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## The Relationship of Dogmatism and Internal-External Control to Psychological Reactance

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THE RELATIONSHIP OF DOGMATISM AND INTERNAL-EXTERNAL  
CONTROL TO PSYCHOLOGICAL REACTANCE

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A Thesis  
Presented to  
the Graduate Faculty  
Central Washington State College

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In Partial Fulfillment  
of the Requirements for the Degree  
Master of Science

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by  
Edward J. Schau  
August, 1971

APPROVED FOR THE GRADUATE FACULTY

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## ABSTRACT

One hundred ninety-two Introductory Psychology students volunteered for credit to complete the Rokeach Dogmatism Scale and the Rotter I/E Scale. The students were also asked to fill out a questionnaire, ostensibly from the administration, asking them to rate the favorability of the first five periods of the day on a scale of 1-100. Two weeks later 94 of the above students, serving as controls, were asked to fill out the identical questionnaire again. They were told that the previous ones had been lost. The 98 remaining students, serving as experimental Ss, received additional information. E said that he had heard that the second period might be eliminated for the faculty's benefit. The hypothesis that the experimentals would show more reactance than the controls to the threatened elimination of the second period was supported at the .01 level. It was also hypothesized that reactance scores would correlate significantly with feelings of internal control and with dogmatism scores among subjects who were anti-authority. The authority rating was measured by a four item administration scale. Neither of these hypotheses was supported. It was further hypothesized that reactance would be a function of the importance of the eliminated option and that reactance would be greater for the anti-authority groups than for the pro-authority group. These hypotheses were not supported.

## ACKNOWLEDGMENTS

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## CHAPTER I

### STATEMENT OF THE PROBLEM

The concept of freedom has been thoroughly discussed in philosophical literature. Freedom, understood as free will, remains a moot point for philosophers. There is less debate among psychologists. Free will advocates presume that a person controls his own behavior. Psychology, as a science, assumes that physical forces control human behavior. Psychologists, however, are primarily interested in freedom as an attitude having both cause and consequences. They can look at the psychological determinants leading one to believe he controls his own destiny and they can examine the psychological consequences of an increase or reduction in this feeling. Such an approach, maintaining a scientific model, excludes an interest in freedom as a kind of motivation without cause.

J. W. Brehm (1966), writing about psychological freedom (feeling free to pursue options) in his Theory of Psychological Reactance, states that:

The notion that people will be motivated to reestablish freedom when it is threatened or eliminated is probably not new but it has not been utilized in current experimental research in psychology (p. 12).

The earliest studies concerned at least implicitly with the experimental manipulation of man's feeling free involved

the blocking of goal attainment. The hypothesis has been offered (Dollard, Doob, Miller, Mowrer, & Sears, 1939) that aggression is always the consequence of frustration. This frustration may develop from the blocking of a previously obtainable goal, i.e., a loss of freedom. Social power has also been manipulated. French and Raven (1959) distinguished between "resisting forces" and "opposing forces" in man as factors which operate against coercive measures to obtain compliance. Similarly, Thibaut and Kelley (1959), in developing a theory of inter-personal relations and group functioning, discussed freedom reduction and ways of re-establishing freedom in terms of power and counterpower. Counterpower implies the reestablishment of one's freedom to act when that freedom has been threatened. Horwitz (1958) used the concepts "personal weight" and "weight reduction" in his explanation of the tension system resulting when a person's "weight" has been threatened with reduction.

Torrance and Mason (1958) studied the success of six different types of influence attempts to get U.S.A.F. aircrewmen to eat emergency ration meat bars. The results showed that compliance was differentially affected by the different types of influence. The Ss perceptions were obtained and the two least successful conditions were those in which there was the greatest perceived effort to influence. Mills and Aronson (1965) and Mills (1966) have shown

that under some conditions positive attitude change can be effected by a communicator's attempts to influence when the issues are of low importance to the subjects. However, a number of studies have shown that the perceived intent to influence results in reduced attitude change (Allyn & Festinger, 1961; Kiesler and Kiesler, 1964; Freedman & Sears, 1965).

The above studies do not employ the concept of freedom but each of them implies its use if freedom is understood in terms of man's feeling free to pursue options. More recently, studies have dealt with the concept of freedom more explicitly and indicate that psychological freedom may be an important determiner of behavior. DeCharms and Bridgeman (1961) have demonstrated a performance difference between two groups when one group perceived its actions as self-initiated and the other group felt coerced. When group members felt that they had some freedom to control the situation, i.e., they could be the origin of suggestions about how the group and the leader proceeded, their feeling toward the leader and willingness to work for him were much more positive than if they felt that they have no say in the procedure. Rotter (1966) developed an internal/external (I/E) scale with validity data indicating behavioral differences between those who feel they can control their own destiny and those who do not. These differences are described later.

Brehm (1966), dealing with freedom in a direct way, conducted a series of studies involving the reactance of people to reduction of their freedom. These studies formed the basis for his "theory of psychological reactance." The theory is summarized by Brehm in the following manner:

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 reestablishment of whatever freedom has already been lost or threatened (p. 8).

Suppose, for example, that a boy of ten years is not sure of what he would like to do on a weekend: go on an overnight with his friend's family or stay in town and go to the Saturday baseball game with his own family. He asks his parents about going on the overnight and they say he has to stay with the family for the game Saturday. Brehm would say that the boy's freedom is threatened with reduction. He cannot go on the overnight and he must go to the game. The boy will be motivationally aroused to reestablish his threatened freedom. We would expect the boy to protest that he was looking forward to the overnight all week, he was going to miss out on a lot of fun, that his parents aren't fair, and that he really didn't care about the game anyway. If the amount of reactance was great enough we might expect the boy to attempt strongly to persuade his parents to let him go on the overnight.

Reactance theory has a wide range of potential application. Suppose, for example, that a therapist listens to a patient for a period of time and comes to an understanding of the problem. On the basis of his logic, he then recommends to the patient what he considers to be the most productive alternative to the problem. The theory would suggest that the patient will protest such advice if he perceives it as a threat to his freedom to do as he pleases.

Brehm talked about four different kinds of freedom elimination. These would include impersonal elimination of freedom, personal elimination of freedom, impersonal threat to freedom and personal threat to freedom. As an example of impersonal elimination of freedom Brehm provides data from a study by Brehm, Stives, Sensenig, and Shaban (1966). They showed that when the third most attractive of four records serving as choice alternatives was impersonally eliminated (i.e., the elimination was not viewed by the subject as the fault of the experimenter or himself), it tended to become more attractive.

There is evidence that even lower organisms react against threats to their freedom. A study by Kavanau (1967) suggests that motor driven running is rewarding for mice only when it is initiated voluntarily. If the experimenter starts the wheel rotating, and the mice are able to stop it, they do so within seconds. However, when left to their own,

the mice will voluntarily rotate the wheel for long periods of time. More generally, mice seem to value choice situations over ones that are coercive (Voss & Homzie, 1970). When mice in experimental enclosures were disturbed during the day, they often left the nest. Sometimes they reentered almost immediately; other times they waited until the disturbance was over. But if they were placed back in the nest by hand, they left it again almost immediately. They persisted in leaving every time they were put back. A situation which is rewarding when carried out voluntarily may be avoided when initiated by force.

Further work has been done on freedom manipulation that lends support to Brehm's thesis. The effects of incentive magnitude on attitude change are either direct or inverse depending on the presence or absence of freedom not to comply (Linder, Cooper, & Jones, 1967). Individuals receiving a favor reciprocated significantly less than those who had not received a favor (Schopler & Thompson, 1968). They suggested that the critical feature determining reciprocation is the recipient's attributions regarding the donor's motives. Subjects indicated a form of psychological reactance by not revealing personal information about themselves when influences toward conformity were perceived as limiting subject choice behavior (Tognoli, 1969). Psychological reactance is expressed overtly as refusal when pressure in an appeal seems illegitimate (Schwartz, 1970).

Brehm himself has been involved in follow-up studies. When a person's freedom to support a position on an attitude issue is seemingly eliminated because his attitude has no effect on the outcome he consequently tends to change his attitude in such a way as to restore the lost freedom by moving away from the position forced on him (Sensenig & Brehm, 1968). When an audience has no initial opposition to the position of a communication, the persuasiveness of a one-sided communication would be reduced more than that of a two-sided communication when the audience was made aware that there were two plausible sides to the issue (Jones & Brehm, 1970).

Findings indicate that when a decision has been made by an individual there is sometimes an increase in the individual's desire to select the rejected alternative and to reject the selected alternative (Brehm & Wicklund, 1970). This phenomenon has been called regret. Festinger (1964) said that regret preceded dissonance reduction. In a study (Wicklund, 1970) designed specifically to discriminate between cognitive dissonance and psychological reactance theory, the prediction from reactance theory was supported while prediction from dissonance was not.

The purpose of the study was to examine the attitude of freedom when it is threatened. There were two problems. The first was to test for reactance in a manner similar to

Brehm's experiments. Brehm (1966) has written that all persons will experience reactance when their freedom is reduced. The magnitude of reactance is a direct function of:

- 1) the importance of the free behaviors which are eliminated or threatened;
- 2) the proportion of the free behaviors eliminated or threatened;
- 3) the magnitude of the threat where there is only a threat of elimination of free behaviors.

Both Festinger (1957) and Brehm and Cohen (1962) have emphasized the need for research on personality variables associated with the avoidance of cognitive inconsistency. A similar need exists with reactance and the second problem is to determine if there are individual personality differences that might be associated with this variable. For the present research two tests were used: Rotter's Internal-External Scale (I/E) and Rokeach's Dogmatism Scale. According to Rotter (1966):

A series of studies provides strong support for the hypothesis that the individual who has a strong belief that he can control his own destiny is likely to (a) be more alert to those aspects of the environment which provide useful information for his future behavior; (b) take steps to improve his environmental condition; (c) place greater value on skill or achievement reinforcements and be generally more concerned with his ability, particularly his failure; and (d) be resistive to subtle attempts to influence him (p. 25).



It is hypothesized from this that there should be a significant correlation between the amount of reactance and the strength of feelings of internal control.

Rokeach (1960) has distinguished between open and closed belief systems. Persons rating highly on his Dogmatism Scale (closed mind) tend to view the world as threatening. In anxiety arousing situations they will be motivated to act so that the threat causing the anxiety is reduced and the anxiety allayed. Such reactance appears similar to the dynamics of psychological reactance.

Brehm indicated that "all" persons will react when their behavioral freedom is threatened. According to Rokeach (1960) the effort to eliminate threat will vary as a function of the way a person views the authority that is threatening (i.e., a highly regarded authority would likely not be a threat at all). The dogmatic person relies heavily on authority. He will submit to the influence of an authority as a function of the difference between his own views and that of the authority. On this basis it is hypothesized that the magnitude of reactance will be greater for a group that has negative feelings toward an authority responsible for a reduction in freedom than for a group who views authority favorably. Additionally, the reactance scores of a group that has negative feelings toward an authority will be positively correlated with dogmatism scores. No hypothesis was made

about a correlation involving reactance scores for the group that has positive feelings toward the authority. It may be inferred from Brehm that they will react. However, under Rokeach's theory there will be much less threat for this group.

For this study an experimental group was established whose individuals were threatened with the elimination of freedom. A control group was set up whose freedom was not threatened. Five hypotheses were tested:

1) The experimental group will show more reactance than the control group.

2) The magnitude of reactance will be a function of the initial rating of the eliminated option so that the more highly regarded the option is, the greater will be the reactance when the option is eliminated.

3) When the groups with negative and positive feelings toward the authority are compared, the reactance of the group that has negative feelings will be greater.

4) A significant correlation will be obtained between the reactance scores of the group that has negative feelings toward the authority and the dogmatism scores.

5) There will be a significant correlation between reactance and feelings of internal control.

## CHAPTER II

### METHOD

#### Subjects

The Ss were 192 volunteers from nine sections of an introductory psychology course who received credit toward their quarter grade. There were 98 experimental Ss and 94 controls. The sample size was equalized by randomly eliminating four Ss from the experimental group. This was done to simplify the analysis of variance.

#### General Procedure

Each section of the introductory psychology course was divided into four discussion groups. Students had been randomly assigned by the professor to the different groups at the beginning of the quarter. Two of the four groups in each section were randomly selected to serve as experimental groups (i.e., freedom would be threatened). The remaining two groups within each section served as controls. A questionnaire was administered to all groups on the same day. The questionnaire was ostensibly from the college administration. It asked the student to rate each of the first five class periods of the day on a scale of 1-100 based on how much they liked each period. The more they liked a particular period, the higher they were asked to rate it.

Two weeks later each of the groups was told that the previous questionnaires were lost and they were again asked to fill out identical questionnaires. The students were told that the administration needed the questionnaires right away for decision purposes. Within the experimental groups, just prior to handing out the questionnaires, E, as a means of threatening elimination of the second period, asked in a casual manner if anyone else had heard the rumor about the second period being eliminated so that the faculty could hold meetings at that time. Precise verbal instructions for both groups are contained in Appendix A. The different instruction for the experimental and control groups constituted the independent variable in this study. The second period was eliminated because a pilot study showed that it was neither the least nor the most-favored of the five periods. The period eliminated should have some significance to Ss so that reactance might accrue from its elimination, but not so highly favored that it would create frustration by its elimination.

The control groups were simply given the questionnaires and asked to fill them out. Through the administration of the questionnaires to the control group, a means was provided of checking the purity of reactance. If reactance was significant in the control groups, then it might be inferred that the experimental groups were reacting to having to fill out

the questionnaires twice as well as to the elimination of freedom.

The experimental groups and the control groups were administered to Rokeach Dogmatism Scale and asked to score it on an "agree-disagree" basis as suggested by Shupe and Wolfer (1966). They were also given the Rotter I/E Scale. Attached to the scale were four items designed to discriminate the subjects on the basis of whether they viewed the administration with positive or negative feelings, *i. e.*, whether they were pro-authority or anti-authority. The items of the administration scale are contained in Appendix B. The three scales were administered just prior to the first questionnaire. The subjects were informed that the scales were for a study and that the experimenter had been asked by the administration to hand out the questionnaire along with the scales for convenience since he was going to meet with all the introductory psychology sections. Immediately after all experimental and control Ss within a section had completed the second questionnaire, the experimenter informed them of the true nature and purpose of the study.

## CHAPTER III

### RESULTS

Because the actual differences between the first and second ratings of the second period for the experimental Ss correlated  $-.58$  with initial scores, the percentage of possible increase or decrease in scores, which correlated  $.00$  with initial scores, was used as a better measure of reactance uncontaminated by initial ratings. This measure of reactance constituted the dependent variable for the following analyses.

Table 1 shows a summary of the split-plot analysis of variance which tested for differences in ratings of the threatened period between the first and second administration of the questionnaires, the differences between experimental and control groups, and the interaction. The overall difference between the experimental and control group was significant ( $p < .05$ ), and there was a significant increase in scores on the second administration of the questionnaire for both groups combined ( $p < .01$ ). More importantly, as a test of reactance the interaction between the two administrations of the questionnaire and the two groups was significant ( $p < .02$ ). Figure 1 shows these differences graphically. The two groups gave the same rating on the

first administration of the questionnaire but the experimental group gave significantly higher ratings on the second administration ( $p < .01$ ).

TABLE 1

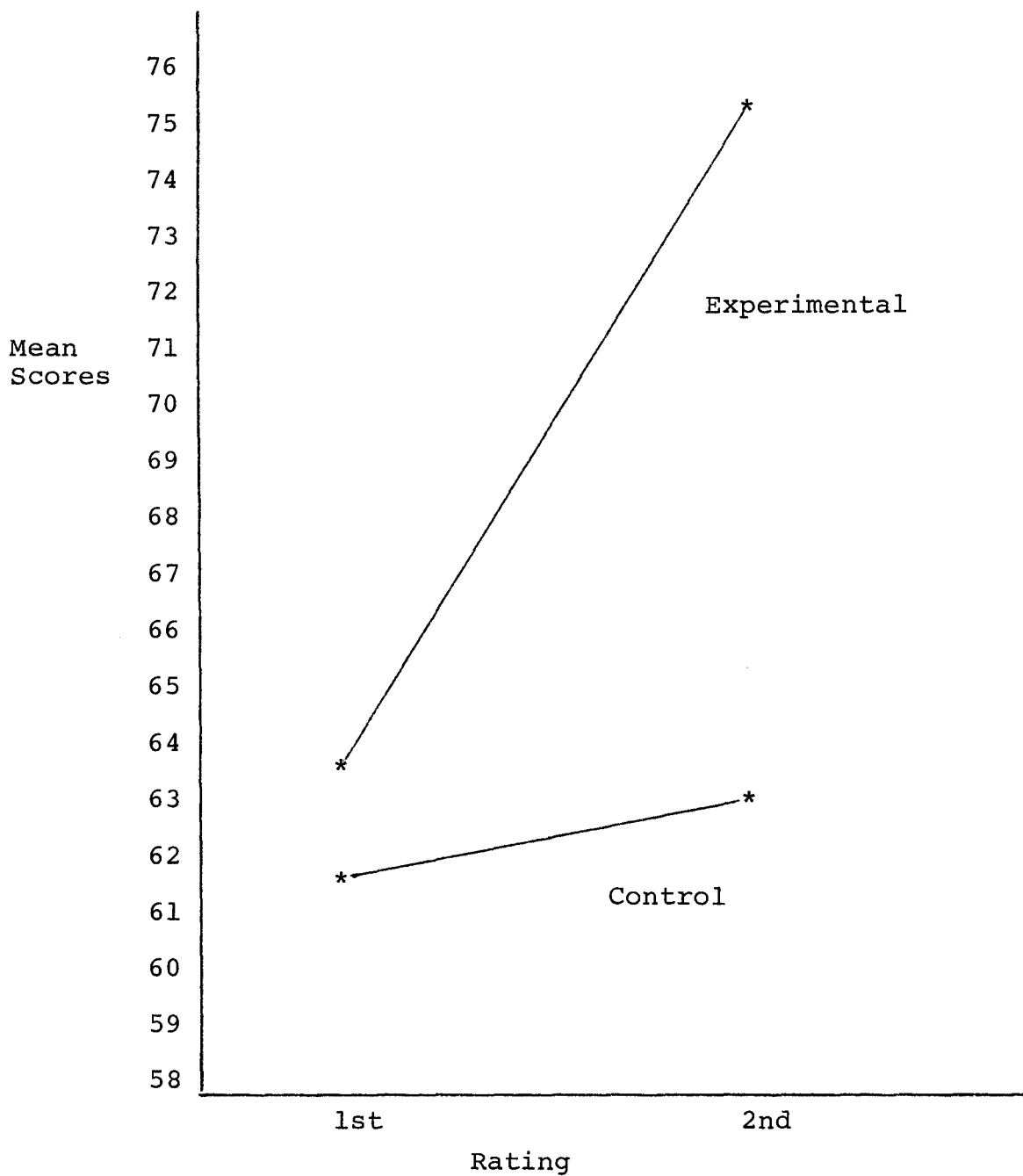
Analysis of Variance Summary Table Comparing Experimental and Control Groups on First and Second Ratings of Threatened Period

Source	df	MS	F
Between <u>Ss</u>	187	1059.34	
Experimental vs. Control groups (A)	1	4337.05	4.16*
<u>Ss</u> w. groups	186	1041.72	
Within <u>Ss</u>	188		
1st vs. 2nd ratings (B)	1	3687.39	10.78**
AB	1	2246.16	6.57*
B x <u>Ss</u> w. group	186	341.67	
Total	375		
A at $b_1$ (1st rating)	1	170.42	1.00
A at $b_2$ (2nd rating)	1	6412.79	9.27**
Within cell	372	691.69	

Note.- \* =  $p < .05$   
 \*\* =  $p < .01$

FIGURE 1

Mean Scores for Experimental and Control Groups for the First and Second Ratings





Reactance was not found to be a function of the eliminated option. As indicated above, a significant positive correlation between initial ratings and reactance was not found. Furthermore, no significant difference was found between the reactance scores of groups differentiated on the basis of rank order of importance of the threatened period among the other four rated periods on the first questionnaire ( $F = .73$ ,  $df = 3/77$ ). The experimental group was subdivided into four groups on the basis of the ratings toward the administration and analysis of variance of the reactance scores of the four groups was computed. No significant differences among the sub-groups was found ( $F = .61$ ,  $df = 3/97$ ).

Table 2 shows the correlations between all possible pairs of administration scores, initial ratings of the threatened period, dogmatism scores, and I/E scores for both experimental and control groups. For the experimental group reactance scores are also included. High scores on the Dogmatism Scale indicate higher dogmatism and higher scores on the I/E Scale indicate scores in the direction of feeling of external control. An examination of Table 2 shows three unexpected by statistically significant correlations. These are difficult to interpret since the control group which at this point differs only randomly from the experimental

group, failed to show significant correlations between these variables. The insignificant correlations between reactance scores and other variables fails to support the hypotheses that reactance would be associated with I/E and Dogmatism scores. In addition there is no evidence that reactance is associated with the attitude toward the administration.

TABLE 2

Intercorrelations of Measures for Experimental  
and Control Groups

		Experimental Group				
		A	I/E	D	IR	R
Control Group	A		.39*	.18	-.28*	.02
	I/E	.03		.12	-.33*	-.09
	D	.10	.00		.01	-.14
	IR	.00	.06	-.11		-.01

Note.- A = Administration score; I/E = Rotter I/E Scale; D = Rokeach Dogmatism Scale; IR = Initial rating of threatened period; R = Reactance as measured by the possible percentage of increase or decrease in the second rating of the threatened period.

\* =  $p < .05$

Table 3 shows the correlations between reactance and dogmatism scores among the five different levels of administration ratings. None of the correlations is significant

and if an anti authority group consisting of those scoring either 2, 3, or 4 on the administration scale is formed a correlation of this group's reactance and dogmatism scores is not significant ( $\underline{r} = -.15$ ,  $\underline{df} = 42$ ).

None of the obtained correlations among the control group was significant.

TABLE 3

Correlations Between Dogmatism and Reactance Scores  
by Administration Ratings

0	1	2	3	4
-.17	-.15	-.19	+.18	-.27

## CHAPTER IV

### DISCUSSION

The results of this study lend support to Brehm's theory of psychological reactance. The function of reactance is to protect the individual's freedom to do whatever he wants. Under conditions of threat of elimination of the second period, the experimental Ss reacted by increasing their rating of the second period. Criticism may be leveled at the present study that the obtained reactance may be merely a function of the fact that the threatened period was brought to the attention of the experimental group and not the control group. In a future similar study it is recommended that the threatened period be somehow brought to the attention of the control group in a condition of non-threat. Psychological reactance is a concept whose further support may prove a powerful tool for the analysis of behavior. Further work with reactance may reveal that freedom too is a relevant concept for psychology. This study has manipulated the freedom of students and from the subsequent reactance, tempered by the above criticism, found freedom to be an important determinant of behavior.

Reactance was not found to be a function of either the importance of the eliminated option or of authority ratings. It was, in this study, impossible to establish reactance as

a function of the importance of the eliminated option when correlating reactance with initial scores as long as the percentage of possible increase or decrease in scores was used as a measure of reactance. This measure of reactance was chosen precisely because it didn't correlate with initial scores. Score differences between first and second ratings correlate  $-.58$  with initial scores. If this measure of reactance is used, the results obtained are in the direction opposite of that predicted. However, it might be said that the lack of significance may be an artifact of the scoring procedure used. One scoring initially low, i.e., 30, obviously has a greater potential for reactance than one scoring 80 or 90. It was thus necessary to test for differences between the reactance scores of groups differentiated on the basis of the rank order of importance of the second period among the other four rated periods on the first questionnaire. Significant results were not obtained but 21 reactance scores had to be thrown out because of ties. It seems that all three methods of analysis were unsatisfactory and, as indicated with the second method, the problem may be an artifact of the scoring procedure used.

The possibility persists that the correlations between administration scores and initial scores worked to reduce reactance where it was expected. Because of the tendency among experimental Ss for the anti-authority group to score

in a low range of initial scores and the pro-authority group to score in a high range, conclusions drawn about the lack of significance in the second and third hypotheses above are made more tenuous. For example, it might be said that the reactance of the pro-authority group was inflated because of the association between high initial ratings and pro-authority scores. However, even though there is a significant relationship between anti-authority scores and low initial rating scores, the relationship is not large.

For further study it would be helpful to match Ss on the factors of period significance and administration rating. Thus we might compare the reactance of a pro-authority, low importance group to an anti-authority, high importance group. This was not possible to do with the data from this study because of the twenty-four Ss with the highest initial ratings of the second period, none scored either a three or a four on the administration scale. To further facilitate matching, it is believed necessary to devise an administration scale that better differentiates Ss into authority groups so pro- and anti-authority groups would be approximately equal.

Neither dogmatism nor feelings of internal control was found to correlate significantly with reactance. Brehm (1966) wrote that "a person will experience psychological reactance if his freedom is eliminated or threatened with elimination"

(p. 15). He implies that all persons will experience such reactance. It may be necessary to amend this implication to say that psychological reactance is a personality variable that may prove strong in many different sorts of personality types. Just which personality variables correlate with reactance is left to future study.

## CHAPTER V

### SUMMARY

Introductory psychology students volunteered for credit to complete the Rokeach Dogmatism Scale and the Rotter I/E Scale. The students were also asked to fill out a questionnaire, ostensibly from the administration, asking them to rate the favorability of the first five class periods of the day on a scale of 1-100. Two weeks later 94 of the above students, serving as controls, were asked to fill out the identical questionnaire again. They were told that the previous ones had been lost. The 98 remaining students, serving as experimental Ss, received additional information. E said that he had heard that the second period might be eliminated for the faculty's benefit. The difference in information for experimentals and controls constituted the independent variable. The percentage of possible increase or decrease in the rating of the second period was used as a measure of reactance. This measure of reactance constituted the dependent variable of this study. The hypothesis that the experimentals would show more reactance than the controls to the threatened elimination of the second period was supported ( $p < .01$ ). The hypothesis that reactance scores would correlate significantly with feelings of internal control and with dogmatism scores among subjects who



were anti-authority was not supported. The authority rating as measured by a four item scale also failed to correlate with reactance. It was further hypothesized that reactance would be a function of the importance of the eliminated option and that reactance would be greater for the anti-authority groups than for the pro-authority group. These hypotheses were not supported.

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APPENDIX A

## APPENDIX A

Verbal Instructions for Experimental and Control Groups  
Prior to the Second Rating

Control Group: "Excuse me for a moment. You remember that I was here a couple of weeks ago and asked you to rate the first five periods of the day. Well, the administration needs them right away and they lost the ratings made by the General Psychology sections. They need as many ratings as possible so would you please rate them again. Thank you."

Experimental Group: The above plus: "I don't know exactly what this is all about. The only reason I can see for them wanting to know how much you like the periods is that the administration is thinking about eliminating the second period. Has anyone else heard that rumor? I heard that the administration wants to eliminate the second period so that the faculty will have the second period open for themselves so that they can have their faculty meetings and committee meetings and so forth."

APPENDIX B

## APPENDIX B

## Administration Scale

1. The people who run the school here don't really care about what happens to me.
2. I don't respect the administration here because of what it stands for.
3. It doesn't seem to me that the administration is very tolerant of student opinion.
4. It doesn't seem to me that the people who run the school here can be trusted in everything.

Note: The above is responded to on an "agree-disagree" basis.



APPENDIX C

## APPENDIX C

Complete Raw Score Data for All Individuals by  
Class Periods--First Period

Controls	D	A	I/E	IR	SR	R
1.	17	1	15	75	60	-.2
2.	11	0	9	30	40	.14
3.	5	0	7	85	100	1.00
4.	11	2	12	60	65	.13
5.	10	1	8	60	70	.25
6.	12	2	12	50	85	.70
7.	15	0	12	90	90	0
8.	25	0	11	50	70	.40
Experimentals						
9.	22	3	16	70	90	.66
10.	15	0	8	50	70	.40
11.	15	2	7	75	25	-.66
12.	9	1	9	80	100	1.00
13.	19	1	12	90	70	-.22
14.	13	1	13	50	50	0
15.	14	4	19	45	15	-.66

Complete Raw Score Data for All Individuals  
in the Second Period

Controls	D	A	I/E	IR	SR	R
16.	18	0	13	50	50	0
17.	21	2	10	40	40	0
18.	9	1	13	75	100	1.00
19.	16	3	11	5	50	.47
20.	8	1	14	25	50	.33
21.	9	1	10	90	100	1.00
22.	15	3	16	80	90	.50
23.	11	0	10	90	75	-.17
24.	24	4	9	90	90	0
<b>Experimentals</b>						
25.	21	1	11	20	40	.25
26.	21	2	11	90	40	-.55
27.	12	0	12	85	85	0
28.	12	4	17	15	40	.29
29.	16	2	5	75	75	0
30.	19	1	14	70	90	.66
31.	11	0	9	80	90	.50
32.	16	0	8	90	80	-.11
33.	11	1	7	50	100	1.00
34.	13	0	9	90	90	0
35.	11	1	15	35	100	1.00
36.	17	2	17	90	80	-.11

Complete Raw Score Data for All Individuals  
in the Third Period

Controls	D	A	I/E	IR	SR	R
37.	16	1	11	95	80	-.16
38.	8	1	11	50	100	1.00
39.	13	0	11	90	95	.50
40.	20	2	14	95	95	0
41.	10	2	9	40	60	.33
42.	14	1	90	70	75	.17
43.	23	1	13	40	20	-.50
44.	22	0	10	50	10	-.80
45.	13	1	13	80	80	0
46.	7	3	14	75	70	-.07
47.	13	2	6	25	60	.47
48.	9	1	8	20	10	-.50
Experimental						
49.	13	2	11	90	100	1.00
50.	10	1	13	80	80	0
51.	13	2	7	90	100	1.00
52.	13	4	9	77	60	-.22
53.	14	0	5	90	100	1.00
54.	11	1	4	80	100	1.00

Complete Raw Score Data for All Individuals  
in the Fourth Period

Controls	D	A	I/E	IR	SR	R
55.	14	1	11	50	25	-.50
56.	13	1	10	25	25	0
57.	11	1	10	75	50	-.33
58.	16	0	15	50	40	-.20
59.	19	2	9	20	75	.69
60.	11	1	16	70	80	.33
61.	12	2	5	50	15	-.70
62.	18	1	15	80	25	-.69
63.	24	1	7	70	50	-.29
64.	11	3	11	90	90	0
65.	9	3	16	80	40	-.50
66.	8	0	6	75	100	1.00
67.	18	1		75	75	0
68.			14	90	90	0
Experimentals						
69.	17	2	15	75	75	0
70.	15	1	12	75	60	-.20
71.	16	1	5	95	100	1.00
72.	20	0	9	75	50	-.33
73.	19	1	9	75	75	0
74.	15	1	15	99	99	0
75.	17	0	3	80	95	.75
76.	10	0	7	90	100	1.00
77.	20	1	2	75	100	1.00
78.	17	3	7	35	100	1.00
79.	17	3	18	80	75	-.06
80.	6	1	6	80	80	0

Complete Raw Score Data for All Individuals  
in the Fifth Period

Controls	D	A	I/E	IR	SR	R
81.	17	1	14	95	95	0
82.	10	3	15	95	80	-.16
83.	19	4	13	40	40	0
84.	12	0	7	40	30	-.25
85.	10	0	12	65	50	-.23
86.	11	1	10	20	60	.50
87.	18	1	11	75	90	.60
88.	16	1	8	80	90	.50
89.	14	1	10	30	30	0
90.	17	0	5	20	70	.63
91.	8	2	8	80	80	0
92.	16	0	6	25	55	.43
93.	21	1	11	75	35	-.53
94.	13	3	13	20	10	-.50
Experimentals						
95.	11	1	8	70	90	.66
96.	14	3	13	80	100	1.00
97.	10	2	7	80	100	1.00
98.	7	1	6	95	95	0
99.	13	1	8	75	100	1.00
100.	11	1	11	80	100	1.00
101.	8	0	16	60	80	.50
102.	19	4	21	70	90	.66
103.	8	0	11	80	80	0
104.	14	1	13	95	85	-.11
105.	5	2	2	75	75	0
106.	12	4	12	50	80	.60
107.	13	0	10	90	99	.90

Complete Raw Score Data for All Individuals  
in the Sixth Period

Controls	D	A	I/E	IR	SR	R
107.	14	1	9	25	40	.20
108.	14	1	11	30	30	0
109.	7	0	15	80	90	.50
110.	12	0	4	85	95	.66
111.	19	0	12	35	30	-.14
112.	24	2	14	50	80	.60
113.	13	0	19	40	30	-.25
114.	8	0	2	80	95	.75
Experimentals						
115.	18	3	20	5	20	.16
116.	11	3	11	20	10	-.5
117.	4	0	2	50	25	-.5
118.	24	2	20	50	100	1.00
119.	9	2	21	50	10	-.80
120.	15	2	21	85	85	0
121.	20	0	5	75	50	-.33
122.	24	2	12	85	90	.33
123.	8	0	7	95	90	-.05

Complete Raw Score Data for All Individuals  
in the Seventh Period

Controls	D	A	I/E	IR	SR	R
123.	18	2	3	60	75	.38
124.	20	0	10	70	60	-.14
125.	19	4	8	50	60	.20
126.	8	0	12	95	94	-.01
127.	4	0	20	50	20	-.60
128.	6	1	14	95	30	-.68
129.	13	0	20	2	2	0
130.	7	1	2	70	70	0
131.	13	1	14	10	50	.44
132.	20	2	14	50	50	0
Experimentals						
133.	11	2	13	75	100	1.00
134.	9	1	9	10	50	.44
135.	6	0	8	90	100	1.00
136.	18	0	10	25	15	-.40
137.	17	3	14	25	25	0
138.	16	1	10	80	85	.25
139.	11	1	10	10	100	.90
140.	13	1	15	40	90	.83
141.	12	1	5	40	100	1.00
142.	16	0	8	50	100	1.00
143.	11	0	8	50	100	1.00
144.	10	3	16	37	100	1.00
145.	21	3	15	30	100	1.00



Complete Raw Score Data for All Individuals  
in the Eighth Period

Controls	D	A	I/E	IR	SR	R
146.	14	2	8	80	75	-.06
147.	8	2	12	75	50	-.33
148.	16	1	14	80	100	1.00
149.	20	1	8	35	50	.23
150.	21	0	17	90	80	-.11
151.	18	0	12	90	70	-.22
152.	11	2	6	70	30	-.57
153.	17	0	12	50	50	0
154.	12	0	15	90	45	-.50
155.	19	3	14	70	75	.17
156.	10	2	15	90	95	.50
157.	24	1	6	90	100	1.00
Experimentals						
158.	10	2	14	40	40	0
159.	15	0	11	50	25	-.50
160.	8	1	15	85	80	-.06
161.	17	1	17	50	80	.60
162.	15	1	13	50	70	.40
163.	12	2	17	80	80	0
164.	13	2	9	80	100	1.00
165.	25	2	13	80	50	-.36
166.	9	1	12	21	100	1.00
167.	12	3	13	70	50	-.29
168.	23	2	10	30	10	-.66
169.	8	2	19	20	25	.06
170.	26	1	14	75	50	-.33
171.	12	0	11	90	70	-.22

Complete Raw Score Data for All Individuals  
in the Ninth Period

Controls	D	A	I/E	IR	SR	R
171.	14	1	3	80	40	-.50
172.	18	1	13	85	85	0
173.	15	0	7	50	50	0
174.	15	1	17	90	100	1.00
175.	18	1	15	30	80	.71
176.	13	1	10	60	90	.75
177.	13	1	16	80	85	.25
Experimentals						
178.	11	0	13	90	50	-.44
179.	11	2	7	5	60	.58
180.	18	2	13	60	80	.50
181.	8	2	15	90	100	1.00
182.	26	0	12	25	25	0
183.	21	3	10	75	75	0
184.	14	4	19	30	71	.59
185.	18	2	18	50	100	1.00
186.	13	1	7	11	4	-.64
187.	15	4	15	2	70	.69
188.	9	1	6	50	30	-.40
189.	13	2		90	100	1.00

Note.-The following is a list of abbreviations used in this table: D = Dogmatism scores; A = Administration scores; I/E = Internal/External Scale scores; IR = Initial rating of the second period; SR = Second rating of threatened period; and R = Reactance as measured by the possible percentage of increase or decrease in the second rating of the threatened period.