

THE EFFECTS OF TYPE OF COMMUNICATION
ISSUE AND INITIAL OPINION STRENGTH
ON IMMEDIATE AND DELAYED OPINION CHANGE

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ON IMMEDIATE AND DELAYED OPINION CHANGE

By

GILLIAN MARGARET FOSTER, B.A.

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AUTHOR: Gillian Margaret Foster, B.A. (Keele University)

SUPERVISOR: Dr. D.W. Carment

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SCOPE AND CONTENTS:

An experiment was conducted to determine the effect on opinion change of communications concerning different types of issues when given to subjects with different initial opinion strengths. Opinion change was evaluated immediately, and after an interval of time.

The results indicated that opinion change was greatest for issues of low involvement, and least for issues of high involvement, irrespective of the subject's initial opinion strength. The induced opinion change for the issues of high involvement was found to be retained longer than that for the low involvement issues.

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CHAPTER ONE

INTRODUCTION

During recent years considerable attention has been given to the study of the effectiveness of human communication. Much of the research in this area has been concerned with understanding the ways in which communication, in whatever form, can influence the opinions and attitudes of people. The situation may take the form of a communicator imparting a message to an audience, or it may be a face-to-face discussion in which one of the pair attempts to manipulate the views of the other. If the communicator is successful in this intention, then the effect on the listener is seen as a change in his opinion about the relevant topic. This may be regarded empirically as the difference between his opinion on the topic before the communication was presented compared with his opinion after the presentation, as measured by his answer to some form of opinion questionnaire.

As will become clear when describing the rationale of the present study, the questions which have been asked concerning the nature of the opinion change have frequently yielded conflicting data. Often this can be attributed to the diversity of topics which have been presented, and on the types of approaches involved. Subsequently some relationships, which were thought to be general rules, in fact turn out to be true only under certain conditions.

There is an enormous amount of literature concerned with opinion change and therefore this review will deal only with those studies which are directly relevant to the present experiment.

If one considers influence to be the process by which an individual transmits stimuli to modify the behaviour, in this case the observed opinion of another individual, then it is possible to recognize three general areas into which most of the work may be categorized. There are first those studies which have attempted to isolate the variables characteristic of the communicator. The communicator provides cues which are important factors related to the effectiveness of the communication. Among these communication variables are his perceived credibility by the subjects, his degree of expertise and his affiliations or role.

The second main area of research has been concerned with the communication or message itself. This includes the motivating appeal of the communication contents; the nature of the actual topic; the types of appeals used and the mode of organization of the arguments. The latter includes the problems of one versus two sided arguments, primacy versus recency, and the effects of stating a conclusion versus allowing the audience to draw its own conclusion.

The third research area concerns the recipient of the message and includes individual personality factors, motivation for accepting or rejecting the communication, ego-involvement in the issue, and degree of discrepancy between the individual's own opinion and the position advocated by the previous message.

The aim of the present study is to investigate the extent of the opinion-change and its subsequent persistence when communications involving different types of issues are presented to subjects with differing initial strengths of opinions. An additional purpose is to investigate any relation-

ship there may be between the variables of opinion change and original strength of opinion with the amount of communication remembered by the subject and his interest in the topic of the communication.

CHAPTER TWO

HISTORICAL REVIEW

The general plan of this review of the literature will be as follows:

First McGuire's theory of inoculation will be described since this theory posed questions which were to form the basis of the main experiment. Secondly a pilot study, conducted to clarify some issues arising from McGuire's work will be described. The tentative findings from this study indicated the general direction of the main experiment and those variables that were to be manipulated. This will be followed by a look at those previous experiments which have included the variables of interest here.

The first section devoted to these studies will detail the effect of different types of communication on opinion change. Next those concerned with the effects of varying degrees of initial opinion strength will be summarized. Following this the review will consider studies in which the persistence of opinion change over time has been investigated.

McGuire's "Inoculation Theory"

Some experiments reported by McGuire (1961a, 1961b, 1962b) and McGuire and Papageorgis (1961) suggested to us the idea for a pilot study which led to the experiment which appears as the main focus of this thesis. Since it was the stimulus for the main study, McGuire's theory will be described in some detail.

McGuire originally was interested in the effect of motivating people in a number of ways to defend a strongly held belief which was later to be attacked by communications designed to change that belief. It was postu-

lated that people frequently defend their beliefs by a selective exposure reaction through which they avoid exposure to contradictory arguments with the result that these beliefs prove highly vulnerable to persuasion. This is because such people have been unable to build up some system of defensive arguments. McGuire hypothesized that pre-exposure and refutation of counter-arguments would have the effect of immunizing the individual to later persuasive attacks. This process was likened to a medical inoculation, which stimulates a person's biological defenses against a virus, by introducing a mild form of that virus into his body. Following the analogy, this "theory" of resistance to persuasion is known as the "inoculation theory". The inoculation, that is the refuted counterarguments, poses a threat that motivates the individual to develop bolstering arguments for his somewhat weakened belief which leads to practice in the development of bolstering arguments. Thus the motivation to develop bolstering arguments, plus the practice, produces resistance to subsequent influence attempts.

Since the evidence regarding selective exposure is somewhat contradictory (Freedman and Sears 1965), McGuire was not convinced that attitudes are to any great extent sheltered or protected. Therefore, in the development and testing of the inoculation theory he turned to the study of cultural truisms or widely shared beliefs that most individuals have never heard attacked. After much pretesting, he discovered that the area of health contains many such unanimously accepted opinions. By far the majority of his student samples checked 15 on a 15 point scale to indicate strong agreement with such propositions as "It is a good idea to brush your teeth after every meal if at all possible"; "The effects of penicillin have been, almost without exception, of great benefit to mankind"; "Everyone

should get a yearly chest X-ray to detect any signs of TB at an early stage"; and "Mental illness is not contagious". Utilizing these truisms he conducted a number of experiments to test predictions derived from the inoculation theory.

The several experiments which he carried out investigated such variables as the amount of threat contained in the refuted counterarguments, the amount of active participation in the defenses required of the subjects, and the amount of time which elapsed between the defense and the attack of the truism.

The experiment which is described next, arose from questions concerning McGuire's original assumptions. It is to these that we will now turn.

A basic assumption in McGuire's theory relates to the supposed inability of a person to have at his command arguments or awareness of the existence of opposing arguments which could be used to attack the truisms. McGuire agrees that there are theoretical reasons for not generalizing to other belief areas. Presumably for a non-truism, or a widely controversial issue, subjects are quite familiar with arguments for and against the belief. In so much as a person had already an adequate defense system, non-truisms would be more resistant to counterarguments. However let us suppose that people were able, contrary to McGuire's concept, to formulate meaningful arguments against a truism. Then less difference may be found between the amounts of opinion change exhibited after arguments against a truism and a more controversial non-truism, than McGuire's theory would predict. For example, it is possible to envisage a subject being well aware that there is a reasonable alternative to the view he holds, despite the fact that he

knows his belief to be widely shared by most people. In one experiment (McGuire and Papageorgis 1961), the subjects were required to write defensive arguments about the truisms. There were two writing conditions, writing with, and writing without an outline. It was found that the writing was poor, both in quality and quantity, with about half the subjects producing only one or no defensive arguments in the writing with no outline condition, and merely reiterating in different words the outlined arguments in the other condition.

One question then, examined in the pilot study, was the validity of assuming that people were unaware of arguments against truisms. If it seemed from the pilot study that subjects could write opposing arguments to truisms, then it may be thought necessary to examine more closely the use of the selective exposure mechanism to explain the vulnerability of the truisms.

A second issue concerning McGuire's theory involves the assumption, implicit rather than explicitly stated, that subjects felt equally strongly about the truism. The four health issues were selected as satisfying the criteria of a truism, that is, extremeness and homogeneity of opinion. The selection was made on the basis of responses made on an opinion questionnaire administered to a previous sample of college students. The questionnaire consisted of a fifteen interval graphic scale ranging from definitely false to definitely true. The preliminary survey showed that the mean belief on the four issues was over 13 with a mode at 15. Thus, there seemed a good consensus that the statements were definitely true. In the experiments themselves, the subjects were given no pretest to determine their opinions prior to the first session. Opinion change was measured from the base line of a control group

which had been given no treatments.

It is possible however that individual subjects did have different initial strengths of opinions, and this would lead one to ask how such differences could affect subsequent behaviour. The literature to be discussed later shows that original strength of opinion is one factor determining the amount of opinion change induced by persuasive communications. McGuire (1961) hints at this when he compares the amount of resistance conferred by two types of defenses read prior to exposure to persuasive communications. In one type the subject is given arguments defending the truism (supportive defense), and in the other the subject is introduced to arguments opposing the truism together with refutations (refutational defense). Where subject's opinions are measured immediately after reading the defenses, those who have read the refutational defenses have weaker opinions than those who read the supportive defenses. However, when opinions are measured again after the persuasive counterarguments have been presented, the pattern is reversed, and the refutational defense is found to produce greater sustained resistance. McGuire writes "Hence the initial strength of belief or the amount of induced strengthening is a very poor indicator of conferred resistance to subsequent strong counter-arguments" (1961, p. 332).

The point being made here is that irrespective of how it was achieved, after the first session of defense arguments, McGuire's subjects exhibited different levels of opinion strength and these differences were differentially related to subsequent persuasion. This suggested to us that it would be worthwhile first to ascertain whether or not people had different opinion strengths towards truisms and second, how opinion strength affected the

amount of change produced.

With these objectives in mind, we will consider now the pilot study.

Pilot Study

The pilot study was designed to find out whether subjects could write reasonable arguments against truisms and whether there were differences in opinion strengths towards such issues. In addition, amount of opinion change was measured following the writing of the arguments.

The subjects were undergraduates enrolled in a second year psychology course. The class was divided in half, and each half was given six statements from a total pool of twelve statements - two truisms which were used by McGuire, and four new statements which it was thought might also prove to be truisms (Appendix A). The subjects were asked to record their immediate opinion on the topic on a nine point opinion scale ranging from strongly agree, through moderately agree, and mildly agree to neutral, mildly disagree, moderately disagree and strongly disagree. Both groups then were given five minutes to write arguments opposing the statements. Both groups recorded their opinions immediately after completing the writing, and again one week later.

Although initially it was felt that the 12 statements would all prove to be truisms, in fact it was found necessary to regroup them into truisms and non truisms. All those statements which elicited strongly agree responses from 75% of the sample or over were counted as truisms, the rest were labelled non-truisms (Appendix A). On this basis, McGuire's four original health truisms, plus three of the new statements made up the group of truisms.

Results

When the number of arguments written against the truisms and against

the non-truisms were compared, no significant difference was found. The frequencies can be seen in Table I.

Table I here

Nor was there any significant difference between the number of arguments written against the original McGuire truisms, and the new truisms selected on the basis of the subjects' responses to the pilot study. These data are given in Table II.

Table II here

It could be argued from these data that McGuire was underestimating his subject's ability to defend the truisms. The arguments written by the subjects in the pilot study were not unreasonable given the nature of the statements, although no attempt was made to scale them for quality.

Opinion change was measured as the difference between the original opinion strength obtained before writing the arguments and opinion strength recorded immediately after writing. Sustained opinion change was the difference between the original opinion strength, and opinion strength measured one week later. The measurement was based on the number of places moved on the scale. Thus, a person modifying his opinion from moderately to mildly agree was said to have changed +1 units. The positive sign indicated an opinion change in the direction of the arguments written ie. away from the subject's initial opinion.

Analysis showed that the effect of having people write counter-

TABLE I

Mean Number of Arguments Written against each of
the Truisms and Non-Truisms

Truisms	Non-Truisms
2.79	2.90

t test not significant

TABLE II

Number of Arguments Written against each of the
Original McGuire Truisms and the New Truisms

McGuire's Truisms	New Truisms
2.57	2.45

t test not significant

arguments against the statements was to change their opinions in the direction advocated by the arguments. This can be seen in Table III.

Table III here

Furthermore there appeared to be a sleeper effect since more people changed when their opinion was obtained again one week later. The frequencies in the various categories are presented in Table IV.

Table IV here

It appeared that the number of people who changed their opinion after arguing against the non truism was greater than the number who changed after arguing against the truisms, but the amount of change undergone by each person was greater for the truisms than for the non truisms. Thus, the results are somewhat ambiguous in relation to McGuire's hypothesis since one would expect that arguing against a truism would produce both a greater amount of change and a greater number of people changing than when the arguments opposed non-truisms.

When the data are analysed with respect to original opinion strengths, it seems that the sleeper effect can be mainly accounted for by the subjects who felt strongly about the issue, since a decreasing amount of change over time as initial opinion strength of the subject decreased was found. In fact there is even a slight boomerang effect among the mildly opinionated subjects. That is, some of these subjects not only did not move in the direction of the counterarguments, but changed in the opposite direction. These results are

TABLE III

Percentage Number of Subjects who Changed their
Opinion Immediately at T_1 , and the Mean Amount of
Change

	Truisms	Non-Truisms
% number of changes	7.6	11.0
Mean amount of change	1.4	0.9

TABLE IV

Percentage Number of Subjects who Changed their
Opinion one week later at T_2 , and the Mean Amount
of Change

	Truisms	Non-Truisms
% number of changes	21.3	40.5
Mean amount of change	1.0	0.9

summarized in Table V.

Table V here

Secondly opinion change obtained immediately after writing was greatest for the strong subjects and least for the mild subjects, for both the truisms and non truisms. However, the number of subjects who changed their opinions increased with decreasing opinion strength. In other words, although fewer strong people changed, when they do change they do so more radically than the mild. This can be seen in Table VI.

Table VI here

If one can think of the strongly opinionated subjects as being even more vulnerable to the "infection" of counterargument than the mildly opinionated subjects, and this could be justified because of the fact that McGuire considered his subjects to strongly believe in the validity of the truism, then one would predict that strong subjects would not only change most radically but also change most frequently. This did not happen, and thus again this preliminary study does not support entirely the predictions made from the inoculation hypothesis. It would appear that one must also take into account the differential effects of original strengths of opinion.

To summarize the pilot study results, it seemed likely that subjects were able to present arguments against a widely held belief or truism although in doing so they did in fact modify their opinions generally in the direction of the arguments they wrote. However, there seemed to be a differential

TABLE V

Mean Amount of Opinion Change at T_1 , and T_2 for Truisms and Non Truisms in Subjects of Different Initial Opinion Strengths.

Opinion Strength	Truisms		Non-Truisms	
	T_1	T_2	T_1	T_2
Strong	-1.5	-1.7	-1.0	-2.0
Moderate	-1.3	-0.3	-0.9	-1.2
Mild	-1.0	+0.4	-0.7	-0.1

TABLE VI

Percentage Number of Subjects, of Different initial Opinion Strengths, who changed their Opinion at T_1 , and T_2 on the Truisms and the Non-Truisms.

Opinion Strength	Truisms		Non-Truisms	
	T_1	T_2	T_1	T_2
Strong	5.8	16.7	5.1	24.5
Moderate	11.5	31.0	21.7	43.3
Mild	20.0	55.0	13.5	67.3

effect due to initial opinion strength, and on the degree of both the immediate and the delayed opinion change. This effect was seen in relation to the number of people changing, and the overall amount each individual changed. Opinion change was also shown to be related to the nature of the topic, whether it was a truism or a non truism.

The main study therefore was planned to investigate the effect on opinion change of the following variables:-

- 1) type of statement
- 2) strength of original opinion
- 3) change of opinions over time.

In the remainder of this review, literature relating to each of these variables will be presented in order to place the study within the framework of contemporary research.

1) Opinion Change as a Function of the Type of Communication Used.

Commonsense immediately tells us that there are some matters which people feel so strongly about that no amount of eloquent persuasion will convince them to alter their opinion. It is often said that religion and politics do not make for congenial discussions since these are topics which produce very firmly rooted beliefs in man. It would be very difficult to modify the extreme religious bigot or the ardent segregationist. Thus, all other factors being equal, two persuasive messages may exert very different amounts of pressure toward opinion change, simply because of the difference in the subject matter.

In research in persuasion and social influence this is a factor frequently ignored, intentionally or otherwise. Hence, some investigators have deliberately avoided certain topics which would be likely to elicit opinions

too extreme to be modified by the persuasive techniques on hand. However, McGuire succeeded in producing striking opinion change with those very items which did elicit homogeneously extreme feelings, namely health truisms.

It would seem profitable then to examine the types of topics which have been used in experiments, and their effect on subsequent behaviour. Experiments explicitly designed to manipulate the variable of type of topic are meagre, and often one can only infer the effects from studies where the interest has been focussed on some other variable.

McGuire argues that subjects would be more likely to change their opinions when presented with unfamiliar counterarguments for which they have developed no effective resistance. There are in the literature several studies which would seem to support the notion that greater familiarity with a topic will produce resistance to change.

In a study by Lewan and Stotland (1961) high school students were given neutral, factual information regarding a subject about which they had little prior knowledge - the country of Andorra. Another group received no information. Both groups then listened to an emotional appeal against the country. The group which had been given some prior information changed less in their final evaluation of the country than the control group. The results were interpreted by assuming that the experimental group had built up a cognitive structure, around the object of discussion, on the basis of this information. To the extent that the cognitive structure contained elements inconsistent with the view advocated in the persuasive arguments, those subjects should resist changing their evaluations. In short, prior information and greater familiarity with the issue, reduces opinion change following persuasive communications.

McGinnies (1960) studying primacy-recency effects with Japanese students, found no difference between the group which had received communication on the cold war in the order pro U.S.A. followed by pro U.S.S.R., and the group for whom this order was reversed. He found in fact that the communication had an insignificant effect on opinions. He noted that this was a controversial topic with which his subjects were very familiar. Perhaps their familiarity with the topic provided them with a strong cognitive structure to resist persuasion.

Abelson & Rosenberg (1958), Cartwright & Harary (1956) and Festinger (1957), all support the view that the less the belief is bolstered in the mind of the subject by supportive arguments, the more will that opinion change when attacked by propaganda.

In a study by Hovland and Mandell (1952), concerned primarily with the effect on opinion change of perceived trustworthiness of the communicator, groups were asked to evaluate two identical communications - one presented by a suspect source, the other by a non-suspect source. The topic of the talk was "Devaluation of the Currency". They found that although the communication emanating from the non-suspect source was evaluated as being fairer, and more impartial than the other communication, there was no difference in the amount of opinion change that the two sources produced. This is in contrast to a lot of available evidence that opinion change is greater following communications from a highly credible and respected source (Allyn and Festinger 1961; Kelman and Hovland (1953)). The topic chosen by Hovland and Mandell was one which was probably relatively unfamiliar to introductory psychology students. The authors suggest that when the message is accepted on its own merit, then the highly credible source has no added effect on its acceptance. One criterion which could be used to determine whether or not a message was accepted on

its own merits may be the familiarity of the material. If one accepts the arguments of Lewan and Stotland (1961) that prior information creates a cognitive structure enabling people to resist communications discrepant with elements in this structure, then conversely one can argue that an unfamiliar topic may be accepted regardless of the credibility of the source because there is no cognitive structure operating to resist persuasion. This would explain why there was no difference in the amount of opinion change between the two sources, since the topic of devaluation was unfamiliar to the subjects.

An earlier study by Hovland & Weiss (1951), again investigating the variable of communicator credibility, did find support for the generalization that a highly credible source was a more effective persuader than a low credibility source. This was found in three of the four issues used. The three issues which generated this finding concerned anti-histamine drugs, atomic submarines, and the steel shortage. The fourth issue was on the future of movie theatres, and for this topic there was no significant difference between the effects of the two sources. If the topic of movie theatres was more familiar to the subjects than the other three topics, as one may with some justification suspect, then these results would contradict the reasoning put forward for the failure to obtain significant differences in the Hovland and Mandell experiment. In this case, a relatively unfamiliar issue was equally affected by both high and low credibility sources.

Thistlethwaite and Kamenetsky (1955) felt that a more thorough comprehension of the persuasive material facilitated opinion change and found opinion change to be greater following presentation of familiar opposing arguments. This again contradicts much of the evidence cited above which

suggests that greater familiarity with an issue, in providing the person with a cognitive structure, will make him more resistant to persuasive arguments.

How this cognitive structure might work to provide for greater resistance is suggested indirectly by the following studies:

Festinger and Maccoby(1964) demonstrated that when two groups of subjects were given arguments designed to change their opinions about college fraternities, more change was shown by the group which viewed an irrelevant film at the same time as hearing the arguments against the fraternities than by the group which heard the arguments alone. This seems paradoxical since one might have expected that the distracted group would pay less attention to the communicator and so be less influenced by it. However, the authors suggest that in fact the group watching the film, rather than being distracted from the communication message itself, were instead unable to formulate counterarguments to the propaganda. Without being able to build up a defense system through this private "debate" with themselves, they are more vulnerable and their opinion is more easily changed. "The listener does not sit there listening and absorbing what is said without any counteraction on his part. Indeed it is more likely that under such circumstances, while he is listening to the persuasive communication, he is very actively, inside his own mind, counterarguing and derogating the points the communicator makes. We can imagine that there is really an argument going on, one side being vocal and the other subvocal."(Festinger and Maccoby, 1964 pp. 360). In addition, Festinger and Maccoby suggested that the distracting accompaniment to the propaganda inhibited subvocalization of counterarguments, and, in this manner, reduced resistance.

They offer this as an explanation for the effects found in an experiment by Allyn and Festinger (1961). In this study, one group of subjects was warned to expect the communication opposing their beliefs, another group received no prewarning. The small, though significant differences, were in the direction of greater opinion change for the unwarned group. Festinger and Maccoby (1964) argue that the unwarned subjects had no opportunity to practise defensive arguments.

This explanation would readily fit McGuire's reasoning regarding truisms. If people do refute propaganda in this internal manner, they then will find this refutation difficult with cultural truisms, and easier with more familiar issues. Hence, opinion change will be greatest for the former case and least for the latter.

Cognitive Dissonance (Festinger 1957), offers an alternative explanation for describing the mechanism of the cognitive structure which may account for the lesser opinion change resulting from arguments directed against the familiar issues compared with those against the truisms. Briefly, it is reasoned that when individuals are presented with a communication taking an extremely divergent stand to their own, they experience cognitive dissonance, defined as a tension state with motivational properties. Festinger believes that dissonance arises after a decision to act has been made. In the sort of studies we have discussed here, Festinger argues that the tension state arises after reading the communication. Dissonance would develop because the new information contradicted the cognitions already held. It must be pointed out that this situation is somewhat different from the usual dissonance creating situations of free choice and forced compliance since the individual is involuntarily subjected to the communication. It should

be noted that Festinger makes no mention of choice or decision as being of importance in the production of dissonance during involuntary exposure.

Festinger proposes three ways a person may react in order to reduce dissonance. He may seek social support for his position, he may derogate the communicator, or he may change his attitude in line with the stand presented in the communication. The alternative he chooses will depend upon the pressures acting upon him at the time. He may find it easier to bolster his opinion by seeking social support. However, typically in the studies on persuasive communications, this is not possible since the subjects are in a group where discussion with their fellows is impossible. They may reduce dissonance by derogating the communicator. If however, as in the McGuire experiments, and in the experiment reported below, the sources are all presented as highly credible and authoritative, then it is likely that to reduce any dissonance he will choose the alternative of modifying his opinion in the direction of the communication.

Unfortunately, dissonance theory does not clearly indicate what types of issues will create the greater dissonance. Festinger states that the magnitude of the dissonance will be dependent upon both the importance of the elements, that is those factors which make up the cognitive structure of the issue, and upon the proportion of relevant elements that are dissonant. It is difficult though to predict whether truisms or more controversial issues will create more dissonance on these two criteria. On the one hand, one could argue that a counter-truism argument will create more dissonance in that it will provide more new and unfamiliar elements, and hence opinion change will be greater for the truisms. On the other hand, one could argue that because of the fact that, by definition, controversial issues give occasion for more

discussion they instead become more important to the subject. In this case, opinion change will be greater for the non truisms - a conclusion at variance with most of the suggestions made so far. Even this, though, is far from clear since it could be that a deeply held belief such as a truism contains elements more important to the subject. Admittedly, this is difficult to accept knowing the nature of the truism topics used by McGuire. At this stage, therefore, since there is nothing in the literature on dissonance theory dealing with the variable of familiarity, it is impossible to predict which beliefs will change most.

McGuire and Millman (1965) express this same difficulty with predicting change from dissonance theory and chose instead to describe their results in terms of a theory of "self-esteem". In this experiment, subjects were forewarned that they would be given communications supporting an opinion opposite to their own. It was found that there was an initial change in the communication even before the subjects had read the articles. After reading the communications, there was further opinion change, again in the direction of the communication. However, when this change was added to the first opinion change, there was no difference in the total amount compared with the no-forewarning conditions. In other words, what the forewarning did was to motivate a person to move initially from his first position, and then to reduce the effect of the subsequent propaganda.

According to self-esteem theory, a person behaves so as to maximize his self-esteem. Warned that certain of his beliefs are about to be exposed to skillful persuasive arguments, the person is apprehensive that he will succumb and appear gullible. Since this is a socially undesirable trait

to display, he begins to moderate his opinion in the direction of the anticipated attack. The effect is to preserve his self-esteem.

The authors claim that the results could also be interpreted in terms of dissonance theory since behaving to maximize self-esteem could also be seen as minimizing the discrepancy between the real and the ideal self. However, they experienced just the same difficulty in predicting which type of issues will create the most dissonance as has been discussed previously. McGuire and Millman (1965) employed two types of issues to be attacked - technical issues which were non-controversial, and emotional, controversial issues. They found that there was more anticipatory opinion change after forewarning on the emotional issues than on the technical issues. This was predicted from self-esteem theory since yielding to an attack on the emotional issues indicated a socially undesirable inability to stand up for one's own point of view. Thus, more response was made to the warning in order to bolster self-esteem.

It was also found that the actual attacks were more effective in modifying opinion on the technical issues. Again this was predicted from self-esteem theory since any opinion change after attack could be ascribed to openmindedness to new evidence, and ability to take in new information, all of which are socially desirable characteristics.

Returning to the truism and the controversial type of statements, the truisms used by McGuire were health truisms of a highly technical nature. Furthermore, it has hitherto been argued that the arguments used against the truisms were probably unfamiliar to the subjects. It is easy to see how a self-esteem theory would predict that the actual communication would have

a greater effect on truism beliefs. Subjects would regard consequent opinion change as resulting from a new awareness and understanding of fresh evidence unavailable to them before. They would then be more willing to modify their opinion in the advocated direction.

The willingness of subjects to accept new evidence and exhibit an openminded attitude to persuasive communication is discussed by Sears and Freedman (1965). They found that in a simulated jury situation, where subjects were asked to judge the guilt or innocence of a defendant opinion change was greater when subjects expected to read of new arguments relating to the case, than when they expected the old familiar arguments, even though the communications were identical. They suggested that subjects were more amenable to the arguments when they felt that their original opinions were based on partial evidence only. Expecting familiar arguments however, they have less justification for change since presumably they had taken into consideration the old arguments when they formed their opinions in the first place.

What both these studies suggest then is that there will be greater opinion change following new and unfamiliar arguments, or arguments which are believed by the subject to be new and unfamiliar, in so far as the topics are technical or non-controversial. In this case, the new arguments are seen as providing fresh evidence on which to make an unbiased fair judgement and if necessary a modification of opinion. With emotional, controversial issues, the arguments will have less effect since any opinion change might be seen as indicating an undesirable gullibility.

Such an argument would predict that if the truisms are non-emotional

and the arguments presented are technical, then opinion change on these will be greater than on the more emotional, controversial topic. It would predict the same result as inoculation theory although for different reasons. According to the latter theory, new arguments are threatening and opinion change occurs with truisms because a person has had no opportunity to develop an effective resistance. McGuire and Millman (1965), and Sears and Freedman (1965) see new arguments, on certain issues at least, as being welcomed for the new light they can shed on the problem.

Briefly then, to recapitulate the argument so far, both intuitively and by inference from studies referred to, it would appear that one variable affecting the amount of opinion change produced by persuasive communications, is the familiarity for the subject, of the topic discussed. The evidence is not at all clear cut, especially since few studies have used familiarity as a variable to be manipulated. We have therefore only been able to make inferences from studies designed to test some other variables. Hovland and Mandell (1962) McGinnies (1960); and Lewan and Stotland (1961), suggest that arguments on least familiar topics will be more likely to cause an opinion change. However, Hovland and Weiss (1951); and Thistlethwaite and Kamenetsky (1955) suggest that the opinions about more familiar topics will be more successfully modified.

It has been proposed that a person will resist persuasion the more firm and extensive is his knowledge about the topic since he possesses a cognitive structure which will enable him to counteract opposing arguments. Two studies have been cited (Allyn and Festinger 1961; Festinger and Maccoby 1964) which indicate that this is accomplished by a process of internal debate engaged in by the subject.

Lastly, some theories have been described which may account for the differential effects of familiar versus unfamiliar issues - an inoculation theory (McGuire 1961a, b, 1962b) and a self-esteem theory (McGuire and Millman 1965). Both theories lead to the conclusion that new unfamiliar arguments will have more effect in modifying opinions, than old, familiar arguments, although the reasons for this supposition are different. There is also the suggestion that arguments on technical issues are more effective than those on emotional issues.

The cultural truisms which McGuire used were empirically defined as truisms in that they elicited highly homogeneous responses to the opinion questionnaire. Furthermore, their nature was such that the arguments were technical and no doubt unfamiliar to the subjects. According to the above discussion, the anti-truism arguments which McGuire used, presented the subjects with new technical evidence from which to make a fresh evaluation of the issue. Thus, according to the self-esteem theory, their opinions were fairly easily modified. Furthermore, opinion change is expected on these non-controversial issues since the subjects have not had experience in formulating a defensive resistance to such attacks. However, society encourages a large number of beliefs which may also be defined as cultural truisms on the empirical basis of homogeneity of response. At the same time, they may be so emotionally bound up with a person's belief system, that despite the fact that the subject has had no occasion to defend this belief, he still remains unmoved by any attempt to change his opinion. Such a situation would be very much like that found by McGuire and Millman (1965), when they used a theory of "self-esteem" to account for the greater opinion change occurring after an attack on a technical issue compared with one on an emotional issue.

In the experiment which constitutes the major part of this thesis, three types of issues were used in the communications. One type were called truisms since they elicited strongly agreeing responses from over 75% of the subjects. Thus empirically they fulfill McGuire's definition. One type were called non-truisms and they elicited the most heterogeneous responses. The third type were called semi-truisms, and elicited responses somewhere between the other two types with respect to the homogeneity of responses.

However, in terms of the technical versus emotional nature of the three topics making up each group of issues, all three types could be seen to differ from the health topics used by McGuire. Whereas McGuire's truisms were of a relatively technical and unemotional nature, and probably contained unfamiliar arguments, the three issues used in the present experiment contained topics were were felt to be a more emotional, non-technical and possibly familiar nature. Two of McGuire's health topics were also included. One was classified according to the above criteria as a truism, the other as a semi-truism.

The point of interest here then, is to what extent can McGuire's conclusions regarding the vulnerability to persuasion of health truisms, be generalized to truisms of a different nature.

Furthermore, what effect does persuasion have on opinions regarding topics which we have labelled non-truisms, and semi-truisms?

Initially, we will analyse the results on the basis of the three types of issues. However, if in fact there are meaningful differences between the amount of opinion change for truisms of different topics, then some further analyses will be necessary.

2) Strength of Opinion

Intuitively one would argue that the more strongly a person maintains a position on an issue, the more unlikely he will be to change that opinion under pressure from a persuasive communication.

There are very few studies which have specifically investigated strength of opinion as one of the variables affecting opinion change, but those experiments in which a measure of initial opinion strength was included seem to support the notion that strongly held opinions are more resistant to persuasive communications than mildly held opinions (Hovland, Harvey and Sherif 1957; Raven 1959; Carment 1961; McGinnies, Donelson and Haaf 1964).

However, perhaps not surprisingly in an area where it is so difficult to specify all the pertinent variables, the general picture is by no means clear. The studies by McGuire (1961a, 1961b, 1962b) which have been discussed at some length in the previous section, suggest that it is those attitudes which are deeply entrenched, especially those concerning cultural truisms, which are more vulnerable to persuasion. At first, it would seem that McGuire's results contradict the conclusions of those studies which have found that strongly held beliefs are more resistant to change. However, as has been pointed out in the previous section, the cultural truisms which he used are of a unique nature in that they were probably of a technical and un-emotional nature.

In addition, in the literature collected under the general heading of "discrepancy studies", several investigators have found that the most extreme opinions, or those most discrepant from the position advocated by the communication, undergo the most change (Goldberg 1954; Hovland and

Pritzker 1957; Zimbardo 1960; Gorgein 1963). These results too would appear to contradict the notion that more extreme opinions are most resistant to change.

Before continuing it should be noted that a considerable part of the literature on opinion change comes under this general heading of discrepancy studies. Essentially discrepancy refers to the difference between a subject's initial position, and that advocated by the communication. In this area, some investigators have chosen to work with a between subjects' design in which the initial opinions are measured and then a persuasive communication is presented. The further the distance between the initial position of any one subject and the position of the communication, the greater the discrepancy. The initial position of the subject is described by his response on a Likert-type attitude scale. There may be one or more communications arguing a position opposed to the opinions of the subjects, (Brehm and Lipsher 1959; Whittaker 1963), or the communication simply may be the knowledge that the opinion of the group differs from that of the subject who therefore feels himself to be a deviant (Norrison and Carment 1967). The difference between the subject's opinions before and after the communication, is used as a measure of opinion change. Any change is then related to discrepancy. Discrepancy of course, is greater for the initially extreme subjects since they held a position furthest removed from the communication in terms of the scale used.

On the other hand some investigators have used a between subject's design in which a number of communications, each arguing for different positions along the discrepancy dimension, are presented to different groups of subjects each with the same initial position. This approach has been

used by Zimbardo (1960); Freedman (1964) and Bochner and Insko (1966).

In so far as opinion strength is measured by relative positions on an attitude scale with the stronger positions placed towards the extremities (Kelley and Volkhart 1952), ratings of opinion strength are operationally similar to discrepancy measures. In other words, a person placing himself as strongly in agreement with a particular statement, is more discrepant from a communication which argues strongly against the statement, than is a person who rates himself as being only in mild agreement. In an attempt to delineate the effect of opinion strength on opinion change, a few studies in this area of discrepancy will be reviewed.

It has already been pointed out that the conclusions relating opinion strength to opinion change are contradictory. The purpose of the remainder of this section will be to attempt to reconcile these apparently contradictory results. In order to do this, it will be assumed that there is no one simple relationship between opinion strength and induced opinion change. Instead there are interactions between strengths of opinion and other variables. Most of the studies which have been mentioned above used completely different issues for the communications, and it is probable that this may have accounted for the conflicting conclusions. Thus, one of the independent variables which may be important is the type of communication issue used.

In order that the different issues may be described within some general framework rather than as single isolated topics, it is suggested that they may be differentiated with respect to the "degree of commitment" which is felt for them by subjects of different strengths of opinions.

The concept of commitment was first employed by Brehm and Cohen

(1962) who wanted to describe the methods used to reduce dissonance in a conflict situation. The role of commitment was used to specify which of the various alternative modes of dissonance reduction would be resorted to in any particular situation.

Dissonance theory (Festinger 1957) we have seen, predicts that the greater the discrepancy between the subject's opinion and the opinion advocated by the communication, the greater the dissonance aroused. One way to reduce dissonance would be to change one's opinion towards the advocated opinion. In such a situation, the more extreme the initial opinion, or the greater the strength of that opinion, the more dissonance that will occur, and the greater will be the opinion change. However, if other modes of dissonance reduction are available and are preferable, then increasing discrepancy may in fact produce no change, or even an inverse relationship between extremity of opinion and opinion change. The theory could possibly account for those studies which have shown greater change with greater discrepancy, and for those showing less change with greater discrepancy.

Other possible modes of dissonance reduction include discounting the source, discounting the communication or bolstering the initial opinion so as to display a boomerangeffect (Festinger 1957). Any one of these alternatives could reduce dissonance, and one would not therefore, expect, if when they are used, that there would be an increase in opinion change with greater discrepancy.

To specify in which of the ways dissonance would be reduced, Brehm and Cohen (1962) speculated about the role played by commitment. A person is committed to a belief or an action if he has made a choice between two

or more alternatives or between doing or not doing a certain thing. In reducing dissonance, a person will modify those dissonant elements which are easiest to modify. If the dissonance which is aroused, relates to a belief to which the subject is not highly committed, then Brehm and Cohen predicted that the subject would find it relatively easy to change his opinion towards the communication in order to reduce the dissonance. To the extent that discrepancy will be greatest for the most extremely opinionated subject, then we would predict that dissonance will be greatest and so such subjects will change their opinion more than milder subjects. On the other hand, when the dissonance which is aroused relates to a belief to which the subject is highly committed, their opinion change may be very unlikely and some alternative mode may be preferred. In this case too, dissonance is presumed to increase, with discrepancy reaching its maximum in the strong or extreme subjects. However, there will no longer be a positive relationship between discrepancy and opinion change, since some other mode of reduction will be used. In fact, the strong subjects may actually undergo less change than the mild, if any at all, since the former are making maximum use of some other mode.

Briefly, for issues eliciting low commitment from subjects, stronger opinionated subjects will change more than mild subjects. For issues eliciting high commitment, strong opinionated subjects will change the same or less than the mild subjects.

Some support for the importance of the role of commitment is to be found in an experiment by Sears, Freedman and O'Connor (1964). The subjects were asked to arrive at a verdict on a courtroom trial about which they had just read. One group was then told it would hear a debate on the case, the other group was told that it would hear two unrelated, opposed, one sided

speeches. Commitment to response was also varied. In the high commitment group, subjects publicly recorded their vote, in the low commitment group, this was done privately. On the opinion questionnaire which was then given, it was found that those in the high commitment group who anticipated a debate, consistently strengthened their initial position. Those in the low commitment group who also anticipated a debate, became more moderate in their opinions. There was no such difference for those expecting to hear two unrelated speeches.

The authors interpreted their results as indicating that the extreme subjects bolstered their original opinion to reduce the dissonance created by the anticipation of a debate which was felt to be more "threatening" than the two separate speeches. When the strongly committed persons were then confronted in the debate by discrepant propaganda from the opposing debater, they should be less likely to reduce dissonance through opinion change, and more likely to do so through such alternative modes of resolution as distortion or disparagement of the source. The weakly committed person, on the other hand, appeared to moderate his opinion when anticipating a debate. The authors felt that this would facilitate persuasion by the debater's presentations.

With reference to the role of commitment, it can be argued that had the subjects in Sear's experiment actually been exposed to the debate, the highly committed subjects would have shown a decrease in opinion change with increasing discrepancy and dissonance since they were employing an alternative mode of dissonance reduction, ie. that of bolstering their original opinions. The low committed subjects would have shown an increase in opinion change with increasing discrepancy and dissonance, since they reduced dissonance

by changing their opinions towards that advocated in the communication.

If it can be shown that subjects did in fact feel different degrees of commitment in the experiments cited above, then the role of commitment may be a mechanism which could account for the fact that some of the studies found greater opinion change for the strongly opinionated or more discrepant subjects and some found less opinion change.

Brehm and Cohen (1962) regarded commitment as the result of making a choice between two or more alternatives. In effect, having an opinion on an issue was a commitment to the extent that a choice had been made at some stage between several alternative arguments relating to the issue. In the context of this discussion the suggestion is now made that the amount of commitment will vary among the different types of issues for which a choice is made. We will now examine those studies which found a positive relationship between discrepancy and opinion change and see if in fact the subjects, either were less committed to their choice as a result of the experimental manipulations, or were faced with relatively unimportant issues which were unlikely to elicit any strong feeling of commitment.

Goldberg (1954) had subjects rate photographs of people for their I.Q. level. Discrepancy was manipulated by giving them bogus information as to the ratings by the majority of the group. The greater the manipulated discrepancy, the greater was found to be the opinion change when subjects reevaluated their opinions. Thus, a positive relationship, between discrepancy and opinion change, was found for an issue which we believe to be fairly unimportant for the subject.

Hovland and Pritzker (1957) used fairly neutral topics in communications advocating various degrees of discrepancies (eg. the number

of hours of sleep needed for good health). Their results support those obtained by Goldberg.

Zimbardo (1960) differentiated between "task" involvement and "issue" involvement. The latter he took to mean concern or commitment for a given issue, and is the variable which has been used most often by other investigators in the field. The experiment reported here concerned task involvement which Zimbardo defined as the involvement or commitment felt by the subjects for the consequences of the responses which they made during the experiment.

In the experiment he had female subjects read a case history of a juvenile delinquent and then they had to state their opinion about the locus of blame. Persuasive communication was in the form of an alleged opinion about the case obtained from a girl friend with whom the subjects were being tested. Task involvement was manipulated in the following way. In the high involvement condition subjects were told that their evaluation of the case studies reflected their basic social values and personalities. In the low involvement condition, subjects were told that the case studies were too short to be of any use in learning anything from their reactions. Opinion change after learning the friend's "opinion", was found to be greatest for the highly involved group. However, in both conditions opinion change increased as discrepancy increased.

Although the high and low task involvement conditions did not lead to differential amounts of opinion change following opinion discrepancy, this study has been included here because it is felt that the issue used, that of a case study, was one for which the subjects probably felt little commitment. In other words, this stands as further support for the notion,

that on an issue which is relatively unimportant to the subject, there is a positive relationship between discrepancy and opinion change.

Gorfein (1963) chose to use the same case study and persuasive communication as did Zimbardo (1960). He found that, although more of the extreme subjects changed their opinion towards the communication, there was relatively greater movement, with respect to the number of steps actually traversed, for the milder subjects. This was taken to mean that the number of subjects who moved, and the distance they individually moved, constituted independent factors. Thus, for a relatively uninvolved and unimportant issue, a positive relationship was found between opinion change and the proportion of extreme subjects who changed their opinion. However, in terms of the actual distance moved by the subjects, the relationship no longer held. This experiment therefore, provides only partial support for the idea being discussed here.

To summarize so far, studies have been cited in which it is reported that opinion change increased as the discrepancy between the initial opinion and the opinion advocated by the communication increased. We have suggested that the types of issues used were fairly neutral uninvolved topics. For this reason, the subjects were unlikely to feel highly committed to their initial opinion. With the possible exception of the study by Gorfein (1963) the foregoing results may be interpreted in the light of dissonance theory, and in particular the role of commitment in the production of dissonance.

In the alternative case which has been suggested, where there is high commitment to an opinion, then the dissonance created by the discrepancy which has been aroused by the communication, will be reduced by some method

other than opinion change. We have suggested that for issues of personal importance to the subject, where commitment is judged to be greatest, opinion change will not increase with increasing discrepancy. It will remain constant, or may actually show less opinion change at the extreme discrepancies than at moderate discrepancies. We will now examine those studies which have found either a decrease in opinion change with increasing discrepancy or failed to find any relationship between these two measures.

Hovland, Harvey and Sherif (1957) presented arguments for and against prohibition to subjects holding different opinions on the issue. Since the study was carried out just prior to a state wide vote on prohibition, it is likely that the issue was of personal importance to the subject and elicited a high degree of commitment. They found that those subjects with more moderate positions nearer to that advocated by the communication were influenced more than the extreme subjects. This study seems to support the foregoing argument.

In another study, Sherif and Hovland (1961) found less change for the most extreme subjects than for those nearer to the communication stand. The subjects were Republicans and Democrats of varying degrees of conviction. The communication concerned election issues of the 1956 presidential campaign, another issue likely to elicit strong commitment.

In the experiment conducted by Carment (1961), subjects were required to engage in face to face discussions. The topics for discussion were controversial enough to provide opportunity for debate, but he purposely avoided topics which were so emotionally evocative that opinion change would be unlikely. His reasoning in doing this accords with our view that opinion change will be minimal on highly emotional issues. On the other hand, to

the extent that the topics chosen did provide considerable debate, it is maintained that this study provides further evidence that for personally important issues, less extreme opinions will change more than extreme opinions.

McGinnies, Donelson and Haaf (1964) found that repetitive reading of an article arguing against the church caused a change in opinions towards the church. That this was limited only to those of moderate conviction, again indicates that more firmly held beliefs will resist persuasion. Like politics, religion is taken to be an issue calling for high levels of commitment.

Raven's experiment (1959) is the only one which did not use an involving topic, but which nevertheless found least opinion change among the extremely opinionated subjects. He used a case study similar to the one already mentioned (Zimbardo 1960; Gorfain 1963) and subjects again received a false consensus of the group norm which indicated that their privately expressed opinions were deviant. In view of the fact that the subjects knew their opinions would remain private and since the issue of juvenile delinquency is not thought to be of personal significance for the subject, one must conclude that this data are not very supportive of the present argument.

Apart from this last study by Raven, those by Hovland et al; Sherif and Hovland; Carment; and McGinnies et al, have been found to use relatively involving issues. They also found that the more distant the subject's initial opinion was from that expressed by the communication, the less the opinion change that resulted. It is suggested here that these findings too could be explained in terms of the role of commitment in producing dissonance. Thus,

on those controversial issues where commitment to an opinion is judged to be high, opinion change will be difficult and hence greater discrepancy will not produce greater opinion change.

It has been the aim of the foregoing discussion to illustrate that there is no simple relationship between opinion strength and opinion change, but rather that there is an interaction between opinion strength and the type of issue used. The suggestion has been that the degree of commitment which a person feels towards his initial opinion, is an important factor in accounting for the effects attributed to the type of issue.

In the previous section, a distinction was made between truisms and non-truisms. These issues were differentiated empirically on the basis of subject's responses to an opinion questionnaire. Cultural truisms were defined as those issues strongly believed to be true by the majority of the population. In terms of the concept of commitment it is, therefore, likely that they also represent issues about which the subject feels a high degree of commitment. It would however, be unwise to state in contrast, that those issues which were labelled as non-truisms on this same empirical basis, represent issues of low commitment for the subject. Nevertheless at this preliminary stage, it may be useful to think of the truisms, at least, as being issues eliciting a relatively high degree of commitment from subjects, compared with the other issues. Furthermore, as was pointed out in the previous section of this historical review, the cultural truisms found by McGuire were those concerned with health issues. However, cultural truisms exist for other issues, and it is likely that the degree of commitment felt for these may be much greater than any commitment felt for those used by McGuire. He admitted that health truisms may be a particular area and results

obtained from his studies may not be generalizable to other truism issues.

In the present study then, truisms, semi-truisms and non-truisms issues have been defined empirically. The question asked is to what extent will the subject's initial opinion strength affect the amount of opinion change produced by a persuasive communication. Secondly, in what way will the type of issue used affect the relationship between opinion strength and opinion change. It is thought that the results may be related to the degree of commitment felt by the subject for the topic of communication.

3) Persistence of Opinion Change over Time

Another variable studied in the present experiment was the persistence of the induced opinion change over time. In this section, we will first discuss the relationship between persistence of opinion change and memory for the content of the communication. Then we will proceed to suggest two variables in the communication material which may differentially affect memory and hence persistence of opinion change.

It is commonly assumed that memory for the persuasive communication is to some extent necessary for there to be a persistence of opinion change (Hovland, Janis, Kelley 1953). Miller and Campbell (1959), investigating order effects in opinion change when two communications were presented, made use of the forgetting curves derived by Ebbinghaus which show that after presentation of the verbal stimulus there is at first a period of rapid forgetting followed by a gradual levelling out to a plateau. Other studies (Dietze and Jones, 1931) report a similar relationship for memory for more complex prose. Based on this assumption then, one might predict that shortly

after presentation of the communication there would be an accelerated regression of opinion change towards the initial pre-communication opinion, eventually reaching a plateau after more time had elapsed.

Several studies indicate at least a regression of the induced opinion towards the initial position.

Cherrington and Miller (1933) compared the effects of written and oral communications advocating pacifism. Opinions were measured immediately after the communications, and again six months later. Although after six months, some of the opinion change still remained, there was a significant shift back to the original opinions.

Sims (1938) in an extensive study of the opinions of different people towards the T.V.A., re-measured opinions three months after presenting the propaganda. He found almost complete decay of the induced opinion change.

Chen (1936) presented American college students with communications regarding the Manchurian crisis. Five and a half months later, opinions were found not to be significantly different from the initial opinions as measured before the persuasion.

In a study by Annis and Meier (1934) persuasive editorials, which aimed to manipulate opinions towards one of Australia's past prime ministers, were planted in a student newspaper. Four months later, when opinions were remeasured, there was found to be no significant difference between opinions then and previous opinions measured immediately after having read the editorials.

However, the prediction that retention of opinion change will decrease with greater lapses of time after the communication is embarrassed by those studies showing a delayed opinion change, that is, an increase in opinion

change with time elapsed since the persuasive message.

Hovland and Weiss (1951) found this "sleeper effect" in an experiment comparing the amount of opinion change which was induced by sources of high and low credibility. Immediately after hearing the communication opinion change was found to be least for those people hearing the communication from a low credibility source. However, four weeks later there was no significant difference in the opinions for the two groups. An analysis of the results showed that those in the low credibility group had actually undergone an increase in opinion change during the four weeks. One theory proposed to account for this was the "discounting cue" theory. According to this reasoning, subjects hearing the low credibility source were not at first inclined to be influenced, but during the intervening period, there was a decreasing tendency to spontaneously associate the content with the source, and thus the low credibility source was no longer a mediating cue leading to the rejection of the communication.

Thus, although much of the evidence showing the degree of persistence of opinion change over time does indicate a parallel with degree of memory over time, the phenomena of the sleeper effect calls this simple function into question. Moreover, very few studies have actually investigated the relationship between memory and retention of opinion change. Those that have obtained some measure of retention do not always find that opinion change is positively related to memory for the information.

Hovland, Lumsdaine and Sheffield (1949) investigated the effect of a Battle of Britain film on the attitudes of American soldiers towards the British. They found that although memory for factual information conveyed

in the film decreased with time opinion change showed an increase in time. Thus, opinion change in this experiment was inversely related to retention.

In the experiment already mentioned (Hovland and Weiss 1951), subjects were tested for memory of the source of the information. Subjects in both the high and low credibility groups remembered the sources equally well. However, retention of opinion change was different for the two groups, indicating again, that opinion change and memory are not related in a simple manner.

Possibly the first study which has focussed attention on the relationship between memory for various aspects of the communication and persistence of opinion change is one by Watts and McGuire (1964). In this experiment, four persuasive messages were presented in alternate forms, the pair of messages on any one issue being identical except that one was attributed to a source arguing for the issue, the other to a source arguing against the issue. Recall was measured for each of the following: recall that such a message had ever been received; recall of whether a pro or con side had been taken; recall of the specific arguments used; and recall of the source of the message. Since an after-only design was used, opinion change was measured as the difference between final mean opinion level of the experimental group as measured on a fifteen point Likert-type scale, and mean level of a control group which received no message.

To summarize the results, overall recall for the various aspects of the communication was found to decay steadily over the six week time interval, showing a resemblance to the characteristic forgetting curve. Induced opinion change also decayed progressively over time, suggesting that opinion change is dependent upon memory for the communication. However, the curve for opinion

change was closer to a straight line than the typical forgetting curve, indicating that induced opinion change may be only partly dependent upon retention of the communication.

Analysis of the individual measures showed that opinion change was functionally dependent upon both recall of the side taken and recognition of the specific arguments used. Subjects who scored high on both those recall measures, also showed greater retention of opinion change than those subjects who scored low on the recall measures.

Recall of the source was complexly related to opinion change in that for the positive source (arguing for the issue), recall was positively correlated with retention of opinion change. However, for the negative source (arguing against the issue), there was no difference in retention between those who could, and those who could not recall the source.

Recall of the message topic with retention of opinion change was positively related one week after the communication, but after six weeks this trend was reversed, and those remembering the topic were less influenced than those forgetting it. These results are very similar to those which Hovland et al (1949) found and named the sleeper effect.

This experiment has been given more than a passing mention. Its importance lay in showing that the assumptions regarding the functional dependence of opinion change on memory may be erroneous. Memory for some aspects of the communication situation (message topic and negative source) may actually cause a regression of opinion change back to the initial opinion. Memory for other aspects however, may be necessary for retention of induced opinion change (eg. side taken, specific arguments used, positive

source). Referring to those studies which were mentioned in the beginning of this section as showing that opinion change did not always regress towards the initial opinion, it may have been possible to explain such diversities if there had been some way of knowing exactly which aspects of the communication were forgotten. Post hoc explanations however, are not possible since such detailed measures were not made.

So far, we have briefly discussed some studies investigating the amount of retention of opinion change over time, and one study in more detail (Watts and McGuire 1964), which forces us to doubt the existence of any one simple relationship between retention of opinion change and time. It has been demonstrated that although it is true that memory for all aspects of the communication situation does decay with time, it is not always necessary or even helpful that such aspects should be remembered in order that the induced opinion change be retained.

It is clear then that in any experiment where opinion change over intervals of time is to be related to memory, it must be specified which aspects of the situation will be considered. In the experiment reported in this thesis, opinion change is related to the subject's memory for the specific arguments used in the communication. Subjects were required to recall as many as possible of the arguments used in the original persuasive articles. From the conclusions of Watts and McGuire (1964) it would be thought that those issues where the number of arguments recalled was the greatest, retention of opinion change would also be greatest.

We will now go on to ask which aspects of the communication situation affect learning. Clearly not all communications will be learned equally well,

and so one would expect that such differential learning will also produce differences in retention. The studies mentioned below may provide some insight into this. First will be considered some aspects of the communication itself which could affect subsequent memory.

Several studies have shown that subjects will remember better those communications which support their own beliefs (Watson and Haartman 1939; Edwards 1941, Levine and Murphy 1943). However, in the present experiment all communications were designed to argue against the subject's belief, hence more relevant here is the study by Brehm (1962). Subjects were asked to rate themselves (high importance issue) and a favorite film star (low importance issue) for certain personality characteristics. They were then given the fictitious ratings of themselves (high importance conditions) and of the film star (low importance conditions), supposedly written by a friend. Discrepancy was introduced by displacing some of the fictitious ratings towards the undesirable end of the trait scale. Recall of all the items was required immediately and again one week later. The hypothesis was that more dissonance would be created in the high importance conditions and would be revealed by salience or good recall for such discrepant information immediately. This prediction was supported since subjects in the low importance conditions recalled more nondiscrepant ratings than discrepant ratings, whereas those in the high importance conditions recalled more discrepant than non discrepant ratings.

Brehm further hypothesized that greater dissonance also would be revealed one week later by greater forgetting of the discrepant information and that this would be greater in the high importance conditions than in the low importance conditions. The data showed that discrepant information

was in fact forgotten more than non discrepant information, but it failed to show differences between high and low importance conditions. Brehm suggested that the discrepant information was so salient or important for those in the high importance conditions that they were unable to forget it.

This experiment suggests that given the fact that an opposing communication is forgotten more quickly than a supportive communication, some of the material may in some way be of more importance to the subject and so will be remembered better than others. With respect to the topics used in the present experiment, it may be expected that some of the topics will be remembered better than others. It has already been suggested that certain of the issues may represent matters of greater importance or committment to the subject. Possibly the greatest committment being felt for the truisms. If this is so, then possibly these arguments will be remembered better than arguments on less important issues.

An additional variable which may affect how much of the communication is remembered is the degree of interest it commands. Classroom teachers are very aware of the importance of stimulating their pupil's interest in the subject matter of the lesson, believing that the greater the interest, the more the material that will be remembered.

Watts (1967), in study designed to compare the relative persistence of opinion change induced by active compared to passive participation, hypothesized that one factor causing the superior retention with active participation was the greater degree of involvement felt by the subject. He operationally defined involvement in three ways - the amount of subsequent discussion about the topic by the subject; the amount of reading of relevant material after the

experiment; the degree of interest in the actual task, whether it was reading the persuasive arguments. He found that those who retained more of the induced opinion change did in fact discuss and read more about the topic, but there was no difference between the active and passive conditions in the amount of interest expressed in the task. He concluded that whereas interest in the topic had no effect on retention, some selective exposure mechanism was probably operating such that in choosing to read and discuss those arguments supportive of his new opinion, the induced opinion change was further reinforced. Watts did acknowledge however, that the topics were fairly innocuous and subjects would probably not encounter strong opposition to their belief. Thus, he felt it would be unwise to generalize to arguments which were counter-normative for the population or even highly controversial.

Three points must be raised here in connection with the present experiment. Firstly, Watts found no correlation between interest and retention scores. Are we justified then in pursuing this variable of interest as an important one in discussing the retention of arguments? Commonsense and one's past experience leads one to believe that more interesting things are remembered better. Hovland, Janis and Kelley (1953) discuss interest as being one of the variables affecting retention of material, and they cite several studies which although not specifically measuring degree of interest, indicate that increasing the interest and motivation to learn, is essential for successful retention (Hovland et al 1953, pp. 250). In the experiment by Watts (1967) his measure of interest was one of three which he used to assess degree of involvement - the other two being amount of subsequent discussion and reading. However, one can argue that each of these measures separately is a measure of interest. The interest is revealed in the amount of reading and discussion. Since he

found positive correlations with retention for both these other two measures, despite his failure to find a correlation with the third, there is little doubt that the two correlations justify the inclusion of the variable of interest in the present study.

Secondly, Watts explains that a selective exposure mechanism may account for the correlation between retention of induced opinion change and amount of subsequent discussion and reading. Selective exposure describes the finding that persons tend to expose themselves primarily to propaganda which is in accordance with their existing opinions. However, this only seems to be apparent for long standing controversial issues where the individual is most familiar with arguments on both sides of the issue (Freedman and Sears (1965)). In discussing the findings in their experiment to test the effectiveness of anticipated familiarity of arguments on opinion change and selective exposure (cited above), Sears and Freedman (1965) felt that dissonant arguments may in fact be sought since they would provide new evidence for evaluating the unfamiliar issue. It could be therefore that subjects will be more interested in reading communications against truisms, since by definition these are non-controversial issues, and therefore the arguments are likely to be new to the subjects. The novelty of the counter-truisms arguments could stimulate more interest and hence one would anticipate better memory for the truisms than the other types of issues.

Furthermore, McGuire (1962b, 1964), explains the increased resistance to persuasion, following "innoculation" with refuted counterarguments, as being due to the individual bolstering his belief so as to counteract the persuasive communication. The effect of the inoculation is to motivate him into bolstering his own weakened beliefs regarding the truism. Another

way of describing this process is to say that the subject's interest is aroused more by arguments against the truism since they pose a threat and in some way are more stimulating. Thus, whether they are seen as offering new perspectives on the issue or provoking new threats, arguments against truisms are quite likely to be more interesting to the individual than are the more familiar arguments against non-truisms. Again, one might anticipate that memory will be greatest for the anti-truism arguments.

Thirdly, Watts (1967) pointed out that in any subsequent discussion and reading of the topics used in his experiment, subjects would be unlikely to encounter strong attitudinal opposition since they were relatively innocuous issues. The topics were: "Puerto Rico should be admitted to the Union as the fifty first state"; "Courts should deal more leniently with juvenile delinquents"; "The secretary of state should be elected by the people, not appointed by the President". Watts cautioned against generalizing to other topics in which the stand taken was counternormative for the population, and where greater post-experimental involvement in the form of discussions and readings could lay the subject open to further attacks thus causing a regression of induced opinion back to the original position. In view of the fact that a cultural truism by definition is a belief held almost universally by that population, a greater interest generated by the anti-truism arguments might well encourage subjects to pursue the matter further, and yet in receiving no support for the new opinion, they would rapidly revert back to the original stand.

To summarize, if we consider interest in the communication to be a variable affecting retention of the arguments, then we have argued here that interest may be greater for the truisms than for the non-truisms. To this

extent, we would suggest that memory for the specific arguments used will be greatest for the truisms. In the questionnaire given to the subjects during the last experimental session, they were asked to list in their own words those arguments used in the communications and to rate their interest in reading the communications. Since greater interest is anticipated for the truisms and hence greater memory for the arguments, it is further anticipated that retention of induced opinion change will be greatest for the truisms (Watts and McGuire, 1964). However, since greater interest in the truism may generate more discussion and since the individual would then probably meet opposition from an unsympathetic population, there may be in fact less retention of opinion change. Therefore, in the first session, subjects were cautioned not to discuss the experiment with other people, and in the last session, they were asked to indicate how often if at all they had discussed the issues.

So far, we have reviewed evidence which suggest that two aspects of the communication material itself may be important in affecting subsequent retention of induced opinion change. The first of these referred to the degree of importance of the communication for the subject. It has been suggested that certain topics are likely to be of greater importance to the subject than others. This would lead one to expect, that if importance of issue is a determining factor, retention of induced opinion will be greater for those issues most important to the subject, and less for the least important issues. It has been suggested that those issues empirically defined as cultural truisms may well be those issues which elicit a high degree of commitment from the subject and possibly represent important issues to him.

It was also pointed out that certain issues, although meeting the criteria for truisms used by McGuire, are of a different nature in that they do not represent highly important topics for the subject. Such differences may be reflected in the scores of retention of opinion change.

The second variable was the degree of interest in the communication, and here it was suggested that interest would be greatest for the novel anti-truism arguments. Studying the scores obtained for the degree of interest expressed by the subjects for the different topics, it may be possible to make some correlation between interest and retention of opinion change.

The remainder of this section will deal briefly with another factor which would be likely to influence retention, that is the strength of the initial opinion expressed by the subject prior to reading the communication. Of necessity, it is brief since the only study which can be found to have related memory to opinion strength is one by Doob (1953).

In this study, Doob was interested in the effect of initial serial position and attitude intensity upon recall under conditions of low motivation to learn. He explained his results in terms of drive strength, such that intensely held attitudes are remembered best. He found that attitude intensity was related in a positive way to the number of arguments of the communications which were recalled. However, this superiority was not always correlated with accuracy of recall. This experiment by Doob indicates that strongly opinionated subjects will remember more of the arguments than the mild. Possibly then, any opinion change induced in the strong subjects will be retained longer than in the mild subjects.

With regard to the present experiment, it is possible to compare

retention of opinion change for the three different issues of truisms, semi-truisms and non-truisms. If it is found that there are differences in the amount of retention for each issue, then it would be interesting to see if there was any correlation between interest scores and retention.

Similarly interest scores may be compared for initially strong, moderate and mildly opinionated subjects, and any differences in retention of opinion change over time be investigated.

In view of the number of findings which the above review has documented, a general statement of the main points may be useful.

There have been relatively few studies which have specifically investigated the effects of different types of communication issues on opinion change. One variable however, which may be important, is the familiarity to the subject, of the topic discussed. Two theories were suggested which may account for the likelihood that new, unfamiliar arguments cause more opinion change than old, familiar arguments - these were an inoculation theory and a self-esteem theory. It was also suggested that arguments on technical non-emotional issues are more effective in modifying opinions than are those on emotional issues.

Another factor, which was considered important in accounting for the different amounts of opinion change obtained in previous studies, was the interaction between the type of communication issue used and the initial opinion strength of the subject before he received the persuasive message.

It was suggested that with those issues for which the subject felt only a low degree of commitment for his initial opinion, opinion change would increase as discrepancy between the opinion of the subject and the opinion advocated by the communication increased. However, with those issues eliciting a high degree of commitment, opinion change would not increase with the increase in discrepancy.

Thirdly, some studies were reviewed which indicated that there was no one general statement which could be made regarding the effect of retention of induced opinion change over time. It was suggested that retention of opinion change may be positively related to the number of arguments remembered from the communication. Furthermore, the importance of the communication issue relative to the subject was thought to affect the memory he had for the communication and consequently the amount of opinion change which was retained. Interest in the communication was also felt to be important for retention of opinion change. However, it seemed impossible to speculate as to which type of communication issue would stimulate those factors thought to be necessary for maximum retention. Similarly, it was difficult to assess the importance to retention of initial opinion strength.

Present Experiment

The present experiment investigated the effects of different types of communication issues on opinion change, with subjects of different initial opinion strengths. The induced opinion change was evaluated at various later periods of time. Measures were also made of the number of arguments remembered from the communication and of the interest which the subject had for the communication issue.

CHAPTER THREE

METHOD

The present study consists of two parts. Originally only the first part was planned and this is the one described first in this chapter. The data for this portion is discussed in Part I of the results section. However, in analysing the results it became apparent that an extension of the experiment would be helpful in order to explain some of the findings. Thus, a second part was designed and it also is described in this chapter. The data for this follow up study is discussed in Part II of the results section.

PART I

Subjects

The subjects were 283 male and female undergraduates enrolled in an Introductory Psychology class. At the beginning of the year, they had been randomly allocated to one of thirty tutorial groups, each containing about thirty students. The experiment was based upon these groupings since it was assumed that age, sex and opinion strength on the topics, would also be randomly distributed within them. The actual number of students on which the results are based is less than the initial population. This was because one tutorial group was cancelled on the day scheduled for the first trial, and a considerable number of students failed to attend all of the four tutorials during which the experiment was run. Consequently, none of their data was used.

Design

Independent and Dependent Variables

The three independent variables in this experiment were:

1) Type of Issue

There were three levels of issues - truism, semi-truism, and non-truism. Each type of issue was represented by three topics. Topics were chosen to be included in one of the three types of issues on the basis of a questionnaire distributed during the first experimental session (see Procedure below). A topic was regarded as a truism if it had elicited strongly agree or disagree responses on the initial attitude questionnaire from over 75% of the population. A statement was regarded as a semi-truism if it was

more controversial, with over 40% of the population either agreeing or disagreeing regardless of the actual opinion strength. Those statements were regarded as non-truisms which had elicited the widest range of opinions in both the agree and disagree positions. (Appendix B lists all the topics included in the original questionnaire, and the nine finally chosen for the experiment).

2) Initial Opinion Strength

Three levels of initial opinion strength were used - strong, moderate and mild. Measures of initial opinion strength were obtained during the first experimental session by having the subjects rate their opinion on each of twenty five topics (Appendix B) using a seven point scale ranging from strongly agree, moderately agree, mildly agree, through can't decide or no opinion to mildly disagree, moderately disagree and strongly disagree (the scale is shown in Appendix B).

3) Time

There were four periods of time during which the experimental sessions took place. The first session occurred at time T_1 . Two weeks later at T_2 , the second session was run. The third session occurred one week later at T_3 , and T_4 was a further two weeks later.

The one dependent variable in this experiment was:

Induced Opinion Change

Induced opinion change was the opinion strength recorded by the subjects after they had read the persuasive communications. The induced opinion change was measured at times T_2 , T_3 and T_4 . Opinion change was positive if the subject changed in the direction advocated by the communication, and negative if he changed away from the position advocated by the

communication.

Two measures were made which were thought may be correlated with amount of opinion change. These were:

1) Interest in the Communication

Interest scores were measured at time T_4 by having the subjects rate on a 9 point scale, their interest in the task of reading the communications. The scale ranged from very interesting, interesting through neutral to uninteresting and very uninteresting (Appendix B).

2) Original Points Remembered

At T_4 the subjects were asked to list in point form the number of arguments which they could remember from the original communications. The total score for each topic was the number of correct arguments listed. The maximum score possible in each case was eight.

One final measure which was made was to check that subjects had obeyed the instructions not to discuss the experiment:

Post Experiment Discussion

This last measure was determined by asking the subjects to indicate along a nine point scale how often they had discussed the topics dealt with in the communications after the experimental session. The scale ranged from very often, often, through occasionally to hardly at all, and not at all (Appendix B).

Procedure

1) The Persuasive Messages

There were three types of issues, and three topics for each issue. Each subject was required to read three messages advocating a position

opposed to the opinion which he had initially expressed during the first experimental session at T_1 . The total number of persuasive messages prepared was eighteen, nine messages arguing in support of the topic, nine arguing against it. The full text of the messages will be found in Appendix B.

The messages were all of approximately 400 words, and each contained eight arguments. They were all attributed to reputable, though fictitious sources, and were intended to present rational rather than emotional arguments. All the messages were one-sided in that they presented all pro or all con arguments.

2) Instructions

In order to disguise the persuasive intention of the communications, the subjects were misinformed as to the true nature of the experiment.

First Session T

Initially each tutorial group was visited by the experimenter who explained the purpose of her visit in the following way:

"I am a graduate student in the psychology department, and I am conducting an experiment to compare the effectiveness of two different types of communication medias - written and oral. I am asking all students in first year psychology to act as subjects for that part of the experiment which involves the written communication. I have another group of subjects who will receive the same communication, but in the form of a lecture.

I shall be coming to three more tutorial groups on the following dates (the dates were written on the blackboard). During these sessions I shall be asking you questions to discover how much you have remembered and understood of the communication. These results will be compared with

those of the subjects listening to the lecture.

Today I am going to ask you to answer this questionnaire, giving your opinions on twenty five topics. The communications which you will be asked to read will be concerned with some of these topics. The rating scale you are to use is attached to the questionnaire. Record the opinion which best describes how you feel about each statement. Please do not discuss any part of the experiment or the communications with other subjects since this may affect your understanding of what you read.

You are perfectly free to choose not to participate in the experiment if you do not wish to do so. Your performance in this experiment in no way affects your records as an undergraduate.

Does anyone have any questions?"

The questionnaires were then handed out and about five minutes allowed for their completion.

Second Session T₂

Two weeks later, the experimenter again visited the tutorials and gave each person a booklet containing three persuasive communications.

(Appendix B)

The technique of presentation was as follows:

Of the twenty nine tutorial groups, ten received communications on the three truism topics, ten received communications on the three semi-truism topics, and nine received communications on the three non-truism topics. Thus each subject was required to read three articles. Each article argued a position for or against one of the issues, and depending upon his initial opinion expressed at T₁, he was given a communication which

argued a position opposite to the one he had indicated. The booklets were labelled with the subject's name. They were told that this was to facilitate organization. The sequence of the three articles was randomized so as to avoid order effects.

The experimenter gave the following instructions:

"Today I have brought along some articles for you to read. You are to read each one twice and on the second reading you have to underline the main points of the arguments. (It was felt that this might motivate the subjects to read). Turning to the next page you will find a statement regarding the issue, to which you are required to state your opinion, using the nine point rating scale. You will be allowed ten minutes to complete each article. Do not turn to the proceeding article until I tell you to do so. We are interested in your opinion since there is evidence that a person's opinion will affect his ability to remember what he has read. Remember, we want your opinion on the topic, not what you think the author's opinion is.

Are there any questions?"

Third Session T₃

One week later the tutorial groups were again visited and each subject was given a booklet (Appendix B) with the following instructions:

"You remember the articles I gave you to read last week? This week I would like you to answer some questions concerning your own reactions to written and oral communications so as to help us assess the relative popularity of each method. Please read carefully the instructions at the beginning of the booklet".

The questionnaire contained the three original opinion statements

relevant to the articles which the subject had read the previous week. These were embedded in several other questions concerning the subject's preference for written and oral communications. These served no purpose other than to distract attention from the main purpose, which was to obtain a measure of the extent of induced opinion change.

Fourth Session T₄

One week after the third session, the experimenter returned to the tutorial groups for the last time and handed out another booklet (Appendix B). This booklet was divided into three sections.

Section A

This contained the three original statements on which the subject was asked to state his present opinion.

Section B

This contained two questions - one to discover how interested the subject had been in the task of reading each of the three articles and the other asking how often, if at all, the subject had discussed the topic with anyone, since reading the articles.

Section C

This provided space for the subject to write down as many of the arguments used in the articles as he could remember. To ensure that the subjects would spend the same amount of time on each section, they were told not to turn the page to the next section until they were told to do so.

The following instructions were given:

"Today is the last session of the experiment. I now want to find out how much of the articles you have remembered. The booklet is divided

into three sections with Section C having three parts to it. Would you answer each section and wait until I tell you to go on to the next section. In section C, complete each part and again wait until I tell you to proceed to the next part. Read carefully the instructions on the first page.

Are there any questions?"

The booklets were then handed out, and completed by the subjects. Approximately five minutes was allowed for the first two sections, and five minutes for each part in Section C.

PART II

The follow up study took the form of a questionnaire which was mailed to all those subjects who had taken part in the original experiment. Of the 283 subjects, replies to the second questionnaire were received from 126 subjects. The rather large drop in numbers was due partly to the failure of many to return the forms, and partly to the fact that, since the questionnaires were mailed approximately six months after the date of the first experiment, many had left the university and were unable to be contacted.

The questionnaire, which will be found in Appendix C, was in the form of a booklet. It was accompanied by a letter to the subject, reminding him of the experiment which he had previously participated in, and asking for his co-operation in this follow-up study. Each subject was sent the same three communications which he had read in the first experiment, and following each one was a questionnaire relating to the passage he had just reread.

The first question asked how personally involved he felt towards the whole issue about which he had just read. The second question asked him how much this issue could personally affect him. For both these questions, the subject was asked to rate his response on a 9 point scale ranging from not at all, to slightly, through neutral, to fairly and very greatly. Low scores indicated low involvement. It was anticipated that the responses to these two questions would be highly correlated, indicating that they were both measuring the degree of involvement felt by the subject for the issue.

The third question asked the subject to indicate on an opinion scale where the author of the article would be likely to place himself if he were

asked to state his opinion on the issue. The fourth question asked the subject how he himself thought the strength of the argument contained in the communications could best be described according to the opinion scale. The scale used for these two questions was a 4 point scale ranging from strong, to moderate, to mild to neutral. Each interval on the scale was given a value from one to four with one corresponding to a strong opinion.

There was also a fifth question which was included. This asked the subject once more to state his opinion on a statement regarding the issue about which he had just read. The opinion scale was the 9 point scale used in the first experiment. This last question was included since it was felt that this was an opportunity to investigate any opinion change remaining after an interval of six months. However, an error was made in that the subjects answered this question after they had reread the persuasive communications. Thus, any measure of retention of opinion change was invalidated.

CHAPTER FOUR

RESULTS

The results presented in this chapter will be discussed in two parts. Part I analyses the results obtained in the first part of the experiment which was described in the previous chapter. The sub-headings which are used are those used in the historical review. Under the first sub-heading the effect of different issues of truism, semi-truism and non-truism on opinion change will be considered. Then will follow a description of opinion change analysed in terms of the original opinion strength of the subjects. Thirdly the retention of opinion change over time will be discussed. Lastly the data on the subject's interest in the communication topics, the number of the original arguments recalled, and the amount of post-experimental discussion he engaged in will be described.

Part II analyses the results obtained in the follow up study which was described in the previous chapter. The data relating to the amount of involvement felt by the subject for the communication issues, are then compared with the amount of opinion change occurring for the same issues, which were found in the first experiment.

PART I

The statistical analyses summarized in this section are based on the responses of 283 subjects. Each subject answered questions on three topics and so the total number of responses should be 849. Actually, the total number of usable responses was 812. This difference was due to two facts. Firstly, a number of subjects had to be discarded because they had incorrectly used the rating scales or in some way misinterpreted the questions. Secondly a very small number used the "can't decide" category to answer the attitude questionnaire. These responses were not used in the analyses since there were too few for any meaningful conclusions to be drawn from them ($n = 9$).

All the summaries of the analyses of variance and other statistical tests will be found in Appendix D.

The Effect of Issue

The initial opinion expressed at T_1 , before the communications were presented, was significantly stronger for the truisms than for either the semi-truisms or the non-truisms. ($p < .001$ Table I of Appendix D). There was no significant difference in opinion strengths between the semi-truisms and the non-truisms.

The effect of the communication at T_2 was to change the mean opinion strength on each issue in the direction advocated by the communication. This mean opinion change \bar{D} was significant for each issue ($p < .001$ Table II of Appendix D).

An analysis of variance, calculated for the mean opinion strengths on each issue at T_2 , showed that the differences in opinion strengths for

the three issues which had existed at T_1 , still remained at T_2 . ($p < .001$) Scheffé tests to compare the separate means at T_2 showed that this significance was accounted for by the truisms vs the semi-truisms ($p < .01$) and the truisms vs the non-truisms ($p < .01$). There was no significant difference between the mean opinion strength of the semi-truisms and the non-truisms. (These data are summarized in Table III of Appendix D).

Tests on the relative amounts of opinion change at T_2 for the three issues, revealed that there was no difference between the opinion change on the semi-truisms and the non-truisms. On both these issues, opinion change was significantly greater than on the truisms ($p < .001$). The least amount of opinion change occurred for the truisms. These opinion changes are shown in Table I below, and the data are summarized in Table IV of Appendix D.

Table I about here

Table II shows the proportion of subjects changing their opinions towards the communication at T_2 for the three issues.

Table II about here

These data revealed that a significantly larger proportion of subjects changed on the non-truisms than on the truisms ($p < .001$). Similarly, significantly more people changed on the semi-truisms than on the truisms ($p < .01$). However, there was no significant difference between the proportion changing on the non-truisms and on the semi-truisms.

TABLE I

Mean Opinion Scores, \bar{X}_1 and \bar{X}_2 , expressed for the different issues at Times T_1 and T_2 and the Mean Opinion Change \bar{D} at T_2

	\bar{X}	\bar{X}_2	\bar{D}	N
Truisms	6.61	5.35	1.26	273
Semi-Truisms	6.21	4.41	1.80	292
Non-Truisms	6.16	4.13	2.03	247

TABLE II

Proportions of Subjects changing their Opinions towards the Communication at T_2 for the 3 issues

	Change	No Change
Truisms	0.55	0.45
Semi-Truisms	0.67	0.33
Non-Truisms	0.69	0.31

In this and all the subsequent analyses involving the proportions of subjects who changed their opinion, those subjects who changed away from the communication at T_2 (boomeranged) are grouped with the no-change subjects. There were 46 of these "boomeranging" subjects. In view of the fact that the communications had clearly had an effect on their opinions but in the opposite direction to the one intended, it was felt that they should be included in the results. Since a chi-square test showed that they were equally distributed amongst all the topics, it was arbitrarily decided to treat them with the no-change group. (The above data are summarized in Table V of Appendix D).

The Effect of Original Opinion Strength

The original opinion strength at T_1 was given by the subject's scores on the attitude questionnaire. These were 7.0 for the strong, 6.0 for the moderate and 5.0 for the mild.

An analysis of variance showed that at T_2 there were still significant differences between opinion strengths for the three groups ($p < .001$). Scheffé tests between the separate means were significant for all possible comparisons ($p < .01$ in each case. Table VI of Appendix D).

The effect of the communication at T_2 was to change the opinions of all groups in the direction advocated by the communication. This mean opinion change \bar{D} , as measured by the difference in mean opinion strength for each group at T_1 , and T_2 was found to be significant in each case. ($p < .001$ Table VII of Appendix D).

However, when these mean amounts of opinion change at T_2 were compared for the three groups, it was found that there were no differences in the amounts of change experienced by subjects of initially different opinion

strengths. These results are shown in Table III, and the comparisons summarized in Table VIII of Appendix D.

Table III about here

Although there was no overall difference in the amount of opinion change at T_2 due to different initial opinions, it was possible that if each issue were taken separately these differences might become apparent. Thus, \bar{D} was calculated for strong, moderate and mild subjects on the truisms, semi-truisms and non-truisms. These scores are shown in Table IV.

Table IV about here

t tests comparing the means for each type of issue failed to show any differences between subjects of different initially opinion strengths (Table IX of Appendix D).

Table V shows the proportions of initially strong, moderate and mild subjects who changed their opinion at T_2 towards the view advocated by the communication.

Table V about here

Chi-square tests (summarized in Table X of Appendix D failed to show any significant differences between these proportions.

TABLE III

Mean Opinion Scores \bar{X}_1 and \bar{X}_2 expressed by Subjects of different Initial Opinion Strengths at Times T_1 and T_2 , and the Mean Opinion Change \bar{D} at T_2

	\bar{X}_1	\bar{X}_2	\bar{D}	N
Strong	7.0	5.42	1.58	410
Moderate	6.0	4.17	1.83	265
Mild	5.0	3.26	1.74	137

TABLE IV

Mean Opinion Change \bar{D} at T_2 for Strong, Moderate and Mild Subjects on the 3 issues

	Truisms	Semi-Truisms	Non-Truisms
Strong	1.28	1.68	2.08
Moderate	1.25	1.91	2.08
Mild	1.10	1.87	1.84

TABLE V

Proportions of Subjects of Initially Different Opinion Strength who changed their Opinions towards the Communication at T_2

	Change	No Change
Strong	0.62	0.38
Moderate	0.65	0.35
Mild	0.68	0.32

Effect of Time on Retention of Opinion Change

a) For Different Issues

Figure 1 shows the effect of time on retention of opinion change for each of the three types of issues.

Figure 1 about here

The standard errors of the means were calculated for times T_2 , T_3 , T_4 . These values are also shown in Figure 1.

Table VI shows the average slopes calculated for opinion change over time for the three different issues.

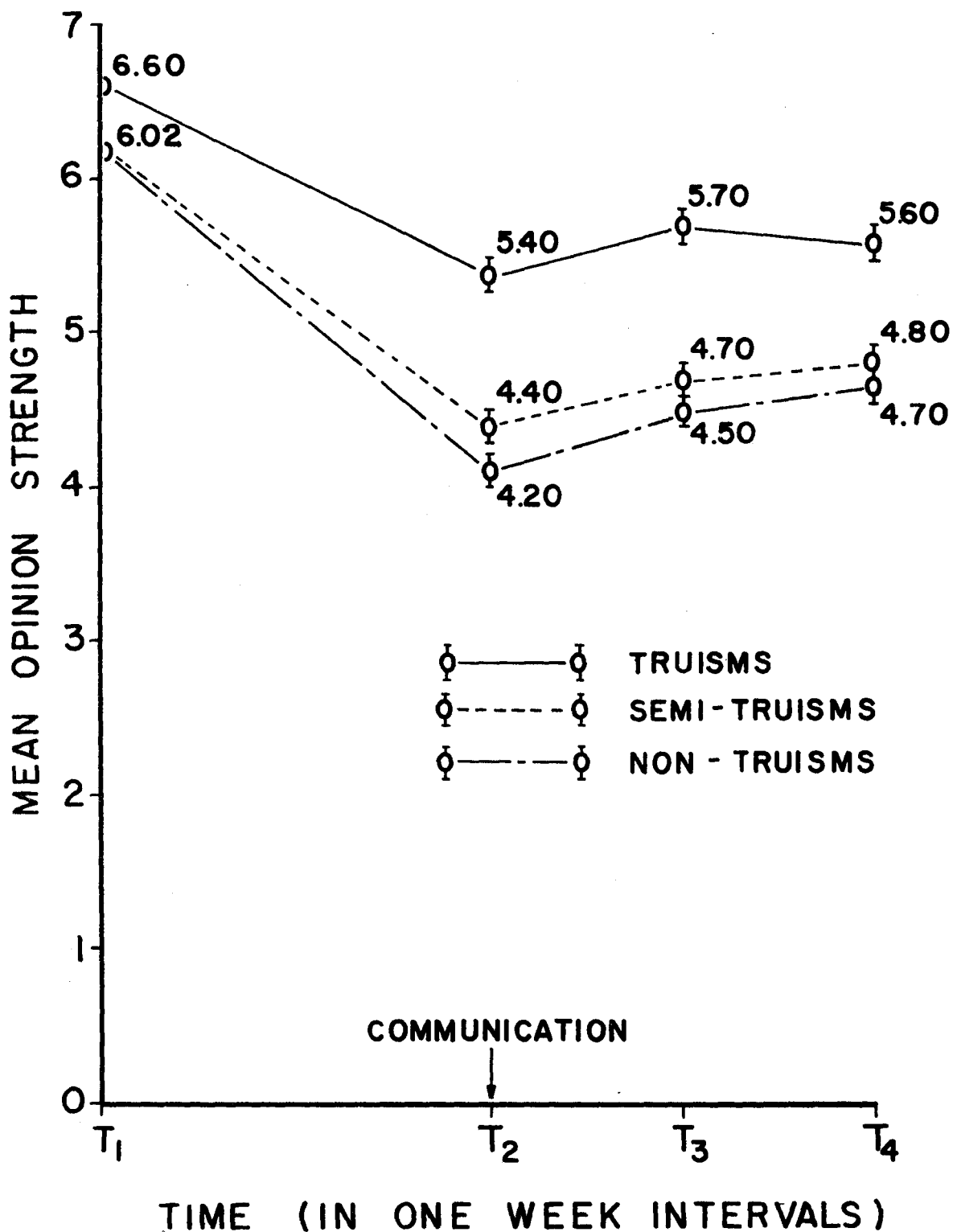
TABLE VI

Average Slopes for Opinion Change at Times T_2 , T_3 , T_4 for the 3 issues

	Truism	Semi-Truism	Non-Truism
Average Slope	0.23	0.24	0.33

There was a significant linear trend for the semi-truisms ($p < .001$) and for the non-truisms ($p < .001$), thus indicating that there was a regression of opinion strength to the initial values at T_1 . There was no significant linear trend for the truisms. In none of the three cases was there significant deviation from linearity. The trend analyses for each slope are summarized in Table XI of Appendix D.

FIGURE I. RETENTION OF OPINION CHANGE
ACROSS TIME FOR THE 3 ISSUES



b) For Subjects of Differing Initial Opinion Strengths

Figure 2 shows the effect of time on retention of opinion change for subjects of different initial opinion strengths.

Figure 2 about here

The standard errors of the means were calculated for Times T_2 , T_3 , T_4 . These values are also shown in Figure 2.

Table VII shows the average slopes calculated for opinion change over time for subjects of initially different opinion strengths.

TABLE VII

Average Slopes for Opinion Change at Times T_2 , T_3 , T_4 for subjects of Different Initial Opinion Strengths.

	Strong	Moderate	Mild
Average Slope	0.24	0.24	0.38

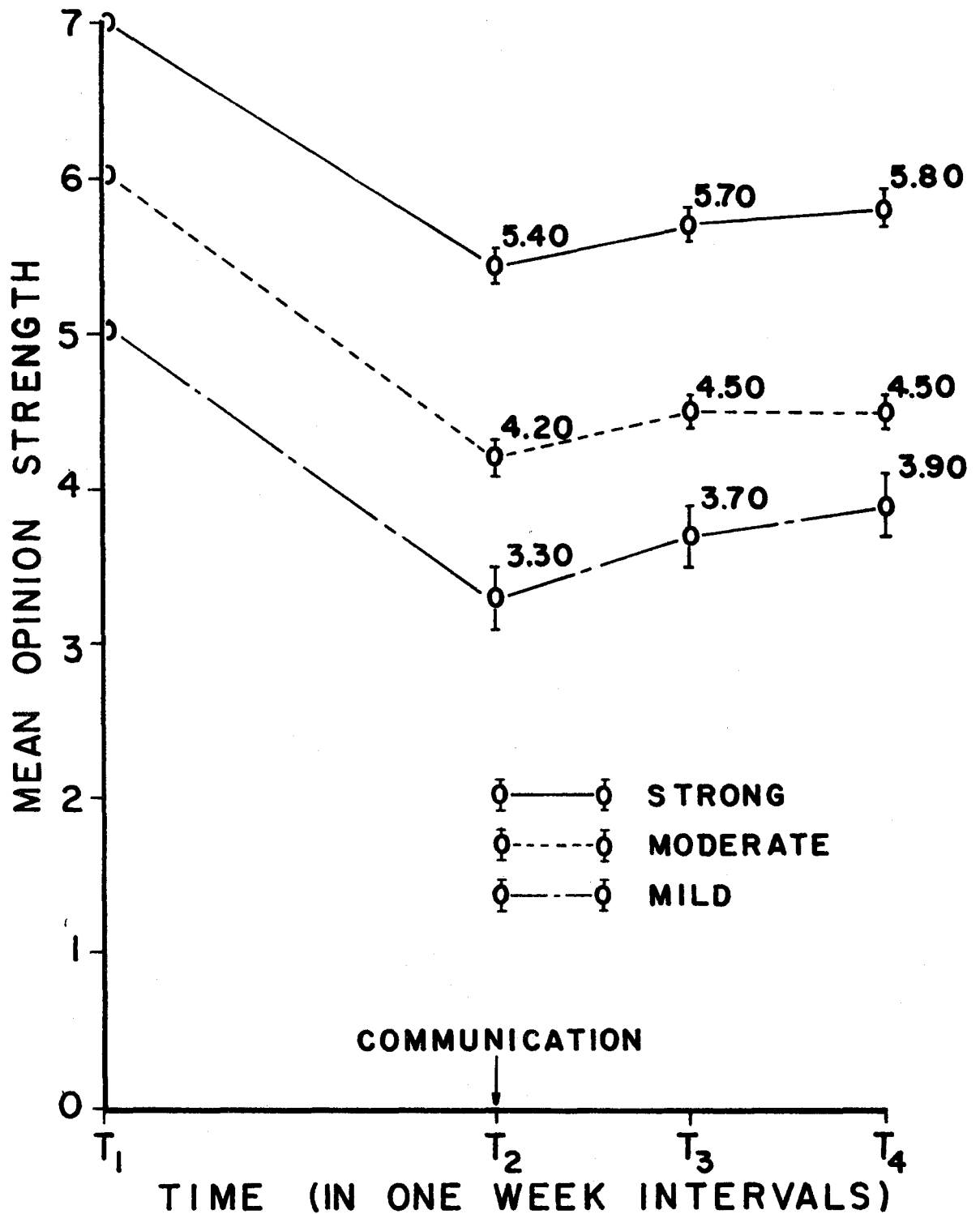
Here again each group showed significant linear trends ($p < .01$ for strong, $p < .025$ for moderate, $p < .001$ for mild). There were no significant deviations from linearity. (The trend analyses are summarized in Table XII of the Appendix).

Interest Scores

a) For Issues

The mean interest scores expressed by the subjects in the task of reading the communications were first calculated for the three types of

FIGURE 2. RETENTION OF OPINION CHANGE
ACROSS TIME FOR SUBJECTS OF
DIFFERENT INITIAL OPINION STRENGTHS



issues. These are shown in Table VIII (low scores indicate greater interest).

TABLE VIII

Mean Interest Scores for the Truisms, Semi-Truisms
and Non-Truisms

	Truisms	Semi-Truisms	Non-Truisms
Mean Interest Scores	3.34	3.67	3.17

An analysis of variance revealed a significant difference in interest scores due to the different issues ($p < .005$). Scheffé tests on the individual means showed that both truisms and non-truisms were significantly more interesting than the semi-truisms ($p < .05$ and $p < .01$ respectively). However, there was no difference in interest scores between truisms and non-truisms. These analyses are summarized in Table XIII of the Appendix.

b) For Different Initial Opinion Strengths

Table IX shows the mean interest scores for the task of reading the communications, expressed by subjects of different initial opinion strengths (low scores indicate greater interest).

TABLE IX

Mean Interest Scores for Subjects of Different Initial
Opinion Strengths.

	Strong	Moderate	Mild
Mean Interest Scores	3.25	3.53	3.65

Significant differences were shown to exist in the interest scores of the strong, moderate and mild subjects ($p < .05$). Scheffé tests revealed that this was due to the significantly greater interest of the strong as compared with the moderate subjects ($p < .10$), and similarly the greater interest shown by the strong as compared with the mild ($p < .05$). These results are summarized in Table XIV of the Appendix.

Points Remembered

Two analyses of variance were performed in order to find whether the number of points remembered of the original arguments were in any way related to the type of issue involved or to the original opinion strengths. Neither analyses showed any differential effects. (The analyses are summarized in Tables XV and XVI of the Appendix).

Post Experimental Discussion

The analyses of variance carried out on the amount of post-experimental discussion reported by the subjects, indicated no differences with respect to the issues involved or to the original opinion strengths. (These analyses are summarized in Tables XVII and XVIII of the Appendix).

SUMMARY OF RESULTS

Opinion Change for the Different Issues

- 1) The effect of the communication was to change the original opinions on each issue towards that advocated by the communications.
- 2) The greatest opinion change at T_2 , due to the communication, occurred for the non-truisms. The least opinion change occurred for the truisms. There was no difference in the amount of opinion change at T_2 between the semi-truisms and the non-truisms.

3) The communications on the truisms caused a larger proportion of subjects to change at T_2 than did the communications on the non-truisms. There was no difference in the proportion of subjects changing on the semi-truisms and on the non-truisms.

Opinion for Subjects of Different Initial Opinion Strengths

1) The effect of the communication at T_2 was to change the opinions of all groups of subjects in the direction advocated.

2) There was no difference in the amount of opinion change at T_2 for initially strong, moderate or mild subjects.

3) For each type of issue taken separately, there was still no difference in the amount of opinion change at T_2 for subjects of different initial opinion strengths.

4) There was no difference in the proportions of initially strong, moderate and mild subjects who changed their opinion at T_2 .

Effects of Time on Retention of Opinion Change

a) For Different Issues

1) There was no regression of opinion change back to the initial opinion strength for the truism issues.

2) There was significant regression of opinion change for both the semi-truisms and the non-truisms.

b) For subjects of Different Initial Opinion Strengths

For all three groups of different initial opinion strength, there were significant linear trends showing a regression of opinion change back to the original opinion strength.

Interest Scores

1) The two most interesting issues were found to be the truisms and non-truisms. They were found to be equally interesting.

2) Subjects of initially strong opinion strengths expressed the greatest interest followed by the moderates. There was no difference in the interest expressed by the moderates and the milds.

Points Remembered

There were no differences in the number of arguments remembered for the different issues or by subjects of different initial strengths.

Post Experimental Discussion

There was no difference in the amount of post-experimental discussion on the different issues, or by subjects of different initial opinion strengths.

PART II

The results for the extension of the experiment are based on the responses of 126 of the original 283 subjects in the first experiment. All the tables referred to below, which summarize the statistical analyses carried out on the data, are to be found in Appendix E.

1) Involvement Scores

It was anticipated that the two questions concerning the subject's feeling of involvement with the issue, would give highly similar scores, indicating that both questions were dealing with the same underlying factor. Table X shows the mean score for both questions averaged across all nine communication topics.

TABLE X

Mean Involvement Scores from Questions 1 and 2

	1	2
Mean Involvement Scores	6.18	5.90

An analysis of variance carried out on all the involvement scores for the 9 topics indicated that there was no significant difference between the scores for the two questions. Thus, in all subsequent statistical analyses using involvement scores, the mean score for the two questions was employed. (A summary of the above analyses is shown in Table I of Appendix E).

The mean amount of opinion change for each topic observed immediately after the communication had been presented in Experiment I, was then compared with the mean involvement scores for those topics. This was done by ranking the 9 topics in decreasing order of involvement and increasing order of opinion change. This is shown in Table XI. The title of each topic is abbreviated.

Table XI about here

It is apparent that the two orders are fairly well correlated, with greater opinion change occurring for issues of lower involvement. Spearman's rank correlation coefficient was found to be significant ($\rho = 0.75$, $p < .05$).

In view of the fact that there was a significant correlation between opinion change and involvement scores, some of the data from the first experiment were re-analysed. Instead of categorizing the nine topics into truism, semi-truism and non-truism issues, they were divided into two groups. One group, which was labelled "low involvement", (LI) contained the three topics eliciting the three lowest mean involvement scores. The other group, which was labelled "high involvement" (HI), contained the three topics eliciting the three highest mean involvement scores (Table XI above). The LI group contained topics on X-rays, Immigration and the Death Penalty. The HI group contained topics on Canada and the U.S.A., Education and the Family.

Opinion Change at T_2

The mean opinion change \bar{D} at T_2 , immediately after the communication was presented, was calculated for the low involvement group and the high

TABLE XI

Nine Communication Topics Ranked According to Involvement Scores and Amount of Opinion Change

Topics	Mean Involvement Scores	Topics	Mean Amount of Opinion Change at
Canada/USA	7.18	Canada/USA	0.60
Education	6.98	Education	1.10
Family	6.55	Family	1.32
Voting	6.38	Initiations	1.77
Penicillin	5.97	Death Penalty	1.80
Initiations	5.76	Voting	2.03
X-rays	5.46	Penicillin	2.06
Immigration	5.06	X-rays	2.32
Death Penalty	4.70	Immigration	2.42

involvement group. This was done by subtracting the mean opinion strength (\bar{X}_2) at T_2 for the mean opinion strength (\bar{X}_1) at T_1 . These changes are shown in Table XII.

TABLE XII

Mean Amount of Opinion Change \bar{D} at T_2 for LI and HI Groups

Groups	X_1	X_2	\bar{D}
LI	6.19	4.00	2.19
HI	6.60	5.60	1.00

t tests showed that for both groups opinion changes at T_2 were significant (LI $p < .001$, HI $p < .001$). These tests are summarized in Table II of Appendix E. t tests to compare the mean opinion change at T_2 for LI and HI revealed that there was significantly greater opinion change in the LI group than in the HI group ($p < .005$). This test is summarized in Table III of Appendix E.

Each group was then analysed in order to find the amount of opinion change at T_2 occurring for subjects of different initial opinion strengths.

Considering the LI group first, it was found that the mean opinion change at T_2 was significant for initially strong, moderate and mild subjects. ($p < .005$ in each case). Table XIII shows the mean opinion change \bar{D} for each group.

TABLE XIII

Mean Amount of Opinion Change \bar{D} at T_2 for Initially Strong, Moderate and Mild Subjects in the Low Involvement Group

	X_1	X_2	\bar{D}
Strong	7.00	4.69	2.31
Moderate	6.00	3.72	2.28
Mild	5.00	3.20	1.80

The results are analysed in Table IV of Appendix E.

An analysis of variance performed on the mean opinion strengths at T_2 for these strong, moderate and mild subjects revealed significant differences between the means ($p < .001$). Scheffe' tests for all possible comparisons indicated that this difference was due to the initially strong subjects retaining a stronger opinion strength at T_2 compared with both the moderate and mild subjects ($p < .01$ in both cases). There was no difference in opinion strengths at T_2 for the initially moderate and mild subjects. (These analyses are summarized in Table V of Appendix E).

In order to compare the amount of opinion change at T_2 occurring for subjects of different initial opinion strengths in the low involvement group, t tests were carried out to compare the mean amount of change \bar{D} for each group. The values of \bar{D} were shown in Table XIII above. None of the comparisons were found to be significant, indicating that the initial opinion strengths of the subjects in the involvement group did not differentially affect the amount

of opinion change due to the communication. (These results are analysed in Table VI of Appendix E).

Turning now to the HI group, identical statistical tests were made as for the LI group. Mean opinion change at T_2 was found to be significant for initially strong, moderate and mild subjects ($p < .001$ in each case). These results are shown in Table VII of Appendix E. Table XIV shows the mean opinion change \bar{D} for each group.

TABLE XIV

Mean Amount of Opinion Change \bar{D} at T_2 for Initially Strong, Moderate and Mild subjects in the High Involvement Group

	\bar{X}_1	\bar{X}_2	\bar{D}
Strong	7.00	5.99	1.01
Moderate	6.00	5.13	0.87
Mild	5.00	3.41	1.59

An analysis of variance on the mean opinion strengths at T_2 for the three strength of opinion groups revealed significant differences between these means ($p < .001$). Scheffé tests for the three mean opinion strengths at T_2 showed all possible comparisons to be significant ($p < .01$ in each case). These analyses are summarized in Table VIII of Appendix E.

The change in opinion strength \bar{D} at T_2 was compared for the initially strong, moderate and mild subjects. The greatest opinion change occurred with the mild subjects and the least with the moderate subjects (see Table

XIV above). t tests showed that opinion strength for the mild was significantly greater than for the strong ($p < .05$). and significantly greater than for the moderate ($p < .05$). There was no difference in the amount of opinion change occurring for the strong and the moderate subjects. Thus, for the high involvement group, the initial opinion strength of the subject was reflected to some extent in the amount of opinion change indicated at T_2 . (These results are summarized in Table IX of Appendix E).

Retention of Opinion Change

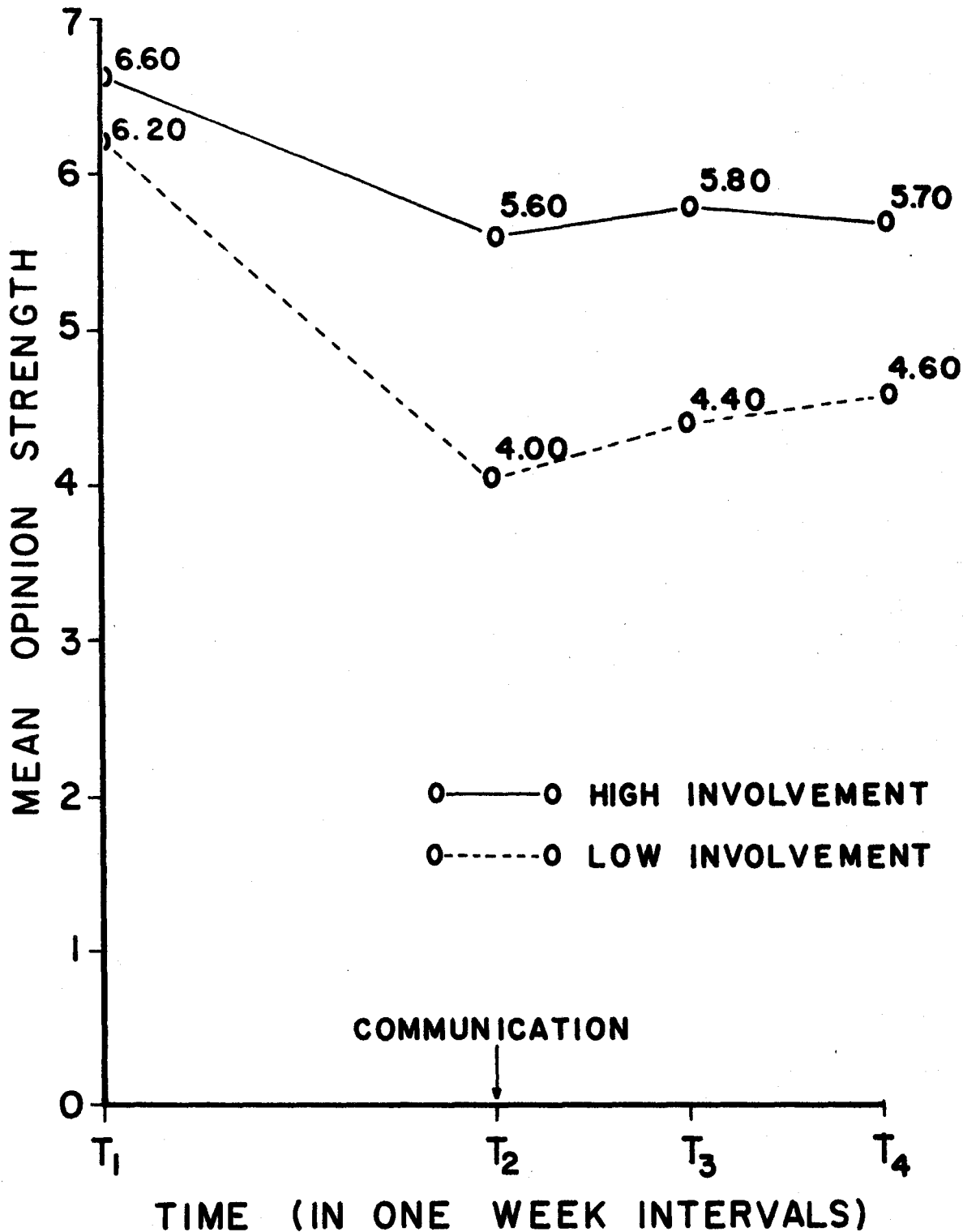
Figure 3 shows the mean opinion strengths at T_2 , T_3 , T_4 for the LI and the HI groups.

Figure 3 about here

Only the low involvement group showed a trend significantly different from a slope of zero ($p < .05$). This means that the opinion change for the high involvement group was retained longer than for the low involvement group. (These results are summarized in Table X of Appendix E). Neither group showed significant deviations from linearity.

When the opinion change over time for the LI group was analysed for subjects of initially different opinion strengths, it was found that the regression of opinion strength back to the initial strength was due solely to the initially strongly opinionated subjects ($p < .01$). For the initially moderate and mild subjects there was no significant trend (This analysis is shown in Table XI of Appendix E).

FIGURE 3. RETENTION OF OPINION CHANGE
ACROSS TIME FOR LOW AND
HIGH INVOLVEMENT GROUPS



Interest Scores

Table XV shows the mean interest scores expressed for the topics in the low and high involvement groups (In all measures of interest, lower scores indicate greater interest).

TABLE XV

Mean interest Scores for LI and HI Groups

	LI	HI
	3.42	3.39

An analysis of variance (summarized in Table XII of Appendix E) showed that there was no difference between these values.

Table XVI shows the mean interest scores for the two groups when they are calculated for subjects of different initial opinion strengths.

TABLE XVI

Mean Interest Scores for Subjects of Initially Different Opinion Strengths in the LI and HI Groups

	LI	HI
Strong	2.99	3.36
Moderate	2.87	3.49
Mild	3.07	3.27

An analysis of variance (summarized in Table XIII of Appendix E) revealed that there was no difference in the interest scores among the subjects in the HI group. However, in the LI group, subjects of different initial opinion strengths did show significantly different interest scores. ($p < .05$) Scheffé tests for all possible comparisons indicated that this significance was due to the greater interest expressed by the strong subjects compared with the mild ($p < .10$). There were no differences between the strong and the moderate or between the moderate and the mild (Table XIII of Appendix E).

Points Remembered

Table XVII shows the mean number of arguments remembered from the original communications by both the low and the high involvement groups.

TABLE XVII

Mean Number of Original Arguments Remembered by the Low and High Involvement Groups

	LI	HI
	2.95	2.72

An analysis of variance indicated no difference between these scores (Table XIV of Appendix E).

The number of points remembered for each group, by subjects of different initial opinion strength, similarly showed no differences. (Table XV of Appendix E)

2) Author's Opinion and Own Opinion Scores

These scores were obtained from questions 3 and 4 on the questionnaire

which had been mailed to the subjects. The Author's Opinion (AO) was the opinion strength which the subject believed would be expressed by the author of the communication, if he was asked to state that opinion for the topic. Own Opinion (OO) was the subject's own rating of the strength of the argument which he had read.

Table XVIII shows the mean scores for these two questions for the LI and the HI groups.

TABLE XVIII

Mean Values for AO and OO for the LI and HI Groups

	LI	HI
AO	1.32	1.60
OO	1.87	2.08

An analysis of variance revealed that for both groups OO scores were significantly higher than AO scores ($p < .001$ in each case). This analysis is summarized in Table XVI of Appendix E.

A t test was carried out in order to determine whether this discrepancy between AO and OO scores was different for the HI and LI groups. The results of this test, which is summarized in Table XVII of Appendix E, showed no difference with respect to groups.

It was also shown that the high involvement group expressed significantly stronger opinions than the low involvement group for both the "AO" and "OO". ($p < .001$ and $p < .05$ respectively). This analysis is summarized

in Table XVIII of Appendix E.

Each group was then examined in order to determine whether there were any differences in the scores which could be attributed to the different initial opinion strengths of the subjects.

Table XIX shows these mean scores for the LI group.

TABLE XIX

Mean AO and OO scores for the LI group.

	AO	OO
Strong	1.36	1.96
Moderate	1.23	1.79
Mild	1.50	2.05

An analysis of variance (summarized in Table XIX of Appendix E) showed there were no differences for either scores between the subjects.

Table XX shows the mean scores for the HI group.

TABLE XX

Mean AO and OO scores for the HI group.

	AO	OO
Strong	1.59	2.02
Moderate	1.56	2.13
Mild	1.89	1.89

An analysis of variance again showed no differences in scores for subjects of different initial opinion strengths. This analysis is summarized in Table XX of Appendix E.

SUMMARY OF RESULTS

1) Involvement scores closely correlated with the amount of opinion change at T_2 in the main experiment.

2) There was greater opinion change at T_2 for issues in the low involvement group than for issues in the high involvement group.

3) In the HI group, initially mild subjects showed the greatest opinion change at T_2 . In the LI, there were no differences in the amount of opinion change at T_2 between subjects of initially different opinion strengths.

4) Induced opinion change for the issues in the LI group showed a gradual regression over time towards the initial opinion strength. There was no such regression for the issues in the HI group.

5) The regression of the induced opinion change for the LI group was solely due to the initially strong subjects. There was no such regression for the initially moderate and mild subjects.

6) There was no difference in interest scores between the LI and HI groups.

7) In the LI group, the initially strong subjects expressed the greatest interest in the topics. There were no differences in the subjects in the HI group.

There was no difference in the number of arguments remembered for the LI or HI group, nor were there any differences due to the initial opinion

strength of the subjects.

For both HI and LI groups, "Own Opinion" scores were stronger than "Author's Opinion" scores.

10) The scores for both OO and AO were stronger for the HI group than for the LI group.

11) There were no differences either in the OO or the AO scores which were due to different initial opinion strengths of the subjects.

CHAPTER FIVE

DISCUSSION

This chapter will discuss the results of both the main experiment and the subsequent follow-up study. In order that they may be related to the arguments presented in the historical review, the chapter will be divided into three sections. The first section will consider the results pertaining to the variable of type of issue. The second will deal with the results analysed with respect to subjects of different initial opinion strengths, and the third with the retention of opinion change over time.

1) The Effect of Issue

In the main experiment, the effect of the communications was such that the greatest opinion change at T_2 occurred for the non-truisms, and the least opinion change for the truisms.

This did not support the finding of McGuire (1961a, 1961b, 1962b) that anti-truism arguments would cause the greatest opinion change. McGuire argued that subjects are inadequately prepared to defend their belief on a truism since counter-truism communications presented new and unfamiliar arguments. However, in view of the fact that the pilot study carried out by the present author indicated that subjects would write their own anti-truism arguments, it is questionable whether or not this is the crucial variable, at least in terms of the present experiment.

A more useful approach may be the one which has been described as self-esteem theory, (McGuire and Millman 1965) in which it was argued that

messages on certain issues are unlikely to have much effect in influencing the subject's opinion since an opinion change would be damaging to his self-esteem. Such issues were likely to be emotional, non-technical topics for which opinion change would be seen as indicative of a weak will.

This view seems to be supported by the results obtained in the follow-up study. When the nine original topics were arranged in order of involvement expressed by the subjects, two of the three topics which were rated as most involving were two topics which had been classified as truisms in the main experiment. However, the third topic which had been classified as a truism was rated quite low in terms of involvement. This was the topic concerning the benefit of penicillin and had been one of the truisms used by McGuire. It is interesting to note that the two topics taken from McGuire's list of truisms - the one concerning penicillin, and the one advocating yearly chest X-rays - were both rated as being of relatively low involvement for the subject. In other words, the three truisms used in the main experiment differed considerably in their importance or degree of involvement for the subject. In terms of self-esteem theory, we would expect the least change for these most involving issues.

The following study indeed showed that considerably less opinion change occurred at T_2 following arguments against the three highly involving topics compared with arguments against the three less involving topics.

There is much support in the literature for this difference between topics of low and high involvement, and there is also some evidence as to why this difference might occur.

For example, Miller (1965) manipulated involvement in groups of high

school students by telling them how important their views were. He found that there was less opinion change following communications on the subject of fluoridation for the high involvement group than for the low involvement group.

Kelley and Volkhart (1952) found that Boy Scouts who highly valued their membership in the organization changed less towards messages contradicting traditional Scout practices, than did boys who valued their membership less highly.

Eagly (1967) studied the effect of involvement as a determinant of response to favourable and unfavourable information. She described involvement as being the psychological state that accompanies the activation of a relatively central concept by discrepant information. Since a central concept is strategically located in the sense that other concepts are dependent upon it, and since all concepts are supported by information that the individual has processed in his past life, change towards discrepant information on such a topic is inhibited. She found evidence to show that when negative or unfavourable information was presented, there was less change on the rating scale for the high involvement subjects than for the low involvement subjects.

It is reasonable to suppose that the three topics making up the high involvement group in the present experiment, were relatively central concepts in terms of Eagly's definition. The present finding then, that there was less opinion change for topics in the high involvement group than in the low involvement group, is supportive of the data which Eagly collected.

Eagly's description of the centrality of the concept inhibiting opinion change is simply a description of the situation. However, Sherif

and his associates (Hovland, Harvey and Sherif 1957, Sherif and Hovland 1961) have been responsible for developing the assimilation - contrast theory which is an attempt to apply principles of judgement to the phenomena of attitude change. According to this theory each individual possesses a latitude of acceptance (the range of positions on an issue considered acceptable by the individual), a latitude of rejection (the range of positions on an issue considered objectionable by the individual) and a latitude of non commitment (the range of positions toward which the individual feels neutral). Information judged to be within the latitude of acceptance is perceived as advocating a position nearer to the individual (assimilation). Information judged to be within the latitude of rejection is perceived to be more discrepant from the individual (contrast). Opinion change towards the information is more likely to occur if it is perceived to fall within the individual's latitude of acceptance. The argument with respect to involvement is that the more involved in a topic the individual is, the narrower will be his latitude of acceptance, and the wider will be his latitude of rejection.

This approach has been used by several investigators to explain their findings that more involved subjects show less opinion change towards discrepant information than less involved subjects (eg. Freedman 1964; Atkins, Deaux and Bierli 1967; Deaux and Bierli 1967)

In the present experiment, although we were able to show that involvement was inversely related to opinion change, we did not have a measure of latitudes of acceptance or rejection for the two involvement groups. Had we had such a measure, we may have been able to show that the communications did in fact lie within the latitude of acceptance for

the low involvement group and within the latitude of rejection for the high involvement group. However, some interesting differences were found between the two groups with respect to their scores for "Author's Opinion" and "Own Opinion". It is possible that these scores are in some way related to the latitudes of judgement to which we have been referring. The following few paragraphs should help explain this possibility.

In the present experiment, the "Author's Opinion" and "Own Opinion" scores expressed by the High Involvement group were both significantly stronger than those expressed by the Low Involvement group. In other words the HI group judged the communication to be advocating a much stronger opposing position than did the LI group, and yet the communications had least influence on the opinions of the HI group.

This finding that highly involved subjects perceive discrepant communication to be even more discrepant from their own position, agrees with several previous studies.

For example, Diab (1966) found the same contrast effect when subjects were asked to describe the position of a communication involving Arab unity. Those extremely opposed to the message judged its position to be stronger than did a less extreme group of subjects.

In another experiment, Ward (1965) found that subjects who were highly involved in the question of Negro civil rights, contrasted more statements regarding the social position of Negroes towards the negative end of the scale, than did subjects who were less involved in the problem.

The finding then, that "Author's Opinion" and "Own Opinion" scores were judged stronger by the HI group than by the LI groups, perhaps may be

described in the assimilation-contrast terms used by Sherif, et al. He found that assimilation occurred if the communication was seen to lie within the subject's latitude of acceptance, and contrast occurred if it was seen to lie within the subject's latitude of rejection. Thus, the HI group may have perceived the communication to be advocating a stronger position than did the LI group, because of the fact that the communication lay within the latitude of rejection for the HI group, but within the latitude of acceptance for the LI group. The differences in opinion change experienced by each group, could then be related to these different dimensions of judgement.

Another interesting result found in connection with the scores for "Author's Opinion" and "Own Opinion", was the finding that subjects in both the low and the high involvement groups felt that the actual communications advocated a stronger opinion than the author himself was likely to hold. This was revealed in the results which showed that "Own Opinion" scores for both groups were significantly stronger than "Author's Opinion" scores.

It is difficult to explain why a subject should make this distinction. The main evidence he had for the author's opinion was the communication itself, and yet he believed that this expressed a stronger opinion than the author actually felt. He may have judged the author's opinion partly on the basis of the name and occupational status credited to him. One possible explanation may be that the distinction made by the subject, reflected some sort of justification mechanism. Faced with a discrepant message, the subject justified his previous opinion change by reporting that he perceived the message to be very strong, stronger in fact than the author had probably intended.

However, if this were so, then surely one would find that the dis-

crepancies between the "Author's Opinion" and "Own Opinion" would be different for the low and high involvement groups. In fact, there was no such difference between the groups.

Another possible explanation may be that the discrepancy reflected a rejection of the author. In view of the fact that the communication was opposed to the subject's opinion, he may have wished to somehow discount or reject it. Possibly, he found it easier to reject the author than to reject the communication which was actually there in front of him. However, this also seems unlikely since as with the previous suggestion made, one would expect a difference between the low and the high involvement groups. Furthermore, one would expect, on the basis of the evidence of assimilation and contrast that a rejection of the author would have caused the subject to displace "Author's Opinion" even further from his own, ie. the "Author's Opinion" scores would then be stronger than the "Own Opinion" scores. In fact, of course the opposite was found.

The data collected in this experiment did not provide a satisfactory explanation for this finding. The two suggestions just made are much too speculative to be capable of explaining the findings. Although there is plenty of evidence in the literature for the phenomenon of contrast, there is nothing which would help us to explain this distinction, in the mind of the subject, between the opinion expressed in the communication, and the actual opinion held by the author. It is certainly a question which would be worthwhile investigating further.

2) Strength of Opinion

In the main experiment, there was found to be no overall difference in the amount of opinion change experienced at T_2 by subjects of different initial opinion strengths. This had been anticipated since a study of the literature suggested that the effect of the subjects' initial opinion strength on subsequent opinion change (or, as described in discrepancy studies, the effect of the discrepancy between the opinion advocated by the communication and that held by the subject) was not the same for all types of issues.

It was further suggested that issues could be differentiated according to the degree of commitment of the subject to that issue. Several studies in the literature indicated that for issues of low commitment, opinion change increased as discrepancy between the opinion of the subject and the opinion expressed in the communication increased. However, for those issues eliciting a high degree of commitment, there was evidence to suggest that opinion change decreased as discrepancy increased.

In the sense that a cultural truism was an issue accepted as true by the majority of the population, it was thought that these might represent issues of high commitment. If this was so, then one could expect an interaction between initial opinion strength and type of issue, such that for the truisms (issues of high commitment) opinion change would not increase with increasing discrepancy. For the non-truisms however, (issues of low commitment), opinion change probably would increase with increasing discrepancy.

The results of the main experiment failed to support this line of reasoning. When each issue was analysed separately, there was found to be no difference in the amount of opinion change at T_2 occurring for subjects

of initially different opinion strengths. Neither were there any differences in the number of subjects who changed their opinions towards the communication at T_2 .

In other words, the original approach of classifying the topics into truisms and non-truisms evidently did not succeed in making the correct distinctions between topics of high and low commitment.

The first section of this chapter discussed the different topics which made up the three truisms used for the communications. It was pointed out that one of them, a health truism used by McGuire, differed considerably from the other two in terms of the amount of involvement which the subjects in the follow-up study expressed for it. This health truism was rated as being a much less involving topic than the other two truisms. In view of these findings of the follow-up study, there is a strong likelihood that the amount of commitment felt for the topics was also different.

In the present experiment, commitment was described in the terms used by Brehm and Cohen (1962). They regarded commitment as being the result of making a choice between two or more alternatives, and to that extent, having an opinion on an issue amounted to being committed. Eagly (1967) spoke of involvement as being the psychological state aroused by the activation of a central concept. The present author believes that "commitment" to an issue, and "involvement" in an issue are in fact describing the same psychological state and thus the two terms are interchangeable. In other words, it is to be expected that for issues of low involvement, opinion change should increase with increasing discrepancy, and for issues of high involvement, opinion change will not increase with

increasing discrepancy.

The results of the present experiment do show some support for this expectation. When the opinion change at T_2 was measured for subjects of different initial opinion strengths, it was found that for the three topics described as being of high involvement, the greatest opinion change occurred for the mild subjects. There was no difference in the amount of opinion change for the strong and moderate subjects. In other words, at maximum discrepancy, less opinion change occurred. However, for the low involvement group of topics, there were no such differences attributable to initial opinion strength. Possible reasons for this failure, in the latter case, to show an increase in opinion change will be discussed later.

Several studies investigating the effect of discrepancy on opinion change have also found a difference between topics of high and low involvement.

Hovland et al (1957) found a linear relationship between discrepancy and opinion change, but they warned that this probably held true only for topics of low involvement for which the communication was seen to lie within the subject's latitude of acceptance.

Eagly (1967) found that in the Low Involvement condition, the greatest opinion change was experienced by the strong subjects, but in the High Involvement condition the maximum change occurred at moderate discrepancies.

Freedman (1964) extended Hovland's judgemental theory to predict a curvilinear relationship between discrepancy and opinion change for all levels of involvement. Thus, as discrepancy increased, opinion change also increased until a maximum point was reached and any further discrepancy produced less opinion change. He argued that involvement was important

in so far as it determined the level of discrepancy at which this maximum opinion change occurred. We have already shown in the first section of this chapter that there is considerable evidence indicating that subjects have larger latitudes of acceptance for issues of low involvement than for issues of high involvement. Freedman argued that so long as the communication lay within the latitude of acceptance, then opinion change would increase with increasing discrepancy. However, if the discrepancy reached such a magnitude that other factors came into play, (eg. disbelief in the message, rejection of the source, etc.), then opinion change would no longer occur. This would happen when the communication had fallen outside of the latitude of acceptance. Thus, for an issue of low involvement, the point of maximum discrepancy for a communication would be greater than for an issue of high involvement since it would remain within the wider limits of the former's latitude of acceptance.

In the experiment which Freedman (1964) conducted to investigate this hypothesis, he in fact found that for the high involvement group, maximum change occurred at moderate discrepancy. For the low involvement group, opinion change increased monotonically with discrepancy. He believed that had the discrepancies been large enough, then there would also have been a decrease in opinion change at maximum discrepancy for the low involvement group.

Whittaker (1963) suggested that the contradictory results obtained from so many of the studies on discrepancy and opinion change, was simply due to the limited range of the opinion scales which were used. He thought there existed a curvilinear relationship between these two variables for

issues of high and low involvement. In a series of experiments, Whittaker (1963; 1964; 1965) widened the range of discrepancies for issues both of low and high involvement. He was able to demonstrate that if the discrepancies are large enough, then for both high and low involvement topics, there exists a curvilinear relationship between opinion change and discrepancy, thus, supporting the predictions of Freedman.

It should also be pointed out here that a curvilinear relationship between opinion change and discrepancy is also predicted from dissonance theory (Bochner and Insko 1966). Thus, as discrepancy increases, dissonance is reduced through changing one's opinion towards the view advocated by the communication. However, at very great discrepancies, other modes of dissonance reduction are used eg. source rejection, etc.

Briefly then, available studies show that with increasing discrepancy, opinion change for topics of low involvement will also increase. For topics of high involvement, a curvilinear relationship is thought to be a more satisfactory description. Freedman (1962) and Whittaker (1963; 1964; 1965) believe that a curvilinear relationship exists for all issues, and that the failure of many studies to find this pattern for the low involvement issues, was because the possible range of discrepancy was not sufficiently wide.

The present study did in fact suggest a curvilinear relationship for the high involvement group in that maximum opinion change occurred for the mild subjects. Referring to the criticism made by Whittaker (1963), it is probable that had there been some measure of opinion strength which was even milder or less discrepant than the mild indicated on the rating scale, then subjects with this initial opinion strength would have shown

less opinion change at T_2 than the mild in the present experiment. Similarly had there been finer distinctions shown on the rating scale between moderate and strong, then this curvilinear relationship would have been more apparent. The fact that there was no significant difference in opinion change between the strong and the moderate subjects, suggests that for both these groups the communication already lay outside their latitudes of acceptance.

For the low involvement group there was no difference in the amount of opinion change between subjects of different initial opinion strengths. Here again, one may perhaps attribute this failure to an inadequate scaling technique. Had the scale been more highly differentiated, then any differences might have been revealed. For future studies, it is felt that a much finer opinion scale than the nine point scale used here would yield more useful data.

The strong, moderate and mild subjects all expressed much stronger opinions for "Own Opinion" scores than for "Author's Opinion" scores - a phenomenon which has already been discussed in the previous section of this chapter.

However, a rather unexpected finding regarding these measures was that for both the low and the high involvement groups, subjects of different initial opinion strengths all perceived the communications as being equally strong. This was shown by the fact that there were no differences for either "Author's Opinion" or "Own Opinion" scores, for initially strong, moderate or mild subjects in the high and low involvement groups.

In the previous section of this chapter, we have already cited studies showing that communications are perceived to express an opinion

closer to that of the subject (assimilation) or more discrepant (contrast) depending upon whether the communication lay within the subject's latitude of acceptance or latitude of rejection. The probability of the communication lying in either of these two latitudes is largely determined by the level of involvement of the topic.

However, there have also been studies which have investigated assimilation and contrast in terms of the attitude of the subject (eg. Manis 1961; Feather 1964; Diab 1966; Ward 1966). They have found that the more extreme the opinion of the subject, the more he perceives the communication as advocating an opinion highly discrepant from his own.

In the present experiment, we failed to find that initially strong subjects rated "Author's Opinion" or "Own Opinion" as being any stronger than did the initially mild subjects.

In view of the fact that in the low involvement group there were no differences in opinion change for subjects of different initial opinion strengths, then the failure to find differences for "Author's Opinion" and "Own Opinion" scores for this group may not be so surprising. The inadequacies of an opinion scale which failed to differentiate more clearly between subjects of different initial opinion strengths, may also explain the lack of differences in "Author's Opinion" and "Own Opinion" scores for the low involvement group.

Furthermore, the lack of differences in these two scores for strong, moderate and mild subjects in the low involvement group, may explain why there were no differences between them in the amount of opinion change at T_2 . Since they all perceived the communication to be advocating the same

position, there was consequently no difference in opinion change.

However, the results for the high involvement group do not support this suggestion, since although for this group again, there were no differences between "Author's Opinion" and "Own Opinion" scores for subjects of different initial opinion strengths, the main study did show that the mild subjects experienced significantly more change at T_2 than did the strong or the moderate subjects.

It is difficult to resolve these apparent inconsistencies on the basis of the evidence collected, although the use of a rating scale, capable of finer discriminations of opinion strength might reveal differences which the present study failed to find.

3) Persistence of Opinion Change over Time

The main experiment did not support the frequent assumption that memory for the persuasive communication is necessary for opinion change to be retained over time (eg. Hovland, Janis and Kelley 1953; Miller and Campbell 1959; Watts and McGuire 1964).

Opinion change was retained longer for the truisms than for either the semi-truisms or the non-truisms. This was shown by the fact that when opinion strength was measured at T_3 and T_4 for each of the issues, opinion strengths on the semi-truisms and the non-truisms showed a regression back to the original opinion strength at T_1 , the slope of which was significantly different from zero in both cases. The induced opinion strengths for the

truisms in contrast, showed no such regression.

However, there were no differences in the number of arguments remembered for each type of issue. This finding was contrary to the results obtained by Watts and McGuire (1964) who found that retention of induced opinion change was positively correlated with recognition of the specific arguments used in the communication. It should be pointed out that in their experiment, subjects were required to recognize the arguments used, whereas in the present experiment, the task was one of recall, in which the subjects had to reproduce the gist of the arguments. Luh (1922) has shown that retention scores using recall tasks are significantly lower than ones using recognition tasks. The mean numbers of arguments recalled for the three issues were very low - approximately two or three out of a possible eight. This seems to suggest that since the number was so low, retention of opinion change was not functionally dependent upon good memory for the communication. This would then explain why no more arguments were recalled for the truisms although opinion change for this issue was retained the longest.

It was suggested that interest in the communication might account for any differences found in the number of arguments remembered.

The results of the main experiment indicated that the communications for the truisms and the non-truisms were equally interesting - those for the semi-truisms were the least interesting. However, since we have already shown that there are no differences in the number of arguments remembered for the issues, the intrinsic interest of the messages evidently did not contribute to differential recall of the arguments. Interest in the communication did not appear to affect retention of opinion change either

since although truisms and non-truisms were rated as being the most interesting, retention of opinion change for the truisms was greater than for the non-truisms.

In the previously cited experiment by Watts (1967), a measure of interest was used as one of three measures made to assess the degree of involvement which the subjects felt for the topic. He too failed to show a correlation between interest scores and retention of opinion change, although he did find a correlation with the overall measure of involvement. It was the present author's belief that since each of the three involvement measures which Watts used, could also be interpreted as measures of interest, then level of interest might well be considered an important variable in retention of induced opinion change. The results of the present experiment suggest that this belief was erroneous. The mean interest scores for all three issues were relatively high - most people scored three on a nine point scale which corresponded to a rating of "interesting". It is a little surprising therefore to find the number of arguments recalled to be so low. However, the main point here is that interest was not found to affect either the number of arguments remembered or the amount of opinion change which was retained.

One further suggestion was derived from a review of the literature. This was that the issues which were more important to the subject would be remembered better by him Brehm (1962). Consequently induced opinion change for these issues would be retained longer than for less important issues. It was thought that truisms represented issues which were important to the subject, and in fact the results did show that opinion change for the

truisms was retained the longest. However, it became clear from the follow-up study that when the communication topics were classified into issues of high and low involvement, the original classes of truisms and non-truisms did not reflect different levels of involvement. It is difficult to believe then that the greater retention of opinion change, found for the truisms, was due to these issues being of the greatest importance to the subject.

When retention of opinion change is measured for subjects of different initial opinion strengths, the results are similarly difficult to explain.

The only experiment which was found to deal with this variable was by Doob (1953), who reported that subjects who felt strongly about a topic remembered more than the mild subjects, although accuracy of recall apparently was not correlated.

The present experiment found no differences in the number of arguments recalled by subjects of different initial opinion strengths, and no differences in the amount of opinion change retained by the subjects. Strong subjects rated the communications as being more interesting than did the mild subjects, but again this was not reflected in their retention scores.

The results of the main experiment regarding retention of induced opinion change are disappointing in that neither of the measures - recall of arguments, or interest in the communications - seem to account for the different amounts of retention found. What does seem to stand out is that those topics for which opinion change at T_2 was the greatest (semi-truisms and non-truisms) also showed the greatest regression of this induced change back to the original opinion at T_1 . In other words, although the communication

for these issues apparently had the greatest immediate effect, it did not prove to be a very lasting one.

We will now consider the results obtained from the follow-up study.

The finding by Brehm (1962), that any opinion change induced for issues of high involvement would be retained longer than for issues of low involvement was supported by the findings in the present experiment. These show that although there was a significant regression of the induced opinion back to the original opinion at T_2 for issues of low involvement, those issues of high involvement showed no such regression. However, once again these differences cannot be accounted for by the number of arguments remembered since there was no difference in recall scores for the issues in either group. Nor could they be explained by different degrees of interest expressed for the communication since issues in both groups were found to be equally interesting.

When the retention scores were analyzed for subjects of different initial opinion strengths, it was found that the regression noticed for the low involvement group was accounted for solely by the strong subjects who showed regression back to their opinion at T_1 . However, again this was not correlated with a poorer ability to recall the arguments, nor was it correlated with a lower degree of interest - in fact, on the contrary, the initially strong subjects in this group expressed the greatest interest compared with the moderate and the mild.

Once again, the main thing that seems to stand out is the fact that those issues for which opinion change was least at T_2 , namely those in the high involvement group, showed a greater stability of induced

opinion change.

In view of the fact that all the results discussed so far have failed to show any correlation between retention of opinion change and either interest in the communication or number of arguments recalled, it is difficult to explain why any differences in retention were found at all. The most likely explanation would be in terms of the types of communication issues used. In the main experiment, the induced opinion change was most stable for the truisms. On the basis of the different involvement levels found in the follow-up study, induced opinion change was most stable for issues of high involvement. However, it has previously been stressed that classification into truism and non-truism, does not result in the same topics being grouped together as when they are classified into issues of high and low involvement. Thus, no generalization can be made as to which type of issues will show the greatest retention of opinion change.

A more revealing finding is that those issues, for which there was the greatest opinion change immediately after receiving the communication, showed less stability of induced opinion change over time. Perhaps this is a case of subjects acting in haste and repenting at leisure. This reasoning however, does not explain why this should be so. There is really no way of knowing from this experiment whether the difference is due to the type of issue involved, or to some reaction on the part of the subjects who changed so drastically at T_2 . Possibly, some internal conflict occurred in these subjects, and on later reflection they felt they had been too gullible. On the other hand, since opinion change was retained longest for issues of high involvement, it may be that because of his greater

involvement in the topic, the subject "internalized" his changed opinion, thought about it more, and eventually it became part of his belief system. Although there was more immediate opinion change for the issues of low involvement, the opinion change may have been more superficial and quickly forgotten, simply because, for the subject it was a relatively unimportant issue.

Clearly, what is needed is an experimental design which would keep initial opinion change constant, and would vary the type of issue used. In this way, we would be able to determine whether retention of opinion change was in any way affected by the type of issue.

In view of the number of findings which this chapter has discussed, it may be useful to list briefly the main points of each section.

Type of Issue

1) Opinion change was found not to be greater for truism arguments. In fact the greatest change occurred for the non-truisms. A follow-up study suggested that a more useful classification of issues was in the amount of personal involvement which the subject felt for the topic.

2) Opinion change was shown to be related to the subject's degree of involvement with the topic. Communications or issues of high involvement resulted in the least amount of opinion change. Communications on issues of low involvement resulted in the greatest amount of opinion change.

3) This finding was discussed in relation to an assimilation -

contrast theory in which a persuasive communication was described as being more effective if it fell within the subject's latitude of acceptance for that issue. It was less effective if it fell within the subject's latitude of rejection for that issue. The widths of these latitudes were dependent upon the relative involvement of the issue - the more involving the issue, the narrower the latitude of acceptance, and the wider the latitude of rejection.

4) Subjects in the high involvement group judged the communications to be stronger than did those in the low involvement group. It was suggested that an assimilation - contrast process may have been involved here too, and this was thought to be related to the different amounts of opinion change found for issues in these two groups.

5) Subjects, in both the high and low involvement groups, when asked to give their own evaluation of the communication, judged the communication to be advocating a stronger position than when they were asked to judge the author's probable opinion on the topic. Several suggestions were made to account for this finding

Initial Opinion Strengths

1) No overall difference was found in the amount of opinion change experienced by subjects of different initial opinion strengths.

2) No difference in the amount of opinion change experienced by subjects of different initial opinion strengths was found between the issues when they were classified into truisms, semi-truisms and non-truisms. This was not surprising in view of the conclusions, drawn in the first section, that such a classification did not succeed in grouping together issues of

similar involvement for the subject.

3) It was found that for those issues of high involvement, opinion change was greatest for small discrepancies (subjects of an initially mild opinion strength), and least for maximum discrepancies (subjects of initially strong and moderate opinion strengths).

4) This finding was discussed in relation to the assimilation - contrast theory, and to the curvilinear relationship between opinion change and discrepancy which has been frequently found in discrepancy studies.

5) For issues of low involvement, there were no differences found for the opinion change experienced by subjects of different initial opinion strengths. The failure to find a curvilinear relationship for these issues was attributed to inadequacies in the measurement scale used.

6) In both the high and low involvement groups, the communications and the author's opinion were judged equally strongly by subjects with different initial opinion strengths. This finding did not support those studies which showed that subjects with the most extreme opinions perceived the opinion expressed by the communication as further away from their own opinions than did subjects with less extreme opinions. Again, it was suggested that a more discriminating measurement scale may have yielded more useful results.

Retention of Induced Opinion Change

1) Induced opinion change was retained longest for the truisms, and shortest for the semi-truisms and non-truisms.

2) The greater retention of induced opinion change for the truisms was not explainable either in terms of better recall of the arguments used

in the communications or in a greater interest expressed for the truisms.

3) The initially strong subjects proved to be more interested in the communications than were the moderate or mild subjects, yet this was not reflected in any better retention scores for the strong subjects. There were no differences in the number of arguments recalled by subjects of different initial opinion strengths.

4) It was doubtful that the superior retention of opinion change for the truisms was due to these issues being of greater importance to the subject, since it had already been demonstrated that such a classification did not group together issues of similar involvement. It seemed more likely that the explanation was in some way connected with the fact that retention was least with those issues for which there had been the greatest immediate opinion change at T_2 .

5) This latter observation was also noticed when the issues of high and low involvement were compared. For those issues producing the greatest immediate opinion change at T_2 , there was a regression of induced opinion change towards the initial opinion (low involvement group). The much smaller immediate opinion change produced by the communication issues in the high involvement group, was retained longer.

6) These differences in retention for the two groups were not reflected in the number of arguments remembered, or in the level of interest expressed for the issues.

7) The regression of induced opinion change noticed in the low involvement group was accounted for by the initially strong subjects, but again, this finding was not reflected either in the interest scores or in

the argument recall scores.

8) The general conclusion regarding the retention of induced opinion change, was that the measurements taken of interest, and argument recall, had failed to account for the differences in retention which were found. There appeared to be a connection between the amount of immediate opinion change, and the stability of the induced opinion change over time. Some sort of compensatory reaction on the part of the subjects may account for this finding. On the other hand, the opinion change for the issues of high involvement may become internalized into the subject's belief system since the issue is important to him. An issue of low involvement is quickly forgotten since the issue is relatively unimportant to the subject.

CHAPTER SIX

SUMMARY

The purpose of this experiment was to compare the amount of immediate opinion change, and the retention of opinion change over time, produced by communications about different types of issues among subjects with different initial opinion strengths.

A study of the literature on opinion change, suggested that many of the conflicting findings may have been due to the use of different types of communication issues. One characteristic of the issues which was thought to be of importance, was the familiarity, to the subject, of the topic discussed. Two theories, an "innoculation" theory, and a "self-esteem" theory, led to the expectation that greater opinion change would occur for communications on unfamiliar topics than for communications on more familiar topics. Another suggestion was, that arguments on technical issues would produce greater opinion change than those on emotional issues.

Communications attacking cultural truisms would, it was thought, provide new and unfamiliar arguments since a cultural truism was defined as a topic which a majority of the population strongly believed to be true. Thus, people would be unlikely to have heard these beliefs frequently attacked. Communications attacking non-truisms, or highly controversial topics in terms of the diversity of opinions they elicited from the population, were thought to provide more familiar arguments.

Hence in this experiment, one group of subjects read communications on three truism issues, one group read communications on three non-truism issues, and one group read communications on three semi-truism issues. These latter issues elicited opinions somewhere between the other two in terms of the degree of controversy they elicited. Measurements of controversy were obtained from subject's responses to an opinion questionnaire administered during the first experimental session.

Another factor which was considered important in accounting for the different amounts of opinion change obtained in previous studies, was the interaction between types of communication issues, and the initial opinion strength of the subjects. Several studies had suggested that the degree of commitment which the subject felt towards his initial opinion would affect the amount of any subsequent opinion change. For issues eliciting low commitment, it frequently had been found that an increase in the amount of opinion change occurred as the discrepancy between the initial opinion of the subject and the opinion advocated in the communication increased. However, for issues eliciting high commitment, this relationship had often failed to be found.

In view of the nature of the cultural truisms it was thought that these might represent issues of high commitment. Thus, it was the intention in this study to compare the amounts of opinion change occurring for different degrees of discrepancy with the truisms, semi-truisms and non-truisms. Discrepancy was thought to be greatest for the initially strong subjects, and least for the initially mild subjects. Therefore, in the present experiment, communications on the three types of issues were read by subjects of different initial opinion strengths, and the

amount of opinion change was compared.

Evaluations were also made of the amount of opinion change which remained one week and two weeks after the communications had been presented. The amount of retention was compared in order to find if there were any differences due to the types of issues or initial opinion strengths. Measurements were made, during the last experimental sessions, of the number of arguments used in the communications which could be correctly recalled, and of the degree of interest which the subjects expressed for the communication topics. It was thought that retention of opinion change might be dependent upon such factors. A check was also made that subjects had not discussed the experiment, since this would have complicated the conclusions.

The main findings of the experiment were:

The anticipated relationship between opinion change and the familiarity of the arguments to the subject was not found. In fact, the opposite relationship seemed to be true, since opinion change was found to be greatest for the most familiar non-truism arguments.

A follow-up study, in the form of a questionnaire mailed to the subjects, was designed to investigate further the differences in the communication topics. It asked the subjects to state how personally involved they felt in the topic of the communication. It also asked for their opinion of the strength of the communication argument, and the strength of the author's opinion as judged from his arguments.

It was found that degree of involvement correlated highly with opinion change. Issues of low involvement produced the greatest amount

of opinion change and issues of high involvement produced the least. Thus, it was concluded that the important characteristic of communication issues which accounts for the amount of opinion change produced, is the relative involvement which subjects feel.

The strength of the messages and the strength of the author's opinion, were both judged to be stronger for issues of high involvement than for issues of low involvement.

Both these results could be accounted for by the assimilation - contrast theory.

More difficult to explain was the finding that subjects in both the low and high involvement groups judged the strength of the communication arguments to be stronger than the opinion strength of the author of the communications. A compensatory process was suggested to account for this.

The expected relationship between opinion change and initial opinion strength was not found for the truisms, semi-truisms, or non-truisms. This was believed to be due to the inaccurate classification of the topics. When the topics were classified into groups of high and low involvement, the greatest opinion change occurred in the high involvement group for the mild subjects. This was believed to be similar to the predictions made from the assimilation - contrast theory, of a curvilinear relationship between discrepancy and opinion change. However, no differences in opinion change were found in the low involvement group for subjects of different initial opinion strengths. No differences were found in the subject's judgements of the strength of the communications or of the author's opinion strength when subjects of different initial opinion strengths in both groups were

compared.

It was suggested for both these findings, that the measurement scale which was used, probably did not make fine enough discriminations of different opinion strengths.

Measurements of the amount of opinion change retained over time, indicated that the opinion change was likely to be most stable over time when it occurred for those issues in which immediate opinion change had been the least.

Since no correlation was found between interest scores or recall of argument scores and retention, it was difficult to suggest factors which accounted for different amounts of retention found. The most likely explanation was thought to be that opinion change is retained longer for issues of high involvement because the new opinion becomes part of the subject's belief system. The opinion change for the issues of low involvement is quickly forgotten because it is less important to the subject.

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APPENDIX A

12 Statements Given to Subjects in the Pilot Study

(Statements 1-4 were the truisms used by McGuire).

1. Everyone should get a chest X-ray each year in order to detect any possible tuberculosis symptoms at an early stage.

2. Most forms of mental illness are not contagious.

3. The effects of penicillin have been, almost without exception, of great benefit to mankind.

4. Everyone should brush his teeth after every meal if at all possible.

5. Communism, if allowed to spread, would definitely be against the best interests of Canada.

6. A stable family unit is the best guarantee of producing a well-adjusted member of society.

7. The population of the world is increasing so rapidly that presently available food resources will soon be totally inadequate for the world's needs.

8. Although one may argue in some cases for the inevitability of war, there is no denying that it is an evil and destructive tragedy.

9. Motorists should be restricted by law from consuming more than a fixed maximum amount of alcohol.

10. There is no doubt that today man has more control over his environment than ever before.

11. No society can allow its members absolute freedom if it is to survive.

12. In the long run, education can be said to have helped rather than hindered man's material progress.

Statements Regrouped into Truisms and Non-Truisms on the Basis of Subject's Responses in the Pilot Study.

Truisms

- 1. Everyone should get a chest X-ray each year in order to detect any possible tuberculosis symptoms at an early stage.
- 2. Most forms of mental illness are not contagious.
- 3. The effects of penicillin have been, almost without exception, of great benefit to mankind.
- 4. Everyone should brush his teeth after every meal if at all possible.
- 5. No society can allow its members absolute freedom if it is to survive.
- 6. In the long run education can be said to have helped rather than hindered man's material progress.
- 7. Although one may argue in some cases for the inevitability of war, there is no denying that it is an evil and destructive tragedy.

Non-Truisms

- 1. Communism, if allowed to spread, would definitely be against the best interests of Canada.
- 2. A stable family unit is the best guarantee of producing a well adjusted member of society.
- 3. The population of the world is increasing so rapidly that pre-

3

sently available food resources will soon be totally inadequate for the world's needs.

4. Motorists should be restricted by law from consuming more than a fixed maximum amount of alcohol.

5. There is no doubt that today man has more control over his environment than ever before.

APPENDIX B

Main Experiment

The questionnaire presented to the subjects
at T_1 .

On the basis of the subject's responses to the
25 statements, the following classification was
made:-

Truisms - nos. 4, 9, 12.
Semi-Truisms - nos. 3, 8, 22.
Non-Truisms - nos. 1, 11, 14.

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McMaster University
DEPARTMENT OF PSYCHOLOGY

Questionnaire

Instructions

We would like to have your opinion on each of the items listed below. Indicate whether you agree or disagree with each statement by placing the appropriate code number on the line following the statement.

The code numbers are on the accompanying sheet. Refer to this sheet before you respond to each item.

If you have no opinion, or cannot decide, indicate this by using the appropriate code number. If you have any questions, ask the instructor before you begin.

Work quickly, but remember it is important that you give a true picture of your opinions.

- 21. There is no doubt that today man has more control over his environment than ever before.
- 22. Everyone should get a chest X-ray each year in order to detect any possible tuberculosis symptoms at an early stage.
- 23. French-Canadian culture is a handicap to Canada.
- 24. All public and high school teachers should be required to have a university degree.
- 25. College students should not be required to take physical education.

SA

Strongly Agree

MOA

Moderately Agree

MIA

Mildly Agree

NO
Have No Opinion

CD
Can't Decide

MID

Mildly Disagree

MOD

Moderately Disagree

SD

Strongly Disagree

The Persuasive communications presented at T_2 .
For each statement, two communications were
written, arguing either for or against the
opinion statement. Each subject received the
three communications which argued against the
opinion he expressed at T_1 .

Communications 1-6 are the truism arguments.

Communications 7-12 are the semi-truism arguments.

Communications 13-18 are the non-truism arguments.

McMASTER UNIVERSITY

Department of Psychology

Instructions

Name _____

This is part of an experiment to compare two different methods of communication - the lecture form and the written form.

The following passages are to be read now and you will later be given tests designed to find out how much you have understood and how much you can remember of the arguments.

You are asked to read each passage twice. On the second reading underline the main points of the argument as you proceed.

After you have read each page you are to turn to the next page and record your opinion of the statement printed there. Since we wish to investigate whether a person's opinion about a topic has any influence upon his understanding and memory for the material. Please use the rating scale which is attached to the back of the handout. (This is the same scale which you have used before.) When you have recorded your opinion, then turn to the next page and read the next passage.

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1

EDUCATION -- A LUXURY OR A NECESSITY?
by J. C. Adams
Faculty of Education, University of Alberta

Education is no longer a luxury; it is a necessity which we cannot neglect if we mean to make progress and hold our own with the nations of the world. Governments are recognizing that investments in education pay high dividends. They foresee that any future development will be dependent upon the opportunities they provide for the education of their youth.

It is fair to say that the greatest advancements in scientific knowledge have been made during the last hundred years. It has been achieved by systematic and vigorous research made possible by an expansion of each country's educational policies. Those countries which have invested the most money in education are able to reap the highest benefits. The U. S. A. sends 40% of its high school graduates to University compared with 10% in France and 9% in Britain. Significantly, the U.S.A. now has the highest living standard of any country in the world. In Russia education has priority too. Since 1920 she has been rapidly increasing her technological output at a rate far higher than any country except the U. S. A. and Germany.

Probably the single most difficult obstacle that the government of a new nation must overcome is the illiteracy of the people. Illiteracy and obstinacy hampers all attempts to improve agriculture and housing and to relieve disease. The first step must be to educate the people into new ways of thinking so that they themselves can see the advantage of relinquishing old outdated practices.

It is a romantic notion that man has not bettered his position as a result of scientific achievements. Maybe there are more strains and tensions in the world, but to claim that -- "The noble savage in his purity of heart and motive far exceeds in the satisfaction of his personal necessities, modern man." (Thoreau) -- is to forget the hunger and poverty of those living in the underdeveloped regions of the world, where the battle for life precludes any false ideas about the beauty of an untamed environment.

Progress is seen today in the fight against disease, against poverty; in the search for new sources of food; and in the widening network of communication which brings men into closer understanding with each other. All this would have been impossible without a liberal educational policy which encouraged people to use their skills.

Material advancements need to be achieved together with a growing social conscience about man's individual needs and of the responsibility which this progress entails. Education is both a prerequisite for a nation's progress and a necessary factor for its continued existence.

MODERN MAN - CAN HE SURVIVE?

by Edward Brady

Research Advisor to the Indian Labour Congress

In this age of achievement in the fields of science and technology, it is with respect that we judge the culture which has nurtured such progress. There are many people who would wish us to impose much of that culture onto our own; to strive for an education which would provide us with those material benefits. However, we must be aware that the results have not always been to the betterment of mankind, and indeed many of those nations are now suffering from the adverse reactions of such a planned policy of progress.

In all parts of the world people are concerned about the threat of nuclear warfare. Progress has brought man to the stage when with one movement of the hand, a whole force is unleashed capable of destroying all that he has worked to produce.

A no less frightening aspect of knowledge has been the use of germ warfare. Recognition of its dangers has provoked nations to abide by mutual agreements regarding its limitation -- but with the techniques available the danger is always present.

In this country we are not troubled by air and water pollution, but the prospects for survival in such places as Los Angeles in the U.S.A. are such that this can be regarded as a major hazard involved in technological progress.

Medicine has advanced tremendously and we ourselves are beginning to feel its impact, but with the security of the health that drugs bring, also comes the risk of side reactions and of unheard of abnormalities which we have seen. Is not the alarming increase in population due also to man's ability to reduce the fear of disease and famine?

At 26, the average American man has the body of a 45 year old. Automation has reduced the drudgery of labour but it has also reduced the need to use the body. Man is working towards his own decay.

Each year thousands are killed on the world's highways. There will soon be as many cars as there are people, each polluting the atmosphere, and each creating a potential death trap to the population.

Progress is difficult to measure, indeed even to define. One looks at the countryside once beautiful and now laid waste by factories, by cars and by refuse; one wonders if for all that man has achieved, has he not also paid a high price, so high that he himself is being destroyed by his own success.

Please give your opinion of the following using the rating scale at the end.

In the long run education can be said to have helped rather than hindered man's material progress.

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PENICILLIN AND ITS USES AS A CHEMOTHERAPEUTIC AGENT

by Stewart Harvey

Professor of Pharmacology, University of Utah, College of Medicine

The remarkable influence of penicillin in the treatment of infection is impossible to estimate exactly and can be appreciated only fully by physicians who dealt with such diseases prior to the advent of the chemotherapeutic era. It has been used successfully in a great number of diseases and a large measure of its success must be due to its low toxicity towards healthy tissue. "No antibiotic has achieved a permanent place in medicine. Still less has any been found which together with high antibiotic power has a toxicity so low as to be suitable for systematic use."

Although its initial discovery was entirely fortuitous, its development and therapeutic application represents the results of a well-planned and executed program that brought about one of the major advances in medical sciences.

Originally it was used as an antibiotic in the treatment of war wounds where it was found to facilitate rapid healing and convalescence.

Since penicillin has demonstrated its effectiveness in eradicating micro-organisms, its use has been extended to include application in situations in which a risk of primary or secondary bacterial invasion has been present. Thus it has been used in surgery, obstetrics, strokes, premature infants and viral infections of all types. Dental extractions also involve the use of penicillin since 25% of the cases of bacterial infection of the blood stream are associated with dental surgery.

To consider viral infections more specifically, prior to the availability of the drug, the fatality rate of meningitis was close to 100%. Penicillin has reduced the death rate to 8-25%.

Similar results have been achieved in the treatment of pneumonia, which at one time was usually fatal.

Until recently penicillin was the second choice to sulphonamides for the treatment of pneumonia and meningitis, but the resistance of these diseases to the sulphonamides has suggested that penicillin may now be the first choice drug.

Both gonorrhoea and syphilis have proved to be highly susceptible to penicillin. One single intramuscular injection cures 95% of acute gonorrhoea cases, though optimum benefit is obtained after 2-3 days.

Since 1943, syphilis has been successfully treated. Penicillin has proved itself ideally safe and inexpensive, even for advanced cases.

SOME REACTIONS TO PENICILLIN

by Louis Weinstein

Professor of Medicine, Tufts University, School of Medicine

The tragic results of the thalidomide drug have highlighted the necessity of making extensive and thorough tests before any drug is distributed to the public. A drug must be considered to be poisonous until it has been proved harmless.

The work of medical scientists and biologists has recently called attention to what may prove to be serious drawbacks to the use of penicillin. Most of the work into the toxic and irritant reactions to penicillin has been accomplished by Finland and Weinstein; by Welsh and by Heggie, all of whom have published in the 1950's and 1960's.

The mechanism most frequently involved in the adverse reactions to penicillin is hypersensitization or drug allergy. It is estimated that about 15% of the American population is allergic to the penicillin group of agents. Hypersensitive reactions vary in severity and in some cases will result in death. One person dies every 5 days from penicillin poisoning in the U.S.A. and in Canada.

The hypersensitization may take several forms. Doctors and nurses concerned with the administration of the drug have been observed to have contacted "contact dermatitis". More severe skin reactions are exudative erythema multiforme and exfoliative dermatitis. Oral lesions have formed from penicillin lozenges -- black and brown tongue and the loss of the buccal mucous membranes. Fatal episodes of anaphylax have followed the ingestion of very small doses of penicillin. One of the most serious hypersensitization reactions is angiodema. Here swelling of the lips, tongue and face are accompanied by asthmatic breathing and "giant hives" of the skin.

Serum sickness frequently occurs causing a high fever, an abnormal ECG, mental changes, a rash, arthritis and purpura.

In 1957, Welch found that out of 809 cases of anaphylactoid shock, 793 were due to penicillin preparations. The more severe cases resulted in sudden death; in less severe cases, abdominal pain, severe asthma and a fall in blood pressure.

Careless administration also can be fatal. The accidental injection of penicillin into a blood vessel may result in a potentially fatal reaction.

Too often have doctors turned to penicillin as the antibiotic for all relatively minor infections to other more serious ones. Consequently some bacteria have built up a resistance to the drug such that it no longer is able to control their growth. This has been especially so with the treatment of gonorrhoea. Fifteen years ago penicillin was effectively able to control the disease, but in recent years it has been found to be completely inadequate since the bacteria have now become adapted and can survive.

The foregoing is but a brief review of some of the effects of penicillin which must draw the attention of physicians to its dangers and its limitations. It suggests that a too hasty recourse to penicillin can have serious, in fact, fatal consequences to the patient.

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Please give your opinion to the following using the rating scale
at the end.

The effects of penicillin have been almost without exception
of great benefit to mankind.

INDEPENDENCE - MYTH OR REALITY?

by J.V. Clark

Research Economist, Clark, Gordon & Company

In order for a nation to exist as an independent entity, there must be economic political, cultural or historical reasons why this should be so. In considering any union between Canada and the United States, we must ask whether any of these justifications are applicable to the situation in Canada today.

Consider first the economic aspect of Canada. Since the second world war, the tremendous increase in technology has necessitated extensive investments of capital for production. Much of the capital is unavailable in Canada and this has led to the inevitable domination of Canadian industry by America. Probably about 70% of Canadian industry is United States owned.

Canada's relatively small population means that the cost of consumer goods is forced up. She is unable both to produce as much or to sell as cheaply as the U.S.A. A union of the two would at least give Canadians a fairer representation and greater control in those firms at present in the country.

Given this lack of economic independence, it is difficult to conceive of Canada having a really meaningful independent political policy since the political policy of a country is largely established by its economic policy. For example, there are many in Canada who oppose the American policy in Vietnam, but there is little that the Canadian Government can do without causing an open breach which she can ill afford.

Defence is another important distinction of an independent nation, and here again Canada is completely dependent upon the great Goliath to the South. The defence arrangements embodied in the NORAD and NATO agreements indicate Canada's commitment to a mutually agreed defence policy.

The boundary itself is a historical accident based on political considerations of a previous century, with very little to do with any natural geographical or ethnic divisions.

This history of Canada as a unique political entity has been based on a close association with the British Empire. In the latter half of the twentieth century it is unlikely that Canadians take this association very seriously especially since more immigrants from outside the UK are coming to Canada - people with little emotional attachment to the crown.

Perhaps the strongest reason for national independence is a cultural one. However, even the most superficial observation of those manifestations of the culture of Canada - its literature, arts, science and language (excluding Quebec) forces one to conclude that this cultural independence is a myth.

Finally it is highly probable that a union of the two countries would lead to a dramatic increase in the standard living of the Canadian. One must admit it is difficult to envisage the Canadian people accepting a lowered standard of living as the price paid for an independence which we have already pointed out is largely a myth.

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THE CASE FOR CANADIAN INDEPENDENCE
by Walter Readman
Canadian Institute of International Affairs

To the thousands of people who arrive each year, Canada is a country unique in its tolerance for individuality and in the encouragement it gives to new immigrants.

When one examines the development within Canada and the role she has played in foreign affairs, any idea of a union with the United States would be to prejudice her best interests and to forfeit all the respect she commands today.

Although it is argued that American capital finances a large proportion of Canadian industry, there is no evidence that Canada cannot support her own economy. As her population grows a greater market is created and new skills become available to utilize Canada's vast natural resources. In recent years her economy has grown such that in 1963 the New York Stock Exchange showed that 15% of American investments were by or for Canadians.

Politically Canada can and has already achieved independence from the U. S. A. She is free to and has spoken out against American action in Vietnam. She trades with Cuba and Red China - both in violation of American principles, and she declined to join the Organization of American States, to which all other American countries belong.

Canada, since she is not specifically committed to any one nation, commands a certain respect and above all a trust, from other countries. This has enabled her to act as an arbitrator on several past occasions between hostile nations, a role which is of vital importance and which would be lost if she were to join with the U. S. A.

Involvement with America would so increase her expenditure that less would be available for promoting the welfare of the Canadian people. She would be committed to a military defense policy which is both expensive and no longer essential in today's climate of peaceful co existence. Both NATO and NORAD are breaking up now that the reason for their existence - the threat of Russian attack - is no longer so imminent.

We as a nation are on the way to successfully solving our own problems. To align ourselves with the U. S. A. would be to add their problems to our own. We would have to work with a country which so far has not been very successful in integrating different cultures and people. Our concept of an international melting pot is a good one, but one which would be more difficult to achieve if we lost our national autonomy.

Even were a union desirable, the very mechanics of it would be extremely difficult. The two countries have such very different political traditions that a compromise would be necessary to cement the two together. A compromise rarely satisfies both parties. Any such arrangement between Canada and the U.S.A. would destroy all that Canada has sought to build without helping her in any way. She has the strength and the imagination to remain autonomous, and to continue playing a valuable and necessary role in the world today.

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Please give your opinion of the following using the rating scale
at the end.

Canada should eventually join the U. S. A.

THE IMPORTANCE OF EARLY INFLUENCES IN THE DEVELOPMENT OF THE PERSONALITY

by G. E. Firth

Director of the Child Welfare Clinic - Boston

One area of Psychology which is directly applicable to human research is the work done by Harlow on the effect of maternal deprivation and on the importance of early childhood experiences for later development. Monkeys reared in isolation or those reared with inanimate substitute mothers, were unable to develop into normal social adult monkeys. Studies with babies revealed the same disturbing phenomena. Goldberg's work with orphanaged or institutionalized children showed that although a child's material needs might be adequately satisfied, the absence of a mother figure almost invariably caused severe personality disturbances. When mothers were allowed to care for their children in hospital, it was found that the death rate decreased and babies recovered much more rapidly.

Such startling results indicate the importance of the mother figure to provide, above all, a sense of security. It is this sense of security which seems to be of prime importance in the development of a well adjusted individual. Donald Ford, a juvenile magistrate, said "Children are better able to cope with physical squalor than with emotional squalor".

The family is the earliest institution with which the child comes into contact. It is here that he learns to accept discipline, to live with other people, and later to accept responsibility. Parents become, for the child, models for himself. It is therefore not surprising that the single most important non-hereditary factor for a child is the influence of the home.

In the first few months, the mother probably is the most important influence in the child's life, but later on both parents play a vital role in providing this basic security. Foster children who live in normal homes, are satisfied in all their material needs, but those who move to several different homes in one year are more prone to psychotic disorders, backwardness in school and social inadequacies. These children have not experienced any sort of permanent relationship.

The damage that may be caused by an unstable family background largely accounts also for delinquency in childhood. John Bowlby, in his book "Forty Four Juvenile Thieves", stresses that absence of one parent, rejection by the parent, and bad relationships between the parent and the child produced significantly higher correlations with the incidence of delinquency than did normal family backgrounds correlated with delinquency.

Instability in the parents themselves affect the child. In families in which one or both parents are schizophrenic, the children are more likely to also be schizophrenic than are children from normal parents. This significance is higher than can be attributed to genetic factors alone.

Although the factors of hereditary and environment have an undoubted influence on personality, there is overwhelming evidence to support the belief that a child needs the training that a stable family can give. It may lack many material advantages, but he has a greater chance of success if it provides him with security and gives him an opportunity to share the experience of social relationships.

A RECONSIDERATION OF THE ROLE OF THE FAMILY
by Ian Hartley
Department of Sociology, University of Michigan

It is frequently claimed that modern values and morals are undermining the institutions of marriage and of the family to such an extent that it will not be long before family life as we know it today will be a thing of the past. Instead, we may well be entering a stage when, as in Israel today, parents play a minimal part in the education and socialization of the child.

We have grown so used to the familiar family unit that we are convinced that it is an inherent characteristic of man's society. However, if we examine the functions of the family, we may see that it is only one of a number of ways of educating and socializing the child. The satisfaction of materials needs and the teaching of complex behaviour patterns has been met by a family, the structure of which is quite arbitrary. It is quite possible to replace the natural parents by other individuals possessing the necessary skills and means of satisfying the child. For example, in Israel the children are looked after by other women from an early age, and in this country too it is a common practice for wealthy parents to hire full time nurse aids. It has not been shown to harm the children in any way.

Today in America, the mother is taking over the discipline of the children, since the father, whose traditional role it once was, is now more than ever involved in competitive business with less time left for home life.

Given that we can trace changes both in the concept of the family unit and of parental roles. It is easy to see how very soon, with more women working, the education of the child will be left to someone else. Today children are sent to nursery school and kindergarten at a very early age. The school, the church, and other organizations are gradually taking over even the very earliest education. Thus the family unit is not the only or necessarily the best method of achieving a fully developed individual. Evidence in fact suggests that children whose parents both work tend to be better adjusted than children of parents where only the father works.

Just as family life has been the most effective way of performing those duties, but is now being transferred to specialized agencies, marriage itself has also been the most effective way of fulfilling adult needs. The women looked after the home in return for security and financial support. There is no longer such a rigid differentiation of roles. Women are more independent with interests outside the home. Obviously, it is unlikely that we will ever replace the emotional and the biological needs which are satisfied by a man woman relationship, but we seem to be approaching a state when marriage is losing these traditional functions. Instead it is becoming more flexible as each partner develops more freedom.

Quite painlessly and without deprivation to the child we are substituting specialized organizations in place of the family. There is no evidence that the children suffer, and on the contrary, away from the often stifling atmosphere of an authoritarian home, they may have a better opportunity to develop as individuals.

Please give your opinion to the following using the rating scale at the end.

A stable family unit is the best guarantee of producing a well adjusted member of society.

ARE INITIATIONS REALLY NECESSARY?

by Guy Beloff
Committee Member of CUS

On the whole a person who has completed high school and is about to enter university is a reasonably mature individual. However, his first week, in what is supposedly a place of adult learning, is spent in devising and participating in the most childish and insane activities of which he is capable. Initiations are traditionally part of every freshman's introduction to four years spent in studying the whys and the hows of his world, and yet many would be hard pressed to explain why they allowed this ritual to be perpetuated.

Probably the main rationale given is that it breaks down social barriers and forces people to get to know each other.

True, people are thrown together who might otherwise never come into contact, but then people meet by the hundreds at lectures; however, mere contact does not make friendships. This comes from shared interests or some other elusive quality which seems to draw people together.

A little thought and one could argue that initiations reduce everyone to the same level, and so there is no room for shyness or for snobbishness. However this is like saying that the best way to teach a person to swim is to push him in at the deep end of the pool. There are many shy people who react in the opposite way and are made to suffer a week of agony. They can either join in the "fun", and come out of it knowing no-one and hating everyone, or they can lock themselves in their room for a week, and instead, be despised by everyone for being a coward. There are students in their fourth year who are still known as the one who would not be initiated!

There are people who on the contrary take delight in humiliating others. Initiation week provides an excellent and unique opportunity to inflict embarrassment on those most vulnerable and yet they themselves can still remain socially respectable because it is all "part of the week".

One can only be very sceptical of the values and functions of a tradition which has been known to result in broken limbs, concussion, exposure, nervous breakdowns and premature dropouts from university.

This is no way to introduce a new high school graduate into university life because this is not what university life is all about. I would suggest that a far better and more constructive way to spend that first week would be a program of orientation designed to give students an insight into what he can later expect. There are many adjustments to be made: new study habits to be formed, new ideas to be thought about. New students could be given an opportunity to learn this sort of think first hand from older students.

This is a tradition we could well do without and the ends it claims to strive for could be more successfully and more reasonably achieved by some other means.

TRADITION IS NOT DEFUNCT
by Alex Kirk
Committee Member of C.U.S.

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Tradition is probably now out of fashion. It is regarded as a relic of those days when respect for it too often hindered progress. Traditional though initiation week may be, it serves a very necessary purpose, besides at the same time enabling some useful work to be achieved.

For the average freshman coming to university, it represents the first real break from the family. Even if he remains living at home, the change from school into an environment about which he probably knows very little, is sufficient to cause him apprehension. University life at its best creates tensions for the student. The pressure of work is the obvious one, but more difficult to deal with are those problems caused from an inability to adjust to the social situation or to establish some contact with other people. The actual size of the institution is notorious in that it means one becomes a number or name on a grade's list.

During the week of organized chaos, new students find their time so filled that there is little time left in which to feel homesick. Instead of spending that time attending lectures, unable to understand them because everything is just too new, or idly waiting for classes to begin and counting the hours until the next meal will relieve the monotony, each person is expected to participate in activities designed to bring him into contact with other freshmen. There is no better way of breaking down social barriers than having everyone involved in something, however insane it may appear. One can hardly stand aloof from a fellow competitor in an egg and spoon race.

Too often during four years spent at university, one meets very few people outside one's own academic interests. Departments are a unit in themselves. It is possible to be an engineer and to meet no-one from the political science department. In a society of two cultures, the gap between the arts and the sciences needs to be bridged, and in some way this first introduction to university may well foster a more liberal outlook towards those in other disciplines.

Initiation then helps a student to lose the first tensions and make some contact with other people. There is no reason at all why it cannot also be used as a means of collecting funds for some charity. Many universities already do this, and no doubt if the practice was encouraged in a few more, there would be fewer of those people who too quickly label youth as selfish parasites of society.

Tradition is not defunct even in that irreverent atmosphere of undergraduate scepticism in which long held beliefs are often vehemently denied and discarded. The tradition of initiation is something more than a yearly ritual, it is a successful attempt to integrate each new student, and as such, it will continue for as long as it is needed.

Please give your opinion of the following using the rating scale at the end.

Initiations at the university level should be abolished.

FIGHTING TUBERCULOSIS

by Walter Klee

Spectator 1962

The Public Health Department's recent recommendation that each person have an annual chest X-ray to detect early signs of tuberculosis, is a responsible and necessary step towards reducing the wastage of manpower which we in Canada allow.

Despite the fact that tremendous advances have been made in Chemotherapy - the treatment of disease with drugs - the incidence of TB has not declined significantly over the last 15 years. This is partly due to the fact that the body has built up a resistance to the drugs employed, in particular to streptomycin. However, the chances of a successful cure are far higher if the disease is diagnosed and treated in the early stages. This can only be done with X-ray diagnosis. Furthermore, since frequently the symptoms which the person first notices are those occurring in the first stages of the disease. It is a necessary precaution that X-rays be taken before a person begins to observe these himself.

Tuberculosis is an infectious disease, but yet it cannot always be assumed that people will avail themselves of the facilities which are already provided. It is felt to be too much trouble to visit the mobile X-ray unit, it may be difficult to take the time off work - any number of reasons make it likely that although the means may be there, the opportunity is not taken. This becomes more serious when a parent neglects to see that his child is adequately protected. In situations such as this, it is necessary that the government step in to ensure that the child receives the maximum amount of protection.

Many people are discouraged from using the available facilities because of the long waiting time which is entailed. The existing X-ray facilities are completely inadequate for the population. Only those people living in the towns, and those attending schools or working for large industries are able to use them. A policy of annual X-rays would cause the government to provide more equipment and more trained medical staff.

The government is already moving towards accepting medicine, and this latest suggestion is but a logical extension of that acceptance. It would be seen as a further recognition by the government that it had a responsibility to provide medical services for the community.

True it would create additional expense which some may argue could be allocated to improving the hospital service. At the present moment \$500,000 are being spent annually to provide hospital beds for TB patients, and a further \$900,000 is thought to be wasted in industry through absenteeism. The cost of providing X-ray facilities for the people of Ontario is calculated in the region of \$400,000 per year. This itself is a strong argument in favour of the suggestion.

RISK OR REASON?
by J. K. Hales
Toronto Star 1962

There has been growing concern in recent years about the harmful effects of radiation in the atmosphere. It is clearly necessary to impose some restriction on the level of radiation before it becomes of real danger to life. However, the Public Health Department has recently suggested that each person should receive an annual chest X-ray to diagnose early symptoms of tuberculosis. This seems to be an additional source of risk which the public could well do without.

Apart from direct contact with radiation in the atmosphere, we are exposed to harmful particles in milk, meat, and all foodstuffs which have been sprayed with chemical agents. A yearly X-ray would add another 200 millirads of radiation to the body in addition to the 87.6 millirads per year which it is estimated we already receive from the atmosphere. The regulations governing the amount of radiation which an industrial worker may safely receive, state that an ordinary citizen should receive no more than 500 millirads each year. Furthermore, the results are cumulative and the effects from one year add on to the next. It does not take a mathematician to calculate the radiation involved in a yearly X-ray, in addition to any that may be necessary because of accidents, etc.

Additional hazards are incurred when X-rays are given during pregnancy. Normally doctors are extremely relectant to X-ray a woman in such a case, but if annual X-rays were to be made compulsory, then it is highly probable that they would be administered inadvertently to a woman in the early and undiagnosed stages of pregnancy. It is at this very time too, that the embryo is most vulnerable to environmental changes.

Turning from the question of safety, however, doubt arises as to the actual need for such a service. With improvements in living standards, hygiene and public health, tuberculosis itself has declined. Prevention and treatment is now so effective that many TB sanitoriums are actually closing down, and the remaining cases being transferred to the general hospitals. In 1948 there were 19,000 known cases of TB in the U.S.A. In 1964 that number had dropped to 3,500.

Moreover, there are already adequate facilities for each person who needs or who wants to be X-rayed. Mobile units serve both the towns and the rural areas. The cost to the Federal Government however would be enormous if this service was compulsory to each person once a year. The government is already heavily committed to social welfare programs. This would be one expense which is not vitally necessary since facilities already exist. Surely the money would be better spent in alleviating still more of those living conditions which are breeding grounds for all infections.

Government has a responsibility to protect society and part of that responsibility is to ensure that individuals do not endanger the health of society. However, to compel people to undergo an annual X-ray is an infringement of personal liberty. In this particular case it is not even justified either in terms of safety, necessity or economy.

31

Please give your opinion of the following using the rating scale at the end.

Everyone should get a chest X-ray each year in order to detect any possible tuberculosis symptoms at an early stage.

POLITICAL RESPONSIBILITY -- 18 or 21?
by Leonard Travis
Canadian Political Science Forum

Democracy has been said to be a luxury product since it can only succeed in a country with an educated population. It presupposes that the electorate is capable of accepting its responsibility to choose a government. Responsibility is a difficult quality to measure, but having assumed that it is related in some way to age, then an age limit must be fixed to differentiate between the responsible and the irresponsible. Clearly then, any age limit is arbitrary and subject to alteration. In fact, there are good reasons why serious consideration should be given to the suggestion to lower the presentage for voting from 21 to 18.

Most students graduate from high school at 18 and either enter university or take a job. In both cases he is recognized as a young adult, expected to make decisions and to act in a responsible manner. As a member of a wage earning class, or of a college community, he is exposed to the results of political policies, and is much more seriously affected by their impact than when he was at school and completely dependent upon his parents. When one remembers that a democracy represents the wishes of the people, then it seems that a considerable proportion of the population is directly affected, yet unrepresented within the system.

Before the age of 21, young people are considered mature enough to undertake the responsibility of marriage and of military service. It is an odd decision which gives a person freedom to marry, and expects him to fight for his country like a man, but yet withholds from him the privilege of taking part in the government of his country.

Even this "age of maturity" is changing each generation. It is repetitive to say that people are maturing earlier now both physically and mentally. The spread of education and the widening horizons which the mass median offers, have given young people an outlook considerably more mature than their own fathers' probably had.

For these same reasons of education and mass media, their interest in current affairs is also likely to be keener. One might also argue that it is a good idea to encourage political activity at an early age in the hope that it will become more firmly rooted.

Democracy requires a responsible electorate. In our society responsibility is required of our young people at an early age. Not only this, but by the age of 18, they are already affected by political policies. Earlier maturation is combined with a more sophisticated educational background. Certainly these are very cogent reasons for considering the suggestion to allow people of 18 the privilege of voting.

FOR A RESPONSIBLE ELECTORATE
by Douglas Arnold
Canadian Institute of Public Affairs

Democracy requires an educated and responsible electorate. It invests in the population the power to choose between conflicting alternatives as represented by opposing political parties. That population must be able to evaluate policies otherwise electioneering is a contest of personalities when the basic issues become obscured by the power of the politician to seduce his audience.

The present age limit of 21 for voting, reflects a traditional feeling that this is an age when a person may be expected to have reached some level of personal and social responsibility. Clearly this is an arbitrary decision but there are grounds for maintaining this age in the face of those reformers who wish to see the limit lowered to 18.

For example at the age of 21, most people have been out of high school for at least 3 years and are either holding a full time job or are studying. It is probably during these years away from the sheltered environment of home and university that politics really become meaningful to him. It is this personal experience which a person needs before he can make an evaluation of the situation. This is not to deny that many 18 year olds understand the issues involved any better than the average adult, but on the whole, the problems teenagers face are more personally orientated. He is faced with problems of personal identity and ultimate personal goals. Characteristically his beliefs change so much that one could almost suspect the motives of those politicians who would look to the 18 - 21 age group as a source of support. Democracy loses meaning once the issues involved become obscured by a politician's vote catching gimics.

There are precedents for granting responsibility and privilege at the age of 21. Legally people are then able to drink liquor also in legal documents a person remains a minor until he is 21. It is significant that parents remain responsible for all debts incurred by their children until they are 21. It would be a paradox to give the vote to a young person who at the same time is immune from prosecution.

There is no question that even allowing only those over 21 to share in the governing of the country, there will still be included many irresponsible and politically immature people. However, the argument here is that the older a person is, the more likely he will be to have had more experience to help him critically appraise the needs of society.

Please give your opinion of the following using the rating scale at the end.

The voting age should be lowered to 18 years.

RESTRICTIVE IMMIGRATION -- A REALISTIC APPROACH
by Anthony Low
Centre for Population Studies

The concept of a policy of restrictive immigration for Canada is based on a realistic assessment of the economic, political and cultural problems which face her today. Restrictive immigration is not an immoral policy, but rather it is a policy of planning which will both materially help Canada and will avoid a lot of the problems experienced by those countries which, for a time at least, allowed unrestricted immigration.

As a new country, Canada has tremendous potential for progress, but this can only be realized if there are the necessary skills and techniques at her disposal. A planned immigration policy can ensure that those people with the most needed skills are encouraged into the country. It is irresponsible at this stage to allow in unskilled workers to the same extent as skilled workers. Until Canada has become more established, her welfare system cannot afford to support unemployed and unemployable immigrants. Whatever she decides in the future, the immediate necessity is to recognize her need for educated and experienced workers.

At the moment Canadians enjoy a high standard of living and they can expect this so long as unlimited numbers of immigrants are not admitted. Should this happen, then the labour market would become flooded, the competition for the available jobs would increase and employers could afford to cut down wages.

Until Britain legislated on immigration she experienced many of those problems which Canada hopes to avoid. Unless there is some initial planning, the housing and educational facilities will become totally inadequate. It is only by restricting immigration that the government can meet the needs of new citizens. Once they fail to do this, then problems of slums, overcrowding and maladjustment arise. Such policies are not so much discriminatory but are actually necessary for the welfare of each individual.

Intrinsic to Canadian philosophy is the idea that the country is a cultural melting pot. She prides herself on being successful in assimilating different nationalities and cultures. This does not however occur automatically, there needs to be a conducive atmosphere. Naturally people are more tolerant of cultural differences if they themselves are not deprived or jeopardized in any way by the incoming nationalities. A restrictive immigration policy enables the government to encourage some sort of equality in numbers, so that national minorities are not formed.

There is never any disagreement with the belief that each country has a right to decide to whom it will and will not allow freedom of entry. A criminal record, infectious disease, or subversive political beliefs have all been adequate grounds for preventing individuals from entering. In this sense each country applies a restrictive immigration policy. Criticism arises when restrictions are applied on the basis of race or education. However, it is argued here that restrictions are necessary in order that Canada may make the fullest contribution she can to progress, and also she can provide the conditions conducive to a successful assimilation of diverse national groups.

RESTRICTED IMMIGRATION-- A CASE OF INSTITUTIONALIZED PREJUDICE

by Robert Sanders

Ontario Branch of the United Nations Association of Canada

A striking phenomena of the twentieth century is the militant racialism which has erupted in areas of immigrant populations and national minorities. It may be this that has urged some to recommend tightening the legislation on immigration into Canada. However, in the light of this country's successful experience in integrating diverse nationalities, this can only be interpreted as a backward step.

A superficial observation alone of Canada's economy, indicates that there is a need to exploit her natural resources, to open up areas of underdevelopment, and to increase the home market in order to encourage greater production of consumer goods. To achieve any of this Canada needs more people. Compared with a tiny country like Britain with 50 million, Canada has a mere 20 million. It is a fallacy to argue that native Canadians would lose their jobs to new immigrants since the development of industry would create more jobs and more opportunities. By allowing immigrants to enter, Canada ultimately stands to benefit.

A restrictive policy however would discriminate against certain classes of immigrants. On what basis will this discrimination be made? Moreover how can it be decided whether or not a prospective immigrant will become a good Canadian citizen. Discrimination cannot be on the basis of success in his home country, since lack of opportunity there may have been the very reason why he chose to immigrate. No moral or legitimate discrimination could be made on the basis of colour or religion. Besides it could only perpetuate that prejudice which is so frequently a part of peoples' outlook. There are in fact good grounds for arguing that different nationalities should be substantially represented, since in this way Canada would be making some contribution towards international understanding. If the government itself openly discriminates, against some ethnic groups, then it is difficult to avoid the same prejudice among the people.

One basis of restriction has been to only allow in people with valuable skills and education. However, this has encouraged the government to draw on the skills of the immigrant instead of training native Canadians to do a skilled job. As a result, less money has been spent on technical education, and in effect Canadians themselves have suffered from this highly selective policy. Linked with this is the effect that an educational criterion will affect the balance of society. Gradually a top heavy nation will evolve, where merit is judged solely on educational attainment. It is necessary for progress, but it is unhealthy for a nation's values and priorities to make this the determining factor of an individual's worth.

In any such restrictive immigration policy there is a danger of creating first and second class citizens since a restrictive policy must establish some criterion with which to exclude certain intending immigrants. Moreover, it certainly encourages if not actually creates, prejudice and racial inequalities. On grounds of expediency too, restrictive immigration does not serve the best interests of Canada. In fact as Porter pointed out in his recent book -- The Vertical Mosaic -- it has actually enabled the Canadian government to cut down the education of many of its own citizens.

3

Please give your opinion of the following using the rating scale at the end.

Immigration to Canada should be restricted.

THE CASE AGAINST CAPITAL PUNISHMENT

by O. J. Lochlun

Law Institute of Ontario

The defeat in 1966 of the Bill to abolish capital punishment for murder, expressed the dilemma which faces the legal profession today. In theory the law remains but in practice a sentence of death is commuted by the Minister of Justice to one of life imprisonment.

This suggests that although a sentencing judge may personally abhor his power to deprive a man of his life, at the same time it is felt that the threat of death has a deterring effect on would-be murderers. However, for this to be true, it would have to be shown that there had been an increase in the number of murders committed in those countries in which the penalty had already been abolished. Sweden and England are two examples but in neither country one can find no such evidence. Furthermore, if the threat of death acts as a deterrent, then this supposes that murders are premeditated. Since clearly this is not a general rule, it is difficult to maintain such an argument. Paradoxical though it may be, the existence of the death penalty can actually deter a jury from finding a man guilty. They may prefer to avoid the evidence presented, rather than send a man to his death. The argument then becomes self defeating.

If then it cannot be rationalized that capital punishment acts as a deterrent, since empirical evidence denies this, then can the law be maintained on the grounds that it is the only just punishment.

Again the answer must be no. All societies punish offenders and to make sense, the severity of the punishments must relate to the magnitude of the crime. However this does not mean that one death warrants another. The law is not infallible and there are numerous examples of innocent men being wrongly convicted. This danger is inevitable in any system of law. It means that at no time can a jury be absolutely certain of a man's guilt.

Although the concept of justice is synonymous with the concept of equality, law in practice is not equally applied. Despicable though it may be, discrimination is not totally absent from courts of law, and leniency may be extended to a prisoner by a jury when he is the same social or racial status as themselves.

With these above doubts alone, one cannot advocate a judgement so absolute and irrevocable.

The ethical question as to whether or not we are morally right in taking another man's life, whatever crime he has committed, is not one open to empirical argument. It is an issue which each of us must decide as a personal conviction.

However when one recognized the fallibility of law as it is applied and with no empirical evidence to show that capital punishment does act as a deterrent, one cannot as a responsible individual advocate a position in which we give man the power to dispense over life and death.

THE NEED TO RETAIN THE DEATH PENALTY
by Norman Conrad
Political Science Association

The defeat in 1966 of the Bill to abolish the death penalty reflected the concern felt about the increase in the annual incidence of assault and robberies with violence. Although the majority of the House who voted to defeat the Bill may have had misgivings on moral and ethical grounds, anxiety about the crime rate, and about the number of second offenders convicted, forced them to decide in favour of retaining capital punishment as the only effective means of deterring acts of violence

In large scale organized crime, murder may be the surest way of destroying a witness's evidence. However, even if a conviction is made, the penalty for committing the murder does not add anything to the sentence evoked for the original crime. In other words, given that the price paid is the same, murder becomes an expediency which the criminal may be encouraged to use. However, this logic is untenable so long as the courts continue to differentiate the severity of the crime in terms of actual punishment. In England some can see this logic in practice. Capital punishment is not exacted even for the murder of an officer of the law. During the last two years over 80 policemen have been shot during their course of duty. As protectors of our society, the state must accord to them the maximum support and protection that can be offered. This security is increased when the criminal knows with certainty the execution which would follow their conviction.

In 1960, over 60% of the people arrested and convicted were second offenders. There is a hard core of professional criminals for whom crime indeed does pay. It is these people who reappear before the courts. Abolishing the death penalty would remove the means of giving any protection to society and a strong case is argued for retaining it in order to decrease the probability of second offences. The need for society's revenge on a criminal is not the best argument for retaining the death penalty since revenge itself is an irrational and a destructive quality. However, in evolving the criminal law, it was recognized that the punishment must reflect the order of magnitude of the crime -- hence treason, in theory the murder of one's country is still a capital offence. There are some murders so appalling in their scale and their brutality that imprisonment in no way reflects the repugnance felt by society. In these cases capital punishment is advocated as being the penalty exacted for the ultimate crime of murder.

This is a most difficult problem involving as it does the issue of life and death. However, on the grounds of it being a powerful deterrent and a just penalty for a crime so heinous, the status quo must remain, with death, the penalty for murder.

Please give your opinion of the following using the rating scale at the end.

Death as a punishment should be abolished.

4

Questionnaire presented to the subjects in
the Truism, Semi-Truism and Non-Truism groups
at T₃.

McMaster University
Department of Psychology

Name: _____

Instructions:

As you will recall, we are interested in comparing two different types of communication media -- written and spoken. It would help us to have your opinions on the following questions. Please use the rating scale code attached to indicate your opinions.

The first 3 questions refer to the readings which you did last week. Now that you have had more time to think about them, would you record your present opinions.

- 1. Canada should eventually join the U. S. A. _____
- 2. The effects of penicillin have been almost without exception, of great benefit to mankind. _____
- 3. In the long run education can be said to have helped rather than hindered man's material progress. _____
- 4. I prefer to listen to a lecture than to read the same material. _____
- 5. I usually understand something which I have read better than something which I have heard in a lecture. _____
- 6. I am often distracted by a lecturer's gestures. _____
- 7. I find that note taking helps concentration when listening to a lecture. _____

43

McMaster University
Department of Psychology

Name: _____

Instructions:

As you will recall, we are interested in comparing two different types of communication media -- written and spoken. It would help us to have your opinions on the following questions. Please use the rating scale code attached to indicate your opinions.

The first 3 questions refer to the readings which you did last week. Now that you have had more time to think about them, would you record your present opinions.

1. Everyone should get a chest X-ray each year in order to detect any possible tuberculosis symptoms at an early stage. _____
2. Initiations at the university level should be abolished. _____
3. A stable family unit is the best guarantee of producing a well adjusted member of society. _____
4. I prefer to listen to a lecture than to read the same material. _____
5. I usually understand something which I have read better than something which I have heard in a lecture. _____
6. I am often distracted by a lecturer's gestures. _____
7. I find that note taking helps concentration when listening to a lecture. _____

McMaster University
Department of Psychology

Name: _____

Instructions:

As you will recall, we are interested in comparing two different types of communication media -- written and spoken. It would help us to have your opinions on the following questions. Please use the rating scale code attached to indicate your opinions.

The first 3 questions refer to the readings which you did last week. Now that you have had more time to think about them, would you record your present opinions.

- 1. Immigration to Canada should be restricted. _____
- 2. The voting age should be lowered to eighteen years. _____
- 3. Death as a punishment should be abolished. _____
- 4. I prefer to listen to a lecture than to read the same material. _____
- 5. I usually understand something which I have read better than something which I have heard in a lecture. _____
- 6. I am often distracted by a lecturer's gestures. _____
- 7. I find that note taking helps concentration when listening to a lecture. _____

SA

Strongly Agree

MOA

Moderately Agree

MIA

Mildly Agree



MID

Mildly Disagree

MOD

Moderately Disagree

SD

Strongly Disagree

Questionnaires presented to the subjects in
the Truism, Semi-Truism and Non-Truism groups
at T₄.

McMASTER UNIVERSITY

Department of Psychology

NAME _____

INSTRUCTIONS:

As you will recall, we have been interested in comparing the effectiveness of two different methods of communication in the lecture form and the written form.

Now would you please complete the following 3 sections. Complete each section before you proceed to the next.

Section A:

We are interested in correlating remembering with opinion strength on the issue involved. Therefore, using the code of the rating scale attached to the back of the handout, would you write down your present opinions on the statements.

1. The effects of penicillin have been almost without exception of great benefit to mankind. _____
2. In the long run, education can be said to have helped rather than hindered man's material program _____
3. Canada should eventually join the U.S.A. _____

Section B:

We are interested in measuring the degree of involvement you felt with the topic. Would you answer the questions in this section indicating your degree of involvement on the scales below with a cross (X).

1) How interesting did you find the task of reading about the following issues:

a) education -- advantages or disadvantages to mankind

Very interesting	Interesting	Neutral	Uninter- esting	Very Uninteresting
---------------------	-------------	---------	--------------------	-----------------------

b) the effects of penicillin

Very interesting	Interesting	Neutral	Uninter- esting	Very Uninteresting
---------------------	-------------	---------	--------------------	-----------------------

c) a union between Canada and the U.S.A.

Very interesting	Interesting	Neutral	Uninter- esting	Very Uninteresting
---------------------	-------------	---------	--------------------	-----------------------

2) Have you discussed any of the topics with anyone since the time you read the articles?

a) education -- advantages or disadvantages to mankind

Very Often	Often	Occasionally	Hardly at all	Not at all
---------------	-------	--------------	------------------	---------------

b) the effects of penicillin

Very Often	Often	Occasionally	Hardly at all	Not at all
---------------	-------	--------------	------------------	---------------

c) a union between Canada and the U.S.A.

Very Often	Often	Occasionally	Hardly at all	Not at all
---------------	-------	--------------	------------------	---------------

Section C:

Write down as many of the arguments as you can remember from each of the three articles.

Write them in point form.

- a) a union between Canada and the U.S.A.
Write arguments on back of page 1. Do not start until you are told.

- b) the effects of penicillin
Write arguments on back of page 2. Do not start until you are told.

- c) education
Write arguments below. Do not start until you are told.

McMASTER UNIVERSITY
DEPARTMENT OF PSYCHOLOGY

NAME _____

INSTRUCTIONS

As you will recall, we have been interested in comparing the effectiveness of two different methods of communication - the lecture form and the written form.

Now would you please complete the following three sections. Complete each section before you proceed to the next.

Section A:

We are interested in correlating remembering with opinion strength on the issue involved. Therefore, using the code of the rating scale attached to the back of the handout, would you write down your present opinions on the statements.

1. A stable family unit is the best guarantee of producing a well adjusted member of society.

2. Initiations at the university^{1b} level should be abolished

3. Everyone should get a chest X-ray each year in order to detect any possible tuberculosis symptoms at an early stage.

Section B:

We are interested in measuring the degree of involvement you felt with the topic. Would you answer the questions in this section indicating your degree of involvement on the scales below with a cross (X).

1. How interesting did you find the task of reading about the following issues?

a) Annual chest X-ray

very interesting	interesting	neutral	uninteresting	very interesting
------------------	-------------	---------	---------------	------------------

b) Initiations at the university level.

very interesting	interesting	neutral	uninteresting	very interesting
------------------	-------------	---------	---------------	------------------

c) Value of a stable family.

very interesting	interesting	neutral	uninteresting	very interesting
------------------	-------------	---------	---------------	------------------

2. Have you discussed any of the topics with anyone since the time you read the articles?

a) Annual chest X-ray.

very often	often	occasionally	hardly at all	not at all
------------	-------	--------------	---------------	------------

b) Initiations at the university level.

very often	often	occasionally	hardly at all	not at all
------------	-------	--------------	---------------	------------

c) Value of a stable family.

very often	often	occasionally	hardly at all	not at all
------------	-------	--------------	---------------	------------

5

Section C:

Write down as many of the arguments as you can remember from each of the three articles.

Write them in point form.

- a) Initiations at the university level.
Write arguments on back of page 1. Do not start until you are told.

- b) Value of a stable family.
Write arguments on back of page 2. Do not start until you are told.

- c) Annual chest X-rays
Write arguments below. Do not start until you are told.

McMASTER UNIVERSITY

Department of Psychology

NAME* _____

INSTRUCTIONS:

As you will recall, we have been interested in comparing the effectiveness of two different methods of communication - the lecture form and the written form.

Now would you please complete the following three sections. Complete each section before you proceed to the next.

Section A:

We are interested in correlating remembering with opinion strength on the issue involved. Therefore, using the code of the rating scale attached to the back of the handout, would you write down your present opinions on the statements.

1. Death as a punishment should be abolished. _____

2. The voting age should be lowered to 18 years. _____

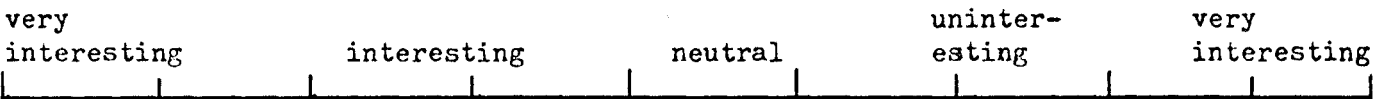
3. Immigration to Canada should be restricted. _____

Section B:

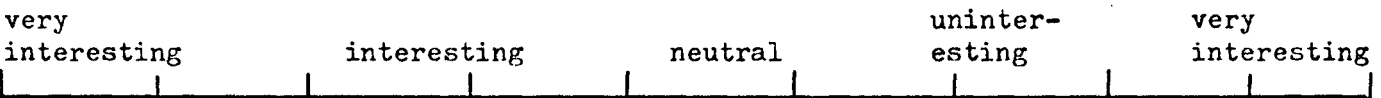
We are interested in measuring the degree of involvement you felt with the topics. Would you answer the questions in this section indicating your degree of involvement on the scales below with a cross (X).

1. How interesting did you find the task of reading about the following issues?

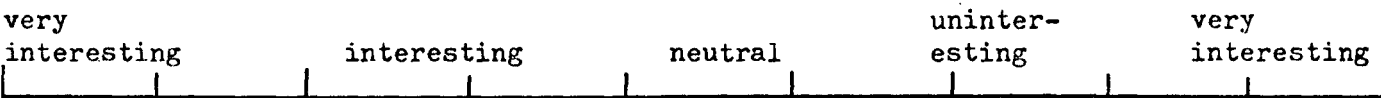
a) The death penalty.



b) Voting age - 18 or 21.

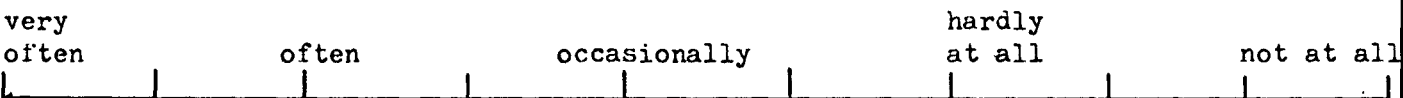


c) Immigration to Canada

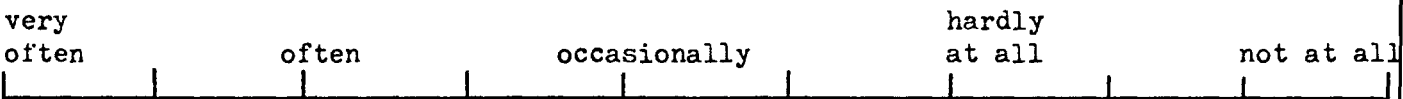


2. Have you discussed any of the topics with anyone since the time you read the article?

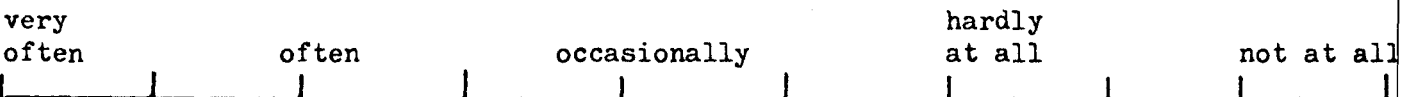
a) The death penalty.



b) Voting age - 18 or 21.



c) Immigration to Canada.



DO NOT TURN TO SECTION C UNTIL TOLD TO DO SO

Section C:

Write down as many of the arguments as you can remember from each of the three articles.

Write them in point form.

a) Immigration to Canada

Write arguments on back of page 1. Do not start until you are told.

b) The death penalty

Write arguments on back of page 2. Do not start until you are told.

c) Voting age - 18 or 21.

Write arguments below. Do not start until you are told.

APPENDIX C

57

The follow-up study

The questionnaires mailed to the subjects in the Truism, Semi-Truism, and Non-Truism Groups. Each subject received the same 3 communications which he had read in the main experiment.

5

McMaster University
Psychology Department

You may remember that last session you were asked to participate in an experiment which involved you in reading 3 short articles and in answering some questions related to them.

We are now planning a second experiment in which we will use those same articles.

However after we had analysed the data obtained from the first experiment, we decided that we would need some more information about the articles themselves.

On the following pages you will find the 3 articles which were presented to you a few months ago. What we would like you to do is to read through each article carefully and answer the questions below each one. Answer each set of questions before you go on to read the next article.

When you have done this, replace your answer sheets in the stamped addressed envelope which you will find enclosed, and return to the Psychology Department as soon as possible.

We would appreciate your cooperation in enabling us to collect this data quickly.

Thank you for your help.

In all the following questions put a cross in one of the boxes which best indicates the position nearest to your opinion.

1. How personally involved do you feel towards the whole issue about which you have just read?

NOT AT ALL SLIGHTLY NEUTRAL FAIRLY VERY GREATLY

--	--	--	--	--	--	--	--	--

2. How much does (or could) this whole issue personally affect you?

NOT AT ALL SLIGHTLY NEUTRAL FAIRLY VERY GREATLY

--	--	--	--	--	--	--	--	--

3. If the author of the article were asked to rate his opinion strength on the issue involved, where do you think he would place himself on the scale? Remember it is the author's opinion we are interested in.

STRONG MODERATE MILD NEUTRAL

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4. How do you think the strength of the argument you have read could best be described on the scale?

STRONG MODERATE MILD NEUTRAL

--	--	--	--

5. What is your own present opinion of the statement:

Canada should eventually join the U.S.A.

STRONGLY AGREE	MODERATELY AGREE	MILDLY AGREE	CAN'T DECIDE	MILDLY DISAGREE	MODERATELY DISAGREE	STRONGLY DISAGREE
-------------------	---------------------	-----------------	-----------------	--------------------	------------------------	----------------------

--	--	--	--	--	--	--

5. What is your own present opinion of the statement:

In the long run education can be said to have helped rather than hindered man's material progress.

STRONGLY AGREE	MODERATELY AGREE	MILDLY AGREE	CAN'T DECIDE	MILDLY DISAGREE	MODERATELY DISAGREE	STRONGLY DISAGREE

5. What is your own present opinion of the statement:

The effects of penicillin have been almost without exception of great benefit to mankind.

STRONGLY AGREE	MODERATELY AGREE	MILDLY AGREE	CAN'T DECIDE	MILDLY DISAGREE	MODERATELY DISAGREE	STRONGLY DISAGREE
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5. What is your own present opinion of the statement:

A stable family unit is the best guarantee of producing a well adjusted member of society.

STRONGLY MODERATELY MILDLY CAN'T MILDLY MODERATELY STRONGLY
AGREE AGREE AGREE DECIDE DISAGREE DISAGREE DISAGREE

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5. What is your own present opinion of the statement:

Everyone should get a chest x-ray each year in order to detect any possible tuberculosis symptoms at an early stage.

STRONGLY AGREE	MODERATELY AGREE	MILDLY AGREE	CAN'T DECIDE	MILDLY DISAGREE	MODERATELY DISAGREE	STRONGLY DISAGREE
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5. What is your own present opinion of the statement:

Initiations at the university level should be abolished.

STRONGLY AGREE	MODERATELY AGREE	MILDLY AGREE	CAN'T DECIDE	MILDLY DISAGREE	MODERATELY DISAGREE	STRONGLY DISAGREE

5. What is your own present opinion of the statement

The voting age should be lowered to 18 years.

STRONGLY MODERATELY MILDLY CAN'T MILDLY MODERATELY STRONGLY
AGREE AGREE AGREE DECIDE DISAGREE DISAGREE DISAGREE

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5. What is your own present opinion of the statement:

Death as a punishment should be abolished.

STRONGLY MODERATELY MILDLY CAN'T MILDLY MODERATELY STRONGLY
AGREE AGREE AGREE DECIDE DISAGREE DISAGREE DISAGREE

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5. What is your own present opinion of the statement:

Immigration to Canada should be restricted.

STRONGLY AGREE	MODERATELY AGREE	MILDLY AGREE	CAN'T DECIDE	MILDLY DISAGREE	MODERATELY DISAGREE	STRONGLY DISAGREE
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APPENDIX D

TABLE I

Analysis of Variance of Mean Initial Opinion Strength at Time T_1 for Truisms, Semi-Truisms and Non-Truisms.

Source	df	MS	F	P
Issues	2	17.96	34.54	<.001
Error (within)	809	0.52		

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TABLE II

Mean Amount of Opinion Change \bar{D} at Times T_2 for Truism,
Semi-Truism, and Non-Truism

Source	\bar{D}	df	t	P(2 tailed)
Truism	1.26	272	11.68	< .001
Semi-Truism	1.80	291	16.72	< .001
Non-Truism	2.03	246	15.91	< .001

TABLE III

Analysis of Variance and Scheffé Tests for Mean Opinion Strength at Time T_2 for Truisms, Semi-Truisms, and Non-Truisms

Source	df	MS	F	P
Issues	2	113.08	27.98	< .001
Error (within)	809	4.03		

Scheffé Tests

Issue	Mean Opinion Strength at T_2	Comparisons of Mean Opinion Strength	P
1. Truism	5.35	1-2 = 0.94	< .01
2. Semi-Truism	4.41	2-3 = 0.28	NS
3. Non-Truism	4.13	1-3 = 1.22	< .01

TABLE IV

Comparisons of the Mean Amount of Opinion Change \bar{D} at Times T_2 for Truisms, Semi-Truisms, Non-Truisms

Source	D	Comparisons	t	df	P(2 tailed)
1. Truism	1.26	2-1 = 0.54	3.86	563	<.001
2. Semi-Truism	1.80	3-2 = 0.23	1.64	537	NS
3. Non-Truism	2.03	3-1 = 0.77	4.53	518	<.001

TABLE V

Distribution and Chi-Square Tests to Compare the Numbers of Subjects who changed their Opinions at T_2 for the 3 issues

Issue	Change	No Change	Totals
Truisms	151	122	273
Semi-Truism	195	97	292
Non-Truism	171	76	247

Chi-Square Tests

Comparison	χ^2	df	P
Truisms vs Semi-Truism	9	1	<.01
Semi-Truism vs Non-Truism	0.25	1	NS
Truism vs Non-Truism	12.25	1	<.001

TABLE VI

Analysis of Variance and Scheffé Tests of Mean Opinion Strengths at Time T_2 for Subjects of Originally Strong, Moderate and Mild Opinions

Source	df	MS	F	P
Issues	2	285.16	79.21	<.001
Error (within)	809	3.60		

Scheffé Tests

Opinion Strength	Mean Opinion Strength at T_2	Comparisons of Mean Opinion Strength	P
1. Strong	5.42	1-2 = 1.25	<.01
2. Moderate	4.17	2-3 = 0.91	<.01
3. Mild	3.26	1-3 = 2.16	<.01

TABLE VII

Mean Amount of Opinion Change \bar{D} at Times T_2 for Originally Strong, Moderate and Mild Subjects

Source	\bar{D}	df	t	P(2-tailed)
Strong	1.58	409	16.74	<.001
Moderate	1.83	264	15.47	<.001
Mild	1.74	136	11.50	<.001

TABLE VIII

Comparisons of the Mean Amount of Opinion Change \bar{D} at Times T_2 by Originally Strong, Moderate and Mild Subjects

Source	\bar{D}	Comparisons	t	df	P(2-tailed)
1 Strong	1.58	1-2 = 0.25	1.67	673	NS
2 Moderate	1.83	3-2 = 0.09	0.46	400	NS
3 Mild	1.74	3-1 = 0.16	0.84	545	NS

TABLE IX

Comparisons of the Mean Amount of Opinion Change \bar{D} at T_2 by Initially Strong, Moderate and Mild Subjects on the 3 issues

Issue	Opinion Strength	D	Comparisons	t	df	P(2 tailed)
Truism	1. Strong	1.28	1-2 = 0.03	0.12	251	NS
	2. Moderate	1.25	2-3 = 0.15	0.32	79	NS
	3. Mild	1.10	1-3 = 0.18	0.43	210	NS
Semi-Truism	1. Strong	1.68	2-1 = 0.23	0.88	222	NS
	2. Moderate	1.91	2-3 = 0.04	0.14	160	NS
	3. Mild	1.87	3-1 = 0.19	0.68	196	NS
Non-Truism	1. Strong	2.08	1-2 = 0.00	0.00	196	NS
	2. Moderate	2.08	2-3 = 0.24	0.71	147	NS
	3. Mild	1.84	3-1 = 0.24	0.67	135	NS

TABLE X

Distribution and Chi-Square Tests to Compare the Numbers of Subjects of Different Initial Opinion Strengths who changed towards the Communication at T_2

Initial Opinion	Change	No Change	Totals
Strong	253	157	410
Moderate	171	94	265
Mild	93	44	137

Chi-Square Tests

Comparison	χ^2	df	P
Strong vs Moderate	0.56	1	NS
Moderate vs Mild	0.36	1	NS
Strong vs Mild	1.44	1	NS

TABLE XI

Trend Analysis for the Truisms, Semi-Truisms and Non-Truisms

Issue	Source	df	MS	F	P
Truism	Linear Regression	1	10.30	3.50	NS
	Deviation	1	5.70	1.94	NS
	Error (within)	816	2.94		
Semi-Truism	Linear Regression	1	25.91	6.73	<.001
	Deviation	1	0.54	0.14	NS
	Error (within)	816	3.85		
Non-Truism	Linear Regression	1	45.55	12.72	<.001
	Deviation	1	0.78	0.22	NS
	Error (within)	816	3.58		

TABLE XII

Trend Analysis for Subjects of Different Initial
Opinion Strengths

Opinion Strength	Source	df	MS	F	P
Strong	Linear Regression	1	33.20	7.44	<.01
	Deviation	1	1.52	0.34	NS
	Error (within)	816	4.46		
Moderate	Linear Regression	1	18.49	5.71	<.025
	Deviation	1	2.36	0.73	NS
	Error (within)	816	3.24		
Mild	Linear Regression	1	25.75	17.17	<.001
	Deviation	1	2.15	1.43	NS
	Error (within)	816	1.50		

TABLE XIII

Analysis of Variance and Scheffé Tests for Interest Scores on the Different Issues

Source	df	MS	F	P
Issues	2	17.17	6.66	<.005
Error (within)	809	2.58		

Scheffé Tests

Issues	Mean Interest Scores	Comparisons of Mean Opinion Strengths	P
1. Truisms	3.34	2-1 = 0.33	<.05
2. Semi-Truisms	3.67	2-3 = 0.50	<.01
3. Non-Truisms	3.17	1-3 = 0.17	NS

TABLE XIV

Analysis of Variance and Scheffé Tests on Interest
Scores for Initially Strong, Moderate and Mild Subjects

Source	df	MS	F	P
Opinion Strength	2	11.24	4.31	<.05
Error (within)	809	2.35		

Scheffé Tests

Opinion Strengths	Mean Interest Scores	Comparisons of Mean Interest Scores	P
1. Strong	3.25	2-1 = 0.28	<.10
2. Moderate	3.53	3-2 = 0.12	NS
3. Mild	3.65	3-1 = 0.40	<.05

TABLE XV

Analysis of Variance for Number of Points Remembered for
for Different Issues

Source	df	MS	F	P
Issues	2	9.79	3.31	NS
Error (within)	809	2.95		

TABLE XVI

Analysis of Variance for Number of Points Remembered by
Subjects of Different Initial Opinion Strengths

Source	df	MS	F	P
Opinion Strengths	2	8.21	2.77	NS
Within	809	2.95		

TABLE XVII

Analysis of Variance on the Amount of Post-Experimental Discussion on the Different Issues

Source	df	MS	F	P
Issues	2	0.48	1.7	NS
Error (within)	809	2.85		

TABLE XVIII

Analysis of Variance on Amount of Post-Experimental Discussion for Subjects of Initially Different Opinion Strengths

Source	df	MS	F	P
Opinion Strength	2	2.94	1.03	NS
Error (within)	809	2.85		

APPENDIX E

TABLE I

Analysis of Variance on Involvement Scores for Questions
1 and 2

Source	df	MS	F	P
Questions	1	14.31	3.60	NS
Error (within)	754	3.98		

TABLE II

Mean Amount of Opinion Change at T₂ for Low Involvement
and High Involvement Groups

Source	\bar{D}	df	t	P(2 tailed)
L1	2.19	255	17.94	< .001
H1	1.0	279	10.44	< .001

TABLE III

Comparison of Mean Amount of Opinion Change at T_2
between Low Involvement and High Involvement Groups

Source	Comparisons	df	t	P(2 tailed)
1. L1	1-2 = 1.19	534	7.87	< .005
2. H1				

TABLE IV

Mean Amount of Opinion Change at T_2 for Initially Strong,
Moderate and Mild Subjects in the Low Involvement Group

Source	\bar{D}	df	t	P(2 tailed)
Strong	2.31	102	11.19	< .005
Moderate	2.28	97	12.36	< .005
Mild	1.80	54	7.24	< .005

TABLE V

Analysis of Variance and Scheffé Tests for Mean Opinion Strengths at T₂ for Initially Strong, Moderate and Mild Subjects in the Low Involvement Group

Source	df	MS	F	P
Opinion Strengths	2	45.79	12.02	<.001
Error (within)	253	3.81		

Scheffé Tests

Opinion Strength	Mean Opinion Strength at T ₂	Comparisons of Mean Opinion Strength	P
1. Strong	4.69	1-2 = 0.97	<.01
2. Moderate	3.72	2-3 = 0.52	NS
3. Mild	3.20	1-3 = 1.49	<.01

TABLE- VI

Comparisons of the Mean Amount of Opinion Change \bar{D} at Time T_2 for Initially Strong, Moderate and Mild Subjects in the Low Involvement Group

Source	\bar{D}	Comparisons	t	df	P(1 tailed)
1. Strong	2.31	1-2 = 0.03	0.11	199	NS
2. Moderate	2.28	2-3 = 0.48	1.55	151	NS
3. Mild	1.80	1-3 = 0.51	1.50	156	NS

TABLE VII

Mean Amount of Opinion Change at T_2 for Initially Strong, Moderate and Mild Subjects in the High Involvement Group

Source	\bar{D}	df	t	P(2 tailed)
Strong	1.01	180	8.50	< .001
Moderate	0.87	76	4.57	< .001
Mild	1.59	21	4.40	< .001

TABLE VIII

Analysis of Variance and Scheffé Tests for Mean Opinion Strengths at T_2 for Initially Strong, Moderate and Mild Subjects in the High Involvement Group

Source	df	MS	F	P
Opinion Strengths	2	75.09	28.44	<.001
Error (within)	253	2.64		

Scheffé Tests

Opinion Strength	Mean Opinion Strength at T_2	Comparisons of Mean Opinion Strength	P
1. Strong	5.99	1-2 = 0.86	<.01
2. Moderate	5.13	2-3 = 1.72	<.01
3. Mild	3.41	1-3 = 2.58	<.01

TABLE IX

Comparisons of the Mean Amount of Opinion Change \bar{D} at Time T_2 for Initially Strong, Moderate and Mild Subjects in the High Involvement Group

Source	\bar{D}	Comparisons	t	df	P(1 tailed)
1. Strong	1.01	1-2 = 0.14	0.64	247	NS
2. Moderate	0.87	3-2 = 0.72	1.80	88	< .05
3. Mild	1.59	3-1 = 0.58	1.66	201	< .05

TABLE X

Trend Analysis for Mean Opinion Strengths at Times T_2 , T_3 , T_4 for Low and High Involvement Groups

Source	df	Low Involvement			P	df	High Involvement		P
		MS	F				MS	F	
Linear Regression	1	49.38	4.43	< .05		1	4.83	0.60	NS
Deviations	1	0.28	0.03	NS		1	4.01	0.30	NS
Error (within)	253	11.15				277	8.07		

TABLE XI

Trend Analysis for Initially Strong, Moderate and Mild Subjects in the Low Involvement Group

Source	Strong			Moderate			Mild					
	df	MS	F	P	df	MS	F	P	df	MS	F	P
Linear Regression	1	31.85	8.63	< .01	1	10.33	3.41	NS	1	9.9	1.05	NS
Deviations	1	0.01	0.003	NS	1	0.49	0.16	NS	1	3.71	0.39	NS
Error (within)	306	3.69			291	3.03			52	9.46		

TABLE XII

Analysis of Variance for Mean Interest Scores for
Topics in the Low and High Involvement Group

Source	df	MS	F	P
Groups	1	0.11	0.04	NS
Error (within)	534	2.85		

TABLE XIII

Analysis of Variance and Scheffé Tests for Mean Interest Scores for Subjects of Initially Strong, Moderate and Mild Opinions in the Low and High Involvement Groups

Source	df	LI Group			P	df	HI Group			P
		MS	F				MS	F		
Opinion Strength	2	7.98	3.11	<.05		2	0.63	0.20	NS	
Error (within)	253	2.57				277	3.09			

Scheffé Tests for LI Group

Opinion Strengths	Mean Interest Scores	Difference in Mean Interest Scores	P
1. Strong	3.24	2-1 = 0.11	NS
2. Moderate	3.35	3-2 = 0.54	NS
3. Mild	3.89	3-1 = 0.65	<.10

TABLE XIV

Analysis of Variance for Mean Number of Original Points Remembered for Low and High Involvement Groups.

Source	df	MS	F	P
Groups	1	6.94	2.29	NS
Error (within)	534	3.03		

TABLE XV

Analysis of Variance for Mean Number of Original Points Remembered by Subjects of Different Initial Opinion Strengths

Source	df	LI			df	HI		
		MS	F	P		MS	F	P
Opinion Strength	2	0.76	0.32	NS	2	2.84	0.78	NS
Error (within)	253	2.38			277	3.65		

TABLE XVI

Analysis of Variance for "Author's Opinion" and "Own Opinion" Mean Scores for the LI and the HI Groups

Source	LI				HI			
	df	MS	F	P	df	MS	F	P
Scores	1	18.14	37.79	<.001	1	15.52	27.71	<.001
Error (within)	238	0.48			262	0.56		

TABLE XVII

Mean Differences between "Author's Opinion" and "Own Opinion" Scores for the LI and HI Groups

Group	Differences	Comparison	df	t	P(2 tailed)
LI	0.55	0.17	250	070	NS
HI	0.48				

TABLE XVIII

Analysis of Variance for LI and HI Groups for
"Author's Opinion" and "Own Opinion" Scores

Source	df	"Author's Opinion"			"Own Opinion"		
		MS	F	P	MS	F	P
Groups	1	4.99	12.17	<.001	2.95	4.76	<.05
Error (within)	250	0.41			0.62		

TABLE XIX

Analysis of Variance for Mean Opinion Scores of "Own Opinion" and "Author's Opinion" for Subjects of Different Initial Opinion Strengths in the LI Group

Source	df	<u>Author's Opinion</u>			<u>Own Opinion</u>		
		MS	F	P	MS	F	P
Opinion Strengths	2	0.55	1.90	NS	0.58	0.85	NS
Error (within)	110	0.19			0.68		

TABLE XX

Analysis of Variance for "Author's Opinion" and "Own Opinion" for Subjects of Different Initial Opinion Strengths in the HI Group

Source	df	<u>Author's Opinion</u>			<u>Own Opinion</u>		
		MS	F	P	MS	F	P
Opinion Strengths	2	0.41	0.75	NS	0.26	0.44	NS
Error (within)	127	0.55			0.59		