MICROFILMED
BY
CENTRAL MICROFILM UNIT
PUBLIC ARCHIVES
OF
CANADA
OTTAWA, ONTARIO

MICROFILMÉ
PAR LE
SERVICE CENTRAL DU MICROFILM
ARCHIVES PUBLIQUES
DU
CANADA
OTTAWA, ONTARIO

Aug-23-1971 **DATE**

REDUCTION *15x*

H. Hilbert **OPERATOR**
OPÉRATEUR

EXPOSURE *3.2*
EXPOSITION

ARC-178(1/66)

**NATIONAL LIBRARY
OF CANADA**

**CANADIAN THESES
ON MICROFILM**

**BIBLIOTHÈQUE
NATIONALE
DU CANADA**

**THÈSES CANADIENNES
SUR MICROFILM**

No

8 3 8 2

NATIONAL LIBRARY
OTTAWA

BIBLIOTHÈQUE NATIONALE
OTTAWA

8382

NAME OF AUTHOR.....*Michel Girard*.....
TITLE OF THESIS..THE...CONFLICT...THEORY...APPROACH
...TO...ATTITUDE...CHANGE...IN...FORCED
...COMPLIANCE...SITUATIONS.....
UNIVERSITY...*Carleton*.....
DEGREE FOR WHICH THESIS WAS PRESENTED....*Ph.D.*.....
YEAR THIS DEGREE GRANTED....*1971-72*.....

Permission is hereby granted to THE NATIONAL LIBRARY
OF CANADA to microfilm this thesis and to lend or sell copies
of the film.

The author reserves other publication rights, and
neither the thesis nor extensive extracts from it may be
printed or otherwise reproduced without the author's
written permission.

(Signed) *Michel Girard*.....

PERMANENT ADDRESS:

*131...Parkdale Ave
Apt #34
Ottawa, Ontario*

DATED *May 1.7*.....19 *71*

NL-91 (10-68)

A CONFLICT-THEORY APPROACH TO ATTITUDE
CHANGE IN FORCED COMPLIANCE
SITUATIONS

by

Michel Girodo
B.A., M.A.

A thesis submitted to the Faculty of
Graduate Studies in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy

Department of Psychology

Carleton University

Ottawa, Ontario

December 1 , 1970

The undersigned recommend to the Faculty
of Graduate Studies acceptance of the thesis
"A Conflict-Theory Approach to Attitude
Change in Forced Compliance Situations"
submitted by Michel Girodo, B.A., M.A., in
partial fulfilment of the requirements for the
degree of Doctor of Philosophy

.....
Thesis Supervisor

.....
Chairman, Department of Psychology

Carleton University

MARCH 1, 1971

ABSTRACT

Attitude change following forced compliance was studied in a 4 x 2 x 2 x 2 x 2 design. Using one of four predesignated issues under two levels of incentive, subjects who had previously expressed either high or low interest in the issue, were invited to make a counterattitudinal tape recording. Half of the groups originated their own arguments while half read someone else's arguments. Half of the subjects actually engaged in the role playing while half simply committed themselves to the task prior to receiving a posttest questionnaire. It was found that argument origination, role playing performance, and high incentive levels, were potent forces in promoting attitude change. High interest subjects generally showed more attitude change than low interest subjects. Both positive and negative relations between magnitude of incentive and attitude change were obtained. These results were found to be consistent with a conflict theory interpretation which relegates cognitive dissonance phenomena to a "special case" interpretation. Some theoretical and metatheoretical implications of the results are discussed.

ACKNOWLEDGEMENTS

I wish to acknowledge my special debt to the following persons without whom this study would not have been conducted.

To Associate Professor Lloyd H. Strickland, Ph.D., of the Department of Psychology of Carleton University, Ottawa, my research supervisor. I am especially grateful for valuable direction and for having stimulated me in the area of social psychology and attitude change.

To Associate Professor William E. Walther, Ph.D., of the Department of Psychology of Carleton University for making his students available as subjects, to the subjects themselves who so willingly served and provided the data for the experiment, and to my colleagues and friends who tolerated me throughout the execution of this study.

I am especially indebted to Miss Barbara Jo Haines who contacted the subjects and who provided the support needed to make my friends and colleagues appear more tolerable to me.

TABLE OF CONTENTS

Chapter	Page
I INTRODUCTION AND REVIEW OF THE LITERATURE	
Studies in Forced Compliance.....	7
Incentive Theory: An Alternative Explanation.....	14
A Conflict-Theory Interpretation of Forced Compliance.	23
Conflict, Dissonance, and Attitude Change Via Role	
Playing.....	26
II METHOD	
Subjects.....	36
Procedure.....	40
III RESULTS.....	43
IV DISCUSSION	
Implications for Conflict Theory.....	58
Implications, Conclusions and Conjectures.....	64
BIBLIOGRAPHY.....	70
Appendix	
1. INSTRUCTIONS GIVEN TO TEST-RETEST SUBJECTS.....	74
2. LIST OF POINTERS FOR EACH ISSUE.....	76
3. ORIGINAL COPIES OF FOUR POSTTEST QUESTIONNAIRES USED...	78
4. INTERACTIONS BETWEEN SUBJECT AND EXPERIMENTER.....	94
5. RAW DATA AND CELL MEANS.....	98
6. INSTRUCTIONS TO JUDGES AND SCALES USED.....	99
7. COPY OF PRETEST QUESTIONNAIRE.....	100 101

LIST OF FIGURES

Figure	Page
1. Illustration of the experimental design.....	37
2. The interaction effect between magnitude of incentive and interest in the issue on mean attitude change.....	45
3. The interaction effect between magnitude of incentive and improvization on mean attitude change.....	47
4. The interaction effect between role playing and improvization on mean attitude change.....	49
5. The interaction effect of incentive, role playing, and improvization on mean attitude change.....	50
6. The interaction effect of magnitude of interest in the issue, role playing, and improvization on mean attitude change.....	52
7. The interaction effect of magnitude of incentive, role playing interest in the issue, and improvization on mean attitude change.....	54

LIST OF TABLES

Table	Page
1. Summary of Analysis of Variance for posttest scores.....	44

CHAPTER 1

INTRODUCTION AND REVIEW OF THE LITERATURE

In 1957, Leon Festinger formulated a theory of cognitive dissonance to account for changes in attitude caused by posited cognitive inconsistency within the human organism. The central assumption of his theory is that human beings cannot "tolerate" inconsistency and that whenever such inconsistency is present in a person he will be motivated in a specific direction to reduce the unpleasant tension produced by the inconsistency.

The theory states that cognitive dissonance (psychological inconsistency) exists whenever one cognitive element conflicts with (is dissonant with) another cognitive element. Stated formally, "...two elements are in a dissonant relation if, considering these two alone, the obverse of one follows from the other." (Festinger, 1957, p. 13). These elements are bits of knowledge, beliefs or opinions about the external world or about oneself. A consonant relationship exists between two cognitive elements, A and B, if having cognition A follows from cognition B. A dissonant relationship exists between two cognitive elements when a person possesses a cognition which follows from the obverse of another that he possesses. For example, holding cognition A, "Smoking cigarettes causes lung cancer" and cognition B, "I smoke a pack of cigarettes a day" would be dissonance producing, since the obverse¹

1. It has been noted that "obverse" is not what Festinger really meant. Kiesler, Collins and Miller (1969) point out that this term is misused in dissonance theory. In point of fact, the obverse of the proposition "All A is B" is "No A is not B"--clearly not what Festinger intended to mean. Perhaps the words "opposite" or "negative" would be better.

of cognition B (I don't smoke) follows from cognition A. Cognitions which form neither consonant or dissonant relationships are said to be irrelevant; i.e., "I am against the war in Viet Nam", and "I enjoy Fellini films".

The magnitude of dissonance which the human organism experiences is a function of three conceptual variables. The first of these is the importance of each of the cognitive elements for the particular individual. For example, our hypothetical smoker might not find holding the two cognitions, "I smoke", and "Smoking is related to lung cancer" dissonance producing if he were eighty years old and felt he had lived a full life. Here, the importance of these cognitions would not be as great as they would be for a younger person who had a whole life ahead of him.

The second variable which determines the amount of dissonance is conceptualized in terms of the ratio of dissonant to consonant elements a person is experiencing at any one time. The greater this ratio, the greater the amount of felt dissonance. Returning to our hypothetical smoker who holds the cognition which relates smoking to general health, we find that if he adds a third cognition, "I don't inhale", a smaller magnitude of dissonance would be experienced. This is because adding the third cognition increases the number of consonant elements. "Smoking is injurious to my health" is consonant with "I don't inhale". In this example, the ratio of dissonant to consonant elements is smaller than the ratio in a person who did not generate this third cognition.

The third conceptual variable related to the magnitude of dissonance that can be experienced is termed cognitive overlap. This term refers to the extent to which objects associated with cognitions have common attributes.

The greater the cognitive overlap (or similarity), the less the dissonance. For instance, if one is offered a choice between a free ticket to a Football Game or a free ticket to a concert and a selection has to be made between these two equally attractive alternatives, more dissonance will be created after having made a choice that would result from two equally attractive alternatives consisting of a football ticket or a new hat. This greater dissonance would be due to the fact that a football ticket and a concert ticket have more attributes in common than a football ticket and a new hat. As such, when one chooses between one of two tickets, selecting either one involves the acceptance of part of the rejected other. If one chooses between a free ticket and a new hat, selecting one implies a total rejection of the one not chosen. This latter situation would be more dissonance producing since there is nothing in the rejected alternative which has been kept.

Two additional determinants of cognitive dissonance were discussed by Brehm and Cohen (1962). These refer to the fact that dissonance is more likely to occur in a given situation if a person who makes a decision commits himself to some course of action while remaining aware of his volition to do otherwise. Behavioural commitment, either in terms of public action or overt verbalization is more anchored in external reality than are private covert responses. For example, it would be easier to change one's opinion about the war in Viet Nam if one had never publicly expressed personal beliefs about the war than if one had engaged in public anti-war demonstrations.

This last point raises the issue of dissonance reduction and the manner in which it is brought about. According to the theory, once dissonance is aroused, the individual will be motivated to reduce dissonance. The

strength of the pressure to reduce dissonance is a direct function of the magnitude of dissonance experienced. Festinger lists three major ways in which dissonance may be reduced.

1. By changing one or more of the elements which contribute to the dissonance; e.g., "I really don't believe there is a connection between cigarette smoking and lung cancer".
2. By adding new cognitive elements that are consonant with already existing cognitions. ("I don't inhale").
3. By decreasing the importance of the elements involved in the dissonant relations. ("Anyway, we can't all live forever").

Cognitive dissonance theory has specified two classes of decision-making situations as relevant areas of application: free-choice decision-making and forced public compliance.

An example of the first might occur when a person is put in a position where a choice must be made between two equally attractive objects, e.g., two record albums. In a situation of this kind, where there are both positive and negative aspects associated with each album, choosing one of them is potentially dissonance producing. Album A may contain good songs while album B may have been recorded by the individual's favourite group. Selecting either album means the loss of the positive qualities of the unchosen album, and this is dissonant with the knowledge that that album was not selected. Specifically, choosing album A is dissonant with the fact that the album recorded by the person's favourite group was rejected. Festinger postulates that in these post-decisional situations dissonance may be reduced by increasing the attractiveness of the chosen

alternative (this album was on sale), or by decreasing the attractiveness of the rejected alternative (I already possess several recordings by this group), or both.

Studies which have dealt with the investigation of revaluation of alternatives following a resolution of this approach-approach conflict have been plagued with methodological difficulties. The basic paradigm employed by researchers in this area consists of (a) a pretest designed to assess the desirability of a number of items or objects, (b) inviting subjects to select for themselves one of two highly rated items, and (c) a posttest to check on the revaluation of the two items after having chosen one of the two alternatives. With this design, a problem arises as to what should be done with subjects who exhibit "choice reversals", specifically, those subjects who fail to choose the alternative initially marked as most liked. The general procedure among investigators in this area (Brehm, 1956; Brehm and Cohen, 1956b; Brock, 1963; Jecker, 1964; Allen, 1964; and Walster, 1964) has been to eliminate these subjects from the analysis. Chapanis and Chapanis (1964) have criticized this operation by stating that selection of subjects on this basis may automatically produce the statistical differences the theory predicts. Briefly, the argument advanced by Chapanis and Chapanis is as follows: When those subjects who do not choose the alternative initially most liked are eliminated from the sample, that part of the distribution of subjects who either decreased their liking of the initially preferred alternative and/or increased their liking of the initially least preferred alternative is curtailed. This has the effect of leaving the subjects who, on the average, increased their liking for the initially most preferred alternative and/or

decreased their liking for the initially least preferred alternative. Consequently, data from these remaining subjects will automatically exhibit the mean differences predicted by the theory; that is, an increased liking for the chosen alternative and a decreased liking for the rejected alternative.

In the Brehm (1956) and Brock (1963) studies it is stated in footnotes that the discarded subjects show the same trends or would not have altered the conclusions had they been included in the overall analysis. In other studies by Deutsch, Krauss and Rosenau (1962) and Davidson and Kiesler (1964) where no subjects were eliminated, their results do lend support to the overall prediction that reevaluation of alternatives does occur after dissonance has been involved. In any event, it is probably safe to maintain that dissonance-reducing revaluation of alternatives does occur in cases where a decision in an approach-approach conflict situation is made.

A second class of decision-making contexts described by dissonance theory has been termed "forced compliance" situations. If an individual is induced to engage in behaviour inconsistent with his own beliefs, he exhibits forced compliance. This type of behaviour is illustrated by the person who is induced through some monetary reward to publicly argue for a point of view he privately does not accept. Research here is concerned with studying dissonance reduction following the resolution of one particular type of approach-avoidance conflict. The individual has the choice of either engaging in the inconsistent behaviour and receiving the monetary reward or not engaging in the inconsistent behaviour and not receiving the reward.

Should the individual elect to engage in the counterattitudinal behaviour, the greater the reward the less the dissonance. If the inconsistent behaviour is not engaged in, the greater the reward the more the dissonance. In the case where a person does engage in counterattitudinal behaviour for a small reward, dissonance theory predicts that dissonance reduction will occur through the changing of the least resistant cognitive element. Since the counterattitudinal advocacy is strongly anchored in an external referent, the least resistant cognitive element (most prone to change) is the person's covert personal opinion responsible for the dissonance. Dissonance reduction, then, will take place by bringing one's personal opinion into line with the advocacy.

Out of the hundreds of research studies dissonance theory has generated, the area perhaps most investigated is the one which deals with reward and forced compliance. Partly because of the numerous studies undertaken in this area and partly because this paper addresses itself primarily to forced compliance situations, a separate section is devoted to a review of the forced compliance literature.

Studies in Forced Compliance

In a study which forms the cornerstone of this whole area of investigation Festinger and Carlsmith (1959) report some findings indicating that forced compliance produced by a small reward results in more dissonance-reducing attitude change than forced compliance produced by a large reward. In their study, individual subjects initially spent one hour working at a task designed to be boring and dull (spool packing and peg turning). At the end of the hour subjects were given a false explanation about the purpose of the experiment. They were told that the purpose of the experiment was to

test the effect of expectation on task performance and that they had served in a control group. At this point the subject was told that he was looking for some help in introducing the next (actually bogus) subject to the experiment. It was explained that the waiting "subject" was in a different experimental condition and that the assistant who normally introduced subjects into this condition had failed to arrive. It was explained to the subject that the assistant's job was to act like a subject who had just completed the experiment and to tell the waiting "subject" that the task was enjoyable and fun. Subjects in the low incentive group were offered One dollar while subjects in the high incentive group were offered Twenty dollars to help the experimenter. It was explained to the subject that the payment was for acting as an assistant at the time and for being on call in case of future emergencies. After the subject had finished telling the waiting "subject" how much fun and interesting the experiment had been, the subject was taken down the hall to be questioned by a neutral interviewer, ostensibly as part of the psychology department's programme of evaluating experiments. During the interview, subjects were asked to rate the experiment in which they had just served along four dimensions. The only significant difference between the groups was in terms of task enjoyment. Subjects receiving Twenty dollars rated the task around the neutral region of the scale (-.05) while the One dollar subjects rated it as being somewhat enjoyable (+1.35). A control group of subjects who did not carry out the task with the stooge rated their enjoyment of the task no differently than the Twenty dollar group.

These results were interpreted by Festinger and Carlsmith as supporting the dissonance theory interpretation that low reward for engaging in counterattitudinal role playing is dissonance producing and that this dissonance is reduced by changing one's initial opinion about the task and bringing it into line with the stand advocated.

This experiment received its severest criticism along two fronts. Chapanis and Chapanis (1964) began their criticism by stating that the experiment might better have been called "The Effect of a Plausible Reward on Task Evaluation". From their point of view, these authors maintain that Twenty dollars is an implausibly large reward for a few minutes of work. They argue that being offered Twenty dollars should have aroused suspicions about what was going on and that this may explain why this group's evaluation of the enjoyableness of the task was evasive or neutral. The low reward subjects, on the other hand, were given a plausible reward. Brehm (1965) rightfully points out however, that the Twenty dollars was not only offered as payment for taking the place of the assistant but also for being on call in case of future emergencies. Nevertheless, Chapanis and Chapanis may be correct in suggesting that a Twenty dollar reward may have aroused suspicions on the part of the subjects and could very well account for the evasive evaluation.

In their criticism, Chapanis and Chapanis appear not to have been aware of a forced compliance experiment undertaken by Cohen (1962). This investigator was concerned with the very problem of suspicion aroused by large rewards. In his experiment, Cohen contacted students in their dormitory

rooms and asked them if they would write an essay supporting the actions of the New Haven Police in handling a recent student riot. At the time, attitudes towards the New Haven Police were very unfavourable. The rewards offered the subjects varied over four intervals: subjects were offered either Ten dollars, Five dollars, One dollar, or Fifty cents as inducement to write the essay. After writing the essay subjects were requested to complete a 7-point scale indicating how justified the actions of the New Haven Police were during the student riot. A control group marked the rating scale without writing the essay. The results of the experiment support the dissonance theory prediction of greater attitude change for small rewards. The Ten dollar and Five dollar conditions were not significantly different from each other or from the control condition. Both the One dollar, and Fifty cents conditions were significantly different from the control, Ten dollar, and Five dollar groups. Of particular importance was the finding that the One dollar and the Fifty cents conditions were significantly different from one another.

If one assumes that suspicion is generated as a result of high incentive inducement and that it is this element of suspicion which accounts for the results obtained in the Festinger and Carlsmith study, Cohen's test of this hypothesis would indicate otherwise. The dissonance theory prediction of an inverse relation between attitude change and size of reward confirmed in Cohen's study with the use of rewards of a plausible magnitude, would tend to militate the alternative explanation forwarded by Chapanis and Chapanis. Interestingly enough, Lependorf (1964) in a similar forced compliance study, also obtained results predicted by dissonance theory in a

comparison between incentive levels as low as Five cents and Fifty cents.

The second major attack upon the Festinger and Carlsmith experiment has come from Rosenberg (1965). Arguing along a similar vein of the criticism mentioned above, Rosenberg maintains that a large reward does arouse suspicion on the part of the subject, and that this element of suspicion interacts with what Rosenberg has termed "evaluation apprehension". Rosenberg describes this phenomenon as "...an active anxiety-toned concern that he (the subject) win a positive evaluation from E, or at least that he provide no grounds for a negative one." (Rosenberg, 1965, p. 3).

Rosenberg argues that the offer of a large reward for engaging in the behaviour requested of him may be regarded as a bribe, or in any event, lead the subject to think that he was being evaluated. Rosenberg suggests that the best way a subject can avoid a negative evaluation is to check the neutral region of the scale. Rosenberg maintains that if one could reduce or remove this element of evaluation apprehension one would not obtain an inverse relation between reward magnitude and opinion change. Rosenberg believed that evaluation apprehension could be removed if the condition under which the subject performs the counterattitudinal behaviour were divorced from the conditions under which the posttest is given. If these events are separate and apparently unrelated, subjects would not feel that they were being evaluated with respect to their recent behaviour in the experiment.

Modeled after the Cohen (1962c) study, Rosenberg designed an experiment to test this notion. In this study, subjects reported individually to Rosenberg's office to participate in an experiment. Upon arrival, subjects

were told that he would be occupied for twenty minutes and that in the meantime they could go over to the education department and serve as subjects in a study being conducted by a graduate student. When the subjects arrived at the education department an experimenter offered them Five dollars, One dollar, or Fifty cents for writing an essay supporting the position that their football team should not participate in the Rose Bowl despite the fact that they were the Big Ten champions. After completing the task subjects returned to Rosenberg's office where they completed an attitude questionnaire containing a crucial item on Rose Bowl participation. The results indicated that contrary to the dissonance prediction, the greater the reward the greater the attitude change. These results were interpreted by Rosenberg as providing strong evidence to support his contention that by eliminating evaluation apprehension, subjects are free to move along the scale and can express their true opinions.

In defense of dissonance theory, Brehm (1965) has pointed out that Rosenberg's failure to include a replication of Cohen's "dissonance arousing" condition in his design really fails to provide convincing evidence that Rosenberg's alternative is the best explanation.

Rosenberg's negative findings become more understandable if one adopts the position favoured by Brehm and Cohen (1962) with respect to perceived choice to comply or not to comply with the experimenter's request. These authors maintain that perceived choice in this context is a necessary condition for producing cognitive dissonance—a condition which did not exist in Rosenberg's experiment. When subjects reported to the education department they were not made to feel as if they had any choice as to whether

they would write the counterattitudinal essay.

In 1967, Linder, Cooper and Jones undertook a study designed to investigate the importance of perceived choice as it bears upon the methodology of the Rosenberg experiment. In one experiment, Linder et al replicated the Rosenberg procedure and obtained essentially the same incentive results. In a second experiment, Linder et al closely replicated the same procedure but introduced the additional feature of making the subject's decision to comply or not to comply with the experimenter's request appear as a viable alternative. The results of this experiment conform to the dissonance theory prediction of an inverse relation between amount of reward and attitude change.² These findings lend support to the views advanced by Brehm and Cohen (1962) with respect to the importance of free choice in a forced compliance situation; that is, a person should be put in a position where he is free to decide whether or not he wants to comply with the counterattitudinal behaviour he requested of him.

In all, neither the criticism of Chapanis and Chapanis nor Rosenberg's notion regarding evaluation apprehension have been successful in demonstrating the artifactual nature of dissonance predicted results. These criticisms have had the effect of not only generating more studies and research in the area of cognitive dissonance but have been instrumental in making investigators

-
2. Questions have been raised about the effectiveness of the Linder et al "free-choice" manipulation. In an experiment designed to control procedural difficulties in the Linder et al study, Holmes and Strickland (1970) found that indeed dissonance-type results are obtained under "free-choice" conditions, whereas a direct reward-attitude change relationship is obtained for subjects in "no-choice" conditions.

more aware of the need for greater rigour and control in social psychological experimentation.

Incentive Theory: An Alternative Explanation

One of the difficulties with the Chapanis and Chapanis (1964) and Rosenberg (1965) criticisms is that these alternative explanations of forced compliance studies lack the advantage of unity in being able to subsume a whole set of dissonance studies under one roof. For many of the dissonance experiments involving counterattitudinal advocacy (role playing), there exist other equally plausible interpretations, none of which can by themselves explain any larger subset of dissonance studies.

An explanation of attitude change through role playing, termed incentive theory, or conflict-resolution theory (Janis and King, 1954), have been summarized by Hovland, Janis and Kelley (1953):

We assume that acceptance (of a new opinion) is contingent upon incentives, and that in order to change an opinion it is necessary to create a greater incentive for making the new implicit response than for making the old one. A major basis for acceptance of a given opinion is provided by arguments or reasons which, according to the individual's own thinking habits, constitute "rational" or logical support for the conclusions. In addition to supporting reasons, there are likely to be other special incentives involving anticipated rewards and

punishments which motivate the individual to accept or reject a given opinion (p. 11).

Janis and Gilmore (1965) have applied this approach to role playing within the framework of cognitive dissonance studies of forced compliance. These investigators suggest that when someone is asked to argue a position different from his own,

"he becomes temporarily motivated to think up all the good positive arguments he can, and at the same time suppresses thoughts about the negative arguments which are supposedly irrelevant to the assigned task. This "biased scanning" increases the salience of the positive arguments and therefore increases the chances of acceptance of the new attitude position. A gain in attitude change would not be expected, however, if resentment or other interfering affective reactions were aroused by negative incentives in the role-playing situation" (p. 18).

This distinction between the position taken by dissonance theory and the one advocated by incentive theory has been brought into focus by Elms (1967). In analyzing and comparing these two theoretical approaches, Elms has concentrated upon three major contrasting points. First, dissonance theory holds that the logic of the arguments, or the needs which may be satisfied by the adoption of the new attitude position, are relatively unimportant in most role-playing situations. The incentive theory position on the other hand, maintains that such factors are of central importance to the individual

in satisfying needs other than those involved in cognitive consistency (e.g., approval, heightened self-esteem). Second, the incentive position stresses psychological processes, such as anxiety, which may interfere with attitude change which otherwise satisfy other needs (Janis, 1959). Advocates of the dissonance position on the other hand, pride themselves the fact that they need not consider such psychological complexities as biased scanning or affective reactions, and can base their predictions largely on the basis of two factors -- the ratio of consonant to dissonant elements in a situation and their relative importance. Third, the dissonance point of view regards extraneous rewards for counterattitudinal role-playing as dissonance-reducing elements which diminish the necessity of changing one's attitude. Incentive theorists view extraneous rewards either as incentives leading to an increase in the biased scanning of arguments and greater attitude change, or else as cues for the arousal of such interfering responses as suspicion of the rewarder's motive inhibiting any change from the initial attitude position. Thus, these two positions usually lead to opposite predictions about the effects of different levels of reward for role playing. Elms (1967) states that, since incentive theory can be used as an alternative explanation of dissonance results in forced compliance experiments, it is conceivable that theorists have systematically overlooked factors in experimental role-playing situations which interfere with attitude change rather than promote it.

Both incredulity and evaluation apprehension may be classified as factors which produce negative affect within the terms of incentive theory; however, incentive theory emphasizes interference during the process of

role playing, as compared with negative affect which exists during the measurement of role playing effects.

Incentive theory formulations about counterattitudinal role playing have received direct support from the results of two experiments designed specifically to test these notions.

In one study (Janis and Gilmore, 1965), three independent variables were manipulated: favourable vs unfavourable sponsorship, magnitude of monetary reward, and commitment to compliant behaviour vs actual compliance to counterattitudinal behaviour. Half of the subjects were told that the experimenter was collecting information on students' attitudes toward science and mathematics courses on behalf of a research organization. This research organization, they were told, was "working on behalf of a number of leading universities in the U.S., who were interested in finding out how students felt about such courses" (favourable sponsorship). The other half of the subjects were told that the information was being collected to be used in an advertising campaign by a publisher of science and mathematics textbooks (unfavourable sponsorship). The subjects in each of these conditions were offered either One dollar or Twenty dollars to write a counterattitudinal essay supporting the implementation of a required year of mathematics and physics for college students. The final manipulation had to do with whether or not subjects actually wrote the essay. Half of the subjects were given a questionnaire designed to assess their opinions immediately after receiving payment while the other half received the same questionnaire after having spent ten minutes writing the essay.

Dissonance theory would predict that the most attitude change should occur under the conditions of small reward and unfavourable sponsorship. The results of the experiment generally support the incentive theory position: most attitude change occurred for subjects who actually wrote the essays under the favourable sponsorship. The monetary variable did not contribute appreciably to the overall variance of the results. The failure of this variable to produce any effect whatsoever is interesting, for the "suspicion" interpretation of the Festinger and Carlsmith experiment was not supported in the Janis and Gilmore experiment.

In a second and similar study (Elms and Janis, 1965), the same three variables were manipulated: amount of monetary reward (Fifty cents vs Ten dollars), favourable vs unfavourable sponsorship, and commitment to compliant behaviour vs actual compliance. Here again, subjects were induced to write counterattitudinal essays. The issue in this study dealt with the promotion of a four year exchange study programme between the USSR and the United States. Subjects were asked to write essays in favour of sending American students to study "the Soviet system of government and history of communism" in a Russian university for four years. Subjects in the favourable sponsorship conditions were told that the United States Government was the agency collecting the student opinions, while subjects in the unfavourable sponsorship conditions were told that the Soviet Union government was the sponsor. The results of this experiment clearly support the incentive theory predictions. In the positive sponsorship condition, high reward subjects showed greater attitude change in the role-played direction than low reward subjects; subjects given an opportunity to actually

write the essay showed more attitude change than subjects who did not write the essay but only committed themselves to the task. In the negative sponsorship condition there was a tendency, though not a significant one, for low reward subjects to show more attitude change compared with subjects who received the larger reward. Thus, it appears from these results that, when rewards are presented under circumstances where they do not arouse emotional responses which might interfere with attitude change processes, highly rewarded role playing produces more attitude change than when the rewards are low. Within the context of previous forced compliance studies, the findings of the Elms and Janis experiment suggest that, in previous instances where rewards appear to work in an opposite direction, unintended negative affect may have been responsible for the dissonance results.

An interesting relationship between experimental situations producing dissonance results and situations leading to incentive theory results was uncovered by Collins, Carlsmith and Helmreich (1966). These authors suggest that in the Janis and Gilmore (1965) and Elms and Janis (1965) studies, the counterattitudinal task of anonymous essay-writing may not have made the subjects feel committed, and thus did not arouse any dissonance in them. As a result, these experiments may not qualify as crucial experiments where dissonance theory is pitted against an alternative explanation. Carlsmith et al designed a study whereby essay writing conditions and overt role playing conditions could be contrasted. In their study, subjects performed a boring task for one hour (crossing out 2s and 6s from pages of random numbers). One half of the subjects were enticed to tell a waiting

subject that the task had been interesting. The other half wrote an anonymous essay to the same effect. Subjects received Fifty cents, One dollar and Fifty cents, or Five dollars to engage in this counter-attitudinal behaviour. The data from the face-to-face condition replicated the original Festinger and Carlsmith experiment; low rewards were most effective in changing the subjects opinion of the enjoyableness of the task. Subjects in the essay writing condition, however, rated the task as fun and interesting in a manner directly related to the size of the reward received -- the larger rewards producing the greatest attitude change.

In the discussion of their results, Carlsmith et al state that the essay writing conditions may not have been dissonance producing, whereas dissonance was certainly generated in the role playing conditions. They prefer a straight dissonance theory explanation of the face-to-face role playing results and are reluctant to accept an incentive theory explanation for the results obtained from essay writing. Rather, an explanation of the reinforcement results in this latter condition is provided by suggesting that a simple generalization phenomena may have been responsible for the attitude change. They suggest that the subject's mood from receiving a large payment generalized to the task itself.

Elms (1967) has taken a strong stand in advancing incentive theory as a truly viable explanation for dissonance-type results. Elms maintains that the Carlsmith et al study provides clear and definitive grounds for the validity of an incentive theory explanation. Elms suggests that Carlsmith et al may not have established a simple contrast between face-to-

face oral and anonymous written role playing, but actually a contrast between a condition which offered many instigations for the development of negative affect and one which offered few instigations for the arousal of negative affect. Elms argues that in the Carlsmith et al experiment, subjects were not simply asked (a) to deliver a brief spoken persuasive communication to another subject, or (b) to spend the same amount of time in writing an anonymous persuasive communication. Instead, the active role playing subjects were asked to deliver a 2-minute persuasive statement to a female subject (all true subjects were male) under urgent time pressure, with the confederate quoting a friend's direct contradiction of the subject's role playing position. After two minutes, the subject's performance was interrupted by the experimenter. Contrasted with the situation, subjects in the essay role playing conditions were asked to write a 5-10 minute essay (they were actually allowed longer); these would never be read by any other subjects, but would be read some time later purportedly to enable the experimenters "to get some ideas and phrases for an essay" to be written by the experimenters. In view of these differences, Elms states, it is not surprising that the results obtained in the experiment were similar to those obtained by Elms and Janis and Janis and Gilmore: attitudes became more positive with increasing reward level in the condition presenting a few instigations for negative affect arousal (essay writing), and became more negative with increasing reward level in the condition presenting more instigations for negative affect arousal (face-to-face).

An important distinction in emphasis between dissonance theory and incentive theory discussions has been noted by Collins and Helmreich (1966). These authors note that dissonance theory generally emphasizes consequences

of role playing behaviour, whereas the process of role playing, (e.g., biased scanning) is the factor stressed in incentive theory discussions. Collins and Helmreich conducted an experiment in which the experimenter's emphasis on the process or consequence of role playing was varied along with incentives for role playing. In the experiment, subjects were asked to taste a bitter liquid and evaluate its taste. They were then asked to write an essay on the liquid's positive attributes, then to taste a presumably different but actually identical liquid and to evaluate its taste. The essay instructions emphasized either thinking carefully about the positive aspects of the liquid (process instructions) or writing a persuasive essay (consequence instructions) to be used to deceive someone about the taste of the liquids in a future experiment. Subjects were paid either Fifty cents or Two dollars to write the essay. The major differences in attitude change produced by these manipulations occurred between consequence and process conditions: subjects receiving the process instructions yielded significantly greater attitude change in the role-played direction compared with subjects who received consequence instructions. In fact, subjects in this latter condition yielded negative change. Correlations between ratings of the essays on positiveness and attitude change was found to be $+0.85$ in the process condition and -0.50 in the consequence condition. These findings are interpreted by Collins and Helmreich as supporting those interpretations of role playing studies which place major emphasis upon the processes involved in counterattitudinal advocacy. Elms adds that this conclusion may be viewed as substantially supportive of the incentive theory position concerning the importance of biased scanning -- the occurrence of which was strongly limited to process conditions.

Furthermore, Elms continues, there is again a strong possibility that interfering emotional responses may have been aroused for subjects receiving consequence instructions. Subjects in this condition were told that their essays would be used to deceive other subjects in an experiment next term. Elms suggests that this information may likely have been effective in arousing negative affect, and that the attitude change scores for subjects in this condition reflect this likelihood. In any event, as Elms states, this study by Collins and Helmreich is valuable in calling attention to an often overlooked tendency in dissonance theory: "--the emphasis on a few end-products of role playing to the virtual exclusion of the internal processes without which overt role-playing behaviour would be meaningless". (p. 142).

A Conflict-Theory Interpretation of Forced Compliance.

Recently, Janis (1968a, 1968b) and Janis and Mann (1968) advanced a "conflict" model of attitude change and decision making processes. This conflict-theory viewpoint evolved from concepts and hypotheses developed in the course of psychological research on motivational processes in decision making. This approach views the decision-making process as a sequence of stages induced by challenging existing information which constitutes a person's opinion on a particular matter. Proponents (Janis, 1968; Janis and Mann, 1968) of a conflict-theory approach to attitude change conceptualize a five-stage model providing a useful framework for analyzing the problems that arise when people make ego-involving decisions to which they feel deeply committed. The five stages of the decision-making process dealt with in the theory area are: (1) appraisal of a challenge, (2) appraisal

of alternatives, (3) selection of the best alternative, (4) commitment to the new policy, (5) adherence to the new policy despite negative feedback.

Stage 1. Appraisal of a challenge. The decision-making process begins when the individual is exposed to persuasive information that challenges implications of his behaviour. To return to a previous illustration, a heavy smoker is exposed to information which challenges his current course of action (or inaction) by calling attention to important losses that will ensue if he does not change his policy. For example, the information, "There has been a 20% rise in lung cancer directly attributable to cigarette smoking" would constitute a challenge to many people who are heavy smokers and concerned about their health. According to conflict theory, this information gives rise to a temporary personal crisis. The inconsistency between the new information and the person's current behaviour generates an acute conflict about continuing his present policy.

Stage 2. Appraisal of alternatives. In this stage the decision maker evaluates the challenge posed by the communication and, if he meets the challenge, focuses his attention upon the recommended course of action. In addition, he scans his memory for alternatives which may stand a good chance of averting or minimizing the losses made salient by the challenge.

Stage 3. Selection of the best alternative. The decision-maker, by scanning and weighing each alternative in terms of its advantages and disadvantages, proceeds to a more thorough evaluation of the alternatives in an effort to select the best available policy. This weighting and evaluating of alternatives is conceptualized in terms of a balance sheet. This balance

sheet model assumes at least four major types of considerations that enter into any decisional conflict. These four main categories relate to the anticipated favourable or unfavourable consequences of choosing a given alternative. These are:

1. Anticipated utilitarian gains or losses for self.
2. Anticipated utilitarian gains or losses for significant others.
3. Anticipated approval or disapproval from significant others.
4. Anticipated self-approval or disapproval.

By scanning and weighing each alternative in terms of its advantages and disadvantages, the decision-maker attempts to select the one that will best meet his personal criteria for maximal gains and minimal losses.

Stage 4. Commitment to the new policy. In this stage the person discloses or reveals his intended course of action to others -- usually his friends first, then others, saving potential critics for the last. This marks the beginning of the post-decisional phase, when the individual places himself in a position which may result in loss of self-esteem and social disapproval if he fails to carry out the new policy. This commitment motivates the individual to assimilate and consolidate the new policy with a minimum of inconsistency. This is achieved through a general tendency to avoid negative feedback and to adduce new reasons that bolster the decision.

Stage 5. Adherence to the new policy despite negative feedback. This stage is characterized by discounting, minimizing or refuting arguments that might change his attitude bearing on the desirability of the new policy. This serves again to bolster the individual's decision. Other modes of conflict resolution used to preserve the new policy include

changing one's social network and proselytizing to others about the wisdom of the choice.

Janis and Mann (1968) admit that these five stages cannot be sharply differentiated, especially for relatively minor, non-deliberate decisions. However, the conceptualization of a five-stage model does provide a useful framework for analyzing the problems that arise when people make ego-involving decisions to which they feel committed.

Conflict, Dissonance, and Attitude Change via Role Playing.

There have been a number of experimental studies outside the context of dissonance theory which have dealt with the specific influence of role playing on attitude change. Janis and King (1954) and King and Janis (1956) found that when subjects were induced to improvise a talk in order to fulfill the demands of a public speaking task requiring them to express opinions that differed from their private beliefs, they showed more opinion change in the role-played direction than an equivalent control group exposed to the same informational content.

Janis and Mann (1968) and Janis (1968a) have suggested that the conflict theory model of attitude change can be used as the theoretical basis for a "self-persuasion", hypothesis to explain these role playing effects. As stated previously, the conflict theory model conceptualizes decisional conflicts in terms of a balance sheet containing weighted positive and negative values corresponding to the potential gains (positive incentives) and potential losses (negative incentives) associated with each evaluated alternative open to the individual.

Janis, one of the principal advocates of an incentive theory, has incorporated the basic tenets and assumptions of this incentive position into the conflict theory interpretation of attitude change (Janis, 1968a). In terms of conflict theory, the amount of attitude change observed will depend largely on the degree to which the role player is induced to engage in "biased scanning" of genuine positive incentives that he can accept into his own balance sheet. The role player will change his attitude only if he makes the following two types of responses while carrying out the role playing task: (a) recalling or inventing arguments that are capable of functioning as positive incentives for accepting a new attitude position, and (b) appraising the recalled improvised arguments with a psychological set that fosters open-minded cognitive exploration of the positive incentive value associated with the arguments, rather than a negativistic set of the kind inherent in situations which arouse hostility, resentment, or suspicion (Elms and Janis, 1965). The conflict theory position maintains that if the first type of response is made but not the second, no attitude change could be expected from a role-playing performance. Similarly, rôle playing would be ineffective in bringing about attitude change in situations where the new incentives that emerge from biased scanning are too weak to create a challenge to the role player's present position. In addition, the effectiveness of the role playing procedure is dependent upon the types of arguments the person is asked to deliver. For example, if a person is instructed to play the role of someone with whom he has little in common, and argues in terms of values which are not his own, although he will engage in biased scanning of incentives, since his anticipations of gains or losses are not relevant to

his personal balance sheet very little change in attitude can be expected. On the other hand, if a person is asked to role play someone who shares his values and to make up arguments that would be convincing to a person like himself, the chances are good that the biased scanning of incentives will enter into his private balance sheet and give rise to a change in his position on the issue.

Proponents of a conflict theory position have singled out two specific variables which enable predictions to be made that are opposite to those made by dissonance theorists:

1. To the degree that subjects engage in overt role playing (actually carrying out the task) by verbalizing arguments in support of the assigned position on the issue, the amount of attitude change produced by role playing will be best described by a positive function of the quality of the role playing. Merely committing oneself to play the role would induce some attitude change, but actually carrying out the task of verbalizing new arguments would elicit more biased scanning and increase the salience of new incentives, thus increasing the likelihood of attitude change. This is in opposition to the dissonance theory prediction, where the mere fact that a person commits himself to play the role, before he executes it, "should be sufficient to produce the attitude-changing dissonance" (Brehm and Cohen, 1962, pp. 254-255).

2. Role playing will be more effective in inducing attitude changes, if the sponsor is perceived as someone whose affiliations are benign and whose intentions are public-spirited than if he is perceived as someone whose intentions are commercial, exploitative, or immoral. A cognitive

dissonance theory explanation would predict the exact opposite. In the case of the latter sponsor, greater attitude-changing-dissonance would be expected as a result of the greater number of dissonant elements which give rise to dissonance reduction (see Brehm and Cohen, 1962, pp. 252-255). In the studies by Janis and Gilmore and Elms and Janis previously reviewed, findings with respect to these two variables -- overt role playing and favourable sponsorship -- are consistent with the conflict theory analysis of attitude change.

An attempt to reconcile the incentive explanation with the dissonance explanation of forced compliance studies has been made by McGuire (1966). Although the two theories seem to be making opposite predictions, McGuire suggests that the dissonance effect could be predicted to the extent that the subject had simply committed himself for a small reward to the counter-attitudinal advocacy, but had not yet carried out the advocacy. Once the agreed-to advocacy is actually carried out however, it would be done in direct proportion to the size of the reward. In this case one would expect a positive relation between indoctrination and reward size which would override and reverse the dissonance effect produced by commitment. A negative relation between size of reward and opinion change would be expected under conditions where the subject agreed to tell a lie but did not have the opportunity to tell a good one. Under conditions where the subject has adequate opportunity to carry out his commitment to counterattitudinal advocacy, a positive relation between reward size and opinion change could be expected.

If, in the Carlsmith et al study, we interpret the face-to-face confrontation as more guilt provoking and the essay writing as allowing more scope for effective argumentation and self-indoctrination, the results of that study are in accord with the reconciliation advanced by McGuire.

Framed within the context of conflict theory, Janis (1968a) has pointed out that one of the implication of McGuire's hypothesis is that whenever a person complies with a request to advocate a new attitude he does not accept, he will acquire a new incentive to accept the new attitude insofar as he has the illusion that he has committed himself voluntarily to comply with the request. Furthermore, Janis states,

"It seems likely that this new incentive, which mainly involves anticipated social disapproval for subsequent reversal of the apparent commitment, would sometimes play a determining role, under certain very restricted conditions. One important condition specified by McGuire is that the committed role player has not yet been given the opportunity to carry out the role-playing performance. But even when the role-playing performance has already been carried out, the illusion of commitment to the new position could still play a determining role if certain other conditions were present,...." (p. 380)

Janis notes three specific conditions under which the illusion of commitment would play a determining role in obtaining an inverse relation between incentive magnitude and attitude change. These are: (1) low interest in the issue, (2) low opportunity for genuine contemplation of the issue

during role playing performance, and (3) low degree of improvisation.

1. Low interest in the issue. If a person makes a decision for which he has little inherent interest, no potential gains or losses would be implicated in assuming such a position. In such a situation, it would be unlikely that a person would think of any new relevant incentives no matter how conscientiously he tried to execute the role playing task. Strong inducements to perform a role playing task conscientiously can increase the degree of self-persuasion only when the role-player can draw upon a cognitive repertoire to produce relevant arguments and appeals. On the other hand, when the role-player is asked to advocate a counter-attitudinal position on an issue for which he has only a meager cognitive repertoire, as is the case when he cannot see any ramifications related to his social values, his personal goals, or his previously acquired knowledge, little or no self-persuasion would be produced. With an issue of low interest generating low ego-involvement, the role-player's personal balance sheet at the end of the role-playing session should not change very much as a result of self-persuasion. The main source of attitude change to be expected from such a condition would be that resulting from the new incentive created by the illusion of commitment, which requires low pressure inducement (Janis, 1968a).

When the subject's interest in the issue is low, any attitude change observed following a role-playing performance will, more likely, be based on the illusion of commitment rather on the salience of the self-persuading arguments. Thus, an interaction effect would be predicted such that when initial interest in the attitude issue is low, small rewards and weak

justifications will be relatively more effective than stronger inducements; on the other hand, when interest in the attitude is high, large rewards and strong positive justifications will be relatively more effective than weaker inducements. In this latter case, a significant amount of attitude change would depend upon the effectiveness of the role-playing procedure. The effectiveness of the role-playing procedure should be an important consideration, since strong positive movementation would seem to be necessary in order to overcome all the sources of resistance that make it difficult to change highly ego-involving attitudes.

In the present experiment, an attempt was made to assess the nature of the effect of issue importance and magnitude of incentive on attitude change.

2. - Low opportunity for genuine contemplation of the issue.

If the person is given little time to think about the issue, or if the procedure imposed upon the role-playing task introduces a source of distraction preventing him from evaluating the arguments he is mouthing, no new incentives would be introduced into the person's internal balance sheet. Under these conditions, the only way that a role-playing performance could give rise to attitude change would be by creating the illusion of commitment, which is fostered when the subject is offered very small rewards and weak justifications for complying. Large rewards for performing the role-playing task would be more effective whenever the procedures allow the role-player ample opportunity to draw upon his cognitive repertoire, i.e., to think of good arguments in support of the position he is advocating. Biased scanning, fostered by these non-restrictive conditions, can be a powerful impetus to attitude change, whether or no the subject acquires the illusory belief that he has publicly

committed himself to the new position. An interaction effect is predicted here again: mild inducements will be more effective than strong ones when the role-playing task offers little opportunity for genuine contemplation of the issue; but strong positive inducements will be relatively more effective if the procedures of the task permit the generation of supporting arguments. Janis suggests that this latter difference is especially likely to emerge when the conditions of the role-playing procedure do not involve public commitment, because there would be little opportunity for the illusion of commitment to develop. Furthermore, Janis continues, evidence supporting this notion might furnish an explanation for the double outcome in the Carlsmith et al study. The nature of the predicted interaction between this variable and magnitude of incentive suggested by Janis was one which the present experiment attempted to investigate.

3. - Active participation (argument origination) vs. passive participation (merely reviewing someone else's arguments). The same explanation with regard to the conflict theory balance sheet model would apply once more. If the conflict theory interpretation of attitude change is correct, one would expect a positive relation between amount of reward and opinion change under conditions of active, improvised role playing, where subjects are called upon to engage in a biased scanning of arguments and/or create new arguments out of their own repertoire. If a subject is called upon merely to read someone else's arguments, his personal balance sheet should remain relatively unaffected, and the only new incentive created would be that which results from the illusion of commitment. Under this condition of counterattitudinal role playing, subjects receiving small rewards would show relatively more

attitude change than subjects who receive larger rewards. The nature of this proposed interaction was studied in the present experiment.

A premise of this study was that conflict theory can be used to account for much of the attitude change that has been observed in various studies (Janis and Mann, 1968). It is only under certain very restricted conditions that dissonance theory predictions would be maintained. It was thought that if the various predicted interaction effects produced by (1) the illusion of commitment, (2) degrees of interest in the issue, (3) the opportunity for genuine contemplation of the issue, and (4) amount of participation in the role playing task did appear, it could be concluded that attitude changes are fostered by strong inducements when the role playing task allows opportunity for self-persuasion. In this case, the dissonance outcome would be limited to the special conditions where the only dominant incentive for attitude change was the illusion of voluntary commitment.

The purpose of the present investigation was to assess the various interaction effects between the aforementioned variables and magnitude of inducement in a forced compliance situation. It was hypothesized that the interactions predicted between each of these crucial variables and incentive would be confirmed. In summary these are:

Hypothesis 1. An interaction effect is predicted such that when initial interest in the issue is low, small rewards will be relatively more effective than large rewards in changing attitudes; whereas, when interest in the issue is high, large rewards will be relatively more effective than small rewards in promoting attitude change.

Hypothesis 2. An interaction effect is predicted such that when subjects are called upon to engage in biased scanning of arguments and/or create new arguments, a positive relation between amount of reward and attitude change should be obtained. If subjects are called upon merely to read arguments which had been created by another person the subject's personal balance sheet should remain relatively unaffected. In this latter condition, the only new incentive created would be that which results from the illusion of commitment and a negative relation between amount of reward and attitude change would be expected.

Hypothesis 3. An interaction effect is predicted such that when subjects are led to believe they are to engage in a role playing task but are not given the opportunity to carry it out, small rewards will be relatively more effective than large rewards in changing attitudes; whereas, if subjects are permitted to actually perform the role playing task, a positive relation between size of reward and attitude change is predicted.

CHAPTER II

METHOD

The experiment consisted of inviting subjects to make an audio tape-recording of counterattitudinal statements dealing with one of four pre-designated issues. Subjects were offered fifty cents or two dollars and fifty cents as inducement to make the recording. One-half of the subjects were invited to make a recording on an issue of high importance and one-half to make a recording on an issue of low importance. Prior to making the recording of their counterattitudinal statements, one-half of the subjects were asked to write a short essay (argument origination condition) on the issue. The other half of the subjects (argument arrangement condition) were asked to rearrange and recopy a list of prepared statements presented to the subjects on individual slips of paper. This procedure was designed to promote exposure to counterattitudinal information among all subjects while maintaining a distinction between two levels of "improvization". The final manipulation involved whether or not subjects actually carried out the role-playing task after commitment to do the counterattitudinal task. One-half of the treatment groups (role play anticipation subjects) received the posttest questionnaire after agreeing to engage in the task; the other half of the treatment groups (role play performed subjects) received the posttest after having made the counterattitudinal recording. The design of the experiment is illustrated in Figure 1.

Subjects. Subjects were 128 students enrolled in the introductory psychology course at Carleton University.³ They were assigned randomly to one of the sixteen experimental conditions depending upon the high or low importance

3. Actually 130 subjects participated in the experiment. Two subjects were

Performed Role Play		Anticipated Role Play	
Argument Origination	Argument Arrangement	Argument Origination	Argument Arrangement
<p>High Interest</p> <p>50¢</p> <p>\$2.50</p>	6 females 2 males	6 females 2 males	6 females 2 males
	6 females 2 males	6 females 2 males	6 females 2 males
	6 females 2 males	6 females 2 males	6 females 2 males
	6 females 2 males	6 females 2 males	6 females 2 males
<p>Low Interest</p> <p>50¢</p> <p>\$2.50</p>	6 females 2 males	6 females 2 males	6 females 2 males
	6 females 2 males	6 females 2 males	6 females 2 males
	6 females 2 males	6 females 2 males	6 females 2 males
	6 females 2 males	6 females 2 males	6 females 2 males

Fig. 1 Illustration of the experimental design.

which they had attached to the counterattitudinal issue employed.

All subjects were selected on the basis of a pretest given during regular meetings of introductory psychology sections. Subjects participated in the experiment 5 - 20 days after completing the pretest questionnaire. The pretest questionnaire consisted of seventeen statements dealing with general social issues, to which subjects were asked to indicate on a 19-point scale their agreement or disagreement. The scale was labelled "strongly disagree" at one end, through "neutral", to "strongly agree" at the opposite end. In addition, beneath each statement subjects were asked to indicate how much of a personal interest they had in the issue at the moment. Subjects made their rating on a 19-point scale anchored in a similar manner described above. A copy of the questionnaire appears in Appendix 7 .

The specific issues selected for use in the experiment depended upon (a) the proportion of students who attached high or low importance to each item (circling one of the three extreme points), and (b) the proportion of students who indicated strong disagreement with statements (circling of the three extreme points) that were rated high/low in importance. Following tabulation of pretest data, it was found that in order to obtain a sufficiently large subject sample that would cover all sixteen combinations of experimental manipulations, the design would have to accommodate the use of four different

dropped from the experiment because of expressed suspiciousness. One of these, a male, expressed suspicion when the lights in an adjoining room went out in the course of another study being conducted. Another subject, a female, expressed concern over making a tape recording of the arguments, and was relieved from her role playing commitment. Both subjects were in the 50¢-high interest-performed conditions. The male subject was to originate arguments on the Armed Forces issue while the female subject was to read arguments created by someone else on the physical education issue.

issues and a subject sample consisting of 96 females and 32 males.⁴

These issues centered around: (1) legalization of marijuana (item 2, "The use of marijuana should be legalized for those over the age of twenty-one."); (2) government control over family size (item 3, "The government should be allowed to control the number of children one will be allowed to have in a family."); (3) abolition of Canadian Armed Forces (item 7, "Canada should do away with its Armed Forces."); and (4) compulsory physical education in university (Item 11, "Physical education and athletics should be made a requirement in all degree programmes in university). It was found that item 1 on the pretest questionnaire also qualified, but it was not employed because of the obvious risk of promoting a sex x issue interaction. Each issue was used twice in each treatment combination.

Initially the use of an either all male or all female subject population was planned. When it was found that the pretest data could not yield a single sex subject sample, regardless of the number of issues that might be included in the design, a mixed sample was used. The actual 26% male -- 74% female subject sample represents a close approximation to the 31% male -- 69% female pretested student population in introductory psychology. Subject sex was evenly distributed across the 16 experimental conditions, i.e., two male and six female subjects randomly assigned in each cell of the design.

4. This was not entirely an inconvenience; to the extent that there was consistency across treatment conditions, and that no between-issue differences were found, this would yield greater generality of the results.

In order to assess the stability of the pretest data, a test-retest reliability estimate was obtained from a Personnel and Industrial Psychology class. One-hundred and ten students (87 males and 33 females) in this summer course were given the pretest questionnaire to complete. Seventeen days later the same questionnaire was readministered.⁵ Considering the four issues employed it was found that, after using the same criteria for selection as in the experiment, of the 41 students (32 males and 9 females) who would have qualified as subjects on the basis of the first administration, 39 (95%) of these would have remained eligible on the basis of the retest. The response change in retesting occurred on both scales of item 3 for one female subject; whereas a change in the personal interest scale on item 11 accounts for the retest discrepancy for a second (male) subject. At the same time, this latter student also failed to reproduce his earlier responses on eight other items -- both scales being affected on 6 of the 8 items.

Procedure: Subjects were contacted by telephone and asked to participate in an experiment for which they would receive course credit. They reported individually to an experimental room where they were met by the experimenter. Each subject was told (somewhat apologetically) by the experimenter that an error had been made in the scheduling of his/her appointment for this hour. It was explained that the subject was to serve in a "gaming" study which required two people to be run together, and that the student who was to participate in the game with him had been scheduled for __ o'clock, two hours later. The experimenter explained that he was very sorry the error had been

5. Instructions given to test-retest subjects are given in Appendix 1 .

made but that the subject would receive course credit for showing up anyway. While handing the subject the credit slip, the experimenter "suddenly remembered" that there was something the subject could do for him, since his time was not occupied in the experiment. The experimenter explained that he was in the process of collecting some material on persuasive communications in oral speeches, and that he needed additional information before he could prepare a report on his pilot study. The experimenter told the subject that he needed a few more tapes of "a person making a persuasive speech" and that if the subject would, he could help by making one of these tapes. At this point, subjects in the argument origination conditions were told that the people who were paid to do this for the experimenter were no longer available, but that he would explain what they normally did. Subjects in this condition were told that previous tapes had been made by giving the "assistant" a topic, i.e., "The legalization of ...", and that on the basis of a few pointers, the person developed arguments as strong as possible supporting the issue. The experimenter stated that "In order to have the tape sound as realistic as possible, assistants in the past have taken the points and have written a short essay prior to making the tape-recording". It was explained to the subject that although this was not an experiment and that he could not give the subject experimental credit for his time, he could pay him fifty cents or (\$2.50) for helping him out. Subjects in the argument arrangement conditions were told that previous tapes had been made by giving the assistants a list of prepared statements arguing in favour of say, "The legalization of ...", and that, if he agreed, he would take these prepared statements, read them over carefully and then rearrange them in the manner that sounded most

persuasive. A subject in this condition was told that, since the statements appeared on individual cards, it would be best if he rewrote them in the order he thought best on a separate sheet of paper prior to recording them. It was explained to the subject that although this was not an experiment, and that the experimenter could not give him course credit for the time spent, he could pay the subject fifty cents (\$2.50) for helping out.

After agreeing to carry out the task, subjects were given the 50¢ (\$2.50) and asked to sign a receipt for it ... "So that the business people will know what I'm doing with my money".

At this point, subjects in the role play performed conditions were supplied with paper on which to write the arguments as well as a sheet of paper containing a description of the issue with a few pointers to help them along. Copies of these pointers appear in Appendix 2 .⁶ Care was taken to ensure that these priming pointers consisted of no more than the suggestion of a possible line of argumentation that may be developed without actually stating the argument. Subjects were allowed ten to fifteen minutes to prepare their essays prior to making the tape-recording. After making the tape-recording, subjects were given the posttest. Subjects in the argument arrangement--role play performance conditions were given essentially the same amount of time to read, re-arrange, and re-write the prepared arguments prior to actually recording them.

Subjects in the anticipated role playing conditions were given the posttest immediately after signing the receipt for the money. The experimenter suggested that, while he himself was preparing the equipment, the subject could

6. This procedure was thought necessary since, according to Janis and Gilmore (1956), and Elms and Janis (1965), if subjects are not given a few "priming" points, their essays generally would be void of effective argumentation.

fill out a questionnaire which the experimenter was developing in conjunction with his speech and persuasion study. Subjects were given a three page questionnaire containing the crucial 19-point scale item. As the experimenter handed the subject the questionnaire with the word DRAFT inscribed in large letters on the top of the first page, he explained that the final form would be developed after "any problems with the questions in it were ironed out". Response to the crucial posttest item was the dependent variable in the experiment.

Four posttest questionnaires were used. Each was developed by creating filler items which would make the appearance of the crucial posttest item as undramatic as possible while at the same time maintaining continuity throughout the questionnaire. These four posttest questionnaires in their original form and specific construction are presented in Appendix 3.

After the subject had completed the questionnaire he was asked if he had any questions about what he had done. This procedure was designed to check on the effectiveness of the deception and to assess any suspicions on the part of the subject. Subjects were debriefed once all 128 subjects had participated in the experiment. This was done by mailing to the subject a typewritten statement describing the purpose of the experiment, the role he played in it, and the reason for the deception. A detailed account of the interaction between subject and experiment as well as the instructions given to subjects is presented in Appendix 4.

CHAPTER III

RESULTS

In order to assess possible effects arising from the use of four different issues in the design, a $4 \times 2 \times 2 \times 2 \times 2$ analysis of variance was performed on the posttest scores. Cochran tests indicated that the assumption of homogeneity of variance underlying the F test could be met ($C = 0.114$; 7,16 df, $p < .01$). Table 1 summarizes the analysis of variance.

As is indicated in the summary table, neither A (Incentive) nor B (Interest) contributed significantly to the overall variability of posttest scores. The effect due to E (Issue) is also negligible. The two main sources of variability were variable C (Anticipated vs. performed role play), ($F = 95.79$; 1,64 df; $p < .001$) and the D variable (Argument origination vs. argument arrangement), ($F = 33.71$; 1,64 df; $p < .001$). Mean attitude scores for subjects in performed role playing and anticipated role playing conditions were 10.59 and 5.06 respectively. Subjects in the argument origination conditions yielded an overall mean attitude change score of 9.46 while subjects involved in only argument arrangement produced a mean posttest score of 6.18.

Although A and B independently did not contribute significantly to the overall variance of the results, there was a highly significant A x B interaction ($F = 11.00$; 1,64 df; $p < .01$). This effect is depicted in Figure 2, where attitude change scores for high and low interest conditions are plotted against the two levels of incentive. As is illustrated, a positive relation was found between magnitude of incentive and attitude change for subjects who had expressed a high interest in the issue while an inverse relation was obtained between the incentive levels and attitude change for subjects who

TABLE 1
Summary of Analysis
of Variance

SOURCE	SUMS OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARES	F-RATIO
A (Incentive)	1.12	1	1.12	0.10
B (Interest)	11.28	1	11.28	1.10
C (Role Play	979.03	1	979.03	95.79**
D (Improvise)	344.53	1	344.53	33.61**
E (Issue)	13.28	3	4.42	0.43
AB	112.50	1	112.50	11.00**
AC	24.50	1	24.50	2.39
AD	50.00	1	50.00	4.89*
AE	6.44	3	2.14	0.20
BC	38.28	1	38.28	3.74
BD	0.78	1	0.78	0.07
BE	11.53	3	3.84	0.37
CD	140.28	1	140.28	13.73**
CE	60.02	3	20.00	1.95
DE	32.02	3	10.67	1.04
ABC	3.13	1	3.13	0.30
ABD	0.13	1	0.13	0.02
ABE	39.08	3	13.02	1.27
ACD	72.01	1	72.01	7.04**
ACE	32.08	3	10.69	1.04
BCD	97.29	1	97.29	9.51**
BCE	14.30	3	4.76	0.46
CDE	71.06	3	23.68	2.31
ADE	42.83	3	14.27	1.39
BDE	33.05	3	11.01	1.07
ABCD	120.42	1	120.42	11.78**
ABCE	27.65	3	9.21	0.90
ABDE	55.40	3	18.46	1.80
ACDE	22.52	3	7.50	0.73
BCDE	65.51	3	21.83	2.13
ABCDE	30.00	3	10.00	0.99
Within	654.24	64	10.22	
Total	3,206.20	127		

Note: ** = $p < .01$
* = $p < .05$

It is possible to view the Issue factor as a random factor instead of a fixed factor as it has been treated in the above analysis. It has found that when this is done, the F-ratios resulting from such a mixed design are not seriously altered. No new significant F-ratios appeared and none of the significant above F-ratios were altered in status quo.

Fig. 2. The interaction effect between magnitude of incentive and interest in the issue on mean attitude change.

had previously indicated a low interest in the issue. Analysis of simple effects by Duncan's Multiple Range test (Duncan, 1955) revealed that this interaction arose from a significant difference between (a) high and low interest subjects who received \$2.50 and (b) 50¢ and \$2.50 subjects expressing a low interest in the issue ($R = 2.07$; 1,64 df; $p < .01$; and $R = 1.64$; 1,64 df; $p < .05$, respectively). Although no difference between incentive conditions was found for subjects expressing a high interest in the issue, the overall pattern of results confirms conflict theory prediction (Hypothesis 1) with respect to the interaction effect of these two variables on attitude change scores.

An A x D interaction effect was obtained ($F = 4.89$; 1,64 df; $p < .05$). The weak but significant effect produced by these two variables is illustrated in Figure 3 where attitude scores for argument origination and arrangement subjects are plotted separately against incentive. A Duncan's Multiple Range test showed that this interaction could best be accounted for in terms of a small difference between origination and arrangement subjects at the 50¢ incentive level ($R = 1.66$; 1,64 df; $p < .05$), together with a significant difference between these two levels of improvization at the \$2.50 incentive level ($R = 2.74$; 1,64 df; $p < .001$). It is noteworthy that incentive conditions produced no simple effects for either origination or arrangement subjects. Although a crossover effect was not obtained, appearance of this source of variance generally is consistent with the conflict theory prediction (Hypothesis 2) of greater attitude scores for subjects who are called upon to create new arguments compared with subjects who engage in a more passive arrangement of arguments.

Fig. 3. The interaction effect between incentive and improvisation on mean attitude change.

A significant interaction between the role play and improvization variables was also obtained ($F = 13.73$; 1,64 df; $p < .01$). This interaction effect on mean attitude scores is illustrated in Figure 4. Duncan's Multiple Range test indicated that all plotted points differ from one another with a single exception; for the role play anticipation conditions, argument arrangement subjects yielded essentially the same posttest scores as subjects who were to originate their own arguments. The significant departure from parallelism, then, appears to originate from a differential magnitude of attitude scores produced by subjects who originated their own arguments and performed the role playing. This interaction is only partly supportive of what conflict theory would predict in that origination-performance subjects produced higher attitude scores than arrangement-performance subjects, but that a negative slope was not obtained for anticipated role play subjects under arrangement and origination conditions.

A significant second order interaction for the A, C, and D variables was obtained ($F = 7.04$; 1,64 df; $p < .01$). This interaction effect on mean attitude scores is depicted in Figure 5. With one exception, no differences in posttest scores were found to exist for anticipated role playing conditions. Subjects in the \$2.50 origination-performance condition yielded significantly higher posttest scores than subjects in the 50¢-origination-performance condition ($R = 2.64$; 1,64 df; $p < .05$). The interesting results occur for subjects in the four treatment combinations involving role playing performance. For these subjects it was found that 50¢ arrangement and \$2.50 arrangement subjects only barely fail to meet significance at the .05 level ($R = 2.54$; 1,64 df). A significant difference between incentive conditions for origination-

Fig. 4. The interaction effect between role playing and improvisation on mean attitude change.

Fig. 5. The interaction effect of incentive, role playing, and improvization on mean attitude change.

performance subjects, however, was obtained ($R = 2.61$; 1,64 df; $p < .05$). Also still with the role playing performance conditions, subjects in the arrangement 50¢ condition differed significantly from subjects in the origination 50¢ conditions ($R = 2.63$; 1,64 df; $p < .05$). Significant differences were found to exist between the \$2.50-arrangement and \$2.50-origination conditions ($R = 4.33$; 1,64 df; $p < .001$). How these results are related to conflict theory and dissonance theory will be discussed later.

The combined variables of B, C, and D also produced an interaction effect ($F = 9.51$; 1,64 df; $p < .01$). This second order interaction on attitude change is illustrated in Figure 6. Once more, the four treatment combinations involving role playing anticipation were not significantly different from one another, with the four role playing performance treatment conditions producing the most attitude change. Interestingly enough, none of the connected plotted points in Figure 5 are significantly different from each other. As is evident by visual inspection, the largest differences occurred between arrangement and origination subjects who performed the role play, among both low interest subjects ($R = 3.68$; 1,64 df; $p < .001$), and high interest subjects ($R = 3.72$; 1,64 df; $p < .001$). It is possible that the major contributor to this interaction arises out of a significant difference between high interest-arrangement-performance and high interest-origination-anticipation conditions ($R = 3.65$; 1,64 df; $p < .01$).

Table 1 shows that the final source of variance obtained was a third order interaction. This A x B x C x D interaction effect was highly significant ($F = 11.78$; 1,64 df; $p < .01$). The interaction effects of incentive, role playing, interest, and improvization on mean attitude change scores are

Fig. 6. The interaction effects of interest, role playing, and improvization on mean attitude change.

plotted in Figure 7. In view of the insignificant contribution made by the E variable (issue), it can be said that this figure, by collapsing across issues, represents the spectrum of results obtained in the present experiment.

In order to facilitate the interpretations of Figure 7, the effects of levels of the role playing variable (anticipation vs. performance) are discussed separately. As difficult as it often is to interpret third order interactions, the attempt to do so in this case is enlightening.

Role play performance: The plotted points on the left-hand side of Figure 7 depict the nature of the results obtained under role play performance conditions. Here it can be seen that engaging in argument origination produces greater overall attitude scores than engaging in more passive argument arrangement. Subjects in the \$2.50-origination conditions produced significantly higher posttest scores than their corresponding 50¢ subjects (high-origination: $R = 4.96$; 1,64 df; $p < .05$; low-origination: $R = 4.93$; 1,64 df; $p < .05$). Under the same incentive levels, high and low interest-originators yielded essentially the same attitude change scores.

Considering still the role play performance conditions, a significant inverse relation between magnitude of incentive and attitude change was obtained for low interest-argument arrangement subjects ($R = 4.79$; 1,64 df; $p < .01$). No difference in attitude scores across incentive levels was obtained for subjects in the high interest-argument arrangement condition. The crossover effect obtained for high and low interest-arrangement subjects over the two levels of incentive can be attributed to a difference in posttest scores between high interest-arrangement and low interest-arrangement conditions at the \$2.50 incentive level ($R = 3.62$; 1,64 df; $p < .05$). No difference between these two

Fig. 7. The interaction effect of incentive, role playing, interest, and improvisation on mean attitude change.

conditions was obtained under the 50¢ level of incentive. The interaction between origination and arrangement for the low interest conditions across incentive levels can be explained also as a result of a difference in attitude scores originating at the \$2.50 level of incentive ($R = 3.62$; 1,64 df; $p < .01$). The difference in mean attitude change scores between these two conditions at the 50¢ level is not significant.

The difference in posttest scores between high originators and high arrangers is maintained at both incentive levels (50¢: $R = 3.72$; 1,64 df; $p < .05$; \$2.50: $R = 4.91$; 1,64 df; $p < .01$). The source of this interaction can be seen to be the increase in attitude scores at the \$2.50 incentive level for high-active subjects.

Anticipated Role Playing: The plotted points on the right-hand side of Figure 7 depict the results obtained from subjects who completed the posttest questionnaire after they were led to believe they were to engage in role playing, but who did not actually execute it. The reporting of these results can be simplified by stating first that none of the plotted points concerned with an incentive of \$2.50 differ significantly from one another. Also, the only significant between-incentive-levels difference was for low interest subjects who originated their own arguments ($R = 4.39$; 1,64 df; $p < .01$). An interaction effect between low incentive origination and high incentive origination groups is also noted. Since the \$2.50 low interest-originators do not differ from the \$2.50 high interest-originators the source of this effect can be attributed to larger posttest scores for subjects in the 50¢ low interest-origination condition compared with the 50¢ high interest-origination condition ($R = 3.43$; 1,64 df; $p < .05$).

The most meaningful way to understand this four-way interaction is by searching for departures from parallellism for all similarly titled lines. Visual inspection of these data shows that all lines (except one) in the role play performance condition are essentially parallel to the corresponding lines in the role play anticipation condition. In the role play performance condition, a significant positive relation is observed across incentive levels for subjects who originated arguments about an issue in which they have low interest. This positive relation fails to be replicated in the role play anticipation condition for otherwise similar subjects. In fact, a sharp negative relation across incentive levels was obtained. Consequently, what has been demonstrated is an interaction between anticipated and performed role playing conditions across three other variables: incentive, improvization, and interest.

It was not possible to analyze for sex differences primarily because of the small number of male subjects in each cell and because subject sex was not systematically varied across all levels of the variables in the experiment. Sex as a variable has not been found to be a source of variance in previous forced-compliance studies and does not appear to contribute to the variance of the data in this study. Inspection of mean posttest scores for males and females in each cell of the design attests to this fact. These means and data on male and female subjects appear in Appendix 5.

Two female students in psychology were asked to evaluate on a 19-point scale the tape recordings of the subjects' role playing performance in terms of (a) how persuasive they thought the subject sounded and (b) how much improvization the subject had engaged in.⁷

7. One judge was a graduate student in psychology while the other was a senior

(Instructions to judges, scales used, and summary of analyse of variance of these data appear in Appendix 6). On the persuasive scale no differences in judges' ratings were found to exist for either incentive, interest, improvization or issue variables. On the improvization scale a significant difference between subjects in the argument arrangement and the argument origination conditions was obtained for judges' ratings. Subjects who had engaged in originating their own arguments were perceived by the judges as having engaged in significantly more improvization than subjects who merely arranged and read another person's arguments ($F = 10.30$; 1,32 df; $p < .001$). No other variable produced a significant effect on judges' evaluations of role playing performance.

undergraduate in psychology. Inter-judge reliability estimates were found to be high on both scales; $r = .84$ on the improvization scale, and $r = .79$ on the persuasive scale.

CHAPTER IV

DISCUSSION

Implications for Conflict Theory

A variety of questions may be asked with respect to the results of the present experiment. First, and foremost, is: "How do these results fit with the conflict theory predictions?".

The predicted interaction effect between magnitude of incentive and interest in the issue on attitude change was confirmed--but perhaps in the statistical sense only. As is shown in Figure 2 , high interest subjects did not differ significantly in posttest scores across incentive levels. Perhaps this interaction arises only as a result of what the low interest subjects contribute. An interaction between these two variables may be a necessary, but not a sufficient, condition to confirm this conflict theory prediction. It should be recalled that an inverse relation was predicted for low interest subjects, but that a positive relation was anticipated for high interest subjects. Viewed in this light, dissonance theory holds its ground against conflict theory, by the absence of a positive relation between magnitude of incentive and attitude change for the high interest subjects.

The second prediction made by conflict theory was an interaction between magnitude of incentive and origination vs. arrangement of arguments. This interaction was confirmed statistically by analysis of variance and was illustrated in Figure 3 . The degree to which this supports conflict theory, however, demands closer examination of the simple effects in that interaction. The interaction arises primarily as a result of the greater

attitude change in the high incentive-origination conditions than in the high incentive-arrangement conditions, as compared with the smaller (but still significant) difference obtained for the improvization variable at the 50¢ level of incentive. Although there is a trend in the predicted positive direction, the relation between magnitude of incentive and attitude change for originating subjects is not significant; neither was there a significant negative relation for argument-arrangement subjects. Nevertheless, levels of incentive and degree of improvization do interact. One factor of importance to be noted in support of conflict theory is the overall greater amount of attitude change witnessed for subjects who engaged in argument origination compared with subjects who simply arranged arguments.

The third prediction made by conflict theory was an interaction between magnitude of incentive and the actual performance vs. simple anticipation of role playing the counterattitudinal position. Although this prediction was not confirmed by a first order interaction in the analysis of variance, these two variables were found to interact when present with the improvization variable. This finding was summarized in Figure 5 . It is clear that when subjects are called upon to engage in actual role playing under conditions which foster biased scanning of arguments (argument origination), attitude change follows in a manner directly related to the size of the incentive received. Support for the conflict theory proposal that attitude change occurs under conditions which foster biased scanning of arguments, thus leading to a change in the role player's internal balance sheet, is met in two ways: First, as Figure 5 shows, a positive relation between magnitude of incentive and attitude change was found to exist for subjects involved in

argument origination plus role playing performance. Second, (and perhaps more important as far as theories of attitude change is concerned), the total magnitude of attitude change is worth examining. Aside from the predicted positive relation observed for subjects in the origination-execution condition, it is noteworthy that both high and low incentive subjects in this treatment combination surpass in attitude change scores all other conditions. It is not enough to note that the high incentive subjects showed the highest scores; the low incentive subjects in this condition also show significantly more change in attitudes than all the treatment combinations below it in Figure 5 . It is also significant that the treatment combinations which, in conflict theory terms, should do least to promote biased scanning, that is, the passive argument arrangement-anticipated role play condition, show the least amount of attitude change of all the eight treatment combinations present. All in all, the pattern of results depicted in this figure appears to support the attitude change formulations advanced by conflict theory, that is, that attitude changes are most likely to occur under conditions which promote biased scanning of self-persuading arguments.

Another look at the specific relations between the role playing variable and the improvization variable can be given by referring to Figure 4 . Here it is possible to see how, in general, these two variables interact overall. Argument origination plus performed role playing performance is a potent force in producing attitude change. An interesting item of information comes out of these results, one which conflict theory could be hard-pressed

to explain; it is the significantly higher attitude scores for subjects in the argument-arrangement, role play performance condition compared with subjects in the argument arrangement, role play anticipation condition. According to the results, arrangement-anticipation subjects show a small amount of attitude change; however, what is it about overtly mouthing someone else's arguments that can account for more change taking place, that is, for arrangement-performance subjects? The answer cannot be found in differential biased scanning, since subjects in both treatment conditions arrange the same arguments. One possible explanation lies in the fact that role play performance subjects compared with role play anticipation subjects are exposed for an additional time to the attitudinal material, when they finally engage in the role playing task. Unless conflict theorists are willing to sustain this explanation it would appear that the theory's formulations are conceptually deficient in this respect.

In view of all the positive relations between magnitude of incentive and attitude change which have been witnessed in the results, what evidence is there that the treatment manipulations in the experiment allowed for the emergence of results with a dissonance theory interpretation? A satisfactory answer to this question is always difficult to supply. It would appear that all the necessary procedures were followed here to assure that subjects were engaging in a dissonance-producing, counterattitudinal act. An inspection of the data summarized in Figure 7 can help provide an answer. On the left-hand side of the figure we have the results of the treatment manipulations under role play performance conditions. Here, two significant positive

slopes and one significant negative slope was obtained for the plotted points. In addition, one significant negative slope was obtained under anticipated role playing conditions. Generally, it is these negative relations between magnitude of reward and attitude change that dissonance theorists attend to in seeking confirmation of dissonance theory. Thus, it is with this kind of evidence that one affirms that the conditions at least allowed for a demonstration of the classical dissonance effect, a negative relation between size of reward and attitude change. What makes these results interesting is not so much the fact that negative slopes were obtained but that both positive and negative relations have been observed through systematic variation of conditions in one experimental design. In this design, the presence of both positive and negative slopes are a prime requirement if one is to confirm the conflict theory approach to attitude change. As can be seen in Figure 7 , under conditions which foster a biased scanning of arguments (argument origination plus role play performance) a positive relation between size of reward and attitude change is observed. It is precisely under these conditions that conflict theorists would say most attitude change should occur. Also they are presumably those which should create the most dissonance.

The negative relation between size of reward and attitude change for subjects in the low interest-argument arrangement conditions is also consonant with conflict theory predictions. Conflict theorists would maintain that it is here, where there is low interest in the issue and little opportunity for biased scanning, that small rewards serve as the dominant incentive in changing attitudes; hence the negative relationship. The

negative slope seen under the anticipated role playing conditions can also be accounted for in conflict theory terms. Recall that under this treatment condition subjects are led to believe they are to engage in role playing prior to receiving the posttest questionnaire. Under this condition, what treatment manipulation would (a) create the greatest sense of commitment and (b) meet with the smallest resistance in changing attitudes? Being led to believe that one is to engage in argument origination is a greater commitment than merely agreeing to read someone else's arguments. In this treatment condition, having little interest in an issue is bound to provide less resistance to a change in attitude than one in which there is a great deal of personal interest. Thus, in conflict-theory terms, low interest argument-origination subjects are the most susceptible candidates for an influence of differential rewards--and this is supported by the results of the present experiment. The significant inverse relation between size of reward and attitude change was observed to occur for subjects in the low interest-argument origination under anticipated role playing conditions. Receiving a small reward (50¢) for agreeing to engage in a counterattitudinal role playing task provides the most appropriate conditions for the development of what has previously been referred to as the "illusion of commitment" and thus the only new dominant incentive; consequently, according to conflict theory, subjects in this condition show more attitude change than subjects receiving a larger reward.

On the whole, these data generally support the claim made by conflict theorists: that attitude changes are fostered by strong inducements and that the dissonance outcome can be given a "special case" interpretation.

Implications, Conclusions and Conjectures

A discussion of attitude change studies in forced-compliance situations is never complete without mention of the work done by Daryl Bem and the self-perception explanation of cognitive dissonance phenomena (Bem, 1967). The basic assumption of his self-perception theory is that the subject's attitudes can be predicted on the basis of his behaviour and its controlling circumstances. That is, to the extent that internal cues are not operating, a person comes to know his attitude toward a particular object by making the same inferences about his behaviour as would an outside observer on the basis of the same available information. Support for this view has been obtained in a series of experiments (Bem, 1965, 1966, 1967; Bem and McConnell, 1970).

Bem's self-perception hypothesis was not developed to account for attitude change however; it was proposed as an alternative explanation for "cognitive dissonance phenomena", that is, to account for the negative relation between magnitude of inducement and posttest scores, or what attitude change theorists have called "attitude change". Thus, the self-perception framework is not equipped conceptually to account for the positive relations between size of reward and posttest scores. In this respect, both conflict theory and the self-perception framework are markedly similar. On the one hand, conflict theorists attribute a "special case" interpretation to such inverse relations, where higher posttest scores are observed in low incentive conditions compared with high incentive conditions; on the other hand, a Bemian approach to a discussion of these inverse relations involves the denial of "change", which is allegedly reflected in higher posttest

scores. In fact, what the self-perception hypothesis implies is that, whenever the experimental conditions are such that the individual is to be judged as not under the control of the reinforcement contingencies of the situation (tacting), he will yield higher posttest scores. These posttest scores, Bem would say, are not to be interpreted as attitude change from a premanipulation attitude position; these posttest scores simply reflect the inference the subjects have made about what their attitude must be if they were willing to carry out the role playing task for such a meager incentive. Conflict theorists are not that far removed from a Bemian interpretation when they introduce their "special case" explanation of cognitive dissonance phenomena. Recall that when conflict theorists justify an inverse relation between magnitude of incentive and attitude change (i.e., why a low incentive group changed more than a high incentive group) they no longer speak in terms of variables which promote attitude change. The way in which conflict theorists interpret change in these cases is not in terms of biased scanning of positive arguments, or in terms of a change in balance sheet; rather, the "special case" explanation is phrased in terms markedly similar to the self-perception framework. When conflict theorists speak about treatment conditions which make the "illusion of voluntary commitment" the only dominant incentive, it appears as if they are talking about an experimental environment for the subject, which in Bemian terms, is one which leads to making self-descriptive inferences from one's behaviour (tacting).

Throughout the body of this paper the reader may have noticed the terms "attitude change" and "posttest scores" used interchangeably, and this has been done with some trepidation. It is the contention of the author that the higher posttest scores, which occur for various treatment combinations, such as the argument origination-performance role play conditions, reflect something different than the change from pretest to posttest at lower levels of the "attitude change" axis. The reason for this belief is easy to understand, for if one approaches attitude change at the descriptive level of the conflict theorists, there is always the question as to what, if anything, is going to bolster and sustain the "attitude position" adopted by the low incentive groups where a "dissonance effect" is demonstrated. If one assumes the conflict theory position in viewing attitude change as being fostered by biased scanning of strong positive arguments and sustained by a change in personal balance sheet, it is difficult to see how "change", which has occurred in the absence of conditions which promote attitude change, can really be called "attitude change". Perhaps the kind of distinction being made is a difference between "real" attitude change, which has occurred as a result of cognitive reorganization, and "posttest score" change, which arises when one is exposed to an experimental environment, which fosters Bemian self-descriptive inferences about one's attitude based on one's behaviour in that environment. A further word on what is "real" change later.

One important variable manipulated in the present experiment was the incentive factor. Those experiments concerned with demonstrating "cognitive dissonance phenomena" in forced compliance situations and which have

incorporated incentive levels in their design have generally obtained a statistical main effect for this variable (see review of literature in this paper). Experiments which have been designed to show alternative explanations to cognitive dissonance have occasionally been unable to obtain a similar main effect for incentive, (e.g., Janis and Gilmore, 1965), and so in this experiment where incentive was not, overall, a significant source of variance. This finding is interesting, for it suggests that the incentive variable may be playing a different role depending upon the experimental context in which it is cast. It is possible that if only one half, or one quarter, of this design had been employed in the experiment, (e.g., 50¢ and \$2.50 incentive, and high and low interest treatment combinations) a significant effect due to incentive would have occurred; however, because the incentive variable was cast with four other variables it did not manifest itself in a significant main source of variance. What all this suggests, then is the following: it is conceivable that in previous studies, where incentive was found to be a main source of variance, incentive itself may be important only in the same limited sense that it was found to interact with levels of other variables in the present experiment. The implication of a lack of significance for an incentive main effect is really minimal as far as conflict theory is concerned. In fact, conflict theorists have considered an incentive variable in their investigations primarily as an instrument in dealing with cognitive dissonance experiments, where incentive levels were previously employed. To the extent that "cognitive dissonance phenomena" have been satisfactorily explained in conflict theory terms, conflict theorists would undoubtedly be more than happy to rid themselves of this bothersome variable.

Leaf 68 is not wanting;
there is an error in paging.
(Per Dr. M. Girodo. May 31, 1971)

As a contributor to variance in the data, this variable does not play a prominent role; the lack of significance in role playing effectiveness between incentive levels from judges' ratings provides additional evidence which attests to this fact.

The overall importance of the incentive variable may be viewed as minimal by conflict theorists; however, at another level of analysis; it can be seen to be a variable of prime importance. For, if one adopts a Bemian approach to attitudes where "attitude change" is seen as a new attitude position originating without the concept of change, then the incentive variable is a most important one. In this sense, one would not be looking at attitude "change" so much as how attitudes originate. Viewing through the eyes of a behaviourist adopting a "functional analysis" approach to attitudes, we can see that incentive levels provide important environmental cues to the individual who makes inferences about his behaviour in deciding what his attitude is. Approaching the problem of attitudes by studying how they originate adds a new dimension to the results of the present experiment. For the psychologist who favours a strict "behaviouristic" approach to behaviour, the inverse relations between incentive levels and posttest scores are the "real" data to attend to and the positive slopes now become the ones in need of an explanation.

In summary, the present study confirms the conflict theory approach to attitude change and the "special case" interpretation to which cognitive dissonance phenomena has been relegated. It is hoped that further research through a behaviouristic approach will be undertaken in order to shed some light on the functional meaning of positive relations between magnitude of incentive and posttest scores.

BIBLIOGRAPHY

- Allen, V. Cognitive familiarity and dissonance reduction. In L. Festinger (Ed.), Conflict, decision and dissonance. Stanford: Stanford University Press, 1964, pp. 34-42.
- Bem, D.J. An experimental analysis of self-persuasion. Journal of Experimental Social Psychology, 1965, 1, pp. 199-218.
- Bem, D.J. Inducing belief in false confessions. Journal of Personality and Social Psychology, 1966, 3, pp. 707-710.
- Bem, D.J. Reply to Judson Mills. Psychological Review, 1967, 74, pp. 536-537 (a).
- Bem, D.J. Self-perception: An alternative interpretation of cognitive dissonance phenomena. Psychological Review, 1967, 74, pp. 183-200 (b).
- Bem, D.J., and McConnell, H.K. Testing the self-perception explanation of dissonance phenomena: On the Salience of premanipulation attitudes. Journal of Personality and Social Psychology, 1970, 14, pp. 23-31.
- Brehm, J. Post-decision changes in the desirability of alternatives. Journal of Abnormal and Social Psychology, 1956, 52, pp. 384-389.
- Brehm, J. Comment on "counter-norm attitudes induced by consonant versus dissonant conditions of role-playing". Journal of Experimental Research in Personality, 1965, 1, pp. 61-64.
- Brehm, J., and Cohen, A. Re-evaluation of choice alternatives as a function of their number and qualitative similarity. Journal of Abnormal and Social Psychology, 1959, 58, pp. 373-378.
- Brehm, J., and Cohen, A. Explorations in cognitive dissonance. New York: Wiley, 1962.
- Brock, T. Effects of prior dishonesty on post-decision dissonance. Journal of Abnormal and Social Psychology, 1963, 66, pp. 325-331.
- Carlsmith, J.M., Collins, B.E., and Helmreich, R.K. 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, pp. 1-13.
- Chapanis, N., and Chapanis, A. Cognitive dissonance: Five years later. Psychological Bulletin, 1964, 61, pp. 1-22.

- Cohen, A. An experiment of small rewards for discrepant compliance and attitude change. In J. Brehm and A. Cohen, Explorations in cognitive dissonance. New York: Wiley, 1962, pp. 73-78.
- Collins, B.E., and Helmreich, R.K. Studies in forced compliance: II. Mechanisms of attitude change. Unpublished manuscript, Yale University, 1966.
- Davidson, J., and Kiesler, S. Cognitive behaviour before and after decisions. In L. Festinger (Ed.), Conflict, decision and dissonance. Stanford: Stanford University Press, 1964, pp. 10-19.
- Deutsch, M., Krauss, R., and Rosenau, N. Dissonance or defensiveness? Journal of Personality, 1962, 30, pp. 16-28.
- Duncan, D.B. Multiple range and multiple F tests. Biometrics, 1955, 11, pp. 1-42.
- Elms, A.C. Role playing, incentive and dissonance. Psychological Bulletin, 1967, 68, 132-148.
- Elms, A.C., and Janis, I. Counternorm attitudes induced by consonant versus dissonant conditions of role-playing. Journal of Experimental Research in Personality, 1965, 1, pp. 50-60.
- Festinger, L. A theory of cognitive dissonance. Stanford: Stanford University Press, 1957.
- Festinger, L., and Carlsmith, J. Cognitive consequences of forced compliance. Journal of Abnormal and Social Psychology, 1959, 58, pp. 203-210.
- Holmes, J., and Strickland, L.H. Choice freedom and confirmation of incentive expectancy as determinants of attitude change. Journal of Personality and Social Psychology, 1970, 14, pp. 39-45.
- Hovland, C., Janis, I., and Kelley, H. Communication and Persuasion. New Haven: Yale University Press, 1949.
- Insko, C.A. Theories of attitude change. New York: Appleton-Century-Crofts, 1967.
- Janis, I. Motivational factors in the resolution of decisional conflicts. In M.R. Jones (Ed.), Nebraska symposium on motivation. Vol. 7, Lincoln: University of Nebraska Press, 1959.

- Janis, I. Stages in the decision-making process. In R.P. Abelson et al. (Eds.), Theories of Cognitive Consistency: A Sourcebook. Chicago: Rand McNally, 1968, pp. 810-818. (a)
- Janis, I. Attitude change via role playing. In R.P. Abelson et al. (Eds.), Theories of Cognitive Consistency: A Sourcebook. Chicago: Rand McNally, 1968, pp. 810-818 (b)
- Janis, I., and Gilmore, J. The influence of incentive conditions on the success of role playing in modifying attitudes. Journal of Personality and Social Psychology, 1965, 1, pp. 17-27.
- Janis, I., and King, B. The influence of role-playing on opinion change. Journal of Abnormal and Social Psychology, 1954, 49, pp. 211-218.
- Janis, I., and Mann, L. A conflict-theory approach to attitude change and decision making. In A.G. Greenwald, T.C. Brock, and T.M. Ostrom (Eds.), Psychological Foundations of Attitudes. New York: Academic Press, 1968, pp. 327-360.
- Jecker, J. The cognitive effects of conflict and dissonance. In L. Festinger (Ed.), Conflict, Decision and Dissonance. Stanford: Stanford University Press, 1964, pp. 21-30.
- Kiesler, C.A., Collins, B.E., and Miller, N. Attitude Change: A Critical Analysis of Theoretical Approaches. New York: John Wiley and Sons, 1969.
- King, B., and Janis, I. Comparison of the effectiveness of improvised versus nonimprovised role-playing in producing opinion change. Human Relations, 1956, 9, pp. 177-186.
- Lependorf, S. The effects of incentive value and expectancy on dissonance resulting from attitude-discrepant behaviour and disconfirmation of expectancy. Unpublished doctoral dissertation, State University of New York at Buffalo, 1964.
- 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, pp. 245-254.
- McGuire, W.J. Attitudes and opinions. Annual Review of Psychology, 1966, 17, pp. 475-514.
- Rosenberg, M. When dissonance fails: on eliminating evaluation apprehension from attitude measurement. Journal of Personality and Social Psychology, 1965, 1, pp. 28-42.

Walster, E. The temporal sequence of post-decision processes. In L. Festinger (Ed.), Conflict, Decision and Dissonance. Stanford: Stanford University Press, 1964, pp. 112-127.

APPENDIX 1

INSTRUCTIONS GIVEN TO TEST-RETEST
SUBJECTS FOR PRETEST QUESTIONNAIRE

Test:

The Human Relations Institute in Toronto is conducting a survey to assess student opinions on a variety of topics which concern us today to one degree or another. The people at the Human Relations Institute have asked me to administer this questionnaire to selected classes here at Carleton as part of a continuing research programme sponsored by the Federation of Canadian Universities and Colleges.

I would appreciate it if you would take the questionnaire I am about to hand out, and work on answering the questions as carefully as you can. You'll be given fifteen minutes to complete the questionnaire, so when you are finished, please wait in your seat. The questionnaires will be collected at the end of fifteen minutes. Thank you.

Retest:

Some of you may recall a survey you completed a few weeks ago for the Human Relations Institute. The questionnaires were returned to Toronto, however, they have had some difficulty in collating the data and analyzing it through their computers. Since Carleton is one of the sponsoring universities working on this project, it was thought that it would be more efficient if the survey data were analyzed here with our own computers. I was wondering if you would mind filling out the questionnaire I am going to hand out. Please

answer the questions carefully and as best you can. The questionnaires will be collected in fifteen minutes when everyone has completed it. I might add, that, since Carleton has become actively involved now in this program, perhaps I would explain to you later what Carleton is doing. Thank you.

APPENDIX 2

LIST OF POINTERS FOR EACH ISSUE

Marijuana Issue:

- Use of marijuana should be legalized for those over the age of 21
- Marijuana does not lead to addiction, no withdrawal symptoms
- Prohibition has negative effects--promotes blackmarketing
- People 21--mature in eyes of the law
- Marijuana minor problem compared with alcohol

Family Size Issue:

- Because of the population explosion, the size of families should be controlled by the government
- child's development retarded in large families
- standard of living will go down
- Chunk of tax dollar used to support people with large families
- won't be enough room for everyone

Physical Education Issue:

- Students should be made to include physical education and athletics in their university programs
- Healthy body--healthy mind better learning and studying
- University responsible for overall well being of students
- Fight against overweight and being unfit
- Promotes friendship, good-will and broader interests

Armed Forces Issue:

- Canada should do away with its Armed Forces
- Effective only if all youth were drafted
- Unification has made it ineffective
- U.S. would protect us anyway
- Other more important internal priorities
- Costs Canadians too much money

APPENDIX 4 c.i.e. 32

ORIGINAL COPIES OF THE FOUR POSTTEST
QUESTIONNAIRES USED

Initial try-out
SPP

check on phrasing
R.H.

DRAFT

You have seen the results of the B./P.A. Prior to showing you a spectograph display of actual recordings of these three prominent figures it is necessary that we get an idea about how you feel about certain statements. Since it is entirely possible for you to identify the personage merely by looking at these modal characteristics on the spectograph it is important that we get this information before you have an opportunity to view the display.

Please respond to the following statements as it applies to you personally. Place an "X" on the point which comes closest to the way you feel about what is being said.

DRAFT

EXAMINED

PRSC
047/L

1. The Canadian Medical Association assumes too much power and control in regulating our lives.

Strongly
Agree

Neutral

Strongly
Disagree

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

2. The use of the breathalyzer test constitutes a violation of individual rights

Strongly
Agree

Neutral

Strongly
Disagree

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

3. The Censor Boards should exercise greater control over the kind of material to be made available to the public.

Strongly
Agree

Neutral

Strongly
Disagree

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

4. The use of marijuana should be legalized for those who are over the age of twenty-one.

Strongly
Agree

Neutral

Strongly
Disagree

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

5. The Federal government should assume all responsibility for Medicare.

Strongly
Agree

Neutral

Strongly
Disagree

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

6. Laws should be changed in order to allow anyone to have an abortion on demand.

Strongly
Agree

Neutral

Strongly
Disagree

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

7. Sex education should not be taught in elementary schools.

Strongly
Agree

Neutral

Strongly
Disagree

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

8. The drinking age in Ontario should be lowered to eighteen.

Strongly
Agree

Neutral

Strongly
Disagree

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

9. More emphasis should be placed on physical education
at the elementary school level.

Strongly
Agree

Neutral

Strongly
Disagree

o o o o o o o o o o o o o o o o o o o o

10. All cigarette advertising on television should be stopped.

Strongly
Agree

Neutral

Strongly
Disagree

o o o o o o o o o o o o o o o o o o o o

Initial Ref-out
SJS

check on phrasing
R.H.

DRAFT

You have seen the results of the B./P.A. Prior to showing you a spectrograph display of actual recordings of these three prominent figures it is necessary that we get an idea about how you feel about certain statements. Since it is entirely possible for you to identify the personage merely by looking at these modal characteristics on the spectrograph it is important that we get this information before you have an opportunity to view the display.

Please respond to the following statements as it applies to you personally. Place an "X" on the point which comes closest to the way you feel about what is being said.

DRAFT

EXAMINED
PASC
049/K

1. The government should provide for a guaranteed annual income.

Strongly
Agree

Neutral

Strongly
Disagree

o o o o o o o o o o o o o o o o o o

2. Part of the generation gap can be bridged through formal adult education.

Strongly
Agree

Neutral

Strongly
Disagree

o o o o o o o o o o o o o o o o o o

3. Children are being exposed to too much violence on television.

Strongly
Agree

Neutral

Strongly
Disagree

o o o o o o o o o o o o o o o o o o

4. The government should be allowed to control the number of children one will be allowed to have in a family.

Strongly
Agree

Neutral

Strongly
Disagree

o o o o o o o o o o o o o o o o o o

5. Greater attention should be given to early childhood education.

Strongly
Agree

Neutral

Strongly
Disagree

o o o o o o o o o o o o o o o o o o o

6. The Federal government should not provide financial support to church run schools.

Strongly
Agree

Neutral

Strongly
Disagree

o o o o o o o o o o o o o o o o o o o

7. Too much attention is being given to the occasional side effects of birth control pills.

Strongly
Agree

Neutral

Strongly
Disagree

o o o o o o o o o o o o o o o o o o o

8. The government should not relax its laws dealing with divorce.

Strongly
Agree

Neutral

Strongly
Disagree

o o o o o o o o o o o o o o o o o o o

9. Religion is playing an important role in solving todays problems.

Strongly
Agree

Neutral

Strongly
Disagree

o o o o o o o o o o o o o o o o o o o o

10. Sex education should not be taught at the primary school level.

Strongly
Agree

Neutral

Strongly
Disagree

o o o o o o o o o o o o o o o o o o o o

~~Initial try-out~~
LSP

check on phrasing
R.H.

DRAFT

You have seen the results of the B./P.A. Prior to showing you a spectrograph display of actual recordings of these three prominent figures it is necessary that we get an idea about how you feel about certain statements. Since it is entirely possible for you to identify the personage merely by looking at these modal characteristics on the spectrograph it is important that we get this information before you have an opportunity to view the display.

Please respond to the following statements as it applies to you personally. Place an "X" on the point which comes closest to the way you feel about what is being said.

DRAFT

EXAMINED
PRSC
047/I

1. The government should impose severe penalties on contributors to air and water pollution.

Strongly
Agree

Neutral

Strongly
Disagree

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

2. Federal-provincial conferences only initiate problems and incite conflict and should be discontinued.

Strongly
Agree

Neutral

Strongly
Disagree

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

3. Canada should develop its own satellite program.

Strongly
Agree

Neutral

Strongly
Disagree

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

4. Canada should do away with its Armed Forces.

Strongly
Agree

Neutral

Strongly
Disagree

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

5. Foreign ownership of Canadian companies should be halted immediately.

Strongly
Agree

Neutral

Strongly
Disagree

o o o o o o o o o o o o o o o o o o

6. Canada should not permit draft-dodgers to enter the country.

Strongly
Agree

Neutral

Strongly
Disagree

o o o o o o o o o o o o o o o o o o

7. Canada should take a more positive stand in international affairs.

Strongly
Agree

Neutral

Strongly
Disagree

o o o o o o o o o o o o o o o o o o

8. The post-office should be removed as a Crown Corporation and be run by private enterprise.

Strongly
Agree

Neutral

Strongly
Disagree

o o o o o o o o o o o o o o o o o o

9. The Canadian government should spend more money in opening up the Arctic area.

Strongly
Agree

Neutral

Strongly
Disagree

o o o o o o o o o o o o o o o o o o o

10. Unification and integration of the Armed Forces has proven to be unsuccessful.

Strongly
Agree

Neutral

Strongly
Disagree

o o o o o o o o o o o o o o o o o o o

Initial try-out
EFF

check on phrasing
R.H.

DRAFT

You have seen the results of the B./P.A.. Prior to showing you a spectrograph display of actual recordings of these three prominent figures it is necessary that we get an idea about how you feel about certain statements. Since it is entirely possible for you to identify the personage merely by looking at these modal characteristics on the spectrograph it is important that we get this information before you have an opportunity to view the display.

Please respond to the following statements as it applies to you personally. Place an "X" on the point which comes closest to the way you feel about what is being said.

DRAFT

EXAMINED
PASC
047/H

1. Bullfighting is not a sport and should not be permitted to have prime broadcast time on public television.

Strongly
Agree

Neutral

Strongly
Disagree

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

2. Too much money is being spent on developing safe sporting equipment and not enough on promoting safety in general.

Strongly
Agree

Neutral

Strongly
Disagree

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

3. Making professional players the property of a league or club constitutes a violation of individual rights.

Strongly
Agree

Neutral

Strongly
Disagree

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

4. Physical education and athletics should be made a requirement in all degree programs in university.

Strongly
Agree

Neutral

Strongly
Disagree

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

5. Canadian universities should make atheltic scholarships available for promising high school graduates.

Strongly
Agree

Neutral

Strongly
Disagree

o o o o o o o o o o o o o o o o o o o

6. Canada should change its professional-amateur rules so that Canadian players could compete in world championships.

Strongly
Agree

Neutral

Strongly
Disagree

o o o o o o o o o o o o o o o o o o o

7. All high schools should make their sports facilities available for public use throughout the entire year.

Strongly
Agree

Neutral

Strongly
Disagree

o o o o o o o o o o o o o o o o o o o

8. Cigarette and beer commercials should not be banned from public advertisement.

Strongly
Agree

Neutral

Strongly
Disagree

o o o o o o o o o o o o o o o o o o o

9. Athletes should not be permitted to publicly endorse commercial products.

Strongly
Agree

Neutral

Strongly
Disagree

o o o o o o o o o o o o o o o o o o o

10. The Canadian government should spend more money in developing athletes for Olympic competition.

Strongly
Agree

Neutral

Strongly
Disagree

o o o o o o o o o o o o o o o o o o o

APPENDIX 4

INTERACTION BETWEEN SUBJECT AND EXPERIMENTER
THROUGHOUT EXPERIMENT

Upon arriving in the experimental room, subjects found the experimenter busily engaged with tapes, tape-recorders and electronic equipment. When the subject inquired about the gaming experiment he had shown up for, the experimenter (rather dismayed) apologized to the subject that an error had been made and that the person who was to "run" him in the experiment had just left for another appointment. The experimenter explained to the subject that he was surprised Miss_____ (the gaming experimenter) had not contacted the subject since a mix up in subject arrangements had occurred. The subject was told that the ~~experiment~~ involved two people playing a "game" together for points and possible monetary rewards. At this point, the experimenter brought the subject into an adjoining room where gaming equipment was set up and the subject was shown the separate cubicles for the two participants, the peg-boards, earphones and tally-sheets that are used in playing the game. The experimenter apologized for Miss_____ who had failed to inform the subject about the mixup and told the subject that he would be receiving course credit for showing up anyway. The experimenter "procured" an experimental credit slip from a box which he "knew" contained the credit slips used by Miss_____. Upon filling out the course credit slip the experimenter apologized again and said that this was not the first time Miss_____ had failed to meet her appointment with prospective subjects.

When the experimenter handed the subject the credit slip he "suddenly remembered" that he could have the subject do something for him since he was not participating in the experiment. He explained to the subject that he was doing a study on "speech analysis", that he was collecting information on various political figures and their speech habits. He went on to say that he was analyzing political speech making through electronic equipment (a spectograph). He told the subject that he had collected enough tapes from political figures and was now looking for "control" tapes with which he could make a comparison. It was explained to the subject that the experimenter had a number of assistants who normally helped him with control tapes but that he had accidentally damaged a reel of tape which they had made, and since many of them were not around for the summer he was short of assistants. The subject was told he could "become" one of these assistants if he wanted to. Subjects in the argument origination condition were told that they would have to take a list of points (shown to subject) dealing with a particular issue and develop a strong persuasive speech (as would a politician). It was explained to the subject that the points were simply to give him a general idea of what could be said and that the experimenter expected his assistants to develop new and better arguments than the ones simply listed. The subject was told that he would have ample time to develop his prepared speech and that it would be better if he wrote it out before delivering it on tape. The subject was told he had some money (a little money) left over and that he could pay the subject \$2.50 (50¢) for helping out. The subject was given a choice to

decide if he wanted to do the task and when the subject agreed, he was taken to an adjoining room to start on his work. There he was paid the \$2.50 (50¢) and asked to sign a receipt for it. It was explained to the subject that the room the subject was in had a two-way mirror and was connected for sound. After 15 - 20 minutes the subject had completed writing his speech and delivered his material out loud from that room, while a recording of his presentation was taped from the experimenter's room.

When the subject had completed the recording, he returned to the experimenter's room where he found the experimenter equipped with earphones, listening attentively to the playback of the recording. The experimenter informed the subject that he wanted to test the quality of the sound before doing anything and asked the subject, if, while he waited, would complete a questionnaire which was being tried out before it was to be given to the people who were going to serve as "analyzers" of the tape. The subject was told to read over the questions and pick out any faults he could find. The subject was asked to complete the questionnaire as well, "just to see how it goes". When the subject had completed the questionnaire, the experimenter assessed the degree to which the subject had suspected deception by evaluating the questions the subject asked. After a brief interchange, the subject was asked not to discuss with anyone what the subject had done, since the experimenter "didn't want everyone knocking on his door so that they could participate also".

The same procedure was followed for all subjects except those in the argument arrangement conditions and those in the anticipated role play conditions. Subjects in the argument-arrangement condition were told that they, like the experimenter's other assistants, would have to make complete sentences of the points given and that they would have to arrange the points in a serial order which sounded most persuasive. These subjects were told that in order to facilitate their presentation, it would be better if they rewrote the points in the order they had decided upon.

Subjects in the anticipated role play condition were subjected to one or the other of the procedures above with the following modifications: Once the subject had signed the receipt for the money and the experimenter had returned to his room, the experimenter communicated with the subject through the sound system and, in a disappointed tone of voice, informed the subject that his recording equipment was malfunctioning and to return to the experimenter's room. When the subject returned he was asked to complete the posttest while the experimenter fiddled with the equipment and wondered out loud "how many days it would be this time before they got it fixed".

PURPOSE AND SCOPE

PERFORMED ROLE PLAY		ANTICIPATED ROLE PLAY	
ORIGINATION	ARRANGEMENT	ORIGINATION	ARRANGEMENT
12 f 14 f 10 f 12 f 10 f 14 m 16 f 11 m	6 f 9 m 3 f 8 m 11 f 7 f 8 f 14 f	10 f 3 f 2 f 9 f 1 m 1 f 6 m 1 f	2 m 3 f 9 m 3 f 1 f 10 f 3 f 4 f
M=12.37	M=8.25	M=4.12	M=4.37
19 f 14 m 10 f 18 m 16 f 16 f 19 f 18 f	7 f 4 f 10 f 14 f 9 f 12 m 9 f 6 m	1 m 4 f 9 m 4 f 12 f 3 f 8 f 7 f	10 f 2 f 5 f 1 f 2 m 9 f 3 m 6 f
M=16.25	M=8.87	M=6.00	M=4.75
10 f 10 f 8 f 14 f 8 f 17 f 10 m 9 f	12 m 7 f 3 m 9 f 16 f 9 f 12 f 9 f	8 f 10 f 6 f 10 f 12 f 9 m 4 f 9 m	2 f 1 f 10 f 5 f 8 f 3 m 4 f 10 m
M=10.75	M=9.62	M=8.50	M=5.37
14 m 10 f 17 m 17 f 13 f 15 f 9 f 15 f	3 f 10 f 1 f 8 f 2 f 5 f 3 f 7 f	5 f 4 m 1 f 7 m 10 f 1 f 3 f 1 f	8 f 3 m 1 f 4 m 5 f 3 f 2 f 1 f
M=13.75	M=4.87	M=4.00	M=3.37

APPENDIX 6

INSTRUCTIONS AND SCALES USED ON JUDGES' RATINGS
OF RECORDED ROLE PLAYING PERFORMANCE

You are about to listen to a series of tape recordings dealing with four issues. These issues center around (1) the legalization of marijuana for those over the age of twenty-one, (2) government control over family size, (3) the abolition of Canada's Armed Forces, and (4) compulsory physical education in university programs. After you have listened to a recording dealing with one of these issues, please complete the two scales below by circling one of the 19 points on each scale.

On a sheet in front of you are points dealing with the issues in questions. These are to guide you in making your rating on how "persuasive" you think the speaker is and on how much "improvization" the speaker has engaged in.

In assessing the first dimension, "persuasiveness", attend to the tone of voice, effort, and general manner of delivery on the part of the speaker. For the "improvization" dimension, attend to the number and quality of new arguments the speaker generated from the points you have in front of you.

Please circle one of the points below:

Very Not
Persuasive Persuasive

Please circle one of the points below:

Well Improvized Poorly Improvized

SUMMARY OF ANALYSIS OF VARIANCE FOR
JUDGES' RATINGS ON IMPROVIZATION

SOURCE	SS	df	MS	F
A (Incentive)	111.49	1	111.49	3.62
B (Interest)	42.19	1	42.19	1.37
C (Improvization)	318.16	1	318.16	10.30**
D (Issue)	212.52	3	70.84	2.30
AB	56.98	1	56.98	1.85
AC	31.72	1	31.72	1.03
AD	82.23	1	27.41	0.89
BC	58.82	1	58.82	1.91
BD	144.12	3	48.04	1.56
CD	188.49	3	62.83	2.04
ABC	55.44	1	55.44	1.80
ABD	0.09	3	0.03	0.01
ACD	241.14	3	80.38	2.61
BCD	65.54	3	21.85	0.71
ABCD	84.99	3	28.23	0.92
s/ABCD	985.60	32	30.80	
Total	2,679.17	63		

Note: ** = p .01

#100-

STUDENT OPINION QUESTIONNAIRE

Copyright © 1970
Human Relations Institute
Downsview, Ontario, CANADA

STUDENT OPINION QUESTIONNAIRE

On the following pages are listed certain social issues which concern different people to different degrees. These are represented in 15 statements. We would like you to respond to these statements by indicating how much you agree or disagree with each statement.

In addition to assessing your general position on these issues, we would also like to find out which issues are most relevant to you as an individual; or, stated in another way, how much of a personal interest you have in each of these issues.

For example, consider the following statement:

The sale of bubble-gum should be prohibited.

Strongly
Agree

Neutral

Strongly
Disagree

.....

How much of a personal interest do you have in this issue at the moment?

Very
Much

Very
Little

.....

Let us suppose that the person who responded to this statement was a primary-school teacher of 40 years experience and raised in the "old tradition". She indicated a quite strong agreement with the prohibition of the sale of bubble-gum. In addition, she indicated that she was personally concerned with the issue in view of the fact that for her the sale of bubble-gum was a very relevant personal concern.

Had the person who responded to this statement been the superintendent of schools, in all probability he would have indicated a similar agreement with the issue but would have indicated that the issue was of little personal interest to him at the moment.

These are only hypothetical illustrations. They should serve only to clarify the way in which you should respond to the statements.

In answering, simply circle the point on each scale which most closely corresponds to the way you personally and privately feel.

Please try to answer as honestly as you can and in a way which reflects your own true opinion. The answers you will give will be treated in a most confidential manner.

You may now turn the page and begin.

1. Present laws on abortion should be changed in order to permit anyone to have an abortion on demand.

Strongly
Agree

Neutral

Strongly
Disagree

.

How much of a personal interest do you have in this issue at the moment?

Very
Much

Very
Little

.

2. The use of marijuana should be legalized for those over the age of twenty-one.

Strongly
Agree

Neutral

Strongly
Disagree

.

How much of a personal interest do you have in this issue at the moment?

Very
Much

Very
Little

.

3. The government should be allowed to control the number of children one will be allowed to have in a family.

Strongly
Agree

Neutral

Strongly
Disagree

.

How much of a personal interest do you have in this issue at the moment?

Very
Much

Very
Little

.

..... Cont'd.

4. The U.S. should remain in VietNam until they have won the war in that country.

Strongly
Agree

Neutral

Strongly
Disagree

.

How much of a personal interest do you have in this issue at the moment?

Very
Much

Very
Little

.

5. Quebec should be permitted to sepearte from Canada if it so desires.

Strongly
Agree

Neutral

Strongly
Disagree

.

How much of a personal interest do you have in this issue at the moment?

Very
Much

Very
Little

.

6. The Federal government should not provide financial support to schools which are run by the church.

Strongly
Agree

Neutral

Strongly
Disagree

.

How much of a personal interest do you have in this issue at the moment?

Very
Much

Very
Little

.

..... Cont'd.

7. Canada should do away with its Armed Forces.

Strongly Agree	Neutral	Strongly Disagree
-------------------	---------	----------------------

.

How much of a personal interest do you have in this issue at the moment?

Very Much	Very Little
--------------	----------------

.

8. Canada should not permit draft-dodgers to enter the country.

Strongly Agree	Neutral	Strongly Disagree
-------------------	---------	----------------------

.

How much of a personal interest do you have in this issue at the moment?

Very Much	Very Little
--------------	----------------

.

9. Young men should be made to undergo a period of military training at one time or another.

Strongly Agree	Neutral	Strongly Disagree
-------------------	---------	----------------------

.

How much of a personal interest do you have in this issue at the moment?

Very Much	Very Little
--------------	----------------

.

..... Cont'd.

10. Canada should change its professional-amateur rules, so Canadian players could compete in world championships.

Strongly Agree	Neutral	Strongly Disagree
-------------------	---------	----------------------

.

How much of a personal interest do you have in this issue at the moment?

Very Much	Very Little
--------------	----------------

.

11. Physical education and athletics should be made a requirement in all degree programs in university.

Strongly Agree	Neutral	Strongly Disagree
-------------------	---------	----------------------

.

How much of a personal interest do you have in this issue at the moment?

Very Much	Very Little
--------------	----------------

.

12. Students should not have representation on the university senate.

Strongly Agree	Neutral	Strongly Disagree
-------------------	---------	----------------------

.

How much of a personal interest do you have in this issue at the moment?

Very Much	Very Little
--------------	----------------

.

.....Cont'd.

10. Canada should change its professional-amateur rules, so Canadian players could compete in world championships.

Strongly Agree	Neutral	Strongly Disagree
-------------------	---------	----------------------

.

How much of a personal interest do you have in this issue at the moment?

Very Much	Very Little
--------------	----------------

.

11. Physical education and athletics should be made a requirement in all degree programs in university.

Strongly Agree	Neutral	Strongly Disagree
-------------------	---------	----------------------

.

How much of a personal interest do you have in this issue at the moment?

Very Much	Very Little
--------------	----------------

.

12. Students should not have representation on the university senate.

Strongly Agree	Neutral	Strongly Disagree
-------------------	---------	----------------------

.

How much of a personal interest do you have in this issue at the moment?

Very Much	Very Little
--------------	----------------

.

.....Cont'd.

13. The university should raise its tuition fees in order to improve the quality of its professors.

Strongly
Agree

Neutral

Strongly
Disagree

.

How much of a personal interest do you have in this issue at the moment?

Very
Much

Very
Little

.

14. The university should change to a three-semester system to enable the full use of its facilities.

Strongly
Agree

Neutral

Strongly
Disagree

.

How much of a personal interest do you have in this issue at the moment?

Very
Much

Very
Little

.

15. Co-ed residences in university should be discontinued.

Strongly
Agree

Neutral

Strongly
Disagree

.

How much of a personal interest do you have in this issue at the moment?

Very
Much

Very
Little

.

..... Cont'd.

16. Students should be requested to dress in a certain way so as to eliminate perceived class differences.

Strongly
Agree

Neutral

Strongly
Disagree

.

How much of a personal interest do you have in this issue at the moment?

Very
Much

Very
Little

.

17. The university should spend more money on improving the beauty of the campus.

Strongly
Agree

Neutral

Strongly
Disagree

.

How much of a personal interest do you have in this issue at the moment?

Very
Much

Very
Little

.