

THE EFFECTS OF IMPLIED THREATS  
TO BEHAVIOURAL FREEDOMS  
ON THE AROUSAL OF PSYCHOLOGICAL REACTANCE

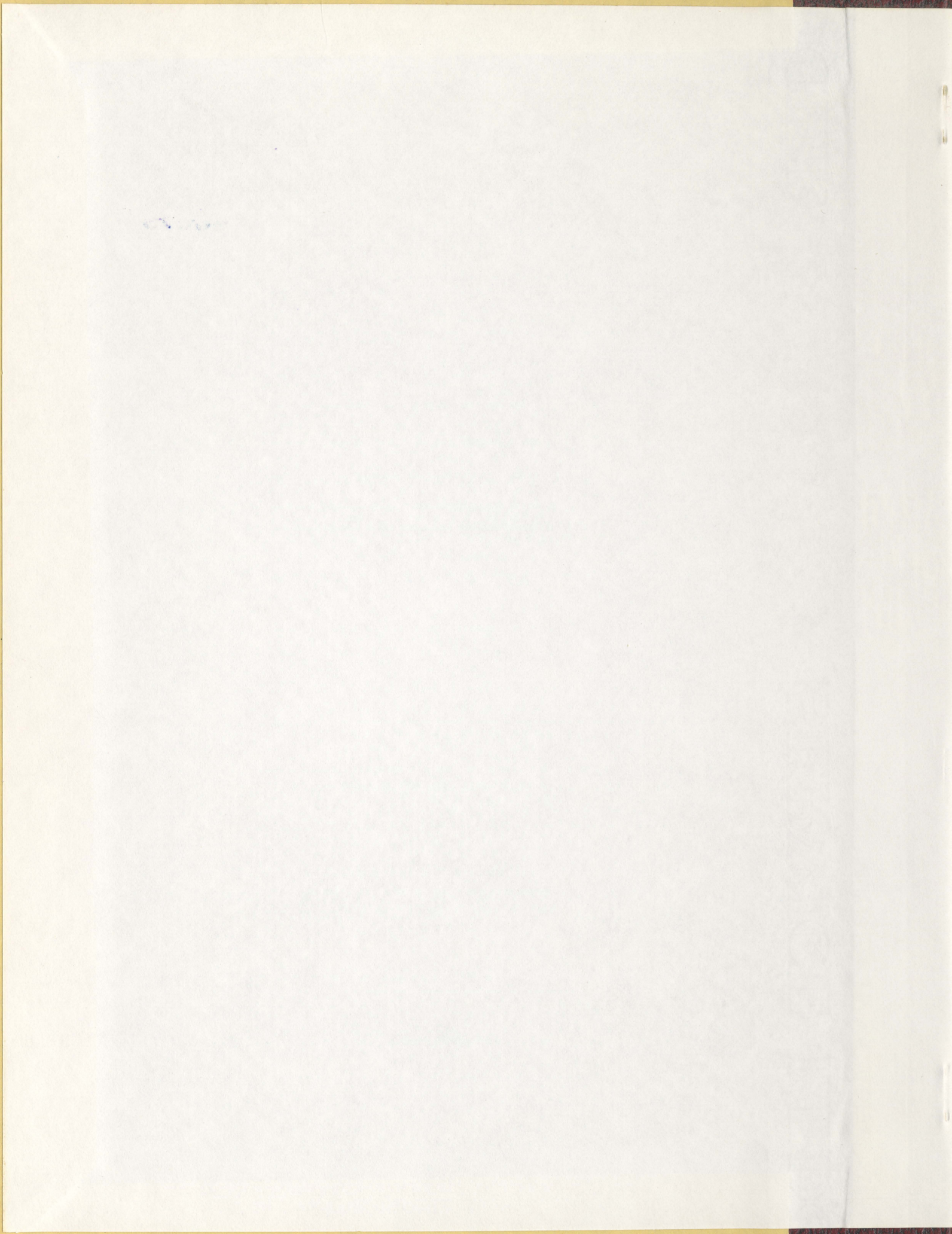
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## Abstract

Two experiments employing the Sensenig and Brehm (1968) paradigm assessed the effects of implied threats to behavioural freedom on the arousal of psychological reactance. The first experiment assessed implied threat effects, and also the interactive effects of overt threat in the form of variations on aspects of communication style. The principal analysis failed to support the Sensenig and Brehm (1968) notion that (a) there should be attitude change away from a threatening communication, and (b) that the magnitude of change should be a function of the number of behavioural freedoms threatened by implication. A moderate degree of attitude change away from the communication was observed in all conditions, but the threat manipulations did not differentiate among the magnitudes of change. A post hoc analysis showed High Overt Threat Males to react to a greater degree than Low Overt Threat Males. This finding was attributed to differential perceptions of likelihood of future solicitations of opinion by the confederate, in that Low Overt Threat Males were found to perceive a greater likelihood of solicitation of opinion than High Overt Threat Males. This correlation was consistent with the expectations of reactance theory. Implied threat was also observed to affect subjects' perceptions of a confederate's competence. Implied Threat Level Five subjects were observed to regard the confederate as being less competent than Implied Threat Level One subjects. It was suggested that this finding may be a manifestation of reactance in the form of derogation of a threatening agent.



The second experiment, designed as a partial replication of Senig and Brehm's (1968) experiment, replaced their positive-influence control with a no-treatment control. The data did not support their notion of a differential attitude change away from a threatening communication, but were not totally inconsistent with reactance theory. Whereas threat to one behavioural freedom elicited a reliable conformity response, implication of threat to future such freedoms was observed to diminish the conformity response to the point where it could not be separated from test-retest variability.

Both experiments were observed to support Grabitz-Gniech's (1971) findings concerning central tendency effects. In both experiments, no-treatment control subjects showed some degree of attitude change away from the opinion they had earlier advocated. This finding emphasizes the need for careful consideration of the reactance phenomenon in the design of appropriate controls for future experiments.



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## The Phenomenon of Psychological Reactance

A voter attends a political rally before a big election. He hears the party's platform presented and the party faithful loudly extolling its virtues while carefully glossing over its pitfalls. The voter begins to find the platform somewhat less attractive than he did before the rally, and he leaves early.

A man who normally smokes either of two brands of cigarettes, Brand A or Brand B, enters a store and discovers that it stocks only Brand A. Rather than purchasing the readily available brand, he chooses to go to another store, where he knows the other brand is available.

A child cautioned by his parents not to play in the street, does so repeatedly until he is forcibly removed from the situation.

According to a recent theory by Brehm (1966) the three seemingly different behaviours of the voter, the prospective customer, and the child, have a foundation in a common motivation. All three persons have suffered a loss, or a threat to a behavioural freedom. The voter hears the platform praised, while its associated faults go unchallenged. It is clear that its proponents are not interested in presenting both sides and the voter is being denied the opportunity to weigh all the evidence and make a meaningful decision for or against it. He restores his lost freedom indirectly, by some degree of attitude change in the direction away from that advocated in the platform.

The smoker, in all probability, considers himself free to purchase either of the two brands of cigarettes. He finds his freedom to choose eliminated by the store inventory. He restores his freedom by purchasing



the eliminated brand at another store.

The child experiences loss of freedom in the prohibitions of his parents. He restores his freedom directly by engaging in the proscribed behaviour.

In his discussion of the effects of elimination of freedom, Brehm writes

It is reasonable to assume...that if a person's behavioral freedom is reduced or threatened with reduction, he will become motivationally aroused. This arousal would presumably be directed against any further loss of freedom and it would also be directed toward the re-establishment of whatever freedoms had already been lost or threatened.  
(1966, p. 2)

This motivational force which tends to act as a counterforce to threat Brehm calls "psychological reactance".

The arousal of reactance is not necessarily contingent on the conscious elimination of one's freedom by a social agent. Fortuitous events which may conspire to eliminate or threaten behavioural freedoms are also hypothesized as constituting a sufficient condition for the generation of reactance.

#### Consequences of Reactance

According to Brehm, the arousal of reactance may have a number of possible consequences. It may manifest itself in direct attempts to re-establish the lost, or to protect the threatened, freedoms. This effect has been demonstrated in an experiment reported by Weiner (1963). In this experiment, subjects (school children) were asked to rank-order a set of toys on the basis of attractiveness. Subjects were told they



would be allowed to choose whichever toy they wanted to keep. All subjects returned a week later in order to rank the toys a second time. Before ranking, however, the experimenter informed the subject that another child had said (of the subject) that "he has to choose the (subject's most preferred toy). He can't choose any other."

On reranking, the toy named by the experimenter showed a significant decrease in attractiveness. Nontreatment control subjects did not show this response. The results are consonant with the expectations of reactance theory.

Reactance may also result in the increased attractiveness of the lost or threatened alternative. This has been demonstrated in two experiments by Hammock and Brehm (1966). In their first experiment, subjects rank-ordered nine different candy bars in terms of their liking for each one. Experimental subjects were told they would later be allowed to choose one of the candy bars in the next room. The subjects were led into a second room where their third- and fourth-ranked bars were displayed. There, an assistant arbitrarily gave each subject his third-ranked bar, despite the fact that experimental subjects had been promised a choice. When subjects were asked to rerank the nine different bars "because the experimenter had made a mistake in recording the subject's preferences," the forced choice bar was found to decrease in attractiveness, and the eliminated bar was observed to show an increase. Control subjects who were not expecting to be able to choose did not show this pattern of results.



The second experiment by Hammock and Brehm (1966) was largely a replication of the first, with minor changes in subjects, materials and procedure. Subjects (middle class children) were asked to rank-order a set of toys, valued at about a dollar each. In this experiment, subjects were forced to take the toy they had ranked as third most attractive; the fourth-ranked toy was eliminated. The same pattern of results as the previous experiment was observed. Experimental subjects tended to devalue the forced choice, and revalue the eliminated choice alternative upward.

Where the threat takes the form of some kind of persuasive message, reactance may appear as an attitude change in the direction opposite to that advocated in the threatening message. A variation on this theme has been presented by Jones and Brehm (1970). In this experiment, subjects received either a one-sided or a two-sided communication which was represented to them as being a law student's final summary of a court case that he would present were he the prosecuting attorney.

Before they were allowed to read the summary, subjects who were to be made aware of the existence of both sides of the issue were informed by the experimenter that the case was not an open and shut one, and that the person writing the summary had had access to all the facts of the case. Subjects were then asked to indicate how innocent or guilty they felt the defendant to be. The data showed that the relative persuasiveness of the one-sided communication was lessened by the awareness of the existence of two sides to the issue. It appears that when a person's freedom to weigh all evidence is threatened by a communication which



fails to adequately present all the facts, the result is a tendency on the part of the recipient of the communication to change his opinion in the direction opposite to the communication.

#### Determinants of Reactance

Brehm (1966, 1972) has attempted to delineate some of the variables that influence onset and magnitude of reactance. He argues that reactance is a function of the proportion of freedoms eliminated (1966, p. 29), the importance of the eliminated freedoms (1966, p. 55), and also the number of freedoms eliminated or threatened with elimination (1972, p. 2).

Brehm (1966) describes an experiment by Brehm, McQuown and Shaban which demonstrated the relationship between proportion of threatened freedoms and magnitude of psychological reactance. Subjects in this experiment rank-ordered a set of six movies, based on written descriptions, on the basis of their desire to see each one. When the experimenter returned a few days later, subjects were given a list of movie titles and were told it would be possible for them to choose one of the movies from the list to see. The list for half of the subjects contained all six movie titles, while the remainder of the subjects received a list which contained only the subject's three most preferred movies. Subsequently, the experimenter informed each subject, individually, that the movie he had ranked as second, had failed to arrive, and so it would be impossible for him to choose that movie to see. Subjects were then asked to rerank all six movies. The data showed that subjects in the three-movie condition (where one-third of their choice alternatives were eliminated)



increased their ranking of the eliminated movie more frequently than did subjects in the six-movie condition. This tendency was not observed in control subjects, who were not led to expect a choice.

Reactance is also hypothesized to be a function of the importance of the freedoms eliminated. An experiment by Burton (1962) tested this relationship. Subjects in a high importance condition were informed that they would be able to choose one of two tasks to perform, and that which task they chose, was indicative of certain aspects of their personality, since the tasks were taken from a well-known personality inventory. Low Importance subjects were told that the experiment was just a pilot study, and that all that was required of them was the performance of one of the two tasks from which they were to choose. Subsequently, a confederate who also appeared to be a subject, attempted to unduly influence the subject's choice of tasks, saying, "I think we should both do task A (or B)." The dependent variable was the frequency with which subjects chose the task opposite to the one suggested by the confederate. The results tended to support the experimental hypothesis. High Importance subjects showed a somewhat greater tendency to choose the opposite task than those in the Low Importance condition.

Psychological reactance, according to Brehm, is also a direct function of the number of threatened or eliminated freedoms. However, an experiment by Brehm and Sensenig (1966) failed to find any support whatsoever for such a conclusion. In their experiment, subjects were told they would be making a series of choices about which of two tasks to perform, both for themselves, and for an unseen other. The experimenter



informed the subject that, because many people felt a need for more information in order to select the right task for the other person, that other person had been allowed to consider each task beforehand, and write a note to express his preference on each pair of tasks. It was emphasized, however, that the final judgement about each pair of tasks was the responsibility of the subject. The procedure was then a matter of looking at each of the tasks, considering the note from the other subject, and making the decision.

Subjects assigned to the Control condition received a note from the other subject in which simple preference for one or the other of the tasks was expressed. High Implication subjects received a note for each of the five pairs of tasks, which clearly indicated intent to usurp the right of the subject to make the choice (eg., "I think we should both do task 1-A"). Low Implication subjects received only one such note about the first pair of tasks and were informed that no further notes would follow.

The dependent variable was the tendency to choose the task opposite to that suggested in the note accompanying the first pair of tasks.

It was observed that High Implication subjects showed more rejection of the influence attempt than did the Control subjects. Low Implication produced only slightly more rejection than did the Control. There was no difference between High and Low Implication. While the results did not support the proposition that reactance is a function of the number of threatened freedoms, there was general support for the proposition that attempted usurpation of choice tends to produce rejection.



tion of the influence attempt.

Sensenig and Brehm (1968) argued that the absence of the expected effect of number of threatened freedoms in their earlier experiment (Brehm and Sensenig, 1966) might conceivably be explained in the subjects' perceptions of the threatening communication. It is possible that the receiver might view the originator as transgressing the rules of the experiment.

Thus, if the note is unexpected, and seemingly not in keeping with the experimental instructions, the subject may attempt to cover up for the other person's transgressions by simply ignoring the note as much as possible (Sensenig and Brehm, 1968, p. 329).

In their second experiment (Sensenig and Brehm, 1968) a situation was devised in which it would be impossible for subjects to interpret the threatening communication as a transgression of the experimental rules.

Subjects participated in the experiment in pairs. They first completed a short questionnaire on a number of current issues. After the subjects had completed the questionnaire, the experimenter explained that he was interested in why people felt the way they did on some of these issues, and that the remainder of the study would require that they write a short essay on five of the fifteen issues.

In both the High Implied Threat and Control conditions, it was explained that the experimenter was also interested in "comparing the essays that are written by the two people who are in the study together", and that they would be required to write from the same point of view on



each of the five essays. Low Implied Threat subjects were told they would only be required to write from the same point of view on the first essay, and that on the four later essays, they would be able to defend the side they preferred.

It was explained to the two subjects that one of the two would be designated as the one who would make the choice as to which side of the issues they would support. In order to make the subjects feel that they had at least some freedom on the issue, they were told that some of the previous subjects who had been appointed to make the choices had wanted to know what the feelings of the other person were, with respect to the issue at hand. Because of this, it was explained, subjects doing the choosing would be able to ask the other subject about her preference. And in any case, it was emphasized, the person making the choice would have the final say as to what side of each issue was to be supported.

In a "rigged" drawing to determine who was to make the decision, both subjects were designated as being the person who would be told which side to support. Subjects were then led to separate rooms to begin their respective tasks.

Subjects were given a list of five items taken from the questionnaire the first of which was to be the crucial attitude measure. The particular item chosen was one on which pretest subjects had tended not to show extreme opinions, and so attitude change in either direction was possible.



Subjects were then given a bogus note that instructed them to write their essays in support of the side of the issue they had favoured on the pretest. Control subjects received a note from the "other person" which read, "I'd prefer to agree/disagree with this if it's alright with you." High Implication (of threat, in that these subjects were led to expect four more such interaction situations with the other person) and Low Implication subjects received a note which read, "I've decided that we will both agree/disagree with this." In the authors' own words, "It can be seen that on...(the notes to subjects in all three conditions) ...the other person stated a definite preference, but with the note given in the Control condition, the person appeared to allow the subject the freedom of disagreeing with her if the subject wished" (Sensenig and Brehm, 1968, p. 326).

Subjects were given an essay form at the top of which was a scale on which they were asked to indicate their "true feelings on this issue". They completed this scale and were allowed to write about five minutes worth of material on the first essay. The experimenter then returned with a form containing manipulation checks, and subjects were asked to complete this "before we go on to the next essay." After subjects had completed this form, the experiment was terminated.

The dependent variable was the degree of attitude change in the direction away from that advocated in the communication. Change in this direction was interpreted as reactance.

The results indicated that High Implication subjects showed greater



reactance than did either Control or Low Implication subjects. Low Implication subjects, however, failed to show any greater reactance than the Control subjects.

The authors concluded:

...that the present experiment has supported the various links in our chain of reasoning: that (a) when a person's freedom is threatened, there will occur a motivational state directed toward restoration of the threatened freedom, (b) the greater the number of behavioral freedoms threatened by implication, the greater will be the motivational state and consequent tendency to restore the threatened freedom...(Sensenig and Brehm, 1968, p. 330).

#### Statement of the Problem

The final conclusion of the Sensenig and Brehm (1968) paper is somewhat misleading as a summary of their findings. Sensenig and Brehm (1968) have overinterpreted their data. They conclude that threat to one behavioural freedom is a sufficient condition for the arousal of reactance, and further, that the greater the number of behavioural freedoms threatened, the greater will be the resultant reactance effect. While it is true that the implication of threat to five behavioural freedoms aroused greater reactance than threat to only one such freedom, the latter was observed to produce no effects that were discernible from those of a non-reactance control condition.

Recent data presented by Grabitz-Gniech (1971) also suggests that the positive influence control group in the Sensenig and Brehm (1968) experiment may have been an inappropriate control.

She writes



In some studies...a central tendency (regression) effect has been found. The values of the second attractiveness judgement...were moved to the centre of the distribution, so that the distribution of mean attractiveness scores...exhibited smaller dispersion for the second judgement.

...Reactance theory predicts an increased attractiveness of Object  $X_3$  in the second judgement as a consequence of eliminating that object. However the same positive shift of  $X_3$  occurs as a consequence of a regression to the mean. The reactance effect, caused by a social influence manipulation, could not be separated, then, from an effect caused by regression to the mean. The best way to control the effect due to regression is to compare the data, that is, changes in rating of  $X_3$ , of the elimination conditions, with those of a no-treatment condition that qualifies as an unbiased base line (Grabitz-Gniech, 1971, p. 190).

According to Sensenig and Brehm (1968), threat to a behavioural freedom should result in a tendency to reject the influence attempt, and a consequent tendency toward attitude change away from the communication. Grabitz-Gniech's (1971) findings suggest that the criterion for defining an attitude change away from an advocated position as reactance should not be a comparison with a positive influence control group. Rather, the criterion should be attitude change away from the advocated position that exceeds that which would occur normally as a function of test-retest variability or regression toward the mean.

Two experiments to test the effect of number of threatened freedoms on psychological reactance have produced largely contradictory results. Brehm and Sensenig (1966) found no support for the reactance theory predictions, while a small degree of support was to be found in the Sensenig and Brehm (1968) experiment, although reactance in that ex-



periment may have been confounded with central tendency effects.

The current experiment, then, was designed to examine the effects of three levels of implied threats to behavioural freedom, as well as the interactive effects of overt threats to freedom in the form of variations on certain aspects of communication style. In addition, a no-treatment control condition was included to provide a baseline for central tendency effects.



## Method

### Overview

One hundred and ninety male and female undergraduate students completed a questionnaire in which their attitudes were assessed on a number of current Canadian issues. One hundred of these subjects returned to participate in a second experiment in which they were led to believe they would write short essays on five topics, which were taken from the original questionnaire. These subjects were randomly assigned without regard to sex, to either a Control condition (no treatment) or to one of the cells of a 3 by 3 factorial design. The factors varied were Implied Threat (the number of issues on which a second subject, in fact a confederate, would determine which side of the issue both of them would support in their essays) and Overt Threat (the degree of usurpation, by the confederate, of the subject's right to participate in the decision process). Subjects then completed an attitude scale for the first issue, identical to that on the pretest.

### Subjects

Subjects were 190 male and female undergraduate students enrolled at Memorial University. These subjects were recruited by posters to take part in a questionnaire session for which they were paid \$1.00.

For one of five reasons, 59 subjects were excluded from participation in the second part of the experiment. Twenty-five subjects indicated extreme positions on the critical item of the questionnaire. Twenty-one subjects failed to indicate telephone number, thus precluding



future contact, and seven more subjects refused to participate when contacted. Five subjects failed to fully complete the first questionnaire. One more subject was eliminated when she recognized the girl with her in the experiment as being the same one who had been with her friend the previous day.

One hundred of the remaining 141 subjects returned for the second part of the experiment. These subjects were randomly assigned without regard to sex to either the control condition or to one of the nine experimental groups. Ten subjects were assigned to each condition.

### Materials

A fifteen item questionnaire entitled "CANADIAN ISSUES QUESTIONNAIRE" was used to assess subjects' attitudes on a number of issues of particular interest to Canadians.

Each subject returning for the second part of the experiment was given a form on which five "essay topics", actually attitude statements taken from the earlier questionnaire, were reproduced. These subjects were also provided with an essay form for the first issue on which they were asked to write their essay. This form contained scales at the top on which subjects were asked to indicate their own feeling on the issue.

### Procedure

Subjects first completed the Canadian Issues Questionnaire during a general group testing session. The questionnaire contained 15 items and is presented in Appendix A. The first part of each item was an attitude statement accompanied by a 31-point Likert-type scale on which



subjects were asked to indicate the extent of their agreement or disagreement with that statement. This scale was anchored by "Strongly Disagree" (1) and "Strongly Agree" (31). A second part of each question asked subjects to assess the importance of the issue to them. Again, a 31-point Likert-type scale was provided. This was anchored by "Not at all Important" (1) and "Extremely Important" (31). Finally, a third part of each item asked subjects to indicate on another 31-point scale, their confidence in the opinion they had just expressed. Anchor-points were "Not at all Confident" (1) and "Extremely Confident" (31).

Approximately one week after the initial questionnaire session, subjects were contacted by telephone, and asked to participate in a short experiment. Upon their arrival at the experiment, subjects encountered a female undergraduate, in actual fact a confederate, who was also waiting to take part in the experiment. The confederate was usually seated outside the experimental room with a purse and books, a posture typical of female students waiting for an experiment.

In a small number of cases, it was impossible for the confederate to be present when the subject arrived. In such cases, the subject was invited into the experimental room. Approximately 3 to 5 minutes later, the confederate knocked on the door, asking, "Is there supposed to be an experiment here?"

Normally, though, only when both subject and confederate were present were they invited into the experimental room. The experimenter then introduced himself as a social psychology student studying some of



the issues that affect Canadians.

The experimenter continued:

I am very much interested in discovering why people feel the way they do, on some of these issues. So, today I am going to ask you to do a little thinking and a little writing, on each of the five issues that you see on this form.

The experimenter then gave both subject and confederate a form on which five of the attitude statements from the Canadian Issues Questionnaire were printed. An example is presented in Appendix B. The first of these five, "The unification of the Canadian Armed Forces can only have harmful effects on the morale of each component" (item 15 in the questionnaire) was chosen because pre-test subjects had tended not to make extreme responses. The four remaining topics dealt with subjects' attitudes toward a guaranteed annual income, the enforcement of bilingualism in Canada, curtailment of Canadian energy exports, and government enforced price controls (questionnaire items 7, 8, 9, and 12, respectively). These last four items were generally of high importance to pretest subjects, and were chosen to enhance the effectiveness of the implied threat manipulation.

The experimenter continued with instructions composed from the description provided by Sensenig and Brehm (1968):

In addition, I am interested in making some specific comparisons between the essays of the two people who are in the experiment, together. So, on the first (or the first three, or all five, depending on the level of Implied Threat to which the subject had been assigned) of these issues, I am going to ask you both to write your essay(s) from the same point of view. ie. You



may both agree, or disagree, but it must be the same point of view.

Now this means that, somewhere along the line, someone has to make a decision: "How are we both going to write?" The only way I could think of to find that person, was to have a small lottery.

The experimenter then produced two slips of paper, and asked one of the two to draw one, saying, "It doesn't matter whom. You have a 50--50 chance, either way." The confederate always offered to allow the subject to make the draw. Only a small number of subjects declined the offer.

In actual fact, the drawing was rigged, and both slips of paper designated "the other person" as the one to make the decision. Thus, if the subject made the draw, the message was clear. If the confederate made the draw, she interpreted the message, saying "It says I'm supposed to make the decision." The experimenter confirmed this fact.

The experimenter then addressed the confederate directly:

Okay, Trudy (confederate), you're going to be making a (or a few, where appropriate) decision(s) about which side of the first (or the first three, or all five) issue(s) you and...(Subject's name) will support, and you...(Subject) must support the side that is decided upon.

Now, Trudy, a number of people who have been in your position, in the experiment, making decisions, have asked to know the other person's position on the issue before making the decision. Now, you'll be able to communicate with...(Subject) by note. I'll explain that: I'm going to move one of you into another room, to give you space to work. As I was saying, you'll be able to communicate with... by note, and ask his/her opinion if you choose. Now, I want to emphasize, you're not obliged to do this; responsibility for the final decision is your own.



Do either of you have any questions?

The experimenter then answered any questions, and finally, paraphrased the instructions, saying:

Trudy, you'll be making a decision on the first (the first three, or all five) issue(s) about which side of the issue you and...(Subject) will support. You'll be free to ask his/her opinion if you choose. ...(Subject) you'll be free to support whatever side you choose on the remaining issues.

Having satisfied himself that no questions remained unanswered, the experimenter instructed the confederate to "come with me to the room across the hall." The subject was told to read the issues over, and that the experimenter would return in a few minutes with the first communication.

Approximately three minutes later, the experimenter returned with a message for the subject. Subjects assigned to the High Overt Threat condition received a note which read "I have decided that we will both agree/disagree on the first issue." Low Overt Threat subjects received a note from the confederate which read, "I would prefer to agree/disagree on the first issue, if it's alright with you." The communications to both High and Low Overt Threat subjects always directed the subject to write his essay in support of the same point of view he had expressed on the pretest.

The confederate's communication to No Overt Threat subjects read, "I have no preference on the first issue. You make the decision." Subjects made their decision, and the experimenter communicated this to the confederate, who always approved the decision.



When appropriate (in Implied Threat levels Three and Five) the experimenter reminded the subject of the number of such communications he was to expect from the confederate.

Control subjects were told nothing of any comparisons between the essays of the two people, nor of any decisions to be made by one of the two "subjects". They were told only that they were to write essays on each of the five topics, and that one of them would be moved into another room to give them room to work.

All subjects were instructed to write their essays on a form provided for this purpose. At the top of this form was a duplicate of the attitude statement as it had appeared on the pretest. On the scales provided, the subject was asked to indicate his true opinion on this issue.

Subjects were allowed five minutes to write their essay, at which time, the experimenter returned with a form, which subjects were asked to complete "before we go on to the next issue." This form, described to subjects as a "check on the impressions you may have formed of the other person who was in the experiment with you," was used to check the manipulations of Implied and Overt Threat.

On the appropriate 31-point Likert-type scales, subjects were asked to estimate their liking for the other person, the other person's competence on such tasks, the likelihood that the other person had affected their opinion, and the likelihood that the other person would ask their opinion on future issues. A copy of this questionnaire is presented in



## Appendix C.

After completion of this form, subjects were paid, and dismissed.



## Results and Discussion

Manipulation Check

The manipulations of Implied and Overt Threat were designed to generate, in subjects, differential expectations of the likelihood of the confederate's future solicitations of their opinion. In order to assess the effectiveness of these two manipulations, subjects' estimates of the likelihood of future solicitation, obtained from the post-experimental questionnaire, were subjected to a 3 (Implied Threat) by 3 (Overt Threat) factorial analysis of variance. The observed data to be discussed are presented in Table 1. The complete summary table of the analysis of variance of these data is given in Table 2.

A reliable main effect of Implied Threat was observed ( $F = 21.609$ ,  $df = 2, 81$ ,  $p < .001$ ). Pairwise comparisons between cell means by the Newman-Keuls statistic (Kirk, 1968, p. 91) showed Level One subjects to have a significantly lower expectation of solicitation than those of Level Three (difference = 9.16,  $W_r = 4.304$ ;  $p < .01$ ) or Level Five (difference = 9.36,  $W_r = 4.894$ ;  $p < .01$ ). It appears then, that the manipulation of Implied Threat was successful, in that Level One subjects were led to expect no interaction with the confederate on issues beyond the first, and their statements of expectation in this regard were consonant with the intent of the manipulation.

A reliable main effect of Overt Threat was also observed ( $F = 6.337$ ,  $df = 2, 81$ ;  $p < .003$ ). A Newman Keuls-test showed High Overt Threat subjects to have significantly lower expectations of solicitation than



Table 1  
 Mean Estimates of Likelihood  
 of Future Solicitations of Opinion  
 by Confederate  
 (Experiment 1)

	Implied Threat		
	1	3	5
High Overt Threat	$\bar{X} = 6.00$ SD = 2.45	$\bar{X} = 12.20$ SD = 6.09	$\bar{X} = 11.60$ SD = 7.71
Low Overt Threat	$\bar{X} = 7.90$ SD = 3.90	$\bar{X} = 15.80$ SD = 8.15	$\bar{X} = 16.90$ SD = 8.12
No Overt Threat	$\bar{X} = 6.70$ SD = 3.83	$\bar{X} = 20.10$ SD = 6.94	$\bar{X} = 20.20$ SD = 6.71



Table 2

Analysis of Variance of Subjects' Estimates  
 of Likelihood of Future  
 Solicitations of Opinion  
 (Experiment 1)

SOURCE	SS	DF	MS	F
Implied Threat (I)	1718.016	2	859.008	21.609**
Overt Threat (O)	503.821	2	251.910	6.337*
I x O	203.976	4	50.944	1.283
Within Cells	3220.000	81	39.753	
Total	5465.813	89		

\*\* p < .001

\* p < .01



either Low Overt Threat (difference = 3.6,  $W_r = 3.24$ ;  $p < .05$ ) or No Overt Threat subjects (difference = 5.734,  $W_r = 4.894$ ;  $p < .01$ ). The remaining pairwise comparison between Low and No Overt Threat did not reach statistical significance.

### Attitude Change

The principal dependent variable was the degree of attitude change from first to second testing, in the direction opposite to that advocated in the message from the confederate. Change in this direction was given a positive sign to indicate a reactance effect. In the Control condition, the central tendency effect from first to second testing was calculated, and was given a positive sign to make it comparable to any reactance effects in the experimental conditions. Table 3 presents the calculated reactance and central tendency effects for each condition.

The attitude change scores were analysed using a 3 (Implied Threat) by 3 (Overt Threat) factorial analysis of variance with a single control group (Winer, 1971, p. 468). This analysis revealed no significant main effects of either Implied or Overt Threat ( $F = .39$ ,  $df = 2, 90$ ;  $p < 1$ , for both effects). The Implied Threat by Overt Threat interaction also failed statistical significance ( $F = .14$ ,  $df = 4, 90$ ;  $p < 1$ ). The complete summary table for this analysis is presented in Table 4.

Dunnett's test (Winer, 1971, p. 470) was used to compare each experimental cell-mean with that of the Control. No cell-mean differed significantly from the Control by this procedure.

Predictions based on Reactance theory, and data presented by Sen-



Table 3  
Means and Standard Deviations  
of Reactance  
and Central Tendency Measures\*  
(Experiment 1)

	Implied Threat		
	1	3	5
High Overt Threat	$\bar{X} = 2.0$ SD = 5.2	$\bar{X} = 1.6$ SD = 9.87	$\bar{X} = 1.5$ SD = 9.07
Low Overt Threat	$\bar{X} = -0.9$ SD = 5.58	$\bar{X} = 1.7$ SD = 8.44	$\bar{X} = 0.2$ SD = 8.40
No Overt Threat	$\bar{X} = 1.0$ SD = 4.02	$\bar{X} = 3.9$ SD = 7.35	$\bar{X} = 1.3$ SD = 9.46
Control Group (Central Tendency)			
	$\bar{X} = 3.7$ SD = 5.24		

\* A positive score indicates reactance, a negative score, conformity.



Table 4

Analysis of Variance of Reactance Measure:

Comparison with Central Tendency Control

(Experiment 1)

SOURCE	SS	DF	MS	F
Between Cells	185.400	9		
Control vs All Others	49.000	1	49.000	.770
Overt Threat (O)	50.066	2	25.033	.390
Implied Threat (I)	49.400	2	24.700	.390
I x O	36.930	4	9.233	.140
Within Cells	5666.600	90	62.960	



senig and Brehm (1968), would lead one to expect that, to the extent that subjects perceived the confederate's message as indicating potential threat to their right to participate in the decisions, that message should arouse reactance. This reactance should take the form of differential rejection of the influence attempt and a consequent attitude change away from the position advocated in the message. In this respect, High Overt Threat subjects should have shown greater attitudinal reactance than either Low or No Threat subjects.

The data quite clearly did not support this expectation. A moderate degree of attitude change away from the position advocated in the communication was observed in all three Overt Threat conditions, but the Overt Threat manipulation did not discriminate between the various magnitudes of attitude change.

A further prediction from the work of Sensenig and Brehm (1968) was that, to the extent that there may exist future occasions on which one's freedom to participate in the decision-making process might be usurped, there should be observed differential arousal of reactance, in the form of attitude change away from the threatening communication. In the context of the current experiment, it was anticipated that subjects in Implied Threat Level One would show the least reactance since the possibility of further usurpations of freedom did not exist. However, this expectation was not supported in the obtained data.

Lastly, it was expected that if no unitary effects of Implied Threat were to be observed across the three Overt Threat levels, then Implied



Threat effects should at least be observed in High Overt Threat subjects, where usurpation of decision rights had already occurred, and, in various degrees, was probable on future issues. The data clearly did not support such an interaction hypothesis.

The observation of either of two significant main effects or the interaction of the two would have provided a measure of support for reactance theory predictions concerning the effects of implied threats to behavioural freedom. The observed data in the principal analysis are largely contraindicative of reactance theory expectations and the findings of Sensenig and Brehm (1968) in that no effect of Implied Threat was observed. The data are further contraindicative of reactance theory expectations in that no calculated reactance effect was observed to differ reliably from the central tendency effect observed in the Control condition.

#### Post Hoc Analyses

In a secondary analysis of the data, Sex of the subject was included in the general model, and its interactions with Implied and Overt Threat assessed. This analysis revealed a significant Sex by Overt Threat interaction ( $F = 3.625$ ,  $df = 2, 72$ ;  $p < .032$ ). Pairwise comparisons by Tukey's HSD test (Kirk, 1968, p. 88) showed High Overt Threat Male subjects to change their opinion away from the communication to a greater extent than High Overt Threat Female subjects (difference = 7.49,  $HSD = 7.21$ ;  $p < .05$ ). This sex difference, however, could not be related to differential perceptions of the likelihood of future solici-



tations of opinion, liking for the confederate, nor to the subjects' assessment of the competence of the confederate.

A second post hoc comparison revealed that High Overt Threat Males showed more reactance than Low Overt Threat Males (difference = 6.0625, HSD = 5.998;  $p < .05$ ). In this case, it was possible to relate the finding to subjects' perception of the likelihood of the confederate's future solicitation of their opinion. Tukey's HSD procedure showed Low Overt Threat Males to perceive a somewhat greater likelihood of future solicitation of opinion than High Overt Threat Males (difference = 5.348, HSD = 5.25;  $p < .05$ ). This finding, although post hoc is consistent with the expectations of reactance theory.

In a further analysis, subjects' assessments of the confederate's competence were analysed by a 3 (Implied Threat) by 3 (Overt Threat) factorial analysis of variance. This analysis yielded a significant effect of Implied Threat. Post hoc comparisons by means of the HSD test showed Implied Threat Level One subjects to regard the confederate as more competent than did those subjects of Implied Threat Level Five. (difference = 3.867, HSD = 3.445;  $p < .05$ ). This finding of a relationship between Implied Threat and competence was unanticipated, but it may well be that the decreased rating of the confederate's competence in Implied Threat Level Five is a manifestation of reactance unrelated to attitude change measured on a questionnaire. It is possible that rather than showing reactance through attitude change, Implied Threat Level Five subjects may have derogated the threatening agent as an outlet for reactance.



The data from this experiment, then, provide only a suggestion of the expected relationship between threats to behavioural freedom and reactance in the form of attitude change. Contrary to expectations, no overall Implied Threat or Overt Threat effects were observed in terms of negative attitude change. Only in post hoc analyses were theoretical expectations confirmed. Further post hoc analysis revealed the interesting possibility that experienced reactance may manifest itself in the derogation of a potentially threatening source.

The current experiment did, however, demonstrate the generality of Grabitz-Gniech's (1971) notion of central tendency effects. As expected, no-treatment Control subjects showed some degree of attitude change away from the position they had adopted in the first testing session. This demonstration of a central tendency effect contraindicates to a certain extent, the Sensenig and Brehm (1968) findings concerning the effects of Implied Threat since they did not employ a no-manipulation control. It is now questionable whether their data would have supported their expectation of attitude change away from a threatening communication had they employed Grabitz-Gniech's no-treatment control rather than their own positive-influence control.

#### A Partial Replication

It is possible that the delay between taking the Canadian Issues Questionnaire and participating in the experiment, approximately one week, accounts for the difference in results between Sensenig and Brehm (1968) and the current study. Therefore, a second, partial replication



was carried out in which subjects completed the Canadian Issues Questionnaire, and participated in the essay writing in the same session, as was done by Sensenig and Brehm (1968).

Two experimental treatments and the no-manipulation control were employed, with 8 subjects assigned to each treatment group. Experimental subjects were assigned to Levels One and Five of Implied Threat, and subjects in both of these conditions received the High Overt Threat message from the confederate.

The success of the Implied Threat manipulation demanded that subjects in the two experimental conditions form differential expectations of the likelihood of future social influence attempts. The post-experimental manipulation check of subjects' estimates of the likelihood of future influence attempts was analysed by independent t-test. While this test showed that no differential expectation had been aroused, a Mann-Whitney U (Siegel, 1956) performed on the same data showed Level One subjects to have a significantly lower expectation of solicitation than Level Five subjects (U = 15,  $p < .041$ ). The results of this analysis suggest that the manipulation was successful.

Reactance in the two experimental conditions and the central tendency effect in the Control conditions were scored as in the main experiment. The mean reactance and central tendency effects are shown in Table 5. These data were analysed using a one factor analysis of variance with a control group (Winer, 1971, p. 203). This analysis revealed no overall Implied Threat effects that were distinguishable from the test-



Table 5  
Reactance and Central Tendency Measures  
In Experimental and Control Conditions\*  
(Experiment 2)

Control	Implied Threat Level 1	Implied Threat Level 5
X = 0.125 SD = 1.36	X = -3.375 SD = 4.99	X = -0.375 SD = 6.16

\* A positive score indicates reactance, a negative score, conformity



retest variability of the Control condition ( $F = 1.448$ ,  $df = 2, 21$ ;  $p > .05$ ). The summary table for this analysis of variance is presented in Table 6.

Dunnett's test (Winer, 1971, p. 201) was used to compare each of the treatment means with that of the Control. This procedure showed a reliable difference between Implied Threat Level One subjects and the Control, in the direction of conformity responses for subjects in the former condition ( $t = 2.358$ ,  $p < .05$ ). The mean of the Implied Threat Level Five condition was not reliably different from the mean of the Control group by this test.

Analysis of the results of the post-experimental questionnaire showed that this pattern of results could not be attributed to differential perception of the confederate's competence, nor to the subject's liking for the confederate.

In contrast to the findings of Sensenig and Brehm (1968) who reported reliable attitude change away from the advocated position in the case of Implied Threat Level Five subjects, and an attenuated reactance effect for Level One subjects, this second experiment produced no evidence of any attitude change away from the advocated position. Rather, the results indicated strong conformity in Level One subjects, and attenuated conformity for those subjects in Level Five.

To some extent, however, this pattern of results may not be totally inconsistent with the expectations of reactance theory. Subjects conformed to a social influence manipulation, but the threat of future such influence attempts was observed to diminish the magnitude of the confor-



Table 6

Analysis of Variance of Reactance Measure:

Comparison with Central Tendency Control

(Experiment 2)

SOURCE	SS	DF	MS	F
Implied Threat	57.36	2	26.68	1.15
Within Cells	520.625	21	24.79	
Total	577.985	23		



mity response to the point where it could not be discriminated from the no-influence control.



### Summary and Conclusions

One main experiment and a partial replication were carried out to examine the effects of implied threats to behavioural freedoms on psychological reactance.

The first experiment assessed the interactive effects of implied and overt threat over a one-week delay. The observed data did not directly support the Sensenig and Brehm (1968) finding that implied threat to future freedoms is a sufficient condition for the arousal of reactance in the form of attitude change away from a threatening communication. The obtained data did not differ reliably from a no-influence control condition.

Post-hoc comparisons were somewhat more supportive of reactance theory. Sex of the subject was found to interact reliably with Overt Threat. When pairwise comparisons were carried out, it was found that High Overt Threat Males manifested greater reactance than females receiving the corresponding threatening message. A second comparison showed that High Overt Threat Males tended to show greater reactance than their Low Overt Threat counterparts. Although the former observation could not be attributed to differential expectations of future solicitations of opinion, the data suggest that this factor may very well account for the latter observation. High Overt Threat Males reported significantly lower expectations of future solicitations than did Low Overt Threat Males. This correlation is supportive of reactance theory expectations.



An unexpected finding was that implied threat resulted in differential perceptions of the competence of the confederate. Level One subjects reported reliably higher ratings of competence than did Level Five subjects. This finding is suggestive of a form of reactance totally unanticipated, i.e., derogation of the source of threat. Further research is needed, however, to validate this finding as a true reactance effect.

The second experiment was designed as a partial replication of the Sensenig and Brehm (1968) experiment, in a slightly altered form, where a no-treatment control condition replaced their positive-influence control. This experiment provided no support for the Sensenig and Brehm (1968) finding of attitude change away from the advocated position. Change toward this position was observed in both levels of Implied Threat, although this tendency in Level Five was less than in Level One. Still, a small measure of support for reactance theory may be found in this observation. Whereas threat to one behavioural freedom elicited a strong conformity response, the implication of threat to future freedoms was sufficient to attenuate this conformity to the extent that it could not be distinguished from test-retest variability.

Experiments one and two are consistent in one further respect. Both of these studies illustrate the generality of Grabitz-Gniech's (1971) notion of central tendency effects. This finding emphasizes the need for careful consideration of the reactance phenomenon in the design of appropriate controls for future experiments.



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Appendix A

Canadian Issues Questionnaire



## CANADIAN ISSUES QUESTIONNAIRE

Much of the survey work examining attitudes of Canadians on current issues has been carried out in Ontario, Quebec, and British Columbia. Outlying areas (the prairies and the maritime provinces) have largely been ignored.

The purpose of this questionnaire is to examine the attitude of Newfoundland students toward issues of interest to Canadians in general (although one or two questions deal with Newfoundland, in particular).

The questionnaire consists of fifteen questions; each question is divided into three parts.

The first part of each question is a statement about some aspect of some controversial issue. Below this statement is a scale divided by 31 oblique lines (eg. ~~+/+~~). At the ends of this scale are two reference points marked: 1 (Strongly Disagree), and 31 (Strongly Agree). Your job is to indicate to what extent you agree or disagree with this statement. You can do this by placing a check-mark over the oblique line that corresponds to your opinion. You may check any oblique between the one and the thirty-one.

eg. If you strongly agree with a given statement, you would place a check-mark over the thirty-one oblique. If you agree only mildly, you would place a check-mark somewhere between the centre of the scale (16) and the thirty-one oblique.

A second part to each question will ask you how important this issue is to you. The scale is identical to the one described above, but the end-points are 1 (Not at all Important) and 31 (Extremely Important). Again you may use any portion of the scale.

A third part of each question asks how confident you are of the opinion you expressed in the first part. If you are unsure of the opinion, you would place a check mark somewhere between the centre (16) and one (Not at all Confident). Again, you may use any part of the scale.

NOTE: On some scales, 31 is on the right, and on others, it is on the left. PLEASE BE VERY CAREFUL ABOUT WHICH END OF THE SCALE YOU ARE CHECKING.

You are asked to please read each question carefully, examine the associated scale, and check the appropriate response.

Please answer each part to each question. And, please place only one check-mark on a given scale.



Thank you for your participation in this study.

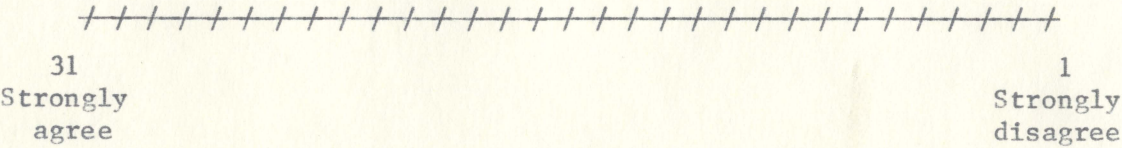
Please print your name \_\_\_\_\_ Phone Number \_\_\_\_\_

Faculty \_\_\_\_\_; Major \_\_\_\_\_

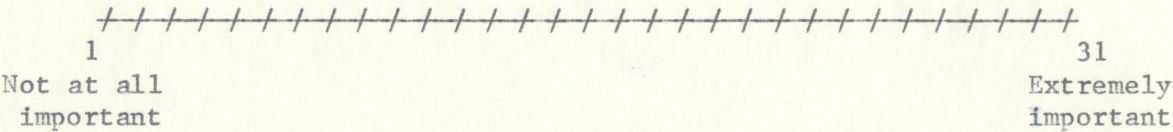
Date and Place of birth \_\_\_\_\_



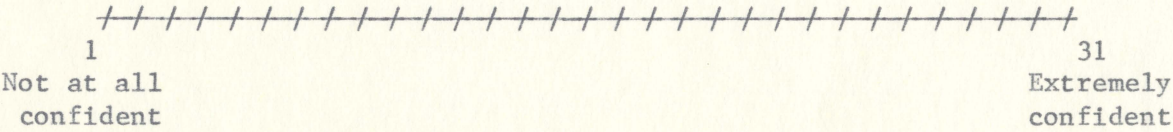
1. Government employees should be denied the right to strike.



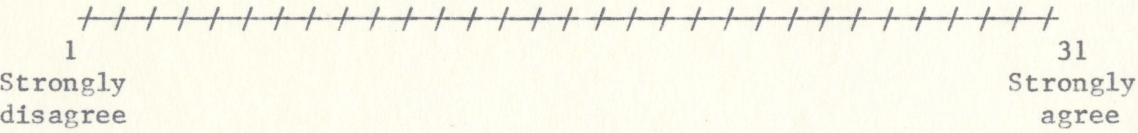
How important is this issue to you?



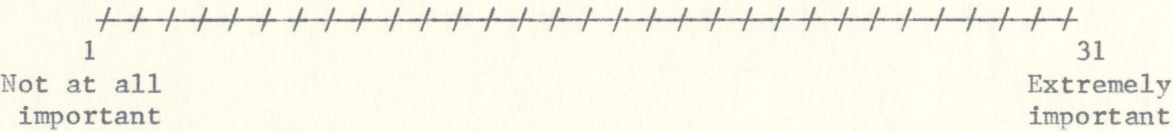
How confident are you of your opinion on this issue?



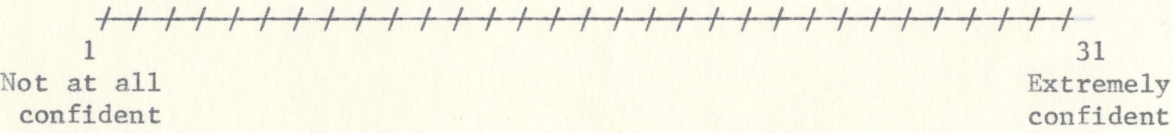
2. Legal penalties for the use of marijuana should be removed.



How Important is this issue to you?

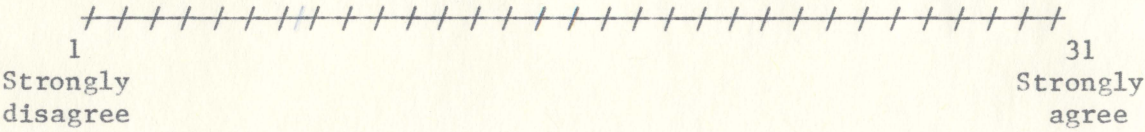


How confident are you of your opinion on this issue?

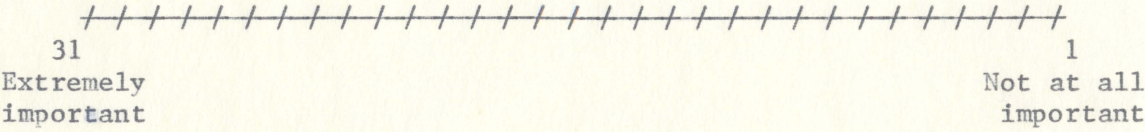




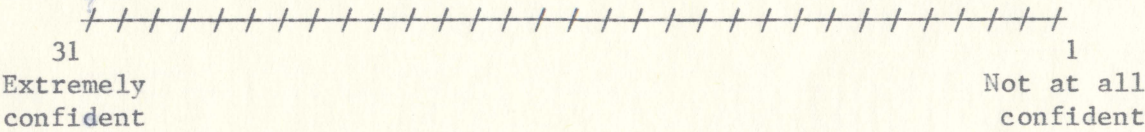
3. Canada should take a strong stand in favour of the extension of territorial waters to 200 miles.



How important is this issue to you?

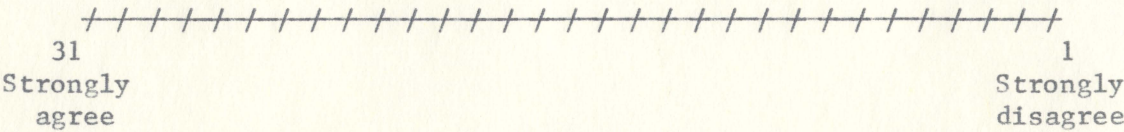


How confident are you of your opinion on this issue?

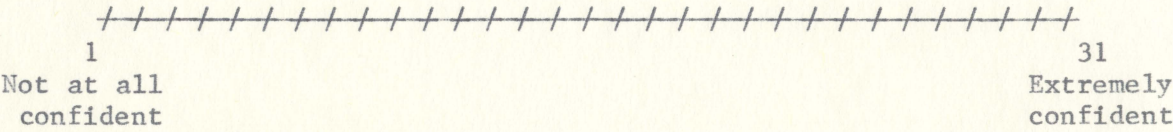




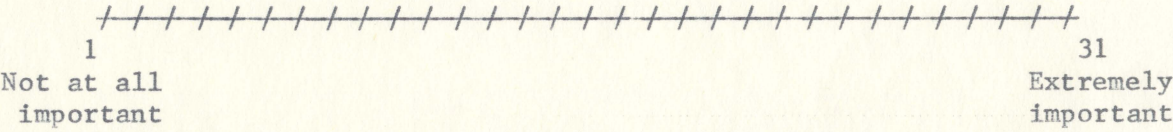
4. The recent provincial government increases in sales tax and provincial income tax should be reversed.



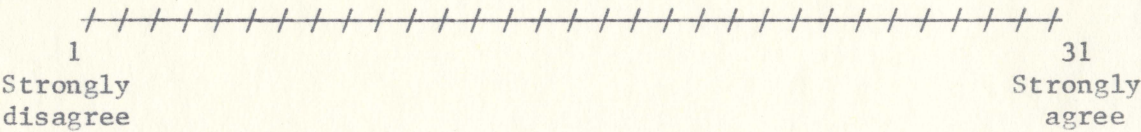
How confident are you of your opinion on this issue?



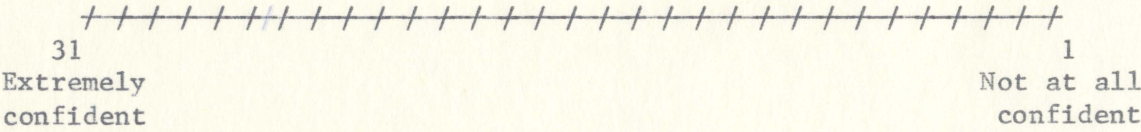
How important is this issue to you?



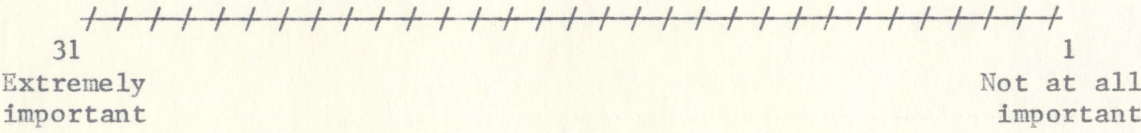
5. Positive action on the part of the federal government is desirable to stem growing foreign investment in Canada.



How confident are you of your opinion on this issue?

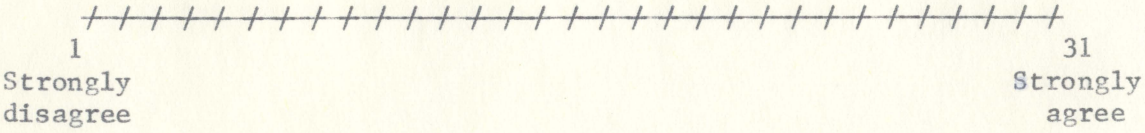


How important is this issue to you?

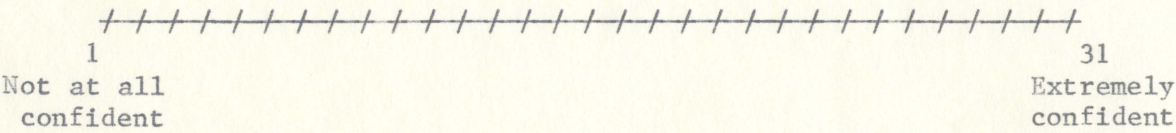




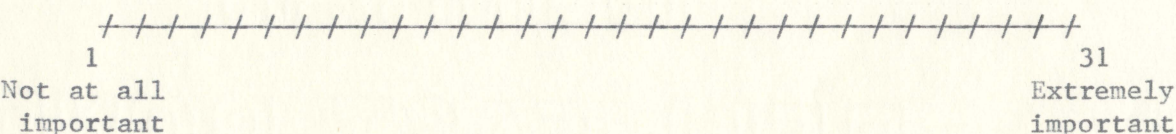
6. Off-shore mineral deposits should belong to the country as a whole, and not only to the province off whose shores they lie.



How confident are you of your opinion on this issue?

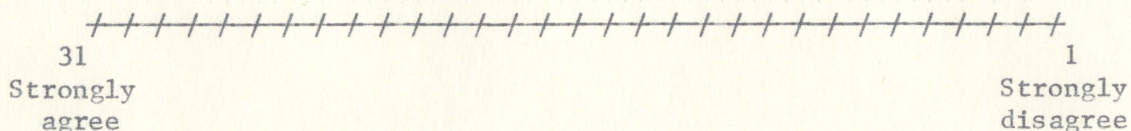


How important is this issue to you?

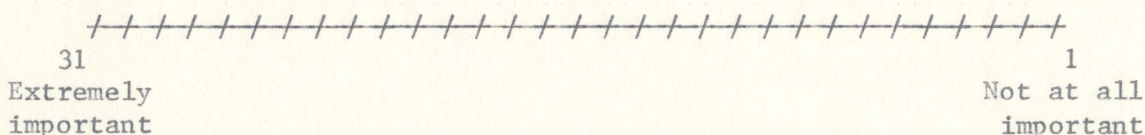




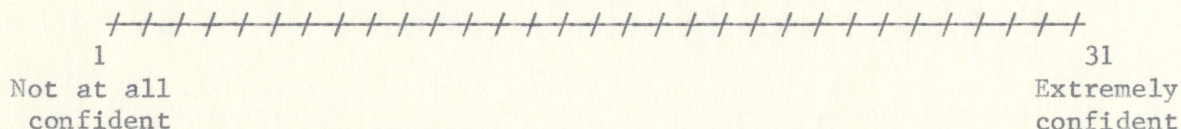
7. A guaranteed annual income should be implemented in Canada without delay.



How important is this issue to you?

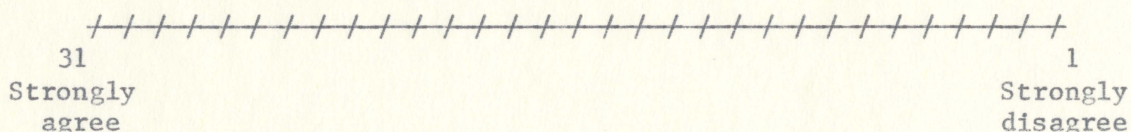


How confident are you of your opinion on this issue?

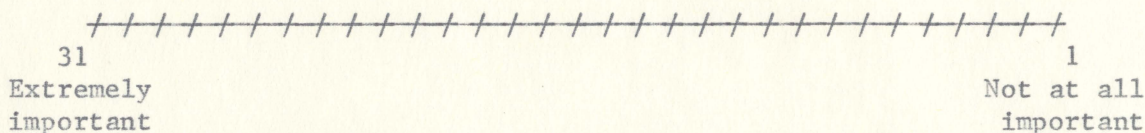


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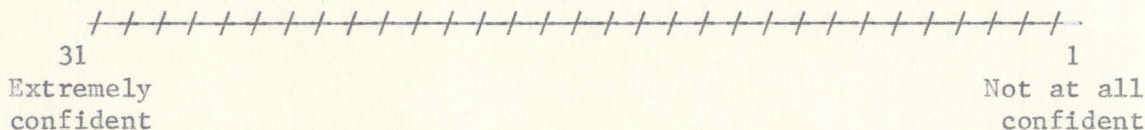
8. The introduction of the bilingualism programme for all Canada represents a backward step in terms of Canadian unity.



How important is this issue to you?

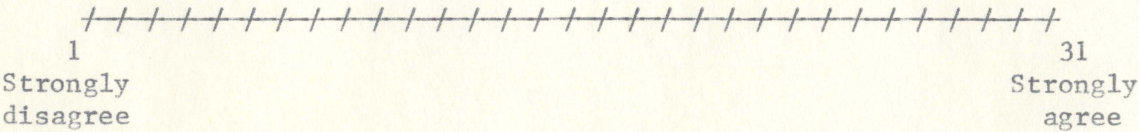


How confident are you of your opinion on this issue?

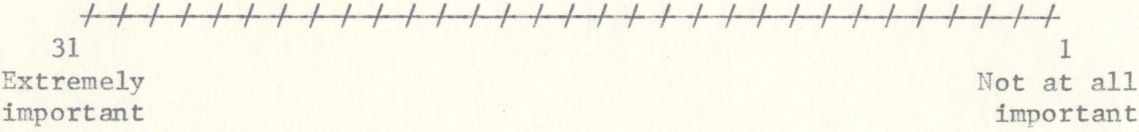




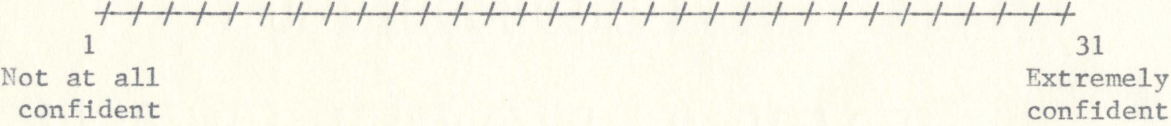
9. Canadian exports of energy should be curtailed to protect Canadian interests.



How important is this issue to you?

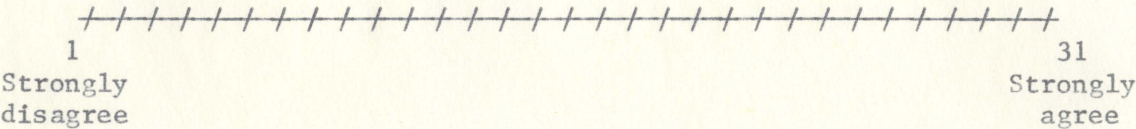


How confident are you of your opinion on this issue?

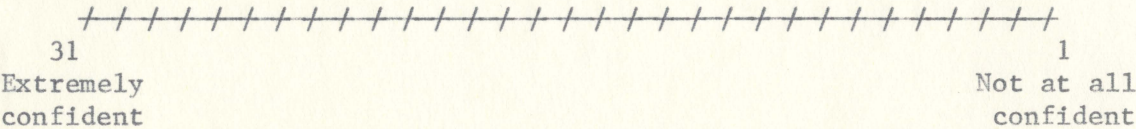




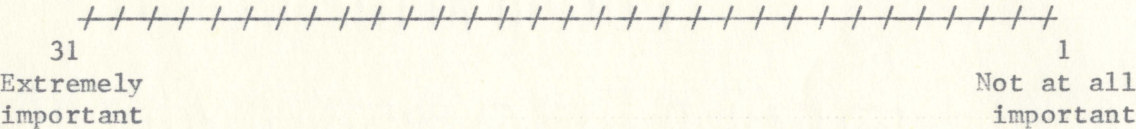
10. Canada should commit no further military forces for peace-keeping roles with the United Nations.



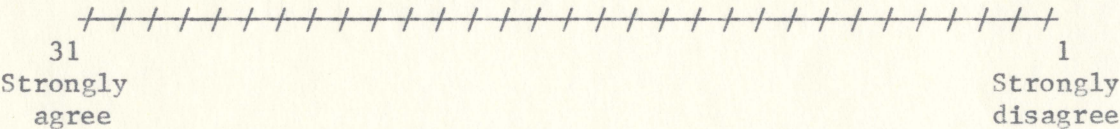
How confident are you of your opinion on this issue?



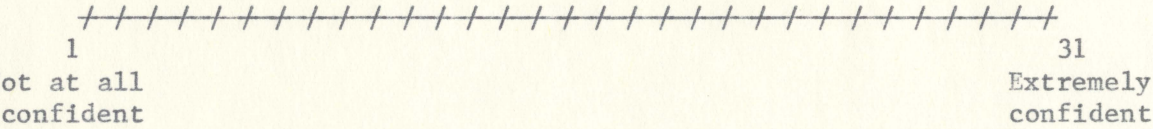
How important is this issue to you?



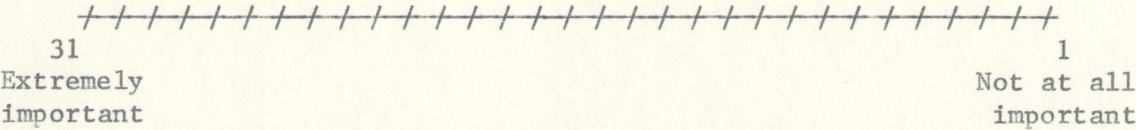
11. The right to ownership of Canadian land should be limited to Canadian citizens resident in Canada.



How confident are you of your opinion on this issue?

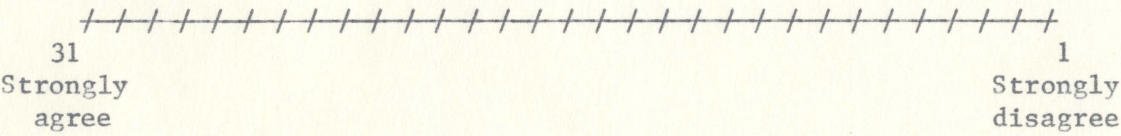


How important is this issue to you?

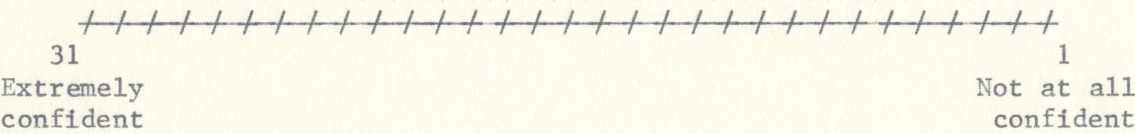




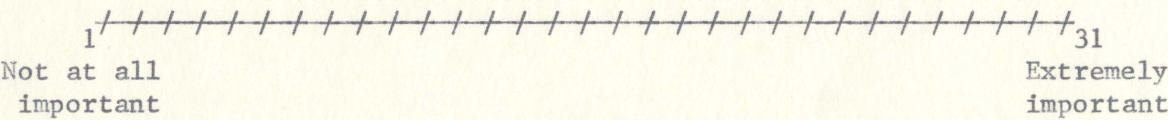
12. Government enforced price controls should be implemented to curb inflation.



How confident are you of your opinion on this issue?

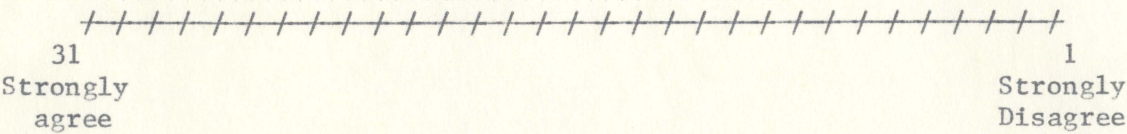


How important is this issue to you?

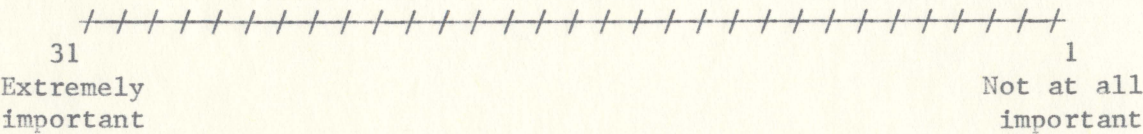




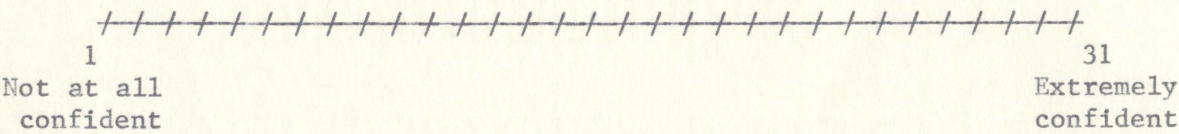
13. There is a definite need to protect the Canadian consumer from profiteering merchants and manufacturers.



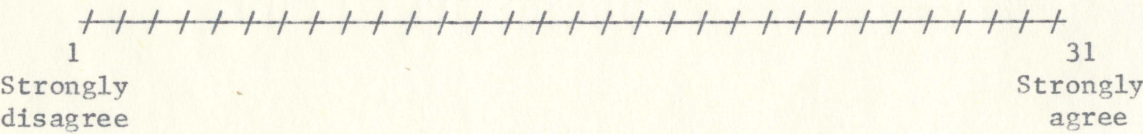
How important is this issue to you?



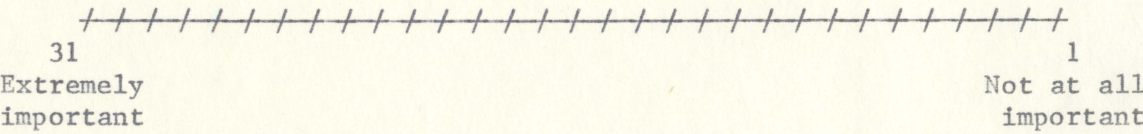
How confident are you of your opinion on this issue?



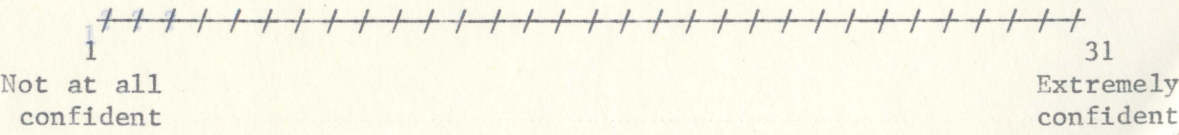
14. Canadian political campaigns should be funded by public money, and not from private money.



How important is this issue to you?

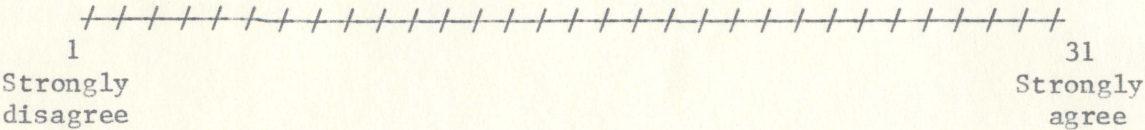


How confident are you of your opinion on this issue?

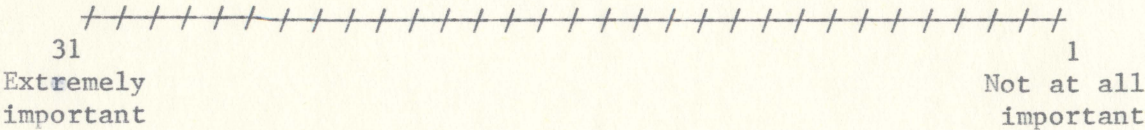




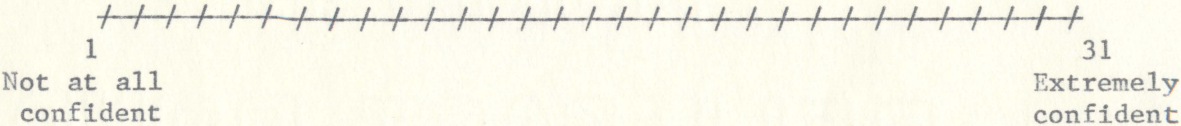
15. The unification of the Canadian Armed Forces can only have harmful effects on the morale of each component.



How important is this issue to you?



How confident are you of your opinion on this issue?





Appendix B.

Essay Topics



## ESSAY TOPICS

1. The unification of the Canadian Armed Forces can only have harmful effects on the morale of each component.
2. A guaranteed annual income should be implemented in Canada without delay.
3. The introduction of the bilingualism programme for all Canada represents a backward step in terms of Canadian unity.
4. Canadian exports of energy should be curtailed to protect Canadian interests.
5. Government enforced price controls should be implemented to curb inflation.



Appendix C

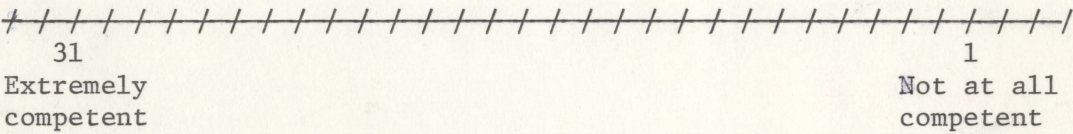
Post-experimental Manipulation Checks



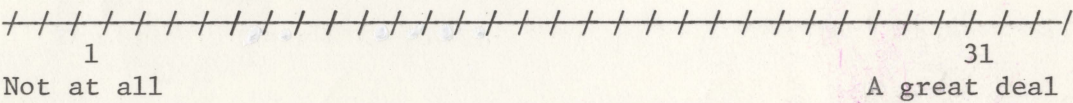
YOUR PERCEPTIONS OF THE OTHER PERSON WHO IS IN THE EXPERIMENT WITH YOU

Your name \_\_\_\_\_

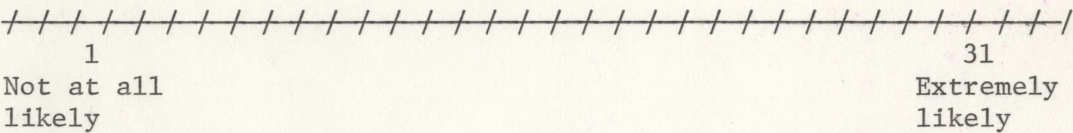
1. How competent do you feel the other person is on tasks such as you are doing?



2. How much do you like the other person?



3. How likely do you think it is that the other person affected your opinion?



4. How likely do you think it is that the other person will ask your opinion on later choices?

