediates attitude change appears to be unwarranted at least in this study.

It is also possible to argue that the predicted effects of distraction upon attitude change are mediated by the reinforcing value of the humorous film distraction. For example, since the film is enjoyable and humorous, it could put the subject in a pleasant frame of mind which could in turn make him more receptive to a counterattitudinal communication. In this study, a measure of the reinforcing value of distraction indicated that the distraction presentation was more aversive than the no distraction presentation. However, correlations between this variable and attitude scores were not significant. Thus, it would appear that in this study the reinforcement value of the distraction is not an important mediator of attitudes.

Festinger and Maccoby (1964) claimed that the correlations between attitude scores and source rejection provided indirect evidence that counterarguing mediated the effect of distraction on attitudes. However, the correlations between attitude scores and source rejection in the present study were not significant for either the distraction or the no distraction conditions. (Nevertheless, there was a significant correlation between attitude and source rejection data pooled over all subjects.) Direct evidence that distracted subjects were less able to counterargue the communication was found in the analysis of variance for
total counterarguing. Moreover, both Brock and source rejection counterarguments yielded $X^2$ effects of distraction although the former measure only reached the .10 level of significance. In addition, correlations between attitude scores and total counterarguing resulted in highly significant and consistent relationships. The more one counterargued the message, the less likely he was to accept it.

Since both source rejection and total counterargument production resulted in significant correlations with attitude scores, these mediators should be examined carefully in order to determine if they could have canceled one another's effects on attitude. Such a cancellation could have resulted in non-significant attitude effects even though distraction had a significant effect on some mediators. It should be remembered that source rejection yielded a significant interaction between distraction and discrepancy. Although the interaction between distraction and discrepancy for total counterarguing failed to reach significance, the pattern of cell means was similar to that obtained for source rejection in that the largest differences occurred at the high discrepancy level. In other words, the distracted subjects rejected the source more than the non-distracted subjects at the high discrepancy level while they also counterargued less. According to the correlational data, there is at least weak evidence that increased source rejection inhibits attitude change and there is stronger evidence that increased counterarguing enhances attitude change. Since the impact of these two
mediators is greatest at the high discrepancy level, it is conceivable that source rejection and total counterarguing canceled each other's effects upon attitude change resulting in the non-significant effects of the independent variables upon attitude change.

In conclusion, it is felt that while no effects of distraction upon attitude change were obtained, valuable insights into the operation of certain mediators were gathered from the correlational data. Comprehension was found to have little effect upon attitude change while counterarguing yielded a strong relation to attitude change. Distraction was found to be aversive and source rejection had a weak relation to attitude change. Further research can do much to specify the precise roles of these mediators in attitude change studies. Specifically, it was suggested that one approach to specifying the role of discrepancy in eliciting counterarguing is to experimentally vary the subject's exposure to message counterarguments. Other approaches to the study of the mediators of attitude change are left to the individual experimenter.
TABLE 1

Mean Posttest Attitude Scores

<table>
<thead>
<tr>
<th></th>
<th>Low Discrepancy</th>
<th>Moderate Discrepancy</th>
<th>High Discrepancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Distraction</td>
<td>3.84</td>
<td>4.00</td>
<td>3.63</td>
</tr>
<tr>
<td>Distraction</td>
<td>4.21</td>
<td>4.05</td>
<td>4.15</td>
</tr>
</tbody>
</table>

Note: The lower the score, the more the attitude change.
TABLE 2

Mean Combined Comprehension Scores

<table>
<thead>
<tr>
<th></th>
<th>Low Discrepancy</th>
<th>Moderate Discrepancy</th>
<th>High Discrepancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Distraction</td>
<td>7.63</td>
<td>7.58</td>
<td>8.32</td>
</tr>
<tr>
<td>Distraction</td>
<td>6.68</td>
<td>6.74</td>
<td>6.47</td>
</tr>
</tbody>
</table>

¹Note: The higher the score, the more the comprehension.
<table>
<thead>
<tr>
<th></th>
<th>Mean Total Counterarguments</th>
<th>Source Rejection</th>
<th>Message Rejection</th>
<th>Block</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.29</td>
<td>6</td>
<td>12</td>
<td>6</td>
<td>High</td>
</tr>
<tr>
<td>2.21</td>
<td>4</td>
<td>14</td>
<td>3</td>
<td>Moderate</td>
</tr>
<tr>
<td>3.29</td>
<td>3</td>
<td>14</td>
<td>2</td>
<td>Low</td>
</tr>
<tr>
<td>4.68</td>
<td>8</td>
<td>18</td>
<td>9</td>
<td>High</td>
</tr>
<tr>
<td>3.47</td>
<td>6</td>
<td>13</td>
<td>6</td>
<td>Moderate</td>
</tr>
<tr>
<td>3.79</td>
<td>6</td>
<td>16</td>
<td>4</td>
<td>Low</td>
</tr>
</tbody>
</table>

and source rejection) and the mean total counterarguments (block, message rejection).
TABLE 4

Mean Source Rejection Scores\(^1\)

<table>
<thead>
<tr>
<th></th>
<th>Low Discrepancy</th>
<th>Moderate Discrepancy</th>
<th>High Discrepancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Distraction</td>
<td>8.95</td>
<td>8.84</td>
<td>7.26</td>
</tr>
<tr>
<td>Distraction</td>
<td>8.53</td>
<td>7.68</td>
<td>9.63</td>
</tr>
</tbody>
</table>

\(^1\) Note: The higher the score, the more the source rejection.
### TABLE 5

Summary of Correlations between Attitude Scores and Potential Mediators of Attitude Change<sup>1</sup>

<table>
<thead>
<tr>
<th></th>
<th>No Distraction</th>
<th>Distraction</th>
<th>All Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Combined</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comprehension</td>
<td>.24 (55)</td>
<td>-.04 (55)</td>
<td>.06 (112)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Counterarguments</td>
<td>.36** (55)</td>
<td>.49** (55)</td>
<td>.39** (112)</td>
</tr>
<tr>
<td><strong>Source</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rejection</td>
<td>.19 (55)</td>
<td>.24 (55)</td>
<td>.22* (112)</td>
</tr>
<tr>
<td><strong>Reinforcement</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value of Distraction</td>
<td>.05 (55)</td>
<td>.24 (55)</td>
<td>.14 (112)</td>
</tr>
</tbody>
</table>

<sup>1</sup>Note: Numbers in parentheses indicate df.

* p < .05

** p < .01
REFERENCES


Baron, R. S. and Miller, N. Distraction, communicator credibility and attitude change. Unpublished manuscript, University of Minnesota, 1968.


Miller, N. and Baron, R. S. Communicator credibility as a mediator of "distraction" effects in studies of persuasion. Unpublished manuscript, University of Minnesota, 1968.
