

ATTITUDE CHANGE AND VALUES

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WILLIAM JENNINGS BROWN JR.  
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ATTITUDE CHANGE AND VALUES

By

WILLIAM JENNINGS BROWN JR.

AN ABSTRACT OF A THESIS

Submitted to  
Michigan State University  
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MASTER OF ARTS

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## ABSTRACT

### ATTITUDE CHANGE AND VALUES

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This thesis tested the generality of a paradigm introduced by Rokeach for inducing attitude and value change. Rokeach's persuasive message said to college students that their high rank for the value freedom and their low rank for the value equality meant that they valued freedom for themselves but not for others. He drove the argument home by noting that those who oppose civil rights show the greatest disparity in their values. Two alternate versions of Rokeach's experiment were run. In one treatment Rokeach's exact argument was used with the concept "labor unions" replacing "civil rights" and with the value happiness replacing freedom. This group was not significantly different from the control group on any dependent variable. A second treatment was obtained by making only the replacement of happiness for freedom. This group showed a significant increase in their value for equality and no increase in their attitude toward civil rights over a period of six weeks--results which are in accord with Rokeach's findings. Since change was dependent on the presence of "civil rights" in the

William Jennings Brown Jr.

argument, the results were taken to contradict Rokeach's hypothesis that his results were a function of his paradigm rather than the particular values and attitudes involved. Instead the results were hypothesized to have been produced by the strong feeling of selfishness produced by the use of civil rights in the argument.

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To those to whom no one has ever made a dedication.

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## CHAPTER I

### INTRODUCTION

In the past, attitude change studies have consisted primarily of the presentation of an attitude related communication and the evaluation of the effect(s) of that communication on the attitude. Rokeach's development of his Value Survey (Rokeach, 1968) and his subsequent work with attitudes and values has added a fresh dimension to this area of investigation. He has turned from the traditional context of persuasion to that of education and re-education.

The present chapter will first discuss, in general terms, the experimental paradigm that Rokeach has used to effect attitude and value change<sup>1</sup> and some of the theory underlying these efforts. Second, more specific attention will be given to the attitude and values that have been his primary focus and a discussion of some pertinent results. The final section will concern itself with the relationship between the present effort and that of Rokeach.

|The Rokeach Value Survey is based on the assumption that a person's value system is hierarchial with respect to the "importance" of the values to him. That is, if we could

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<sup>1</sup>Throughout this exposition "value change" should be taken to mean changed in the rank order of the values on the Rokeach Value Survey.

get a complete list of the values in a person's value scheme, this list could be rank ordered along a dimension of importance for that person. If values were the sole determinants of behavior, then when two values come into conflict in any situation, the value the individual holds to be more important as a "guiding principle" in his life would determine what action the person will take.

Rokeach holds further that there are aspects of the attitude and value systems of most people that are inconsistent. For example, a person may profess a quite liberal attitude toward civil rights, but we may find that equality and brotherhood are ranked near the bottom on the Value Survey. If these elements have never been discussed in the same context, then the subject would not be aware of the inconsistency and it would go unchallenged for years. The essence of the paradigm that Rokeach has used successfully in his attitude and value change work is to make such inconsistencies salient.

For example, Rokeach (1968, 1971) has studied the relation between civil rights attitudes and the rankings of the pair of values, equality and freedom. The empirical evidence that is presented to S in the experimental setting indicates that people who are pro-civil rights rank freedom high but equality low. The interpretation placed on these results are as follows:

This raises the question as to whether those who are against civil rights are really saying that they care a great deal about their own freedom but are indifferent to other people's freedom. Those who are for civil rights are perhaps really saying they not only want freedom for themselves, but for other people too.



The results from these experiments indicate that this brief experimental treatment does in fact produce positive change in civil rights attitudes and higher rankings of the values equality and freedom. The changes in these three variables remained measurably significant for as long as seventeen months after the experimental session. (Appendix J contains a copy of the printed experimental materials used by Rokeach.)

The present study was motivated by the power of this simple experiment. Empirically the question that came to mind was: will the power of Rokeach's paradigm extend to other attitudes and other variables? This can also be stated more theoretically. Rokeach hypothesized that the agent of change in his studies is the juxtaposition of attitude and value, i.e., the inherent inconsistency of the values revealed. If this is true, then the results stem from his method and the results should generalize to other attitude-value configurations. By the same reasoning, if his paradigm does not generalize to other attitude-value combinations, then his explanation is immediately brought into question.

One simple solution to this problem would be to select some concept such as labor unions that can be logically substituted for civil rights into Rokeach's persuasive message. The substitution could then be made and the study conducted without further ado. However, this substitution would probably falsify the persuasive message in whole or in part, i.e., would constitute a deliberate deception of the

subject. Might it not be possible to find a concept which is not only logically substitutable but for which the empirical relation cited in the argument would also hold?

Table 1 shows the relationship among freedom, equality and civil rights as Rokeach has presented them to Ss in his studies. The data in this table were actually collected in one of Rokeach's early studies on the relation between attitudes and values. The preliminary study to be described next was a search for an alternate attitude-value configuration that would yield comparable empirical results. The main study then assessed the attitude and value change produced by that alternate configuration.

TABLE 1.--The data table presented by Rokeach as part of his persuasive message (Rokeach, 1968, 1971). It is actual data although the phrase "average rankings" actually means "rank of average value."

Average Rankings of Freedom and Equality by MSU Students For and Against Civil Rights			
	Yes, and Have Participated	Yes, But Have Not Participated	No, Not Sympathetic to Civil Rights
Freedom	6	1	2
Equality	5	11	17
Difference	+1	-10	-15

## CHAPTER II

### PRELIMINARY CONSIDERATIONS

#### A Preliminary Study to Find Alternate Attitude-Value Configurations for Use in Rokeach's Paradigm

The initial aim of the preliminary study was to find an attitude object that had a relationship with equality and freedom parallel to that of civil rights. If such an attitude were found, then it would be possible to repeat Rokeach's paradigm with his exact words and conclusions; only the name of the attitude would be changed. Sixteen concepts were selected for study and suitable bipolar scales were devised for use in semantic differential instruments for those concepts. The concepts were police, law-and-order, large corporations, computers, small businessmen, the draft, disruptive protests, wire tapping, hippies, labor unions, strikes, boycotts, civil rights, migrant workers, psychologists and pollution.

Questionnaires were administered to 114 male and female undergraduates from introductory psychology courses at Michigan State University. Ss were told the purpose of the study was to establish relationships between attitudes and values and to improve the questionnaires. Critical comments were invited. Ss completed Form E of the Rokeach Value Survey, a 16 concept semantic differential and a 20 item,

pretested and cross validated scale on attitudes toward labor unions (Berger, 1969).

A detailed search of the sixteen concepts failed to reveal a concept that had the same relationship to freedom and equality as civil rights. However, diligent search revealed the fact that the two values happiness and equality did show a relation to attitudes toward labor unions that was parallel to that shown in Table 1. This data is presented in Table 2. This suggested a replication of Rokeach's study with happiness and labor unions replacing freedom and civil rights. However, if both substitutions were made, this would confound the comparison to Rokeach's results since a failure to replicate Rokeach's results could be a function of either substitution. Since the labor union, freedom, equality configuration did not conform to Table 1, the only possible single substitution configuration remaining is civil rights, happiness, equality. Fortunately, personal communication

TABLE 2.--The data table presented to the LU group as part of the persuasive message. Although these were the findings of the preliminary study, the phrase "average ranking" would more accurately be stated "rank of the average value."

Average Rankings of Happiness and Equality by MSU Students For and Against Labor Unions			
	Pro-labor unions	Neutral	Anti-labor unions
Happiness	5	4	4
Equality	7	11	13
Difference	-2	-7	-9

with Rokeach revealed that his Ss produced responses on happiness, equality and civil rights that were highly similar to those shown in Table 1. Rokeach's data on these variables are presented in Table 3.

TABLE 3.--The data table presented to the CR group as part of the persuasive message. These are the results found by Rokeach, but again the phrase "average rankings" actually should read "rank of the average value."

Average Rankings of Happiness and Equality by MSU Students For and Against Civil Rights			
	Yes, and Have Participated	Yes, But Have Not Participated	No, Not Sympathetic to Civil Rights
Happiness	4	2	1
Equality	5	11	17
Difference	-1	-9	-16

The preliminary study also provided ancillary data about the questionnaire per se. In particular it appeared that the two semantic differential concepts "strikes" and "labor unions" could replace the scale of 20 items. The correlations of the sum of the 20 items with the "strikes" and "labor unions" concepts was .70 and .75 respectively. Therefore the main study need not use Berger's scale.

The data from the preliminary study also confirmed the selection of the particular bipolar adjective pairs used in the semantic differential. This will be considered in greater detail in the following section.



The Selection of the Bipolar Adjectives  
and the Resulting Reliabilities of the  
Semantic Differential Scales

The attitude objects in the present study were social institutions and social issues. The bipolar adjective pairs for the semantic differential typically found in the literature do not lend themselves to use with these topics. Therefore a more appropriate set of evaluative and non-evaluative or filler adjective pairs was used. In order to test the empirical appropriateness of the scales selected and in order to calculate the reliability of the evaluative scale for each concept, the responses to each individual bipolar adjective pair were correlated. The correlations presented below were calculated for the pretest measures in the main study. Table 4 lists the adjective pairs and their inter-correlations, averaged across 18 concepts. Twenty concepts were measured in the study, but the attitudes toward "psychologists" and "pollution" were very homogenous. This abnormally low variance produced abnormally low correlations so these concepts were not used in the present analysis.

In the a priori construction of the semantic differential, five pairs were constructed to be evaluative and five were intended to be nonevaluative fillers. The first five adjective pairs in Table 4 are those predicted to be evaluative and the last five are those predicted to be non-evaluative. The average correlation is .605 for the evaluative adjective pairs. Thus the internal reliability

TABLE 4.--Intercorrelations of bipolar adjectives selected  
for use with institutions (averaged over 18  
semantic differential concepts)

	Evaluative						Non-Evaluative					
Desirable-Undesirable	1.00	.71	.70	.64	.51	.49	.40	.37	.32	.10		
Valuable-Worthless	.71	1.00	.66	.65	.50	.45	.46	.37	.38	.15		
Good-Bad	.70	.66	1.00	.66	.52	.46	.39	.45	.27	.11		
Productive-Destructive	.64	.65	.66	1.00	.50	.43	.44	.39	.25	.10		
Honest-Dishonest	.51	.50	.52	.50	1.00	.42	.37	.32	.20	.07		
Public Spirited- Exploitive	.49	.45	.46	.43	.42	1.00	.30	.35	.20	.09		
Efficient-Inefficient	.40	.46	.39	.44	.37	.30	1.00	.20	.32	.22		
Innovative-Stodgy	.37	.37	.45	.39	.32	.35	.29	1.00	.21	.16		
Becoming More-Less Important	.32	.38	.27	.25	.20	.20	.32	.21	1.00	.48		
Growing-Declining	.10	.15	.11	.10	.07	.09	.22	.16	.48	1.00		

(coefficient alpha) for the evaluative scale in the averaged matrix is .85. The reliabilities of the evaluative scales for each of the 18 concepts were calculated individually. They averaged .88 and ranged from .79 to .94.

The correlations among the evaluative adjectives are all higher than the correlations between the evaluative and non-evaluative adjectives or the correlations among non-evaluative adjectives. Among the evaluative adjective pairs, "desirable-undesirable" is the strongest pair and "honest-dishonest" is the weakest pair. Across the concepts, honesty was stronger when the role of people was evident in the institution, e.g. police, but was weak if people were not involved, e.g. computers.

All of the non-evaluative adjectives could have been used as evaluative adjectives for one or more concepts, judging from the correlations taken concept by concept. The magnitude of the averaged correlations between the evaluative and non-evaluative adjectives in Table 4 adequately reflect the proportion of instances where this is true, i.e., "public spirited-exploitive" could most often have been used as evaluative and "growing-declining" least often.

In general the magnitude of the intercorrelations and reliabilities for the evaluative adjectives indicate that the selection of these five bipolar pairs was in fact highly appropriate for social and institutional concepts.

### The Civil Rights and Labor Unions Scales

Before the main study was done, there was some concern that a single semantic differential concept like "Civil Rights" might provide too narrow a base for measuring the civil rights attitude. Therefore the concept "The Civil Rights Movement" and four additional concepts were used. These four concepts were taken from Rokeach's attitude questionnaire used to measure the same attitude and changed only as much as necessary to make them appropriate for a semantic differential format. They are: (1) "Open housing laws that forbid discrimination against Negroes," (2) "The use of sit-in, lie-in and picket line tactics by civil rights demonstrators," (3) "Inter-racial marriage," and (4) "School 'busing' to achieve racial integration."

For similar reasons, labor unions were not only represented by the concept "Labor Unions" but by "Strikes" and "Boycotts" as well.

In order to test the scales, a cluster analysis of the twenty concepts was performed. The two scales were clearly confirmed. Most of the remaining concepts fell into two clusters related to attitudes toward the establishment and toward dissenters. The full clusters analysis of the twenty attitudes is presented in Appendix A.

### Miscellaneous Calculations: Appendices B and K

In making a full exploration of the question of value change, it became necessary to greatly increase the

reliability of difference scores for values. Therefore a cluster analysis of both terminal and instrumental values was performed. This cluster analysis is presented in Appendix B.

Although the treatment was intended to produce real change in attitudes and values, the test-retest correlations still give conservative estimates of the coefficient of stability (Cronbach, 1960) or "test-retest" reliability of each instrument. The average test-retest correlation between single sessions (about 3 weeks) was .84 for the four attitude scales, .64 for the 18 terminal values, and .59 for the 18 instrumental values. The average test-retest correlation from session 1 to session 3 (6 weeks) was .78 for the four attitude scales, .57 for the terminal values, and .54 for the instrumental values. The fact that the test-retest correlations for 6 weeks are only slightly lower than those for 3 weeks means that most of the variance in the observed change scores is due to unreliability.



## CHAPTER III

### THE DESIGN AND PROCEDURE FOR THE MAIN STUDY

#### Purpose and Strategy

Rokeach studied the change produced by juxtaposing the values freedom and equality and the civil rights attitude. The central question for this study was whether Rokeach's results would still be obtained if other attitudes and values were substituted in his paradigm. The preliminary study established the fact that the empirical relationships that Rokeach capitalized on between freedom, equality, and civil rights also hold for happiness, equality, civil rights and for happiness, equality, labor unions but not for freedom, equality, labor unions. Thus without deceiving the subjects, two new treatment conditions can be defined within Rokeach's paradigm. The substitution of happiness for freedom produces the configuration happiness, equality, civil rights and will be referred to hereafter as the "civil rights" or CR treatment. The substitution of both happiness for freedom and labor unions for civil rights produces the configuration happiness, equality, labor unions and will be referred to hereafter as the "labor unions" or LU treatment.

### General Design

The study consists of three groups: LU Group, CR Group and Control Group. All Ss participated in three testing sessions. Session 2 was conducted two weeks following Session 1 and Session 3 was six weeks after Session 1.

Session 1: The initial session consisted of pre-tests on the twenty attitudes measured by the semantic differential, Form E of the Rokeach Value Survey, and the experimental treatment for the LU and CR Groups. There was no immediate post-test.

Session 2: The first post-test on the attitudes and values was administered. Ss were also asked to complete a personality inventory at the request of a colleague doing related research.

Session 3: The second post-test on the attitudes and values was administered. Just prior to Session 2 the shooting of the students at Kent State University occurred. Some violence and a general student strike (boycotting of classes) had occurred on this campus. Therefore the opportunity was taken during Session 3 to assess each subject's involvement in the strike.

### Subjects

Ss were male and female undergraduates from introductory psychology courses at Michigan State University. They were required as part of their course work to participate in psychology experiments and signed up for the present study

knowing only that it related to "Social Issues and Personal Values." Each S was contacted by telephone prior to each session and reminded of the time and place of the meeting. In Sessions 1, 2, and 3 there were 119, 118, and 116 Ss respectively.

### Procedure

The three testing sessions were conducted in a classroom setting in groups of approximately ten to twenty subjects. LU, CR and control groups were treated differently in Session 1, therefore questionnaires and experimental procedures were administered separately to the various groups for that session. During Sessions 2 and 3 all subjects received the same information and completed the same questionnaires and no attempt was made to retest intact Session 1 groups.

Subjects signing up for the study were given an opportunity to choose the time and date of Session 1 from several possible testing sessions over a two week period. All subjects choosing a particular time and date were taken as a single testing group for Session 1. Each of these groups was assigned to a particular treatment condition (LU, CR or control) in a semi-random manner. The first testing group was assigned randomly to one of the three. The second testing group was assigned randomly to one of the two conditions remaining, and the third testing group was assigned to the remaining treatment condition. The same was done for the fourth, fifth and sixth testing groups, and so forth. This

was subject to two restrictions: (1) no two successive testing groups were assigned to the same treatment condition, and (2) when it was clear that the number of subjects participating was going to be less than anticipated, the assignment of a testing group to the control group was skipped every other time, resulting in one assignment of a testing group to the control group out of every five assignments. Scheduling for Sessions 2 and 3 was accomplished at the beginning of Sessions 1 and 2 respectively. At these times, subjects were given the time and location of meetings that would be held either two weeks (Session 1 to Session 2) or four weeks (Session 2 to Session 3) in the future. They were asked to choose a time that was convenient for them but were encouraged to choose one that was exactly two or four weeks from that present time or as near to that as possible.

#### Session 1--Procedures and Instructions Common to All Groups

Questionnaires were distributed face down prior to the arrival of the subjects and early arrivals were instructed not to turn them over until we were ready to start. At the beginning of the session subjects were told that the study concerned attitude and value systems in people and was being conducted in an attempt to get a better understanding of how these systems interrelated. An elaborate prepared statement to this effect was read to each testing group at Session 1. The same statement was used for all groups. Subjects were reminded that the study entailed three testing sessions to be

spaced out over six weeks and the procedure for arranging the times for Sessions 2 and 3 explained. They were then asked to choose a time for Session 2 and write it on the top of part I of the questionnaire along with their names and student numbers and were assured that their personal responses would be held strictly confidential throughout and after the study.

The remainder of the first half of Session 1 was devoted to completing the 20-concept semantic differential and Form E of the Rokeach Value Survey (See Appendix F).

#### Session 1--Control Group

After completing the first test booklet, the subjects in the control group left the room until everyone was caught up. After they returned, they filled out a second test booklet which is unrelated to the present study but is shown in Appendix G.

#### Session 1--Civil Rights Group

Before taking a break, subjects in the civil rights group were asked to copy their rank order of the 18 terminal values onto the second test booklet. After copying their responses, the first booklet was turned in to E, following the procedure used by Rokeach. Subjects were then asked to rank-order the 18 terminal values as they "think M.S.U. students on the average would rank them." They were then told to stop and wait for everyone to catch up before proceeding. Most subjects waited in the hall.

After the break, the subject was confronted with the experimental materials. Each page displays a table that presents some empirically derived evidence about relevant values and attitudes. The text accompanying these tables serves to describe the tables, place emphasis on certain points and to make interpretations of the results displayed in the tables, all with the expressed aim of sharing some interesting information with the subjects and with the unexpressed aim of providing an attitude-and-value-change inducing message. The text was read aloud by E to insure that the information was not glossed over by Ss.

The first table, presented here in Table 5, was the rank order of the 18 terminal values for 298 "students in Psychology 151." This was followed by the accompanying text:

One of the most interesting findings shown in Table 1 is that the students on the average felt that Happiness was very important--they ranked it 2; but they felt that Equality was considerably less important--they ranked it 11. Apparently, Michigan State students value Happiness far more highly than they value Equality. This suggests that MSU students in general are much more interested in their own happiness than they are in happiness for other people.

The next page was the change inducing message and is cited in its entirety:

We have one other finding which we think is unusually interesting. In order to make this finding more meaningful and relevant to you personally, you should first answer honestly the following question on civil rights:

Are you sympathetic with the aims of the civil rights demonstrators?

- \_\_\_\_\_ Yes, and I have personally participated in a civil rights demonstration.
- \_\_\_\_\_ Yes, but I have not participated in a civil rights demonstration.
- \_\_\_\_\_ No.

TABLE 5.--The data table from Rokeach (1968, 1971) presented to the CR and LU groups as part of the persuasive message. The numbers are the rank order of the means found by Rokeach in earlier research.

---

Rank Order of Importance to 298 Michigan State Students	
<hr/>	
<u>13</u>	A Comfortable Life
<u>12</u>	An Exciting Life
<u>6</u>	A Sense of Accomplishment
<u>10</u>	A World at Peace
<u>17</u>	A World of Beauty
<u>11</u>	Equality
<u>9</u>	Family Security
<u>1</u>	Freedom
<u>2</u>	Happiness
<u>8</u>	Inner Harmony
<u>5</u>	Mature Love
<u>16</u>	National Security
<u>18</u>	Pleasure
<u>14</u>	Salvation
<u>15</u>	Social Recognition
<u>4</u>	Self-Respect
<u>7</u>	True Friendship
<u>3</u>	Wisdom

---

The MSU students who participated in a previous study of value systems were asked a similar question. They were divided into three groups, according to how they responded. Table 2 shows the average rankings of Happiness and Equality for each of these three groups.

Table 2.--Average rankings of Happiness and Equality by MSU students for and against civil rights

	Yes, and Have Participated	Yes, But Have Not Participated	No, Not Sympathetic to Civil Rights
Happiness	4	2	1
Equality	5	11	17
Difference	-1	-9	-16

Notice that in Table 2:

1. Pro-and anti-civil rights students all value Happiness relatively highly. Of 18 values all groups rank Happiness among the top four.
2. Students who are strongly for civil rights value Equality rather highly--they ranked it 5th; but those against civil rights place a much lower value on Equality--they ranked it 17th in importance. Those who are sympathetic but non-participants ranked Equality 11th.
3. The distance between Happiness and Equality is -1 for the strong civil rights group, -9 for the middle group, and -16 for the anti-civil rights group.

Apparently both Happiness and Equality are important to some people, while to others Happiness is very important but Equality is not.

This raises the question as to whether those who are against civil rights are really saying that they care a great deal about their own happiness but are indifferent to other people's happiness. Those who are for civil rights are perhaps really saying they not only want happiness for themselves, but for other people too. What do you think? (Please circle one number)

1	2	3	4	5	6	7
I agree strongly with this interpretation			I'm not sure		I disagree strongly with this interpretation	



Before you go on to the last part of this questionnaire, please spend a few minutes comparing your own rankings from the first page with these results. Then go on to the next page.

After completing the page containing the message, subjects were instructed to complete the remainder of the questionnaire at their own pace. The next page asked Ss to respond on a 1-7 Likert type scale to the following four questions about the experiment.

- 1) Did you find it thought-provoking?
- 2) Do you think this experience will lead you to do some more thinking about your own values?
- 3) Do you feel that your responses were somewhat hypocritical?
- 4) Right now, how satisfied do you feel about the way you ranked the values?

The last page required Ss to place an "X" beside each of a list of the 18 terminal values indicating their satisfaction or dissatisfaction with the way that they had ranked each of the values, then indicate with a "yes" or "no" response whether they thought the findings that had been described to them were valid and to explain why "they answered the previous questions the way (they) did." Ss were then invited to make any written comments they wished about the study. This concluded Session 1 for the CR Groups. (A complete copy of the second test booklet is shown in Appendix H.)

#### Session 1--LU Group

The procedure for the LU group was identical to that for the CR group, only the content of the experimental

message was altered. Here two things were done. First, the phrase "labor unions" was systematically substituted for the phrase "civil rights" throughout. Second, the numbers in "Table 2" were changed to those given earlier in Table 2 and reproduced here for comparison in Table 6 (See Appendix I for the complete text of these materials).

TABLE 6.--The data table presented to the LU group as part of the persuasive message. The phrase "average ranking" should have read "rank of the average value."

Average Rankings of Happiness and Equality by MSU Students For and Against Labor Unions			
	Pro-labor unions	Neutral	Anti-labor unions
Happiness	5	4	4
Equality	7	11	13
Difference	-2	-7	-9

## Session 2

Sessions 2 and 3 were post-testing sessions on attitudes and values and no further "treatment" was applied to the various experimental groups at these times. All subjects received the same information and questionnaires. There was no attempt to retest intact Session 1 groups.

Two questionnaires were administered during Session 2. The first was a post-test on attitudes (semantic differential) and values. The second was a personality inventory, which was administered at the request of a colleague who was doing research on changes in the ranking of the value Equality as a function of personality traits.

At the beginning of Session 2, subjects were asked to select a time and date from a list of possible times for Session 3 and to write this at the top of the first questionnaire along with their name and student number. Subjects were told that there were two questionnaires and that instructions as to their manner of completion were different. The instructions for the semantic differential were read again and subjects were admonished to read all instructions carefully and to ask for clarification if there was the slightest doubt as to what was expected. Each subject was allowed to work at his own rate and to complete both questionnaires without interruption. When both questionnaires were completed he was allowed to leave, thus completing Session 2.

### Session 3

Two questionnaires were administered during Session 3. The first was a post-test on attitudes and values. The second was a sixty-item questionnaire which queried the subject's involvement in the general student strike which occurred on campus following the shooting of the students at Kent State University.

At the beginning of the session it was explained that following the completion of the questionnaire that there would be a debriefing period during which the aims of the study would be explained and any questions would be answered. Since Ss would be finishing the questionnaire at different

times and there might be a considerable wait for some people, they were told that the debriefing was not a mandatory part of their volunteer commitment. However, they were encouraged to remain for it.

The instructions for the semantic differential were then reviewed, again with the admonition to read all instructions carefully and to ask questions if there was the least uncertainty. They were allowed to complete the questionnaires at their own speed. When all questionnaires were completed and turned in, the debriefing period was held. This concluded Session 3 and the study.

## CHAPTER IV

### RESULTS

#### Attitude and Value Change Results

Table 7 presents the means and standard deviations of attitude and value change for the three groups. Table 7a shows the changes from Session 1 to Session 2 (two weeks) and Table 7b the changes from Session 1 to Session 3 (six weeks).

The Control Group received no attitude or value change oriented information. No significant change was expected and none occurred.

On the other hand, the results for the LU group came as a surprise. The only variable on which there was significant change was freedom. However, this was also the variable on which the control group showed the most change. And in fact, the amount of change on freedom for the LU group is not significantly higher than the control group for either two weeks or six weeks. Thus the LU group is not significantly different from the control group on any variable.

The CR group showed a significant increase on only three variables. First, the change on freedom was significant. However as was true for the LU group, the value of freedom for the CR group did not increase by significantly

TABLE 7.--The average change in attitudes and values observed in the main study. The sign of value change was reversed so that a positive number means an increase in value (i.e. a decrease in rank).

	N=27		N=37		N=52	
	Control Group	Laboꝛ Union Group	Civil Rights Group	Control Group	Laboꝛ Union Group	Civil Rights Group
	$\bar{X}_D$	$S_D$	$\bar{X}_D$	$S_D$	$\bar{X}_D$	$S_D$
7a.--Change from Session 1 to Session 2						
Freedom	.93	(3.07)	1.51*	(4.52)	1.77*	(3.79)
Equality	-.15	(3.17)	-.27	(3.66)	1.94*	(3.24)
Happiness	-.04	(3.27)	.24	(3.37)	1.00	(4.80)
Civil Rights	-.03	(.50)	.02	(.61)	.12	(.54)
Labor Unions	-.02	(.54)	-.01	(.72)	.24*	(.52)
7b.--Change from Session 1 to Session 3						
Freedom	.52	(3.35)	1.60*	(4.73)	1.48*	(3.67)
Equality	.48	(2.75)	.62	(3.73)	2.29*	(4.08)
Happiness	-.19	(3.55)	.08	(3.81)	.48	(4.42)
Civil Rights	-.10	(.76)	.00	(.73)	.08	(.63)
Labor Unions	.13	(.78)	-.01	(.76)	.30*	(.49)

\* Indicates change significant at p .05.

more than did the Control group. Second, there was an increase in attitudes toward labor unions (but none toward civil rights). However there is some reason to question this result. The two week post test means for the Control and CR groups are .785 and .760 which are essentially identical. At six weeks, they are .814 and .993 which are not significantly different. The difference occurs on the pretest: .517 and .808. It seems entirely possible that the pretest mean was a "fluke" and that the apparent change simply reflected the means for the two week and six week measurements returning to their actual level. Finally the CR group showed a significant increase on equality at two weeks and increased still further between Sessions 2 and 3.

A large systematic search for treatment by subject interactions was made. At the same time the question of correlated attitude and value change was considered. Most of these results are of questionable validity and will not be presented in the main body. Appendix C presents "A Detailed Comparison of the LU and Control Groups" and gives a rationale for pooling them into one large control group for further analysis. Appendix D presents "Value and Attitude Change: Treatment by Subject Interactions and Other Correlates of Change" comparing the pooled control group with the CR Group. Appendix E presents "Attitude and Value Change within the CR Group" and some mean changes for various sub-groups for comparison with similar results reported by Rokeach (1968).

### Rokeach's Results

Table 8 presents the results from Rokeach's (1968) first empirical study in this area. His main experimental group is identical to the CR group except that the persuasive message used freedom instead of happiness.

After being shown the rank order of the terminal values for 298 students, the "weak treatment" group saw only the short written message that interpreted the relative ranking of freedom and equality as indicating "freedom for me, but not for others." They did not receive the table pertaining to civil rights nor the extended argument. The data reported show no significant difference between the two experimental groups and hence this discussion will assume them to be pooled. The experimental groups show a significant increase on freedom of .74 after three weeks which decays to .47 after three months. The control group decreases on freedom by -.47 after three weeks and still further to -1.19 after three months, with only the latter decrease being significant. Are the experimental groups significantly different from the control group in their changes on freedom? Neither standard deviations nor any equivalent statistics were reported, and so a formal test cannot be performed. If the standard deviations from the present study are used as a first estimate, the critical ratios are 1.94 for three weeks and 2.24 for three months, i.e. borderline significant at the .05 level. The fact that the control group showed a decrease



TABLE 8.--The average attitude change and value change reported by Rokeach (1968) in his first use of the paradigm used in the main study here.

	3 Weeks		3 Months	
	Control (N=47)	Experimental (N=135) Weak	Control (N=32)	Experimental (N=93) Weak
Freedom	-.47	.78**	-1.19**	.48
Equality	.79	1.47***	.44	1.47***
Civil Rights	nr	nr	nr	nr
				1.56 <sup>nr</sup>

\* P .05, t=test for correlated measures

\*\* P .01, t-test for correlated measures

\*\*\* P .001, t-test for correlated measures

nr = not reported

of  $-.72$  over the interval from three weeks to three months may mean that the decrease in the experimental groups was not a decay in the induced attitude change but simply additional change produced by the generally negative messages to which the group as a whole was exposed outside the experiment.

On equality both experimental groups showed a significant increase after three weeks and no change from Session 2 to Session 3. The control group showed an insignificant increase of  $.79$  which decayed to  $.44$ . Again the lack of standard deviations prevents an exact test of the difference between the two groups. However, using the standard deviations from the present study, the critical ratios are  $1.45$  for three weeks and  $1.73$  for three months, i.e. the experimental groups did not increase significantly more than did the control group on equality.

Unfortunately, almost none of the data for attitudes towards civil rights was reported. Even the means displayed in this table were indirectly calculated from another table. Thus little can be said about the relation between the control and experimental groups. Furthermore without standard deviations, no within groups test can be made. The fact that there was an initial fluctuation of  $-1.78$  followed by one of  $+1.56$  strongly suggests that there was no significant change in attitude toward civil rights produced in Rokeach's first experiment.

Table 9 presents the data from Rokeach's (1971) second study. In that study the control group was precisely

TABLE 9.--The average change in attitudes and values reported by Rokeach (1971) in his second study using the paradigm used in the main study here.

	3 Weeks		3-5 Months		15-17 Months	
	Control (N=nr)	Experimental (N=nr)	Control (N=169)	Experimental (N=197)	Control (N=147)	Experimental (N=176)
Freedom	.20	1.48**	.21	1.16**	.22	1.59***
Equality	.68	1.91***	.71	2.80***	.32	2.68***
Civil Rights	-.69	-.46	.20	2.09**	.86	2.79***

\*\* P .01, t-test for correlated measures

\*\*\* P .001, t-test for correlated measures

nr = not reported

equivalent to that in the present study and again the experimental group differed from the present CR group only in that the argument was in terms of freedom rather than happiness. The sample sizes in Rokeach's second study are so large that the results are unequivocal. After three weeks, the value the subjects placed on freedom had increased by 1.48 and this change was maintained throughout the entire time period studied. The control group initially increased by .20 and remained constant thereafter. Although no standard deviations are reported, the standard deviations from the present study yield critical ratios of about 2.0 for each time period, i.e. borderline significance at the .05 level.

The experimental group initially increased its value for equality by 1.91 and increased slightly to about 2.74 thereafter. The control group initially increases by .68 but then eventually this decays to .32. If the standard deviations from the present study are used in lieu of those not reported by Rokeach, then the critical ratios range from perhaps 2.0 at three weeks (the sample size for three weeks was not reported) to 5.90 at 15-17 months, the difference between the groups is unarguable.

In terms of their attitudes toward civil rights, both groups show an initial nonsignificant decrease. However, after three months the experimental group showed an increase of 2.09 and this increased still further to 2.79 thereafter. Unfortunately, the standard deviations were not reported and hence no comparison of the control and experimental groups is

possible. Furthermore, the instrument in the present study is only correlationally equivalent to Rokeach's measure and hence no estimate of his standard deviation can be made. It is worth noting that the change in the control group increases from  $-.69$  to  $.20$  to  $.86$  throughout the time interval. Thus some of the increase in change observed in the experimental group is due to positive post experimental messages rather than being the product of the experiment.

## CHAPTER V

### DISCUSSION

In both studies, Rokeach focused on the same configuration: attitude toward civil rights and the values placed on freedom and equality. The purpose of the present study was to see if Rokeach's technique for producing value and attitude change would work for other combinations of values and attitudes. When happiness was substituted for freedom and labor unions for civil rights, the treatment for the LU group was produced. This group was not significantly different from the control group. On the other hand, if happiness was substituted, but civil rights was retained, then the design generated the treatment given the CR group. For the Cr group, there was a significant increase in equality.

At first glance this suggests that the present results are at considerable variance with those reported by Rokeach. However, a closer examination shows smaller differences than at first appear. The change in equality for the CR group was about 2 points, which is slightly greater than Rokeach (1968) and slightly less than Rokeach (1971). Also there was no change in attitudes toward civil rights in Rokeach (1968) except for one subgroup of 8 subjects out of the 460 subjects run. Furthermore, there was no attitude

change in Rokeach (1971) for 3 weeks, only for 3-5 months and more. The duration of the present study did not allow the effects of such a lengthy time lapse to be assessed.

Thus the main difference between the present study and Rokeach's studies is the results for freedom. For experimental groups, the present study found an averaged increase of 1.6 while in his two studies Rokeach found averaged increases of .6 and 1.5. However for the control groups, the present study found an increase of .7 while in his two studies Rokeach found -.7 and .2. Thus the differences in experimental control comparisons between studies reflect differences in the amount of change in the control groups rather than differences in the experimental groups. Actually one might well ask: why should freedom change? Freedom was never mentioned in the present study, the arguments centered on happiness. But then consider the actual arguments in Rokeach's studies. The persuasive arguments did not state that the value subjects placed on freedom was too low, but that the value placed on freedom was too high! The question then in Rokeach's studies is why didn't freedom decrease? Perhaps the answer lies in the manner in which Rokeach presents rank order data. In the table showing the "rank order of the values for 298 Michigan State students," the rank shown for freedom is 1. This represents the fact that the mean rank for freedom is higher than the mean rank for any other value. The actual mean rank of freedom in the present study was 5.09. Thus what most noticed was that their own rank for freedom was much lower

than the rank assigned by "Michigan State students." Thus this table told most students that their primary reference group ranked freedom much higher than they did.

Finally, the last relevant variable is happiness. In the present study, freedom was never actually mentioned in the main argument. Instead its role was played by happiness. The change in happiness averaged over sessions was  $-.12$  in the Control group and  $.80$  in the CR group. The difference between the experimental and control group is thus  $.92$ . This is in the same direction as Rokeach's results for freedom but only two-thirds as big. Note that analagous to freedom in Rokeach's studies, the persuasive message in the present study argued that the value given to happiness was too high, i.e. that the value placed on happiness should be lower. However, where the message assigned a rank for happiness of 2 to Michigan State students, the actual mean rank in this study was 6.87. Thus as was true of freedom in Rokeach's experiment, most subjects saw a considerable gap between their own rank for happiness and the rank given it by their primary reference group. The fact that happiness increased by less in the present study than freedom did in Rokeach's studies probably reflects the fact that the basic argument in the persuasive message is that the subject's values are selfish. The charge of selfishness would presumably be stronger in the case of happiness than in the case of freedom. Further evidence for this interpretation is the fact that in the present study, freedom increased by more than happiness



did. Although the reference group discrepancy for freedom was only  $5.09 - 1 = 4.09$  and was less than that for happiness,  $6.87 - 2 = 4.87$ , the subject's value for freedom was not attacked.

It is important to differentiate between the two roles played by happiness in the present study. On the one hand, the subject's value for happiness is a dependent variable. In this role the data for happiness were only roughly comparable to the results for freedom in Rokeach's studies. But on the other hand, happiness also played the role of the second value in the persuasive message for both experimental groups. In the case of the civil rights group, the results produced by that message were every bit as strong as those produced by freedom.

Rokeach's work can be looked at in two ways: as studies of the particular configuration of civil rights attitude and values for freedom and equality or as studies of a new method of producing attitude change. The goal of the present study was to test the hypothesis that Rokeach's results were produced by his method of juxtaposing values and attitudes. If his results reflect method rather than content, then any configuration of attitudes and values that can be logically substituted in his argument should produce the same pattern of results. This study considered two such substitutions: happiness for freedom and labor unions for civil rights.

What is the result of the substitutions? If

happiness is substituted for freedom, the pattern of results is unchanged. But it appears that the civil rights attitude is critical. If it is removed, then there is no change beyond that in the control group. Thus Rokeach's results do depend on the specific attitude that he studied. This suggests that the active ingredient in Rokeach's experiments is not the juxtaposition of values and attitudes. The actual agent of change in Rokeach's work is only a matter of speculation at present. But one strong hypothesis is that the change was produced by the effectiveness of his charge that those who are anti civil rights are selfish.

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## REFERENCES

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## APPENDICES

## APPENDIX A

### CLUSTER ANALYSIS OF ATTITUDES

A cluster analysis was performed on the subject's attitudes toward 20 concepts during Session 1 (N=116). The primary purpose of this analysis was to assess the internal consistency of the concepts that were to make up the labor unions and civil rights attitude scales.

Initially the 20x20 correlation matrix was computed and reordered using the ORDER and ARRANGE (Hunter, 1973) programs provided in PACKAGE (Hunter and Cohen, 1969). After inspecting the two reordered correlation matrices and the matrix of similarity coefficients, a set of four clusters was formed. An oblique multiple groups factor analysis (with and without communalities) was computed for these four clusters and a residual set of two concepts. The clusters were then reevaluated and the final clustering consisted of four main clusters and a residual set of three concepts.

Table A1 lists the names that have been given to the four clusters and the concepts that make up that cluster. Table A2 presents the correlation matrix for the 20 concepts ordered by clusters, the factor intercorrelations, and factor loading matrix that resulted from the oblique multiple groups factor analysis. The numerical labels beside the concept and cluster names in Table A1 are the same as those in

TABLE A1.--Summary of Content on the Four Attitude  
Clusters and Residual Items and Coefficient  
Alpha for Each Cluster

	Alpha
501 Establishment	.81
17) Police	
9) Law-and Order	
15) Large Corporations	
7) Computers	
12) Small Businessmen	
502 Repression	.66
2) The Draft	
11) Disruptive Protests (Reflected)	
13) Wire Tapping	
20) Hippies (Reflected)	
503 Labor Union	.71
14) Labor Unions	
6) Strikes	
18) Boycotts	
504 Civil Rights	.70
4) Open Housing laws that forbid discrimination against Negroes	
8) The use of sit-in, lie-in and picket line tactics by civil rights demonstrators	
10) Inter-racial Marriage	
16) School "busing" to achieve racial integration	
19) The Civil Rights Movement	
505 Residual Set	
1) Migrant Workers	
3) Psychologists	
5) Pollution	

Table A2 and may be used as reference for content when looking at the correlations. It will be noted that Table A2 has two factor loading matrices and two matrices of factor intercorrelations. The set marked "corrected" (for attenuation) is the result of calculating the multiple groups with communalities in the diagonal of the correlation matrix and

TABLE A2.--The final cluster analysis of the twenty attitudes assessed in the main study. The entries in the diagonal of the table are the estimated communalities for each concept. The factor loadings across the bottom of the table and the first set of factor loadings to the right were calculated with communalities and have therefore been corrected for attenuation. The second set of factor loadings on the right was calculated with ones in the diagonal, i.e. these factors are the average standard score for the attitudes in the corresponding cluster. The two 4x4 correlation matrices at the bottom right of the table are the correlations between factors; the first table is the same as the second corrected for attenuation. The correlations are based on the responses of 116 subjects to the pretest.

	Establishment					Repression				Labor Unions		
	17	9	15	7	12	2	11	13	20	14	6	18
17 Police	(71)	72	52	51	41	44	49	41	47	-2	-25	-32
9 Law-and-order	72	(58)	51	45	33	39	43	40	38	3	-18	-28
15 Large Corporations	52	51	(42)	57	19	26	23	35	18	11	-11	-25
7 Computers	51	45	57	(50)	36	30	27	24	24	17	-6	-18
12 Small Business	41	33	19	36	(19)	1	31	-1	3	9	-4	2
2 The Draft	44	39	26	30	1	31	28	34	35	4	-15	-28
11 Disruptive Protests	49	43	23	27	31	28	(23)	26	32	-19	-34	-33
13 Wire Tapping	41	40	35	24	-1	34	26	(37)	43	2	-11	-33
20 Hippies	47	38	18	24	3	35	32	43	44	-12	-28	-45
14 Labor Unions	-2	3	11	17	9	4	-19	2	-12	31	59	21
6 Strikes	-25	-18	-11	-6	-4	-15	-34	-11	-28	59	95	54
18 Boycotts	-32	-28	-25	-18	2	-28	-33	-33	-45	21	54	26
4 Open Housing*	-5	-15	-7	-14	-4	-8	-12	-22	-13	-2	7	14
8 CR Demonstration Tactics*	-24	-29	-4	-19	-8	-30	-43	-13	-29	9	35	37
10 Inter-racial Marriage	-14	-20	-23	-17	15	-9	0	-30	-27	-10	14	31
16 Busing*	-11	-10	-13	-19	-15	-4	-27	-10	-24	-4	22	26
19 CR Movement	-12	-12	-10	-21	-16	-12	-16	-11	-21	8	18	13
1. Migrant Workers	3	3	4	2	2	-1	-5	-21	-16	4	23	26
3 Psychologists	7	7	12	8	21	-16	5	0	-11	9	22	10
5 Pollution	-19	-17	-5	-34	-29	-9	-6	1	-3	-12	-6	-3
501 Establishment	84	76	65	70	44	41	51	41	38	11	-19	-30
502 Repression	78	69	44	45	15	56	47	61	67	-11	-38	-60
503 Labor Union	-29	-21	-12	-4	3	-19	-42	-21	-41	54	101	49
504 Civil Rights	-23	-30	-20	-31	-10	-22	-34	-30	-40	1	34	42

\* The full statement of the concept is given in Table A1



Civil Rights					Residual Set			Corrected For Attenuation				Uncorrected			
4	8	10	16	19	1	3	5	501	502	503	504	501	502	503	504
-5	-24	-14	-11	-12	3	7	-19	84	78	-29	-23	84	64	-25	-19
-15	-29	-20	-10	-12	3	7	-17	76	69	-21	-30	80	57	-18	-25
-7	-4	-23	-13	-10	4	12	-5	65	44	-12	-20	74	36	-10	-17
-14	-19	-17	-19	-21	2	8	-34	70	45	-4	-31	77	37	-3	-26
-4	-8	15	-15	-16	2	21	-29	44	15	3	-10	61	12	3	-8
-8	-30	-9	-4	-12	-1	-16	-9	41	56	-19	-22	37	70	-17	-19
-12	-43	0	-27	-16	-5	5	-6	51	47	-42	-34	46	66	-36	-29
-22	-13	-30	-10	-11	-21	0	1	41	61	-21	-30	37	72	-18	-25
-13	-29	-27	-24	-21	-16	-11	-3	38	67	-41	-40	34	74	-36	-34
-2	9	-10	-4	8	4	9	-12	11	-11	54	1	10	-9	76	0
7	35	14	22	18	23	22	-6	-19	-38	101	34	-17	-31	89	28
14	37	31	26	13	26	10	-3	-30	-60	49	42	-27	-49	73	36
26	18	28	32	41	24	16	2	-13	-24	10	50	-12	-19	8	65
18	24	17	31	50	-9	21	17	-25	-50	40	49	-22	-41	34	64
28	17	20	28	36	29	24	-0	-17	-29	17	45	-16	-23	15	62
32	31	28	36	44	15	27	-1	-20	-29	22	59	-18	-23	19	69
41	50	36	44	67	8	27	6	-21	-26	19	83	-19	-21	16	80
24	-9	29	15	8	**	16	6	4	-19	26	23	4	-16	23	20
16	21	24	27	27	16	**	-9	16	-9	20	40	15	-8	18	-34
2	17	-0	-1	6	6	-9	**	-31	-7	-10	8	-28	-6	-9	7
-13	-25	-17	-20	-21	4	16	-31	100	74	-18	-34	100	55	-14	-26
-24	-50	-29	-29	-26	-19	-9	-7	74	100	-54	-55	55	100	-38	-38
10	40	17	22	19	26	20	-10	-18	-54	100	37	-14	-38	100	27
50	49	45	59	83	23	40	8	-34	-55	37	100	-26	-38	27	100

the set marked "uncorrected" has been calculated without using communalities, i.e., with 1's in the diagonal. The diagonal entries in the correlation matrix are the communalities of the concepts within the cluster of which they are members.

The Establishment cluster has a coefficient alpha of .81. The cluster has good internal consistency although attitude toward "Large Corporations" only correlates .19 with attitude toward "Small Businessmen." "Police" is the strongest variable internally and "Small Businessmen" the weakest variable, both internally and externally. There is a strong-weak gradient running from variable 17 to 12 within the cluster that is generally evident in its relationship to the other clusters, although the relationship of each variable within the civil rights cluster tends to be more nearly equal. Externally the cluster has a low to moderate negative relationship with the Labor Union and Civil Rights clusters and a high positive relationship to Repression cluster.

Cluster 502 is the Repression cluster and has a coefficient alpha of .66. Internally the correlations are flat and consistent and the level of the relationships is moderate. Externally the concepts are parallel in their relations to other clusters, although "The Draft" and "Wire Tapping" are weaker with the Labor Union and Civil Rights clusters. Here, as with the Establishment cluster, the relationship to Labor Union and Civil Rights are negative. One might also note that if "The Draft" and "Wire Tapping"

had been reflected instead of "Disruptive Protests" and "Hippies," the cluster might well have been named "Anti-Establishment."

Establishment and Repression clusters can be differentiated in two ways. First, the four issues in the second cluster make up the core of the anti-establishment feelings on campus. Second, the second cluster correlates much more highly with the Civil Rights and Labor Unions clusters. Finally, it should be noted that they only correlate .74 with other when corrected for attenuation.

Cluster 503 is the Labor Union cluster and has a coefficient alpha of .71.

Cluster 504 is the Civil Rights cluster and has a coefficient alpha of .70. Internally the item "The Civil Rights Movement" is clearly the strongest and most general. The other four items are the more specific in content and have lower correlations. Indeed the issues selected show considerable specificity in attitude. The items are parallel in their correlations with the other clusters except for item 8 which deals with the demonstration tactics of civil rights demonstrators. It shares common content with other items that deal with protests, e.g., "Strikes," "Boycotts," "Disruptive Protests."

## APPENDIX B

### CLUSTER ANALYSIS OF VALUES

The reliability of difference scores for individual values in this study was extremely low. Therefore the values were clustered and difference scores for the clusters were investigated. In order to maximize the reliability, the cluster analysis was based on average value scores.

Table B1 shows the results of a cluster analysis of the instrumental values. The diagonal entry for each variable is its communality in that cluster, i.e., an estimate of how much variance the value shares with the cluster to which it belongs. The correlations between values are much higher than for single time measurements since three time scores were averaged to increase the reliability. The correlations between values and clusters or between clusters and clusters are all computed on the matrix with communalities and have therefore been corrected for attenuation.

#### Submissiveness

The Submissiveness cluster has a coefficient alpha of .71 and consists of the values obedient, polite, clean, responsible, broadminded (reflected), intellectual (reflected) and imaginative (reflected). Thus a person obtains a high score on this cluster if he assigns a high value to those

TABLE B1.--A cluster analysis of Rokeach's 18 instrumental values. The value score correlated was formed by averaging the three ranks assigned to that value on the three administrations and is therefore much more reliable than a single ranking. The diagonal entries in the table are the communalities of each value determined by the cluster to which it is assigned. The factors were calculated with communalities and therefore the factor loadings and the factor correlations have been corrected for attenuation. All 116 subjects were used in the correlations.

	Submissiveness							Benevolence		
	33	34	23	35	20	30	28	26	25	32
Obedient	47	51	29	25	18	35	42	-18	-5	-19
Polite	51	37	25	16	17	34	39	-3	9	3
Clean	29	25	26	16	36	15	36	-29	-22	-19
Responsible	25	16	16	24	33	21	42	-15	-26	-11
Broadminded (R)*	18	17	36	33	12	-3	13	-15	-8	22
Intellectual (R)	35	34	15	21	-3	12	9	14	21	-1
Imaginative (R)	42	39	36	42	13	9	37	-13	-10	-19
Helpful	-18	-3	-29	-15	-15	14	-13	36	39	26
Forgiving	-5	9	-22	-26	-8	21	-10	39	40	28
Loving	-19	3	-19	-11	22	-1	-19	26	28	21
Capable	-1	-30	0	17	3	-1	-2	-19	-44	-26
Independent	-12	-27	5	-8	-3	-10	-9	-33	-38	-21
Honest (R)	-5	-5	11	3	1	3	-19	-2	-31	0
Ambitious	-0	-7	24	19	23	5	14	-36	-36	-33
Self-controlled	21	7	6	25	6	5	38	-33	-31	-27
Cheerful (R)	19	-0	12	20	6	-17	21	-28	-20	-13
Logical	-2	-5	-2	-1	-10	-20	-1	-34	-31	-16
Courageous	-28	-27	-18	-13	-2	-6	-5	6	3	-2
Submissiveness	69	61	51	49	35	34	60	-22	-12	-12
Benevolence	-25	6	-42	-31	-0	20	-25	60	64	44
Ambition	-9	-34	20	16	12	-2	-8	-45	-74	-40
Self control	23	1	9	26	1	-19	34	-57	-49	-33
Courageous	-28	-27	-18	-13	-2	-6	-5	6	3	-2

\* (R) Indicates that the variable has been reflected or reverse scored to conform to other variables in the cluster.

Ambition				Self Control			24	Factors Corrected for Attenuation				
21	29	27	19	36	22	31		501	502	503	504	505
-1	-12	-5	-0	21	19	-2	-28	69	-25	-9	23	-28
-30	-27	-5	-7	7	-0	-5	-27	61	6	-34	1	-27
0	5	11	24	6	12	-2	-18	51	-42	20	9	-18
17	-8	3	19	25	20	-1	-13	49	-31	16	26	-13
3	-3	1	23	6	6	-10	-2	35	-0	12	1	-2
-1	-10	3	5	5	-17	-20	-6	34	20	-2	-19	-6
-2	-9	-19	14	38	21	-1	-5	60	-25	-8	34	-5
-19	-33	-2	-36	-33	-28	-34	6	-22	60	-45	-57	6
-44	-38	-31	-36	-31	-20	-31	3	-12	64	-74	-49	3
-26	-21	0	-33	-27	-13	-16	-2	-12	44	-40	-33	-2
17	15	28	23	1	14	19	4	-4	-53	41	20	4
15	19	31	22	13	9	-0	-7	-17	-54	43	13	-7
28	31	43	32	7	-1	15	-6	-3	-20	66	12	-6
23	22	32	26	17	19	-1	-5	22	-62	51	21	-5
1	13	7	17	34	38	25	-19	30	-54	19	58	-19
14	9	-1	19	38	42	29	5	17	-36	20	65	5
19	-0	15	-1	25	29	21	-28	-12	-49	16	44	-28
4	-7	-6	-5	-19	5	-28	100	-28	4	-7	-25	100
-4	-17	-3	22	30	17	-12	-28	100	-27	-1	21	-28
-53	-54	-20	-62	-54	-36	-49	4	-27	100	-94	-83	4
41	43	66	51	19	20	16	-7	-1	-94	100	33	-7
20	13	12	21	58	65	44	-25	21	-83	33	100	-25
4	-7	-6	-5	-19	5	-28	100	-28	4	-7	-25	100

attributes most likely to offend others: intellectual,  
imaginative, broadminded.

### Benevolence

The Benevolence cluster has a coefficient alpha of .57 and consists of the values helpful, forgiving and loving.

### Ambition

The Ambition cluster has a coefficient alpha of .57 and consists of the values capable, independent, honest (reflected) and ambitious. The striking thing about this cluster is that it shows that if a person places a high value on capable, independent and ambitions, then he is likely to place a very low value on honesty.

### Self Control

The Self Control cluster has a coefficient alpha of .57 and consists of the values self control, cheerful (reflected) and logical.

### Courageous

The value Courageous did not go well with any of the instrumental value clusters and so was left as a singleton. It has low negative correlations with the Submissiveness and Self Control clusters implying that people who place a high value on courage tend to see themselves as being somewhat unconventional and impulsive.

There are two large correlations between various instrumental value clusters. People who place a high value on Ambition tend to place a low value on Benevolence (and vice versa). People who place a high value on Self Control also tend to place a low value on Benevolence (and vice versa). People who place a high value on both Ambition and Self Control pay almost no heed at all to Benevolence.

Table B2 presents a cluster analysis of the terminal values. There is clearly far less correlation among the terminal values than among the instrumental values. This may reflect a greater degree of independence among the values or it may reflect the much higher degree of abstraction in these terms, i.e. greater susceptibility to semantic contamination. In any case, the clusters are generally much poorer.

#### Utopianism

The Utopianism cluster has a coefficient alpha of .70 and consists of the values a world at peace, a world of beauty and equality

#### Hedonism

The Hedonism cluster has a coefficient alpha of .63 and consists of the values a comfortable life, happiness and pleasure.

#### Misogamist

The Misogamist cluster has a coefficient alpha of .41



TABLE B2.--A cluster analysis of Rokeach's 18 terminal values. The value score correlated was formed by averaging the three ranks assigned to that value on the three administrations and is therefore much more reliable than a single ranking. The diagonal entries in the table are the communalities of each value determined by the cluster to which it is assigned. The factors were calculated with communalities and therefore the factor loadings and the factor correlations have been corrected for attenuation. All 116 subjects were used in the correlations.

	Utopianism			Hedonism			Misogonist			M. L.
	4	5	6	1	9	13	18	7	17	11
A world at peace	66	48	52	-26	-31	-29	-2	24	-13	-26
A world of beauty	48	34	33	-27	-18	-9	9	16	-10	-14
Equality	52	33	38	-39	-34	-35	8	17	-5	-20
A comfortable life	-26	-27	-39	29	26	41	-33	-19	-17	-3
Happiness	-31	-18	-34	26	29	41	-21	-10	-16	2
Pleasure	-29	-9	-35	41	41	56	-25	-12	-2	17
Wisdom	-2	9	8	-33	-21	-25	17	20	16	-4
Family security										
(R)*	24	16	17	-19	-10	-12	20	26	21	-15
True friendship	-13	-10	-5	-17	-16	-2	16	21	18	6
Mature love	-26	-14	-20	-3	2	17	-4	-15	6	100
A sense of accomplishment	-0	-7	-5	7	-21	-22	4	3	-17	-23
Self respect	-33	-22	-19	-12	-11	-13	6	8	11	1
Social recognition	-35	-37	-31	36	1	26	-0	-0	11	4
Freedom	19	-6	18	-11	-10	-12	3	31	2	-17
Inner harmony (R)	21	1	15	20	-2	6	-9	-7	-3	-14
Salvation	-16	-21	-3	-25	-11	-31	-12	-3	-8	-12
National security	11	-15	9	-12	-2	-27	-15	-1	-14	-29
Exciting life (R)	-5	4	24	-18	-5	-10	7	-20	-0	3
Utopianism	83	57	61	-46	-42	-36	7	28	-14	-30
Hedonism	-48	-30	-59	53	53	76	-43	-22	-19	9
Misogamist	7	11	16	-52	-36	-29	40	50	42	-9
Mature love	-26	-14	-20	-3	2	17	-4	-15	6	100
Status	-74	-71	-59	33	-33	-8	11	11	6	-20
Egocentrism	36	-5	30	8	-10	-5	-5	21	-1	-28
Conservatism	-7	-22	19	-36	-12	-45	-14	-15	-15	-25

\* (R) Indicates that the variable has been reflected or reverse scored to conform to other variables in the cluster.

Status			Egocen- trism		Residual Set			Factors						
3	15	16	8	10	14	12	2	501	502	503	504	505	506	507
-0	-33	-35	19	21	-16	11	-5	83	-48	7	-26	-74	36	-7
-7	-22	-37	-6	1	-21	-15	4	57	-30	11	-14	-71	-5	-22
-5	-19	-31	18	15	-3	9	24	61	-59	16	-20	-59	30	19
7	-12	36	-11	20	-25	-12	-18	-46	53	-52	-3	33	8	-36
-21	-11	1	-10	-2	-11	-2	-5	-42	53	-36	2	-33	-10	-12
-22	-13	26	-12	6	-31	-27	-10	-36	76	-29	17	-8	-5	-45
4	6	-0	3	-9	-12	-15	7	7	-43	40	-4	11	-5	-14
3	8	-0	31	-7	-3	-1	-20	28	-22	50	-15	11	21	-15
-17	11	11	2	-3	-8	-14	-0	-14	-19	42	6	6	-1	-15
-23	1	4	-17	-14	-12	-29	3	-30	9	-9	100	-20	-28	-25
18	9	13	-18	-7	-8	-18	-9	-6	-20	-7	-23	43	-23	-23
9	5	5	-5	-8	7	6	18	-37	-19	19	1	19	-12	20
13	5	10	-15	1	-15	-15	-0	-51	35	8	4	30	-12	-20
-18	-5	-15	33	29	-0	13	-5	15	-18	27	-17	-40	56	5
-7	-8	1	29	33	5	19	-15	19	14	-14	-14	-16	56	6
-8	7	-15	-0	5	30	28	25	-20	-37	-17	-12	-18	4	55
-18	6	-15	13	19	28	26	23	2	-23	-23	-29	-29	29	51
-9	18	-0	-5	-15	25	23	22	11	-18	-10	3	10	-18	46
-6	-37	-51	15	19	-20	2	11	100	-68	17	-30	-102	30	-5
-20	-19	35	-18	14	-37	-23	-18	-68	100	-64	9	-5	-4	-51
-7	19	8	27	-14	-17	-23	-10	17	-64	100	-9	21	12	-33
-23	1	4	-17	-14	-12	-29	3	-30	9	-9	100	-20	-28	-25
43	19	30	-40	-16	-18	-29	10	-102	-5	21	-20	100	-51	-24
-23	-12	-12	56	56	4	29	-18	30	-4	12	-28	-51	100	10
-23	20	-20	5	6	55	51	46	-5	-51	-33	-25	-24	10	100

and consists of the values wisdom, family security (reflected) and true friendship. The striking thing about this cluster is that subjects who assign a high value to both wisdom and true friendship are likely to assign a low value to family security. Is there a subset of the subjects who would produce such a pattern of correlations? Well consider homosexuals, members of the Women's Lib movement, confirmed misogynists, men contemplating priesthood, etc.

#### Mature Love

The value mature love had only low negative correlations with the other clusters. Therefore it was left as a single item.

#### Status

The Status cluster has a coefficient alpha of .23 and consists of the values a sense of accomplishment, self respect and social recognition. Obviously this cluster was largely determined by two criteria: content and the elimination of alternatives. However, all three values do show a tendency to correlate similarly with other values.

#### Egocentrism

The Egocentrism cluster has a coefficient alpha of .45 and consists of the values freedom and inner harmony (reflected). The fact that freedom and inner harmony are negatively correlated means that those who place a high

value on freedom tend to place a low value on inner harmony. Who would place a low value on the need for inner harmony? Presumably those who never suffer from inner discord. But the only people who never suffer from discord are those for whom there is no inner conflict, i.e. those with no conscience. Stated another way, those whose inner harmony stems from perfect concordance between conscience and behavior have no need for external freedom.

### Conservatism

The Conservatism cluster has a coefficient alpha of .50 and consists of the values salvation, national security and an exciting life (reflected).

In considering the correlations between clusters, it is important to recall that since communalities were used, the correlations between clusters have been corrected for attenuation. In particular this means that the correlations for Status are grossly overestimated.

The large correlations all center about Hedonism. Hedonism is negatively correlated with Utopianism ( $r = -.68$ ), with Misogamist ( $r = -.64$ ), and with Conservatism ( $r = -.51$ ), i.e. all are strongly in the expected direction.

There are three small correlations. Utopianism correlates negatively with Mature Love ( $r = -.30$ ) and positively with Egocentrism ( $r = +.30$ ) as one might predict from the somewhat slower social development among intellectuals. Finally

Conservatism correlates negatively with Misogamist ( $r = -.33$ ) as one might well expect.

## APPENDIX C

### A DETAILED COMPARISON OF THE LU AND CONTROL GROUPS

The first point which emerges from a detailed consideration of the data is that the experimental manipulation had little or no effect on the LU group. The statistical support for this assertion is shown in Table C1. This table contains point biserial correlations between the change scores and all the various Bernoulli variables that could be defined by a 2x2x2x2x2 analysis of variance with factors of control-experimental and the initial levels on the values equality and happiness, and the initial levels on attitudes towards civil rights and labor unions. Each initial variable was divided at the mean to provide a high-low contrast. Each point biserial correlation corresponds exactly to the named "effect" in the analysis of variance. The square of the correlation is approximately the percent of variance explained by that effect and would have been exact if all the cells had had exactly the same number of subjects. A significant positive correlation in the T column would mean that the LU group is significantly higher on the row variable, i.e. had a significantly more positive mean change score. A significant negative correlation in the E column would mean that subjects who initially placed a high value on equality had a

TABLE C1.--The evidence favoring the view that the Labor Union Group is not different from the Control Group: Point biserial correlations between variable change scores (rows) and Bernoulli variables defined by dichotomizing the initial levels of the values equality and happiness, the attitudes towards civil rights and labor unions, and the treatment (LU group, +1; control group, -1). The interactions of these five variables were also calculated using Bernoulli variables. Since the CR group was not relevant to this analysis the sample size for these correlations is only 64.

	Treatment	EQ	HAP	CR	LU	ExH	ExC	ExL	HxC	HxL	CxL	ExHxC	ExHxL
Establishment	-17	6	12	8	-2	-3	-1	13	-0	12	-1	3	11
Labor unions	-5	8	6	-2	-36	0	-23	-19	-8	17	-4	-3	15
Civil rights	6	-8	-13	-50	2	-5	-23	-10	-14	-5	-4	-14	2
Repression	6	13	19	3	17	26	11	21	5	-0	10	15	-19
Utopianism	9	-7	-23	-3	-1	-20	19	11	7	-23	-11	3	17
Hedonism	-6	1	-4	-13	5	0	-9	-5	-3	9	13	6	-17
Misogamist	-15	3	-15	3	3	-12	-20	-2	14	9	-13	-0	0
Mature love	-2	-14	-1	-2	-22	-1	1	4	-5	-27	-3	-9	-11
Status	-1	-6	-6	-5	14	-20	9	-8	-2	20	-3	-5	-2
Egocentrism	9	-16	7	-16	-6	-15	9	8	-1	17	7	7	39
Conservatism	-7	17	23	-21	5	9	-27	8	1	-2	-9	6	27
Submissiveness	2	6	9	12	3	16	7	0	-2	7	-0	12	4
Benevolence	-23	-8	-9	8	7	-17	2	-8	-5	-9	-4	-16	-25
Ambition	-9	9	3	17	5	12	1	5	23	30	-15	18	12
Self control	14	-4	17	7	16	14	11	0	20	-2	-3	18	21
Courageous	-11	-9	-2	-13	-2	-6	3	-16	-14	7	3	-2	2

ExCxL	HxCxL	ExHxCxL	TxE	TxH	TxC	TxL	TxExH	TxExC	TxExL	TxHxC	TxHxL	TxCxL	TxExHxC	TxExHxL	TxExCxL	TxHxCxL	TxExHxCxL
-15	-14	-4	-2	-3	-1	-17	-13	-3	-8	-3	5	16	11	2	19	-23	2
-11	-2	-3	4	-16	2	-19	-17	-3	-15	-29	3	-1	-13	-15	11	-12	11
-7	1	-10	3	-8	-11	6	0	9	3	7	-18	19	5	2	25	16	9
3	4	23	6	22	-1	-13	17	7	10	-5	-5	9	6	-5	-24	28	20
-16	8	-11	1	-5	-17	19	5	4	-5	12	16	-21	-0	11	-1	8	23
9	-9	-5	9	-7	2	-2	9	-6	-3	7	9	16	5	-6	-28	23	15
11	-13	5	6	-7	7	-18	1	-16	-1	-20	-17	-10	-23	10	14	0	6
15	-20	1	-5	-4	-12	8	2	-5	13	-4	-4	14	-1	-4	8	-21	-27
-7	-21	-0	11	-10	5	-4	-8	14	-2	-8	-12	8	-13	-9	-6	-7	1
-8	10	11	-0	20	16	24	-6	17	6	2	8	22	-4	6	2	20	5
5	-6	3	-13	7	25	5	-15	6	-2	10	-25	10	-16	-23	13	-2	13
18	3	2	-17	8	7	-7	13	7	23	-6	-1	-11	-10	4	-9	18	25
-2	-24	-16	-18	-16	-1	-7	-3	-9	-5	1	-2	-10	-20	-9	-13	-28	-15
-3	9	27	13	13	18	14	13	2	-5	-4	12	0	14	-4	3	12	-1
22	20	11	12	-6	-17	9	11	9	15	-1	-9	-6	1	16	6	15	12
13	-3	-2	-9	-7	2	10	-12	-26	5	10	-0	-4	-11	16	7	8	-3



significantly more negative mean change score on the row variable than did subjects who placed a "low" value on equality. The interpretation of an interaction correlation depends on the lower order correlations in a more complicated manner.

The T column of Table C1 has no significant correlations. Thus there were no significant differences for the treatment main effect, i.e. no simple mean differences between the LU group and the control group. Out of 64 possible simple treatment by subject interactions, only one was significant, and it is counterintuitive. In the control group, the subjects who were initially high on civil rights tended to show a drop in the value they placed on the conservatism cluster (salvation, national security, and exciting life--negatively scored), while subjects who were initially low on civil rights tended to rise in their conservative values. For the LU subjects both groups showed zero change. Thus if the correlations are to be believed, the LU experimental treatment inhibited the natural change in the expected direction.

Of the 176 higher order treatment by subject effects, only 9 were significant and those were only barely so. The only case where the higher order interactions built on significant lower order interactions was the variable Mature Love where the 5-way built on the almost significant 4-way which built on the almost significant 3 way interaction for happiness x civil rights and labor unions!

Therefore, the LU and control groups were pooled for all further computations.

## APPENDIX D

### VALUE AND ATTITUDE CHANGE: TREATMENT BY SUBJECT INTERACTIONS AND OTHER CORRELATES OF CHANGE

Table D1 is a table of point biserial correlations of exactly the same form as those in the previous appendix. In Table D1, the "Experimental" group is the CR group and the "Control" group is the pooled LU + control group. (See Appendix C for the rationale for pooling these two groups.)

Of the 496 correlations in this table, only 40 or about 8 percent are significant. The two largest correlations are the  $-.36$  between initial level on civil rights and change on civil rights and  $-.41$  between initial attitude toward labor unions and the change in that attitude. These are both "spurious" and reflect the fact that when a variable is not perfectly measured, it and its change score share an error of measurement (i.e.  $e_1$  and  $e_2$  and  $e_2 - e_1$ ). The correlations between initial ranking of equality and the Utopianism cluster is also spurious, but is "watered down" by the other two values in the cluster. The same is true of the correlation between happiness and the Hedonism cluster. The two significant treatment correlations have been discussed in the main body of the text. After these correlations are removed, the significance ratio drops to 35/490 or 7 percent, so 25 out of the significant correlations remaining are due to change, only about

TABLE D1.--Point biserial correlations\* between change scores (rows) and Bernoulli variables defined by dichotomizing the initial levels of the values equality and happiness, the attitudes towards civil rights and labor unions, and the treatment (CR group, +1; LU + control group, -1). The interactions of these five variables were also calculated using Bernoulli variables. N=116.\*\*

	Treatment	EQ	HAP	CR	LU	ExH	ExC	ExL	HxC	HxL	CxL	ExHxC	ExHxL
Establishment	1	4	10	-5	-5	7	-2	2	-0	4	5	-3	0
Labor unions	22	6	3	-1	-36	4	-9	-16	4	18	-8	0	9
Civil Rights	10	-17	-7	-41	5	5	-9	2	-14	9	3	-4	-8
Repression	-6	10	-4	4	-0	8	-6	16	5	-11	12	0	-6
Utopian	25	-20	-4	-14	2	-21	23	-4	-4	-1	-9	18	13
Hedonism	-6	2	-16	-0	9	-0	-7	-2	6	10	-2	-3	-9
Misogamist	8	8	-9	1	-2	-8	-11	1	16	11	-8	5	9
Mature love	-10	0	-7	-1	-9	5	-19	8	-4	-20	11	-10	-11
Status	5	11	-7	7	-10	7	-4	-1	-2	2	4	-20	0
Egocentrism	-1	-24	-0	-4	-8	-4	4	11	-1	3	0	5	19
Conservatism	-3	-4	8	-6	15	-11	-8	7	-10	6	-14	5	18
Submissiveness	-3	8	5	3	-4	-1	-6	-0	-1	-5	3	22	14
Benevolence	-15	-2	-8	9	14	-9	3	-5	4	-3	-1	-16	-17
Ambition	13	12	4	2	-2	10	-1	-1	12	9	0	9	4
Self control	13	-5	5	1	5	1	9	-1	12	4	-9	26	14
Courageous	-10	-3	-3	-2	-1	0	7	-5	-13	3	1	-9	3

\* Tabled values equal rx100

\*\*  $r_{.05, 114} = .184$  two tail

ExCxL	HxCxL	ExHxCxL	TxE	TxH	TxC	TxL	TxExH	TxExC	TxExL	TxHxC	TxHxL	TxCxL	TxExHxC	TxExHxL	TxExCxL	TxHxCxL	TxExHxCxL
-6	-7	-2	-3	-4	-14	-2	10	-1	-12	1	-10	7	-7	-12	11	9	2
-10	-8	-3	2	-0	4	9	-2	23	11	14	-3	1	4	-11	8	-3	0
-1	5	4	-6	10	18	3	8	20	15	3	14	11	12	-10	8	5	15
-1	-2	-3	-4	-25	0	-19	-17	-18	-7	-0	-11	-0	-16	14	-6	-7	-28
-13	-10	-1	-8	20	-9	5	-9	11	-10	-9	20	6	15	-4	6	-14	9
11	-6	-6	-0	-13	13	4	1	1	3	8	0	-17	-9	8	1	2	-0
6	-0	3	6	8	-1	-5	3	12	5	0	2	8	5	8	-4	15	-3
25	-5	-6	12	-8	-0	14	9	-22	2	1	9	12	-1	1	8	14	-7
-7	10	-2	18	-0	12	-23	24	-10	7	0	-17	7	-15	2	1	30	2
-15	2	3	-5	-8	15	-1	13	-7	1	-0	-16	-8	-3	-25	-6	-14	-10
3	-5	9	-21	-15	14	10	-18	17	-2	-11	8	-6	-1	-8	-3	0	6
6	8	-16	1	-5	-10	-7	-17	-14	-1	2	-13	3	9	9	-13	4	-18
4	-25	-5	3	-1	-1	6	12	-3	1	9	7	0	1	11	3	-1	13
1	6	10	6	3	-14	-6	-6	1	-4	-12	-23	19	-10	-9	7	-2	-19
7	9	-5	2	-10	-5	-11	-17	0	1	-8	6	-3	7	-8	-13	-10	-17
1	11	0	4	-3	11	0	8	1	11	2	-4	-4	-6	1	-15	13	3

10 of the 35 are valid.

Table D2 shows the change in attitude toward civil rights as a function of the subject's initial attitude, the value he places on equality, and the treatment manipulation.

TABLE D2.--Mean changes and cell sizes for attitudes toward civil rights as a function of initial attitude toward civil rights, initial ranking of equality, and treatment.

		Treatment			
		<u>Control</u>		<u>Civil Rights Group</u>	
		Civil Rights		Civil Rights	
		Low	High	Low	High
Equality	High	.429 14	-.335 25	.022 10	-.076 19
	Low	.224 14	-.196 11	.396 16	.020 7

The three way interaction here is significant. Consider first the control group. The dominant feature of this table is the regression to the mean. Thus subjects who were initially low increased by .33 while subjects who were high decreased by -.27. Normally this would be considered an artifact of unreliability in the instrument, but there is reason to believe this may not be true for the civil rights variable. First, the internal consistency is virtually 1.0. Second, the time correlations are  $r_{12}=.80$ ,  $r_{23}=.86$ ,  $r_{13}=.69$ . Since  $.80 (.86)=.69$ , this series fits the assumption of a Markov process measured without error. Third, the

experimental group showed no evidence of regression and the treatment would not effect the unreliability of the instrument.

Thus the regression in the control group is real; those who start high show a tendency to drop while those who start low tend to rise. One explanation for this is the following: in day-to-day life the general tenor of the messages concerning civil rights that these students hear tends to be at about the level of their median attitude. Thus those above the median are exposed to relatively negative arguments while those below the median are exposed to relatively positive statements. The discrepancy theory of attitude change would then predict the observed results (Anderson and Novland, 1957; Anderson, 1959; Abelson, 1964; Hunter and Cohen, 1972).

On the other hand, the students in the treatment group showed essentially no change. That is, the apparent effect of the treatment message was not to produce change, but rather to inhibit all the existing tendency toward change in the natural situation. How could this happen? If the message greatly sensitized the subject to the issue, then the main result may have been an increased tendency for the subject to get into discussions about civil rights. If so, the subject probably spent most of that time talking to his intimate friends. Since his friends (on the average) share his opinion exactly, the net result would be no change. Thus the bolstering effect of the message may represent the fact that subjects in the experimental group got relatively

more of their non-experimental communications from intimate friends rather than less "biased" casual sources such as TV, magazines, etc.

The variables Establishment, Hedonism, Misogamist, and Courageous have no significant point biserial correlations. The variables Submissiveness, Benevolence, Ambition and Self Control have only third or higher order interactions without lower order support. Egocentrism shows no treatment effects, though there is a tendency for those who place a high value on equality to decline on this cluster, while those who are low on equality go up by the same amount.

The Repression cluster has two unsupported treatment by subject interactions. The TxH correlation is  $-.25$ . If the population follows this pattern, then people who place a high value on happiness tend to become more positive toward the establishment while those who place a low value on happiness decline. The CR treatment exactly reverses this trend. The unsupported correlation for TxLU is  $-.19$  and would be interpreted similarly.

The Conservatism cluster has an unsupported TxE correlation of  $-.21$  and a TxExH correlation of  $-.18$ . This means that those who place a low value on happiness had a TxE of about zero while those who place a high value on happiness have an unsupported TxE correlation of about  $-.40$ . Thus among those who value happiness, there is a strong natural tendency for those who value equality to increase in Conservatism, while those who don't value equality decrease

in Conservatism. The CR treatment exactly reverses these trends. This all seems highly unlikely.

The status cluster shows a similar pattern of correlations: the TxEx coefficient is .18 while the TxExH correlation is .24. Thus those who are low on happiness show no treatment or equality effect while those who are high in their value on happiness have an unsupported TxEx of about .40. Thus those who are high on happiness show a natural tendency to decline in the value they place on Status, while those who are low on happiness tend to increase. The CR treatment reverses both trends. The Status cluster also has an unsupported TxLU of -.23, so those who were initially high on labor unions declined, while those who were low went up.

Mature Love is a complicated variable! First, there is an unsupported ExCR correlation of -.19. This is modified by a TxExC of -.22. Thus in the control group there is no ExC interaction while in the CR experimental group the coefficient is about -.40. That is, in the experimental group, those who are either high on both equality and civil rights or low on both equality and civil rights show a sharp decline in the value they place on Mature Love; those who are low on one and high on the other show an equally sharp increase. If this is difficult to interpret, then consider the following fact. The ExCRxLU correlation is +.25. Therefore, there is no ExCR interaction in the group that has a highly positive attitude toward labor unions, while those with negative attitudes toward labor unions show a strong ExCR



interaction of  $-.47$ . That is, among those who dislike unions, the subjects who are high on both equality and civil rights and the subjects who are low on both show a sharp decline in the value they place on Mature Love. Those who are high on one and low on the other show an equally sharp increase. Finally Mature Love has an unsupported HxLU correlation of  $-.20$ . Therefore among those with a positive attitude toward labor unions, a high value on happiness is associated with a tendency to decline in the value placed on Mature Love. Among those with negative attitudes toward labor unions, a high value on happiness means a tendency to increase the value placed on Mature Love while a low value on happiness presages a decrease.

The results for attitude toward labor unions are difficult to interpret because there is an unknown amount of regression to the mean due to differences in the initial attitudes toward labor unions. However, differences among those who are high in initial attitude are comparable to differences among those who are negative. Among those with positive attitudes toward labor unions, those who value happiness decline by much less than those who don't. Those who place a low value on happiness increase by much more than those who value it highly.

Table D3a presents the mean changes and cell sizes that determine the significant three way interaction for the change in equality as a function of the subject's initial values on equality and happiness and his attitude toward civil rights. This data is greatly complicated by the fact that this table contains one of the worst cell distributions in the entire study. To bring this out clearly, Table D3b shows the three two way tables that would result from simply averaging the entries in the three way table as if the cell

sizes were all equal. It makes a difference, particularly in the table for happiness by civil rights. The high happiness, low civil rights cell reads .12 if the corresponding cells are simply averaged. If the cell for the low equality group is weighted twice as heavily ( $N=22$  vs.  $N=11$ ), then that cell entry would have been  $+.67$ . The change from  $+.12$  to  $+.67$  is sufficient to wipe out both the happiness main effect and the happiness by civil rights interaction. And in fact this is precisely what happened to the point biserial correlations in Table D1. Therefore if you accept the numbers in this three way table, then you should mentally adjust the point biserial for happiness to about  $-.15$  and

TABLE D3.--An analysis of the means and cell sizes for the significant ExHxC interaction for equality

Table D3a

Mean changes and cell sizes for equality as a function of initial rankings of equality and happiness and initial civil rights attitude

		Equality			
		<u>Low</u>		<u>High</u>	
		Civil Rights		Civil Rights	
		Low	High	Low	High
Happiness	High	1.75 22	-1.81 12	-1.52 11	.099 22
	Low	1.125 8	-.25 6	.667 13	.394 22

TABLE D3.--Continued

Table D3b

The three possible 2-way tables of mean changes on equality derived from Table D3a but assuming equal cell frequencies

		Equality	
		Low	High
Happiness	High	.77	-.71
	Low	.44	.53

		Civil Rights	
		Low	High
Happiness	High	.12*	-.04
	Low	.90	.07

		Civil Rights	
		Low	High
Equality	High	-.42	.25
	Low	1.44	-.21

---

\* NOTE: This cell would be .67 if calculated with the unequal cell size formula

that for the happiness by civil rights interaction to about +.18

The number which intrudes on every attempt to interpret this table is the mean for the high happiness, low civil rights, high equality group. This group decreased -.152 while every other high equality cell mean increased (average = .39) and every other low civil rights group increased dramatically (average = 1.15). If this single number is rejected, then all the interactions are nonsignificant. The interpretation would then be quite straightforward. University students who have a "poor" attitude toward civil rights are being continually bombarded with messages that run counter to their beliefs. It seems quite likely that this barrage of propaganda would generalize to such closely related values as equality.

Table D4a presents the basic means for the significant three way interaction of change in the value of equality as a function of the subject's value on happiness, his attitude toward labor unions, and the treatment manipulation. Consider first the control group. Subjects with a negative attitude toward labor unions did not change in the values they place on equality. Among the subjects who hold a positive attitude toward labor unions, there were opposing forces. Those with a low value for happiness increased their value on equality. Those with a high value for happiness went down.

In the experimental group there was a general increase in the value placed on equality. Among those with a negative

TABLE D4.--A further analysis of the ExHxLU interaction for change in equality.

Table D4a

Mean changes in equality as a function of treatment, the initial value of happiness, and the initial attitude toward labor union.

		Treatment			
		<u>Control</u>		<u>Experimental</u>	
		Labor Unions		Labor Unions	
		Low	High	Low	High
Happiness	High	-.059 17*	-.767 20	.686 17	2.04 13
	Low	-.069 12	.767 15	.823 16	.167 6

Table D4b

Relative mean changes in equality as a function of the initial value of happiness and the initial attitude toward labor unions derived by subtracting the control table from the experimental table in TABLE D4a

		Labor Unions	
		Low	High
Happiness	High	.75	2.81
	Low	.89	-.60

\*The number in the lower right of each cell indicates the number of subjects in that cell.

attitude toward labor unions, there was an increase of about .75. Among those with a positive attitude toward labor unions, there was more variance. Those with a low value for happiness increased only .17, while those with a high value for happiness increased by 2.04.

The thing that makes these results bizarre is the comparison of the control and experimental data for the subjects with a positive attitude toward labor unions. To bring this out with complete clarity, suppose we measure the treatment effect by the conventional "experimental-control." Then we obtain the means in Table D4b. Those with negative attitudes toward labor unions show an increased value toward equality due to the treatment of about .82. Those who had a positive attitude toward labor unions and a high value on happiness showed a treatment difference of 2.81. Those with a positive attitude toward unions and a low valuation of happiness actually show a negative treatment difference of -.60! If you believe these numbers, then this last group responded to a strong message pleading the cause of equality by changing .60 points less than they would have if not exposed.

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## APPENDIX E

### ATTITUDE AND VALUE CHANGE WITHIN THE CR GROUP

Table E1 presents mean changes for the attitudes and values for four subgroups of the CR group: Table E1a the changes from Session 1 to Session 2 and Table E1b from Session 1 to Session 3. The four subgroups were determined by dividing the group at the means of the value equality and the civil rights attitude. These tables are presented here so that comparisons may be made between the present results and those reported by Rokeach (1968).

Table E2 is a table of point biserial correlations similar in form to those in the two previous appendices. Since this table shows only relationships within the CR group there are no correlations for treatment effect or treatment interactions.

Of the 240 correlations in this table 26 or 11 percent are significant, if we count the three .27's that are marginal. By chance, about 12 of the 26 are due solely to sampling error. Repression and value clusters Submissiveness, Benevolence, Self Control and Courageous collectively have seven 3 or 4-way interactions that do not have lower order support. If we delete the above mentioned relationships from consideration, then about 5 of the remaining 19 should be sampling errors. Finally 4 of the coefficients



TABLE Elb.--Mean change of attitudes and values from  
Session 1 to Session 3 in the Civil Rights Group

	Hi Eq		Lo Eq	
	Hi CR	Lo CR	Hi CR	Lo CR
Establishment 1	-.11	.08	-.08	.05
Labor unions	.32	.41	.21	.24
Civil rights	-.11	.09	-.06	.36
Repression	-.03	.08	.22	-.11
A world at peace	-.05	-1.70	-3.29	.75
A world of beauty	1.16	1.70	.14	4.06
Equality	.32	.10	3.29	5.56
A comfortable life	-.79	-1.90	-1.43	.38
Happiness	.84	2.50	-.14	-.94
Pleasure	.68	-1.60	1.86	-1.13
Wisdom	.32	.20	-1.71	-.13
Family security (R) *	.21	.80	1.14	1.19
True friendship	.90	-.50	.43	-.81
Mature love	-1.26	2.00	1.57	-1.94
A sense of accomplishment	-2.00	1.50	.29	-1.38
Self respect	.53	-.40	1.14	-1.75
Social recognition	.84	2.40	-1.14	-1.81
Freedom	1.21	-.10	2.57	2.31
Inner harmony (R)	-1.26	-1.80	2.86	.63
Salvation	-1.79	-4.10	2.14	-1.06
National security	-1.05	-2.10	-.71	.56
Exciting life (R)	.90	-1.00	1.00	.88
Obedient	.16	2.90	-2.29	-.50
Polite	-.74	-.40	-1.86	.81
Clean	-1.16	1.10	1.43	.63
Responsible	.42	-.50	1.71	-.13
Broadminded (R)	.11	1.00	1.86	-.19
Intellectual (R)	-.16	-.70	-2.14	-.13
Imaginative (R)	-1.26	1.50	.71	-1.19
Helpful	-.79	-.20	2.43	-1.75
Forgiving	-.11	.10	-2.29	-.81
Loving	-.42	-1.60	-2.29	-.69
Capable	.21	3.10	2.00	.81
Independent	.74	2.60	-2.29	2.56
Honest (R)	-.11	1.70	-3.43	-.63
Ambitious	.05	.10	-.29	-1.25
Self-controlled	.11	.00	1.29	.31
Cheerful (R)	.79	.50	.86	2.00
Logical	.26	-1.60	.71	-.13
Courageous	.63	-1.60	-.43	.56

TABLE E2.--Correlates of change for the Civil Rights Group: Point biserial correlations\* between change scores (rows) and Bernoulli variables defined by dichotomizing the initial levels of the values equality and happiness, and the attitudes towards civil rights and labor unions. The interactions of these four variables were also calculated using Bernoulli variables N=52.\*\*

	EQ	HAB	CR	LT	HXH	FXC	FXL	HXC	HXL	CXL	FXHC	FXHL	EXCXL	HXCXL	FXHXCXL
Establishment I	1	7	-22	-8	19	-3	-12	1	-8	14	-12	-13	6	2	1
Labor unions	7	-0	4	-31	6	10	-2	30	19	-9	0	-1	-11	-15	-11
Civil rights	-30	2	-28	14	18	10	23	-12	27	18	7	-21	6	13	21
Repression	7	-31	5	-23	-10	-24	8	4	-22	13	-15	7	-6	-10	-33
Utopian	-31	13	-23	14	-27	26	-10	-9	17	-2	28	11	-12	-23	2
Hedonism	2	-29	13	12	1	-4	0	13	11	-20	-10	-2	14	-5	-6
Misogamist	14	-2	0	-5	-5	-1	7	19	14	-0	10	20	-0	17	-2
Mature love	15	-14	-1	2	13	-41	9	-6	-11	23	-10	-11	37	9	-12
Status	27	-8	18	-31	30	-16	7	-1	-14	10	-34	2	-7	38	3
Egocentrism	-33	-9	13	-10	11	-4	14	-2	-14	-9	2	-8	-24	-18	-8
Conservatism	-24	-7	8	25	-29	11	4	-21	14	-20	4	10	1	-5	16
Submissiveness	9	1	-7	-12	-20	-22	-2	0	-19	6	35	25	-7	13	-37
Benevolence	4	-7	9	18	1	5	-7	13	6	-1	-13	-8	12	-30	13
Ambition	18	6	-13	-4	6	-5	-3	2	-17	21	-4	-5	6	5	-13
Self control	-5	-7	-4	-2	-15	5	1	6	9	-12	33	8	-9	-1	-28
Courageous	2	-5	9	-4	8	13	4	-15	-1	-4	-15	4	-13	27	6

\* Tabled values equal rx100

\*\*  $r_{.05,50} = .273$  two tail

are spuriously high because of regression artifacts, leaving 5 of 14 or about 1/3 of those to be interpreted as expected to be false.

Attitude toward civil rights shows a spurious CR coefficient of  $-.28$  and an unsupported happiness by labor unions interaction of  $.27$ . The  $-.30$  for equality reflects the fact that those who rank equality high show no change in their attitude toward civil rights while those who rank equality low show an increase.

People who initially rank equality high tend to decrease in their value for the Egocentrism cluster, i.e. they tend to decrease on freedom and increase on inner harmony. Those who rank equality low show the opposite trend.

Mature Love has the largest correlation in Table E2: a  $.41$  for Eq x CR. The only other correlation is a large  $+.37$  for Eq x CR x LU. What this means is that subjects with a positive initial attitude toward labor unions showed no change in the value they place on Mature Love while subjects who are initially negative toward labor unions show an interaction on the order of  $r = -.80$ ! Thus among those who dislike unions, those who are low on both civil rights and equality and those who are high on both civil rights and equality show a very strong decrease in their value for Mature Love. One explanation for this would assume that those students who are negative toward labor unions, civil rights, and equality include those from hard nosed business families while those who are positive toward equality and civil rights

but negative toward labor unions would include the campus radicals. Both of these groups feel harshly about "sentimentality" and hence provide an environment in which a student's attitude toward love should become less positive (more "realistic"). On the other hand, among the subjects with negative attitudes toward labor unions, those who are high on civil rights and low on equality or low on civil rights but high on equality show an opposite but equally strong increase in the value they place on Mature Love. The explanation here is more tenuous. Students from a religious business background would probably be negative toward unions and civil rights but react positively toward "equality" in the abstract. Since Mature Love is one of the few values for this group that is not attacked in a college environment, it is likely to become stronger. Another relevant group is the students whose fathers are nonacademic professionals, i.e. doctors, lawyers, etc. These students would be negative toward labor unions and equality, but would be positive toward civil rights as a special case reflecting the father's education. Since most of these students are probably already established in their achievement goals of education, contacts, etc., it is likely that they are turning to more "secondary" goals such as Mature Love. If this were true, then Mature Love would be expected to increase from its initially low value.

There was a general increase in the average value placed on the Utopianism cluster. However, most of this

increase was produced by the group that initially gave low rankings to both equality and happiness ( $\bar{X}=2.48$ ) while the other three groups showed little increase ( $\bar{X}=.45$ ). One would have expected the increase to come in the group that was low on equality but high on happiness.

There is a correlation of  $-.31$  between initial rank on happiness and change in the cluster of attitudes toward Repression. Those who rank happiness high show a decrease while those who rank happiness low show an increase.

Attitude toward labor unions has a labor union coefficient of  $-.31$  and a happiness by labor union interaction of  $+.30$ . Thus those who are high in their initial value for happiness show no change. Among those who initially rank happiness low, those who are negative toward labor unions become much less negative while those who were positive become much less positive.

The change in Social Recognition has five significant correlations, two of which are large three way interactions. Table E3 shows the mean change for each of the 16 cells. The pattern is extremely complex and there is no obvious hypothesis which would account for this data.

Conservatism has a significant Eq x Hap interaction of  $-.29$  and an almost significant  $-.24$  for equality. Those who initially ranked happiness low showed no change. Among those who gave happiness a high rank, those who were low on equality showed an increase in Conservatism of  $.64$  while those who were high on equality decreased by  $-1.4$ .

TABLE E3.--The mean change in the ranking of social recognition as a function of initial levels of the variables labor unions, equality, civil rights, and happiness

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		<u>Labor Unions--Low</u>			
		Equality			
		<u>Low</u>		<u>High</u>	
		Civil Rights		Civil Rights	
		Low	High	Low	High
Happiness	High	-1.06	.28	3.70	.59
	Low	-.52	1.68	-1.46	1.83

		<u>Labor Unions--High</u>			
		Equality			
		<u>Low</u>		<u>High</u>	
		Civil Rights		Civil Rights	
		Low	High	Low	High
Happiness	High	-4.75	.03	.01	.28
	Low	.41	-1.28	-.52	-.83

---

## APPENDIX F

### ATTITUDE AND VALUE INSTRUMENTS

This appendix contains a representative portion of the semantic differential used in the present study to assess attitudes and Form E of the Rokeach Value Survey. This copy bears a heading for Session 1 but the instruments used in all three testing sessions are essentially identical.

A sample page is given for two of the twenty concepts (Migrant Workers and The Draft) tested by the semantic differential. Nine pages of the semantic differential have been omitted for the sake of brevity. They are identical in format and have the same set of bipolar adjective pairs as the sample page, referred to above, for the remaining eighteen concepts, two per page, in the following order:

- 1) Psychologists
- 2) Open housing laws that forbid discrimination against Negroes
- 3) Pollution
- 4) Strikes
- 5) Computers
- 6) The use of sit-in, lie-in and picket line tactics by civil rights demonstrators
- 7) Law-and-Order
- 8) Inter-racial marriage
- 9) Disruptive protests
- 10) Small Business Men
- 11) Wire Tapping
- 12) Labor Unions
- 13) Large Corporations
- 14) School "busing" to achieve racial integration
- 15) Police
- 16) Boycotts
- 17) The Civil Rights Movement
- 18) Hippies

**SESSION I - PART I****SOCIAL ISSUES AND PERSONAL VALUES****NAME:** \_\_\_\_\_ **STUDENT No.** \_\_\_\_\_**PHONE:** \_\_\_\_\_ **SEX:** \_\_\_\_\_ **AGE:** \_\_\_\_\_

**This is a scientific study of attitude and value systems. There are no right or wrong answers in the study. The best answer is your own personal opinion.**

**In Part I you will find different sets of instructions as you go along. It is important that you read and follow them carefully. If you have any questions about the instructions do not hesitate to ask. Please use a pencil to mark your responses so that you may erase if you change your mind.**



85  
OBJECT JUDGEMENT TASK

Group # \_\_\_\_\_ Name \_\_\_\_\_ Subject # \_\_\_\_\_

The purpose of this study is to measure the meanings of certain things to various people by having them judge them against a series of descriptive scales. In taking this test, please make your judgments on the basis of what these things mean to you. On several pages of this test booklet you will find concepts to be judged, and beneath each a set of scales. You are to rate the concept on each of these scales in order.

If you feel that the concept is very closely related to one end of the scale you should place your X-mark as follows:

President Adams (is)

Fair : X : \_\_ : \_\_ : \_\_ : \_\_ : \_\_ : Unfair  
or

Fair : \_\_ : \_\_ : \_\_ : \_\_ : \_\_ : X : Unfair

If you feel that the concept is quite closely related to one end of the scale (but not extremely related), you should place your mark as follows:

George Romney (is)

Strong : \_\_ : X : \_\_ : \_\_ : \_\_ : \_\_ : Weak  
or

Strong : \_\_ : \_\_ : \_\_ : \_\_ : \_\_ : X : Weak

If the concept seems only slightly related to one side as opposed to the other side (but is not really neutral), then you should mark as follows:

N.A.A.C.P. (is)

Active : \_\_ : \_\_ : X : \_\_ : \_\_ : \_\_ : Passive  
or

Active : \_\_ : \_\_ : \_\_ : \_\_ : X : \_\_ : Passive

If you consider the concept to be neutral on the scale, both sides of the scale equally associated with the concept, or if the scale is completely irrelevant, unrelated to the concept, then you should place your mark in the middle space, as shown below:

The American Flag (is)

Safe : \_\_ : \_\_ : \_\_ : X : \_\_ : \_\_ : Dangerous

IMPORTANT: (1) Place your X-marks in the middle of spaces, not on the boundaries:

	This		Not This
:	__:	X:	__:
:	__:	X:	__:

(2) Be sure you check every scale for every concept--  
do not omit any.

(3) Never put more than one X-mark on a single scale.

Make each scale item a separate and independent judgement. Once you have made a judgement, move on to the next one, do not look back, or consider past judgements. Work at fairly high speed through this test. Do not worry or puzzle over individual items. There are no "right" or "wrong" answers. It is your first impression, your immediate "feelings" about the concept and scale that we want. On the other hand, please do not be careless, because we want your true impressions.

**Migrant Workers (are)**

Stodgy	:__:__:__:__:__:__:__:__:__:	Innovative
Good	:__:__:__:__:__:__:__:__:__:	Bad
Declining	:__:__:__:__:__:__:__:__:__:	Growing
Productive	:__:__:__:__:__:__:__:__:__:	Destructive
Exploitive	:__:__:__:__:__:__:__:__:__:	Public Spirited
Valuable	:__:__:__:__:__:__:__:__:__:	Worthless
Inefficient	:__:__:__:__:__:__:__:__:__:	Efficient
Honest	:__:__:__:__:__:__:__:__:__:	Dishonest
Undesirable	:__:__:__:__:__:__:__:__:__:	Desirable
Becoming more important	:__:__:__:__:__:__:__:__:__:	Becoming less important

**The Draft (is)**

Stodgy	:__:__:__:__:__:__:__:__:__:	Innovative
Good	:__:__:__:__:__:__:__:__:__:	Bad
Declining	:__:__:__:__:__:__:__:__:__:	Growing
Productive	:__:__:__:__:__:__:__:__:__:	Destructive
Exploitive	:__:__:__:__:__:__:__:__:__:	Public Spirited
Valuable	:__:__:__:__:__:__:__:__:__:	Worthless
Inefficient	:__:__:__:__:__:__:__:__:__:	Efficient
Honest	:__:__:__:__:__:__:__:__:__:	Dishonest
Undesirable	:__:__:__:__:__:__:__:__:__:	Desirable
Becoming more important	:__:__:__:__:__:__:__:__:__:	Becoming less important

### VALUE SURVEY

Below is a list of 18 values arranged in alphabetical order. Your task is to arrange them in order of their importance to YOU, as guiding principles in YOUR life.

Study the list carefully. Then place a 1 next to the value which is most important for you, place a 2 next to the value which is second most important to you, etc. The value which is least important, relative to the others, should be ranked 18.

Work slowly and think carefully. If you change your mind, feel free to change your answers. The end result should truly show how you really feel.

- \_\_\_\_\_ A COMFORTABLE LIFE (a prosperous life)
- \_\_\_\_\_ AN EXCITING LIFE (a stimulating, active life)
- \_\_\_\_\_ A SENSE OF ACCOMPLISHMENT (lasting contribution)
- \_\_\_\_\_ A WORLD AT PEACE (free of war and conflict)
- \_\_\_\_\_ A WORLD OF BEAUTY (beauty of nature and the arts)
- \_\_\_\_\_ EQUALITY (brotherhood, equal opportunity for all)
- \_\_\_\_\_ FAMILY SECURITY (taking care of loved ones)
- \_\_\_\_\_ FREEDOM (independence, free choice)
- \_\_\_\_\_ HAPPINESS (contentedness)
- \_\_\_\_\_ INNER HARMONY (freedom from inner conflict)
- \_\_\_\_\_ MATURE LOVE (sexual and spiritual intimacy)
- \_\_\_\_\_ NATIONAL SECURITY (protection from attack)
- \_\_\_\_\_ PLEASURE (an enjoyable, leisurely life)
- \_\_\_\_\_ SALVATION (saved, eternal life)
- \_\_\_\_\_ SELF-RESPECT (self-esteem)
- \_\_\_\_\_ SOCIAL RECOGNITION (respect, admiration)
- \_\_\_\_\_ TRUE FRIENDSHIP (close companionship)
- \_\_\_\_\_ WISDOM (a mature understanding of life)

Below is a list of another 18 values. Rank these in order of importance in the same way you ranked the first list on the preceding page.

- \_\_\_\_\_ AMBITIOUS (hard-working, aspiring)
- \_\_\_\_\_ BROADMINDED (open-minded)
- \_\_\_\_\_ CAPABLE (competent, effective)
- \_\_\_\_\_ CHEERFUL (lighthearted, joyful)
- \_\_\_\_\_ CLEAN (neat, tidy)
- \_\_\_\_\_ COURAGEOUS (standing up for your beliefs)
- \_\_\_\_\_ FORGIVING (willing to pardon others)
- \_\_\_\_\_ HELPFUL (working for the welfare of others)
- \_\_\_\_\_ HONEST (sincere, truthful)
- \_\_\_\_\_ IMAGINATIVE (daring, creative)
- \_\_\_\_\_ INDEPENDENT (self-reliant, self-sufficient)
- \_\_\_\_\_ INTELLECTUAL (intelligent, reflective)
- \_\_\_\_\_ LOGICAL (consistent, rational)
- \_\_\_\_\_ LOVING (affectionate, tender)
- \_\_\_\_\_ OBEDIENT (dutiful, respectful)
- \_\_\_\_\_ POLITE (courteous, well-mannered)
- \_\_\_\_\_ RESPONSIBLE (dependable, reliable)
- \_\_\_\_\_ SELF-CONTROLLED (restrained, self-disciplined)

Now we are interested in knowing how you feel about the way you ranked these 36 values in general. Please circle one number on the following scale.

1	2	3	4	5	6	7
I care very much about the order in which I ranked these values.						It does not make much difference which order I put them in.

## APPENDIX G

### CONTROL GROUP INSTRUMENTS, SESSION 1--Part II

This appendix contains a representative portion of the "dummy" instrument used as time filler with the Control group during Session 1. The last four pages of this questionnaire have been omitted for the sake of brevity and have the same format as the sample page shown (headed "How do your friends feel about:") for the following four reference groups mentioned at the top of each page:

- 1) How do students in general at MSU feel about:
- 2) How do people in your home town feel about:
- 3) How does the nation as a whole feel about:
- 4) How do television newsmen feel about?

## SESSION I - PART II

NAME: \_\_\_\_\_ STUDENT No. \_\_\_\_\_

A large portion of the preceeding questionnaire was concerned with what you think about a number of concepts and social issues. We would now like for you to assist us in assessing how others feel about these topics.

On the following pages you will find the topics listed again. Please circle the response (under each topic) which most nearly expresses the way you think the group listed at the top of the page feels about the topic. Respond by using the following scale:

1. almost all feel negative (are against)
2. more feel negative than positive
3. almost all feel neutral (neither for nor against)
4. more feel positive than negative
5. almost all feel positive

If you feel that you cannot make a judgement about how the particular group feels about the topic, circle category 3 (neutral).

How do your friends feel about:

**Migrant Workers**

1 2 3 4 5

**The Draft**

1 2 3 4 5

**Psychologists**

1 2 3 4 5

**Open housing laws that forbid discrimination against Negroes**

1 2 3 4 5

**Pollution**

1 2 3 4 5

**Strikes**

1 2 3 4 5

**Computers**

1 2 3 4 5

**The use of sit-in, lie-in and picket line tactics by civil rights demonstrators**

1 2 3 4 5

**Law-and-Order**

1 2 3 4 5

**Inter-racial marriage**

1 2 3 4 5

**Disruptive Protests**

1 2 3 4 5

**Small Business Men**

1 2 3 4 5

**Wire Tapping**

1 2 3 4 5

**Labor Unions**

1 2 3 4 5

**Large Corporations**

1 2 3 4 5

**School "bussing" to achieve racial integration**

1 2 3 4 5

**Police**

1 2 3 4 5

**Boycotts**

1 2 3 4 5

**The Civil Rights Movement**

1 2 3 4 5

**Hippies**

1 2 3 4 5



## APPENDIX H

### EXPERIMENTAL MATERIALS AND INSTRUMENTS USED WITH THE CR GROUP IN SESSION 1

## SESSION I - PART II

## SOCIAL ISSUES AND PERSONAL VALUES

NAME: \_\_\_\_\_ STUDENT No. \_\_\_\_\_

Now copy your answers from the value scale on the next to the last page of Part I onto this page. Take care that you do not copy the answers from the last page of Part I.

## MY OWN VALUE SYSTEM

\_\_\_\_\_ A COMFORTABLE LIFE

\_\_\_\_\_ AN EXCITING LIFE

\_\_\_\_\_ A SENSE OF ACCOMPLISHMENT

\_\_\_\_\_ A WORLD AT PEACE

\_\_\_\_\_ A WORLD OF BEAUTY

\_\_\_\_\_ EQUALITY

\_\_\_\_\_ FAMILY SECURITY

\_\_\_\_\_ FREEDOM

\_\_\_\_\_ HAPPINESS

\_\_\_\_\_ INNER HARMONY

\_\_\_\_\_ MATURE LOVE

\_\_\_\_\_ NATIONAL SECURITY

\_\_\_\_\_ PLEASURE

\_\_\_\_\_ SALVATION

\_\_\_\_\_ SELF-RESPECT

\_\_\_\_\_ SOCIAL RECOGNITION

\_\_\_\_\_ TRUE FRIENDSHIP

\_\_\_\_\_ WISDOM

When you have finished this page, hand in Part I then go on to the next page.

Below you will find the first set of 18 values listed again.  
This time rank them in the order you think MSU students on  
the average would rank them.

- \_\_\_\_\_A COMFORTABLE LIFE (a prosperous life)
- \_\_\_\_\_AN EXCITING LIFE (a stimulating, active life)
- \_\_\_\_\_A SENSE OF ACCOMPLISHMENT (lasting contribution)
- \_\_\_\_\_A WORLD AT PEACE (free of war and conflict)
- \_\_\_\_\_A WORLD OF BEAUTY (beauty of nature and the arts)
- \_\_\_\_\_EQUALITY (brotherhood, equal opportunity for all)
- \_\_\_\_\_FAMILY SECURITY (taking care of loved ones)
- \_\_\_\_\_FREEDOM (independence, free choice)
- \_\_\_\_\_HAPPINESS (contentedness)
- \_\_\_\_\_INNER HARMONY (freedom from inner conflict)
- \_\_\_\_\_MATURE LOVE (sexual and spiritual intimacy)
- \_\_\_\_\_NATIONAL SECURITY (protection from attack)
- \_\_\_\_\_PLEASURE (an enjoyable, leisurely life)
- \_\_\_\_\_SALVATION (saved, eternal life)
- \_\_\_\_\_SELF-RESPECT (self-esteem)
- \_\_\_\_\_SOCIAL RECOGNITION (respect, admiration)
- \_\_\_\_\_TRUE FRIENDSHIP (close companionship)
- \_\_\_\_\_WISDOM (a mature understanding of life)

When you have finished this page, stop and wait for further instructions.

DO NOT GO ON TO THE NEXT PAGE.

Now, I would like to tell you some things we have already found out about the value systems of Michigan State students. I am sure that many of you would like to know what they are.

This same value system scale was filled out by 298 students in Psychology 151. The responses of these students were obtained and averaged together. The table below shows the results.

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TABLE 1. RANK ORDER OF IMPORTANCE TO 298 MICHIGAN STATE STUDENTS

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<u>13</u>	A COMFORTABLE LIFE
<u>12</u>	AN EXCITING LIFE
<u>6</u>	A SENSE OF ACCOMPLISHMENT
<u>10</u>	A WORLD AT PEACE
<u>17</u>	A WORLD OF BEAUTY
<u>11</u>	EQUALITY
<u>9</u>	FAMILY SECURITY
<u>1</u>	FREEDOM
<u>2</u>	HAPPINESS
<u>8</u>	INNER HARMONY
<u>5</u>	MATURE LOVE
<u>16</u>	NATIONAL SECURITY
<u>18</u>	PLEASURE
<u>14</u>	SALVATION
<u>15</u>	SOCIAL RECOGNITION
<u>4</u>	SELF-RESPECT
<u>7</u>	TRUE FRIENDSHIP
<u>3</u>	WISDOM

---

---

One of the most interesting findings shown in Table 1 is that the students on the average, felt that Happiness was very important--they ranked it 2; but they felt that Equality was considerably less important--they ranked it 11. Apparently, Michigan State students value Happiness far more highly than they value Equality. This suggests that MSU students in general are much more interested in their own happiness than they are in happiness for other people.

Fell free to spend a few minutes comparing your own rankings on the first page of Part II with those of the 298 students, shown in Table 1. After doing that, please stop and wait for further instructions. DO NOT GO ON TO THE NEXT PAGE.

We have one other finding which we think is unusually interesting. In order to make this finding more meaningful and relevant to you personally, you should first answer honestly the following question on civil rights.

Are you sympathetic with the aims of the civil rights demonstrators?

- ☐ Yes, and I have personally participated in a civil rights demonstration.  
☐ Yes, but I have not participated in a civil rights demonstration.  
☐ No.

The MSU students who participated in a previous study of value systems were asked a similar question. They were divided into three groups, according to how they responded. Table 2 shows the average rankings of Happiness and Equality for each of these three groups.

TABLE 2. AVERAGE RANKINGS OF HAPPINESS AND EQUALITY BY MSU STUDENTS FOR AND AGAINST CIVIL RIGHTS.

	Yes, and have participated	Yes, but have not participated	No, not sympathetic to civil rights
HAPPINESS	4	2	1
EQUALITY	5	11	17
DIFFERENCE	-1	-9	-16

Notice that in Table 2:

1. Pro- and anti-civil rights students all value Happiness relatively highly. Of 18 values all groups rank Happiness among the top four.
2. Students who are strongly for civil rights value Equality rather highly--they ranked it 5th; but those against civil rights place a much lower value on Equality--they ranked it 17th in importance. Those who are sympathetic but non-participants ranked Equality 11th.
3. The distance between Happiness and Equality is -1 for the strong civil rights group, -9 for the middle group, and -16 for the anti-civil rights group.

Apparently both Happiness and Equality are important to some people, while to others Happiness is very important but Equality is not.

This raises the question as to whether those who are against civil rights are really saying that they care a great deal about their own happiness but are indifferent to other people's happiness. Those who are for civil rights are perhaps really saying they not only want happiness for themselves, but for other people too. What do you think?

(Please circle one number)

1	2	3	4	5	6	7
I agree strongly with this interpretation.			I'm not sure.			I disagree strongly with this interpretation.

Before you go on to the last part of this questionnaire, please spend a few minutes comparing your own rankings from the first page with these results. Then go on to the next page.

We would now be most interested to find out how you feel about the method we have used to teach you something about the value systems of Michigan State students.

Did you find it thought-provoking?

1	2	3	4	5	6	7
Extremely Thought-provoking						Extremely Boring

Do you think this experience will lead you to do some more thinking about your own values?

1	2	3	4	5	6	7
Yes, very much						No, not at all

Do you feel that your responses were somewhat hypocritical?

1	2	3	4	5	6	7
Yes, very hypocritical						No, not at all hypocritical

Right now, how satisfied do you feel about the way you have ranked the values?

1	2	3	4	5	6	7
Extremely Satisfied						Extremely Dissatisfied

GO ON TO THE NEXT PAGE.

Now look again for a moment at your rankings on the first page. Which rankings do you now feel satisfied or dissatisfied with? (Please indicate whether you now feel satisfied or dissatisfied for each one, by a check mark or an X)

I am satisfied with my ranking of:	I am dissatisfied with my ranking of:	
_____	_____	A COMFORTABLE LIFE
_____	_____	AN EXCITING LIFE
_____	_____	A SENSE OF ACCOMPLISHMENT
_____	_____	A WORLD AT PEACE
_____	_____	A WORLD OF BEAUTY
_____	_____	EQUALITY
_____	_____	FAMILY SECURITY
_____	_____	FREEDOM
_____	_____	HAPPINESS
_____	_____	INNER HARMONY
_____	_____	MATURE LOVE
_____	_____	NATIONAL SECURITY
_____	_____	PLEASURE
_____	_____	SALVATION
_____	_____	SELF-RESPECT
_____	_____	SOCIAL RECOGNITION
_____	_____	TRUE FRIENDSHIP
_____	_____	WISDOM

In your own opinion, do you think that the Michigan State findings I have described to you are scientifically valid?

\_\_\_\_ Yes    \_\_\_\_ No

In the space below, please explain why you answered the previous question the way you did.

## APPENDIX I

EXPERIMENTAL MATERIALS AND INSTRUMENTS  
USED WITH THE LU GROUP IN SESSION 1

For the sake of brevity the first three and last two pages of this instrument have been omitted. These pages are identical to the respective pages of the instrument shown in Appendix H.



We have one other finding which we think is unusually interesting. In order to make this finding more meaningful and relevant to you personally, you should first answer honestly the following question on labor unions:

Are you sympathetic with the aims of organized labor unions?

☐ Yes, I am sympathetic.

☐ I am neither for nor against labor unions (neutral).

☐ No, I am not sympathetic.

The MSU students who participated in a previous study of value systems were asked a similar question. They were divided into three groups, according to how they responded. Table 2 shows the average rankings of Happiness and Equality for each of these three groups.

TABLE 2. AVERAGE RANKINGS OF HAPPINESS AND EQUALITY BY MSU STUDENTS FOR AND AGAINST LABOR UNIONS.

	Pro-labor unions	Neutral	Anti-labor unions
HAPPINESS	5	4	4
EQUALITY	7	11	13
DIFFERENCE	-2	-7	-9

Notice that in Table 2:

1. Pro- and anti-labor union students all value Happiness relatively highly. Of 18 values all groups rank Happiness among the top five.
2. Students who are strongly for labor unions value Equality rather highly--they ranked it 7th; but those against labor unions place a much lower value on Equality--they ranked it 13th in importance. Those who are neutral ranked Equality 11th.
3. The distance between Happiness and Equality is -2 for the strong labor union group, -7 for the neutral group, and -9 for the anti-labor union group.

Apparently both Happiness and Equality are important to some people, while to others Happiness is very important but Equality is not.

This raises the question as to whether those who are against labor unions are really saying that they care a great deal about their own happiness but are indifferent to other people's happiness. Those who are for labor unions are perhaps really saying they not only want happiness for themselves, but for other people too. What do you think?

(Please circle one number)

1	2	3	4	5	6	7
I agree strongly with this interpretation.			I'm not sure.			I disagree strongly with this interpretation

Before you go on to the last part of this questionnaire, please spend a few minutes comparing your own rankings from the first page with these results. Then go on to the next page.

## APPENDIX J

EXPERIMENTAL MATERIALS AND INSTRUMENTS USED BY  
ROKEACH IN PREVIOUS RESEARCH

For the sake of brevity the first three and last two pages of this instrument have been omitted. These pages are identical to the respective pages of the instrument shown in Appendix H.

We have one other finding which we think is unusually interesting. In order to make this finding more meaningful and relevant to you personally, you should first answer honestly the following question on civil rights:

Are you sympathetic with the aims of the civil rights demonstrators?

- ☐ Yes, and I have personally participated in a civil rights demonstration.  
☐ Yes, but I have not participated in a civil rights demonstration.  
☐ No.

The 298 students who participated in the previous study of value systems were asked this same question. They were divided into three groups, according to how they responded. Table 2 shows the average rankings of Freedom and Equality for each of these three groups.

TABLE 2. AVERAGE RANKINGS OF FREEDOM AND EQUALITY BY MSU STUDENTS FOR AND AGAINST CIVIL RIGHTS.

	Yes, and have participated	Yes, but have not participated	No, not sympathetic to civil rights
FREEDOM	6	1	2
EQUALITY	5	11	17
DIFFERENCE	+1	-10	-15

Notice in Table 2 that:

1. Pro- and anti-civil rights students all value Freedom relatively highly. Of 18 values all groups rank Freedom among the top six.
2. Students who are strongly for civil rights value Equality rather highly--they ranked it 5th; but those against civil rights place a much lower value on Equality--they ranked it 17th in importance. Those who are sympathetic but non-participants ranked Equality 11th.
3. The distance between Freedom and Equality is +1 for the strong civil rights group, -10 for the middle group, and -15 for the anti-civil rights group.

Apparently both Freedom and Equality are important to some people, while to others Freedom is very important but Equality is not.

This raises the question as to whether those who are against civil rights are really saying that they care a great deal about their own freedom but are indifferent to other people's freedom. Those who are for civil rights are perhaps really saying they not only want freedom for themselves, but for other people too. What do you think?

(Please circle one number)

1	2	3	4	5	6	7	8	9	10	11
I agree strongly with this interpretation.					I'm not sure.	I disagree strongly with this interpretation.				

Before you go on to the last part of this questionnaire, please spend a few minutes comparing your own rankings from the first page with these results. Then go on to the next page.

# APPENDIX K

## THE TEST-RETEST CORRELATIONS FOR THE ATTITUDE SCALES AND THE VALUES

TABLE K.--The test-retest correlations for the terminal  
and instrumental values (N=116)

	Session 1- Session 2	Session 2- Session 3	Session 1- Session 3
A Comfortable Life	.70	.76	.67
An Exciting Life	.64	.67	.51
A Sense of Accomplishment	.58	.53	.49
A World at Peace	.71	.77	.68
A World of Beauty	.68	.61	.57
Equality	.70	.78	.64
Family Security	.66	.62	.59
Freedom	.45	.67	.45
Happiness	.52	.71	.55
Inner Harmony	.56	.67	.59
Mature Love	.71	.81	.65
National Security	.66	.67	.69
Pleasure	.53	.63	.48
Salvation	.86	.85	.78
Self-respect	.57	.57	.43
Social Recognition	.41	.33	.38
True Friendship	.68	.47	.55
Wisdom	.61	.64	.51
Ambitious	.71	.65	.66
Broadminded	.57	.45	.45
Capable	.49	.51	.42
Cheerful	.39	.53	.51
Clean	.65	.62	.56
Courageous	.62	.69	.63
Forgiving	.67	.71	.66
Helpful	.61	.54	.54
Honest	.68	.67	.69
Imaginative	.70	.70	.69
Independent	.57	.63	.45
Intellectual	.64	.50	.54
Logical	.45	.48	.47
Loving	.65	.69	.65
Obedient	.56	.64	.41
Polite	.58	.61	.56
Responsible	.54	.51	.46
Self-controlled	.53	.49	.39
Civil Rights	.80	.86	.69
Labor Unions	.79	.79	.74
Establishment	.90	.90	.88
Repression	.84	.85	.82



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