

334397

Archives  
closed  
LD  
175  
A40h  
Th  
339

The Effects of Non-Manipulated  
Self-Esteem Levels on Cognitive Dissonance  
In a Forced Compliance Situation

by

Michael Wayne Cochran

Approved by

J. D. Duke  
Chairman, Thesis Committee  
George R. Wesley  
Professor of Psychology  
Howard J. Brainerd  
Associate Professor of Psychology  
W. T. Smith  
Chairman, Department of Psychology  
B. F. Strickland  
Dean of the Graduate School

The Effects of Non-Manipulated  
Self-Esteem Levels on Cognitive Dissonance  
In a Forced Compliance Situation

by

Michael Wayne Cochran

Approved by

J. D. Duke  
Chairman, Thesis Committee  
George R. Wesley  
Professor of Psychology  
Howard J. Brainerd  
Associate Professor of Psychology  
W. T. Smith  
Chairman, Department of Psychology  
B. F. Strickland  
Dean of the Graduate School

The Effects of Non-Manipulated  
Self-Esteem Levels on Cognitive Dissonance  
In a Forced Compliance Situation

by  
Michael Wayne Cochran

Approved by

J. D. Dicks  
Chairman, Thesis Committee

George B. Wesley  
Professor of Psychology

Wm. L. Broun  
Associate Professor of Psychology

W. D. Smith  
Chairman, Department of Psychology

B. F. Strickland  
Dean of the Graduate School

The Effects of Non-Manipulated  
Self-Esteem Levels on Cognitive Dissonance  
In a Forced Compliance Situation

by  
Michael Wayne Cochran

Approved by

J. D. Dicks  
Chairman, Thesis Committee

George B. Wesley  
Professor of Psychology

Wm. L. Broun  
Associate Professor of Psychology


W. D. Smith  
Chairman, Department of Psychology

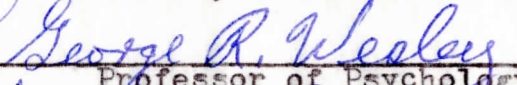
B. F. Strickland  
Dean of the Graduate School

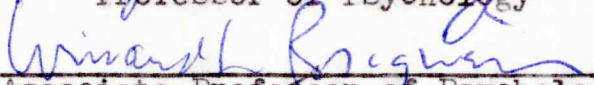
The Effects of Non-Manipulated  
Self-Esteem Levels on Cognitive Dissonance  
In a Forced Compliance Situation

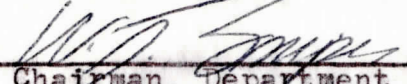
by  
Michael Wayne Cochran

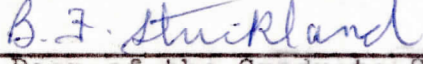
Approved by

  
Chairman, Thesis Committee

  
Professor of Psychology

  
Associate Professor of Psychology

  
Chairman, Department of Psychology

  
Dean of the Graduate School

Abstract

Previously published studies of the relationship between levels of self-esteem and cognitive dissonance have found either a positive relationship between these two variables or no relationship at all. In most studies, self-esteem was either contrived by deceptions or measured by questionable procedures.

In the current investigation, self-esteem was measured by Ss' actual scores on the Tennessee Self-Concept Scale. Using a forced compliance essay writing task, evidence of dissonance was found only in the lowest of four levels of self-esteem. Questions about the present research, and implications for the areas of self-concept and cognitive dissonance were discussed.

The Effects of Non-Manipulated  
Self-Esteem Levels on Cognitive Dissonance  
In a Forced Compliance Situation

Festinger's (1957) theory of cognitive dissonance states that when an individual experiences inconsistency in his thoughts or actions, he will be motivated to reduce this conflict. Experiments in this field have traditionally measured dissonance by observing the amount of change in the individual's attitudes or behavior after being placed in a dissonance producing situation.

There have been two hypotheses advanced as to the relationship between cognitive dissonance and self-esteem. Aronson (1969), pondering the repeated finding that many subjects apparently do not experience dissonance in situations designed to elicit dissonance, has proposed that people with high self-esteem are more likely than people with low self-esteem to experience dissonance. An individual with high self-esteem, Aronson reasons, will have high expectations for consistency in his behavior and thoughts, and thus will experience dissonance when he acts contrary to his self-image and expectations. The individual with low self-esteem has lower expectations for his conduct; therefore if he commits an act in conflict with his values, he will experience less dissonance. Aronson and Mettee (1968) found that subjects who were told they had a low self-concept cheated significantly more at a card game

than subjects told they had a high self-concept. The experimenters claimed that this result showed that individuals manipulated to believe they have a high or low self-concept will act in accordance with that belief. Aronson and Mettee believe this result supports their contention that those with low self-esteem will act in a less desirable way more often than those with high self-esteem.

Nel, Helmreich, and Aronson (1969) used Aronson and Mettee's (1968) results as a basis to propose that cognitive dissonance will occur when an individual high in self-esteem perceives that he has done something undesirable or inconsistent with his high opinion of himself. Nel, et al. conducted an experiment in which subjects were asked to give a persuasive speech either to a group of people who were known to be naive or to a group who were known to be already convinced of the view opposite that of the speech. Since subjects were asked to persuade others to views contrary to their own, the researchers predicted greater dissonance among those asked to persuade naive others than among those asked to persuade opposed others. Subjects asked to persuade naive others would know that the naive others were vulnerable to persuasion, and success in persuading others would be an undesired outcome, inconsistent with subjects' high opinions of themselves. As predicted by Nel, et al., subjects asked to persuade naive others did indeed experience significantly more dissonance.

Cooper and Duncan (1971) disagreed with Aronson (1969) and supported Festinger's original view. They suggested that all individuals who commit an act which they consider to be immoral or indecent will experience equal dissonance, regardless of their level of self-esteem. These researchers suggested that Nel, et al's. experiment had only shown that dissonance increases as consequences become more aversive. That is, subject success in persuading naive others to viewpoints actually opposed by the subjects themselves would be more aversive than attempting to persuade subjects who had already determined their point of view. Cooper and Duncan conducted an experiment in which subjects of manipulated high and low self-esteem levels gave persuasive speeches (videotaped) in opposition to their own views for both high and low amounts of reward. Self-esteem levels were found to have no effects on amounts of dissonance produced.

Thus, some research suggests that the higher the self-esteem the greater the dissonance, while other research fails to find any relationship between self-esteem and susceptibility to dissonance arousal. Considering traditional interpretations of self-esteem, a third alternative to these two views could be advanced. This third hypothesis would propose that individuals with high self-esteem would be less susceptible to dissonance arousal than individuals with low self-esteem.

Rogers (1951) states that for the individual with a high self-concept:

Adaptation to any life situation is improved, because the behavior will be guided by a more complete knowledge of the relevant sensory data, there being fewer distorted and fewer denied (p. 531).

However, for the person with a low self-concept, Rogers states that "...all experiences are viewed defensively as potential threats, rather than for what they really are (p. 520)."

Coopersmith (1967) states that the consensus of the major theorists' views in the area of self-esteem supports the idea that high self-esteem is equated with lower anxiety and a greater ability to see situations realistically. Low self-esteem is seen as being accompanied by high anxiety and the use of defensive behavior to counteract any threat to the individual's self-maintaining view of reality. The lower the self-concept, the more one's view of the world is determined by subjective inner needs rather than the objective realities of one's environment.

Cognitive dissonance should then be greater for individuals with low self-esteem if they are forced to do or think something contrary to their values. They would become threatened and have a stronger need to rationalize the situation and put it in harmony with their self-protecting view of reality. People with high self-esteem, on the other hand, would be better able to see the situation realistically, have less anxiety, be able to tolerate more inconsistency, and have less need for defensive

rationalization. If there is more tolerance for inconsistency and less need for rationalization, then there should be less need to change one's views after being forced to temporarily oppose such views, as for example, in the "low choice" forced compliance condition used by Brehm and Cohen (1962).

The reason findings from prior research have not supported this hypothesis may be because of the ways in which self-esteem has been manipulated or defined. From the earliest experiment in this area, done by Bramel (1962), to the most recent, conducted by Cooper and Duncan (1971), all published experiments primarily concerned with linking self-concept to dissonance, with one exception, have created "high" and "low" self-esteem groups by manipulated feedback to subjects.<sup>1</sup> That is, subjects were given tests of self-esteem, ostensibly, but regardless of actual test scores, some subjects were told they had high self-esteem while others were told they had low self-esteem. The assumption was that subjects would act in accordance with the levels of self-esteem they were told the test had indicated.

It seems highly questionable that a trait as deeply rooted in the individual as self-esteem can be so easily manipulated. Rogers (1951) suggests that when a person is presented with information that is contrary to his

<sup>1</sup>The exception was that Nel, et al. (1969) merely assumed that their subjects had normal self-esteem.

self-concept, he tries to rationalize or ignore it. This is suggested to be true regardless of whether the information would raise or lower the self-concept. Coopersmith (1967) says that "...self-appraisals are relatively resistant to change because of the individual's need for psychological consistency (p. 5)."

If self-esteem is resistant to manipulation, then, by definition, Cooper and Duncan (1971), Aronson and Mettee (1968), and Bramel (1962) would not have succeeded in raising or lowering self-esteem by manipulated reports to subjects. All these studies failed to determine by independent measures of self-esteem whether subjects' self-concepts rose or fell according to how they were manipulated. Cooper and Duncan (1971) and Aronson and Mettee (1968) made no before-after comparisons of self-esteem. Bramel (1962) did pre-test for self-esteem levels and found that before the manipulation attempt, subjects' scores were, as a group, average. However, he did not compare the later, "manipulated" scores with the pre-test ones.

Aronson and Mettee (1968) suggested that their experimental attempt to manipulate self-esteem may not have been valid. They felt that telling a subject he has a low level of self-esteem may cause aggressive feelings toward the experimenter and experiment, thus causing him not to give his true reactions on the self-esteem test given after the manipulation attempt.

Another explanation for the conflict in findings comes independently from research in the area of subject bias effects. Rosenthal (1965) and Orne (1962) propose that subjects who volunteer for experiments have above average needs for social approval. If people with greater needs for social approval have lower self-esteem, as might be hypothesized, then volunteer subjects would be expected to be below average in self-esteem. Most of the studies thus far cited have used volunteer subjects. Therefore, it is possible that most of the subjects in these experiments were low in self-esteem. Since only one of the studies (Bramel, 1962) reported testing subjects before the experiment in order to insure a normal distribution of self-esteem levels, this hypothesis remains tenable.

Orne (1962) and Argyris (1968) propose that subjects may make a concerted attempt to perform in a way suggested overtly or covertly by the experimenter. Thus, a subject told that he has a high or low self-esteem might answer questions on a test of self-esteem in the way he thought the experimenter desired. However, when later put in a dissonance producing situation without that experimenter present, he would no longer have an indication from the experimenter of what his self-concept should be. He might feel free to act as his actual self-concept dictated.

The preceding has suggested a need to reexamine the relationship between self-esteem levels and amounts of cognitive dissonance aroused in a forced compliance

situation. In this study, self-esteem was measured by actual tests. It was predicted that there would be an inverse relationship between self-esteem levels and amounts of dissonance aroused.<sup>2</sup>

## Method

### Subjects

Subjects (Ss) consisted of the first 80 volunteers from undergraduate psychology classes at Appalachian State University (ASU).

### Apparatus

The Tennessee Self-Concept Scale (TSCS), counseling form, was used to measure Ss' self-esteem levels.

An attitude questionnaire was administered which served two functions. First, it was used to determine which task the S would perform in the experimental attempt to produce dissonance. The question, "Do you agree or disagree that former President Nixon should have been pardoned?" was used to determine that dissonance task. If the S favored pardoning, he was asked to write an essay against it and if he opposed pardoning, he was asked to write an essay supporting it.

The second function of the questionnaire was to measure the amount of dissonance produced. This was done by having the S fill out the questionnaire before and after writing the essay. In both administrations of the

<sup>2</sup>Null Hypothesis: Self-esteem levels have no effect on levels of cognitive dissonance.

questionnaire, the S indicated his answer by checking a 10-point scale (continuum) with "strongly agree" marked at the left end and "strongly disagree" marked at the right end. The amount of dissonance produced was defined as the number of points this answer changed in the direction opposite the S's original answer on the Nixon question.

Three other questions were also presented as a part of the questionnaire to make the actual task less obvious. These questions were worded like the Nixon question and also had 10-point scale answers. Questions asking amount of agreement-disagreement on totally non-restricted abortions, and on total wage-price controls were presented before the pardon question, and following it was a similar question on registration of all fire arms.

All tests were administered in the ASU psychology laboratory.

#### Design

The independent variables in this experiment were the Ss' levels of self-esteem, and the forced compliance dissonance treatment.

After all tests were administered, each of the 60 Ss assigned to experimental conditions was placed in one of four groups, according to level of self-esteem. Group I consisted of all Ss scoring in the top quarter on the test of self-esteem. Group II were those scoring in the second quarter; Group III, those in the third quarter; and Group IV, those in the bottom quarter.

Twenty of the Ss picked at random were chosen as control Ss. Control Ss' self-esteem scores were divided into quartiles in the same manner as those of the experimental Ss. There were five Ss in each control group. They were not subjected to a forced compliance dissonance arousal treatment. Instead, they received a neutral treatment (described in the Procedure section).

#### Procedure

Ss were individually administered all treatments in a one-half hour session scheduled at their convenience.

The order in which the TSCS, attitude questionnaire, and the forced compliance dissonance or control essay were administered was randomized for each S, with the exception that the attitude questionnaire had to precede the essay so that the instructions for writing the essay (for or against pardoning) could be determined. The instructions given to each person for the dissonance and control essays were:

We need you to write an essay arguing (in favor of) (in opposition to) the pardoning of former President Nixon. Please do your best to be persuasive in your argument, even if this argument is contrary to your own belief. Remember, please argue (for) (against) the pardoning of Richard Nixon. You will have 5 minutes to write your essay.

In the dissonance treatment, those Ss who answered the attitude questionnaire positively (agreed that the President should have been pardoned) were asked to argue against pardoning. Those answering negatively were asked to argue in favor of pardoning. A positive answer was considered any answer on the "agree" side of the continuum,



and a negative answer, anything on the "disagree" side. Control Ss were asked to write an essay in agreement with the view they stated on the attitude questionnaire.

At the end of the experimental session, the S was asked to complete the attitude questionnaire again. After completion of the questionnaire, he was asked not to discuss the experiment with anyone else. He was told that an explanation of the experiment and its results would be given to all Ss at a meeting at a later time, was told when the meeting would be held, and was given the experimenter's phone number in the event that the S could not attend the meeting.

One extraneous variable that this experiment attempted to measure was a possible relation between Ss' scores on the TSCS and their intelligence. If such a relationship existed, it would require an entirely different interpretation of any experimental effects obtained. Thus, using each S's composite Scholastic Aptitude Test (SAT) score (when available) as a rough measure of intelligence, Ss' SAT scores were correlated with their TSCS scores.

Another extraneous variable which this study attempted to control was an anticipated "historic effect" inherent in the subject of the essay. Since the opinion of an S on the Nixon pardon issue might change from day to day because of publicity, both administrations of the questionnaire were given in the same session. The issue of the Nixon pardon was selected as an essay topic because it did not appear to contain male-female or other biases,

yet it seemed to be an issue that would evoke the strong opinions in Ss assumed necessary to facilitate production of dissonance.

No attempt was made to deceive Ss. Argyris (1968) has argued convincingly that Ss do not give their natural responses after a deception has been discovered, and that a discovery of deception is made much more often than experimenters realize. Thus, in contrast to previous experiments with forced compliance cognitive dissonance treatments involving essay writing, no attempt was made to make the S feel that his essay would be used to persuade anyone else at a later date. Although Festinger (1957) believes that dissonance will be greater if the S believes that his essay will be used to persuade others, Festinger states that the conflict produced by writing an essay contrary to one's views will elicit some dissonance.

Requesting the control groups to write essays in support of the position they favored was included to determine that changes in attitude were due to dissonance arousal manipulations, and not simply to any essay writing task. Such a control has not been used in most dissonance research.

### Results

A two-way analysis of variance of the dissonance scores found that the self-concept factor was significant at the .05 level ( $F=3.057 > 2.748$ ). The dissonance factor

was not found to be significant, using the .05 level ( $F=1.386 < 4.001$ ). Group means are presented in Table 1 of the Appendix.

These findings indicated that the amount of attitude change produced in some of the individual self-esteem groups was significantly larger than that produced in others. However, the total dissonance produced in the experimental groups was not significantly more than that produced in the control groups.

A test of least significant difference was used to determine which self-concept groups had significantly greater amounts of attitude change. Experimental group four, which had the lowest self-esteem level of the experimental groups, had more change (at the .05 level) than any other experimental or control group, with one exception. There was no difference in attitude change between experimental group four and control group four. Control group four was the only control group in which any attitude change was produced. This change was not significantly more than zero, since it was not significantly greater than that occurring in any other control groups. There was no significant difference between the amounts of attitude change produced in any other two groups.

Figure 1 (see Appendix) shows the distribution of all Ss' self-concept scores, using the norms provided in the TSCS Manual (1965). Figures 2 and 3 show these scores graphed separately for control and experimental Ss. From these figures it is clear that most scores were

within a normal range, although the distributions were somewhat skewed toward lower self-esteem scores. The mean of all the scores obtained was 335.55 and the mean of the test norm was 345.57. A t-test found no significant difference at the .05 level between the mean in the test manual and the mean of ASU Ss. Neither the treatment group mean of 333.65 nor the control group mean of 337.45 was significantly different from the manual mean, nor were the treatment and control group means significantly different from each other (using a t-test and a .05 level of significance). Tables 2 and 3 show how many Ss in the experimental and control groups came from each area under the normal curve established by the TSCS norms.

A Pearson's Product Moment of Correlation was used to find the correlation between Ss' TSCS scores and SAT scores. The correlation for the treatment group was .07 and was .05 for the control group. Both of these correlations did not differ significantly from zero, suggesting that results were not confounded by intelligence. Seven SAT scores were unavailable in the experimental group and three were unavailable in the control group. These unobtainable scores were distributed evenly throughout the distribution.

Eight of the experimental Ss changed their opinion on the Nixon question in the same direction as their original view. Brehm and Cohen (1962) suggest that when such a change occurs under dissonance producing conditions, it may actually indicate that dissonance is

taking place. The validity of such a conclusion is beyond the scope of this experiment. Since attitude change was defined as any change of opinion in the direction opposite to one's original view, these eight Ss were scored as having no attitude change. These Ss were distributed fairly evenly throughout the treatment groups. No control Ss changed their views in the same direction as their original views.

#### Discussion

The results of this study give partial support to the hypothesis that the level of self-esteem is inversely proportional to the amount of cognitive dissonance (attitude change) produced. However, the total amount of dissonance produced in the experimental groups was not significantly more than that produced in the control groups. Only when the groups were compared individually, as was allowed in the present study by a significant F for the self-concept factor, was a significant level of attitude change found in experimental group four.

Consistent with the basic hypothesis of this experiment, the one group displaying most attitude change was the experimental group having the lowest level of self-esteem. Significantly more change was produced in this group than in any other, with the exception of the control group with the lowest level of self-esteem.

The fact that any attitude change occurred in the control groups is disturbing. Although the change

was not significant, it was relatively large and occurred only in the group with lowest self-esteem. The amount of change might well have been significant, but for the very small N of this control group. Is there some factor other than chance operating to produce a change in the attitudes in these Ss? This writer believes there is, and suggests that a possible explanation for this attitude change lies in the nature of the self-concept. The control Ss were suddenly called upon to write an essay arguing for an opinion which they may not have thought about a great deal. It is possible that they would have doubts about that opinion as they attempted to define and evaluate reasons for supporting it. These doubts could easily be multiplied in the minds of individuals who were already insecure, perhaps becoming so strong as to cause a change of opinion. Since insecurity is a primary trait of individuals with low self-concepts, it would not be surprising that such individuals might change their opinion. This could even be a kind of self-induced cognitive dissonance which would not usually be manifested in people with very low self-concepts. If this explanation is valid, then it would lend support to the view that low self-concept results in high dissonance. That is, even the extremely small amount of anxiety present in the control condition was enough to arouse dissonance in the group with low self-esteem. An experiment similar to this one, but in which a much lower level of anxiety could be aroused in the control Ss, would be of benefit in clarifying this point.

If the preceding explanation is supported in future experiments, there are serious implications for dissonance research. It would mean that the attitude change of a number of Ss in any dissonance experiment might be the result of the Ss' weak self-concept. Thus, a certain "baseline" of cognitive dissonance might occur in any group of Ss without any experimental attempt to produce dissonance. This would make the use of control groups crucial in dissonance experiments. It would also cast doubt upon many previous experiments in this field that did not include control groups.

The validity of this argument is further supported by the present experiment's results. The inclusion of a control group, and the subsequent failure to find significant differences in attitude change between control and treatment groups, have caused special difficulties in interpretation. Had there been no control group, had Table 1 only presented treatment group outcomes, then interpretation, though perhaps incorrect, would have been easier. Because experimental group four showed significantly greater attitude reversal than experimental groups one, two, and three, the experimental hypothesis would have been clearly supported. As predicted, it would have appeared that Ss lowest in self-esteem showed most dissonance reducing attitude change when subjected to dissonance arousal, with no reservations about this result. Consistent with other dissonance research in which control groups have not been used, it would have

been tacitly assumed that the manipulations of the experimenter produced dissonance, and that attitude reversal among low self-esteem subjects reduced dissonance. The unexpected failure of the experimental groups to differ significantly in attitude reversal from the control groups makes all such tacit assumptions suspect. In a replication using larger samples, experimental groups must display significantly greater attitude reversal, or else serious revision and reinterpretation of findings in all dissonance research will be necessary.

With the preceding reservations noted, it may be said that the results of this study contradict Cooper and Duncan's 1971 finding that self-esteem and dissonance levels are unrelated. These results also contradict Nel, et al's. 1969 finding that levels of dissonance and self-esteem are directly related. The argument that different results are obtained using measured and manipulated self-esteem is given support as well.

This writer has criticized previous experiments linking cognitive dissonance and self-esteem levels because they did not show that they were accurately measuring self-esteem levels. Neither did they provide evidence that they were using groups of Ss with normal self-concept scores. This experiment employed one of the most widely used measures of self-esteem to insure that an accurate picture of Ss' self-concepts was obtained. Since 76.25% of the Ss' self-concept scores fell within  $\pm 1$  standard

deviation from the mean, and since the means of the self-concept scores obtained in this study were not different from the TSCS norm, it would appear that this study has also succeeded in obtaining a sizeable majority of Ss who had normal self-concepts.

The distribution was somewhat skewed, however. The data in Tables 2 and 3 show that the lowest self-concept experimental and control groups were nearly filled with Ss who were actually very low in self-esteem. However, there was not as much success in repeating this for the high self-concept groups. The present study's finding that only Ss low in self-esteem experienced significant attitude change would be further supported by an experiment which included equal numbers of Ss with very high and very low self-esteem.

If further research agrees with the present study's findings, then the view of the self-concept as an indicator of one's deep level of emotional security and adjustment will be given more support. Aronson (1969) appears to feel that the self-concept is no more than just a high or low opinion of oneself, subject to moment to moment vacillation according to how other people respond to us. However, if levels of self-concept are just differing opinions of oneself, then an individual with low self-esteem should have no less tolerance for ambiguity (and dissonance) than the individual with high self-esteem. The amount of anxiety would just depend on whose view of himself is

contradicted. If the self-concept is a deeper indicator of security and adjustment, then the individual with a high self-concept is always going to experience less anxiety and react better to stress than one with a low self-concept. Thus, in the present study, individuals with high levels of self-esteem tolerated the stress of dissonance without changing their opinions, even though these Ss should have had the most attitude change if Aronson's view were correct. That is, Ss with high self-concepts should have had the highest opinions of themselves and thus should have been very disturbed by writing an essay supporting a position they opposed. Instead, those with high self-esteem tolerated the stress better and their opinions remained considerably less changed. Those with low self-concepts could not tolerate the stress as well, so sought to alleviate it by changing their opinions. Again, it must be emphasized that this explanation's validity is dependent upon other studies substantiation of the present one.

The present study has at least partially confirmed its hypothesis. However, the writer is somewhat skeptical about the results in this and many other experiments in cognitive dissonance. One group's attitude change in this study was significant, but only a few people in that group actually manifested a change. Unfortunately, this is not an uncommon finding in cognitive dissonance research. Suppose every other experiment had found more dissonance in the group having low self-esteem. If only

a small percentage of Ss in such groups actually experience dissonance, then we still have the problem of determining what really causes an individual to manifest dissonance. Considering the tremendous amount of research already done in this field, and the even larger amount left to be done, the crucial question becomes: Is the payoff worth the effort? The fact that Festinger himself has left the field is all the more reason to examine this question closely.

## References

- Argyris, C. Some unintended consequences of rigorous research. Psychological Bulletin, 1968, 70, 185-197.
- Aronson, E. The theory of cognitive dissonance: a current perspective. In L. Berkowitz (Ed.), Advances in experimental social psychology. Vol. 4. New York: Academic Press, 1969.
- Aronson, E., & Mettee, D. R. Dishonest behavior as a function of different levels of induced self-esteem. Journal of Personality and Social Psychology, 1968, 9, 121-127.
- Bramel, D. A dissonance theory approach to defensive projection. Journal of Personality and Social Psychology, 1962, 64, 121-129.
- Brehm, J. W., & Cohen R. Explorations in Cognitive Dissonance. New York: Wiley, 1962.
- Cooper, J., & Duncan, B. L. Cognitive dissonance as a function of self-esteem and logical inconsistency. Journal of Personality, 1971, 39, 289-302.
- Coopersmith, S. The antecedents of self-esteem. San Francisco: W. H. Freeman & Co., 1967.
- Festinger, L. A theory of cognitive dissonance. Evanston, Ill.: Row and Peterson, 1957.
- Fitts, W. H. Tennessee Self-Concept Scale Manual. Nashville: Counselor Recordings & Tests, 1965.
- Nel, E., Helmreich, R., & Aronson, E. Opinion change in the advocate as a function of the persuasibility of his audience: a clarification of the meaning of dissonance. Journal of Personality and Social Psychology, 1969, 12, 117-124.
- Orne, M. On the social psychology of the psychological experiment. American Psychologist, 1962, 17, 776-783.

Rogers, C. R. Client-centered therapy. Boston: Houghton-Mifflin,  
1951.

Rosenthal, R. The volunteer subject. Human Relations, 1965, 18,  
389-406.

APPENDIX

Table 1

Mean Attitude Change Per Group

Self-Concept Levels

Groups	Self-Concept Levels			
	I	II	III	IV
Experimental	.333	.200	.200	1.067
Control	.000	.000	.000	.600

Table 2

Distribution of Experimental Groups'  
Self-Concept Scores

Experimental Group	Standard Deviation From TSCS Mean					
	-3 $\sigma$	-2 $\sigma$	-1 $\sigma$	+1 $\sigma$	+2 $\sigma$	+3 $\sigma$
I	-	-	-	12	3	-
II	-	-	10	5	-	-
III	-	-	15	-	-	-
IV	4	8	3	-	-	-

Table 3

Distribution of Control Groups'  
Self-Concept Scores

Control Group	Standard Deviation From TSCS Mean					
	-3 $\sigma$	-2 $\sigma$	-1 $\sigma$	+1 $\sigma$	+2 $\sigma$	+3 $\sigma$
I	-	-	-	4	1	-
II	-	-	2	3	-	-
III	-	-	5	-	-	-
IV	1	2	2	-	-	-



Figure 1

Distribution of All Self-Concept Scores

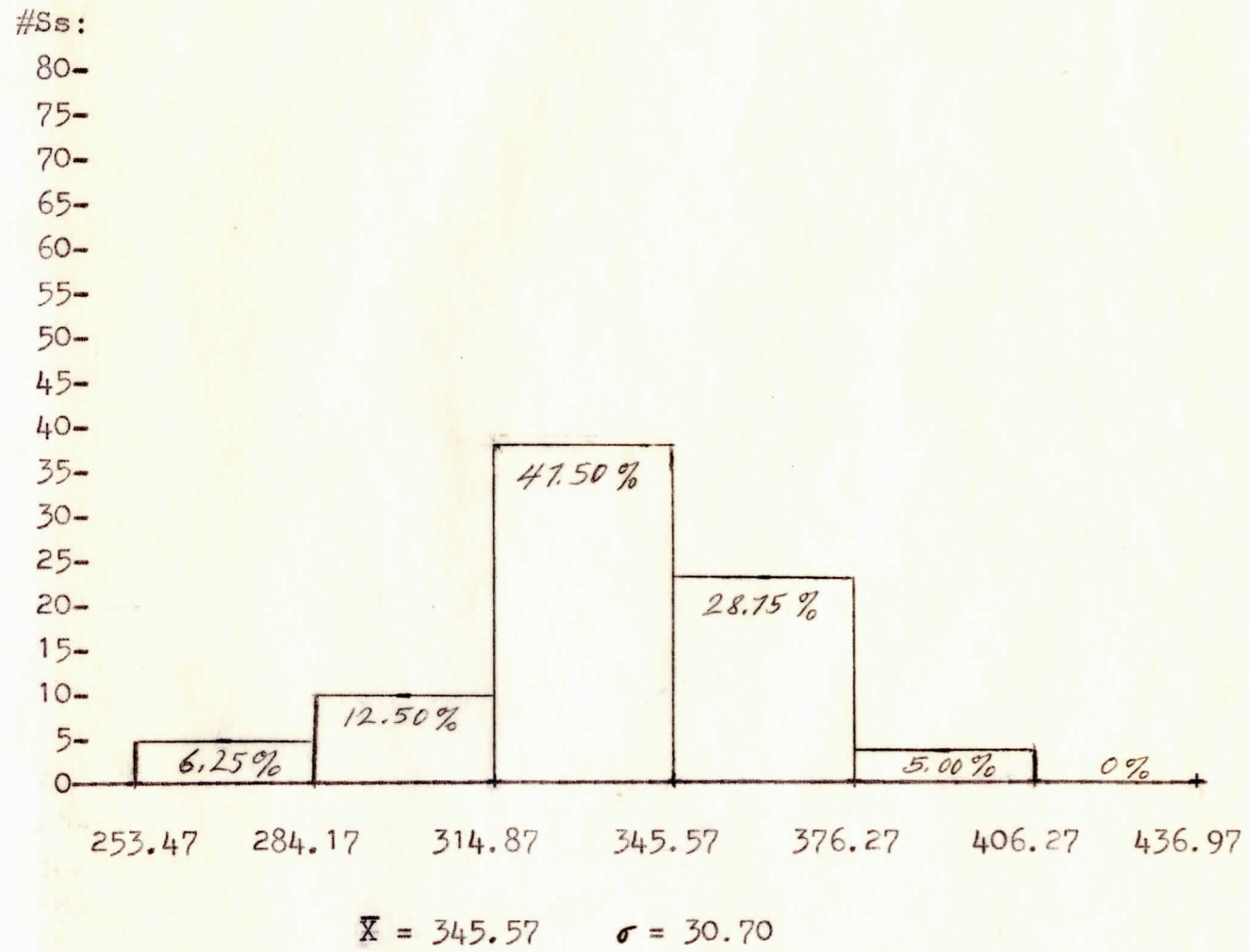


Figure 2

Distribution of Experimental Group Self-Concept Scores

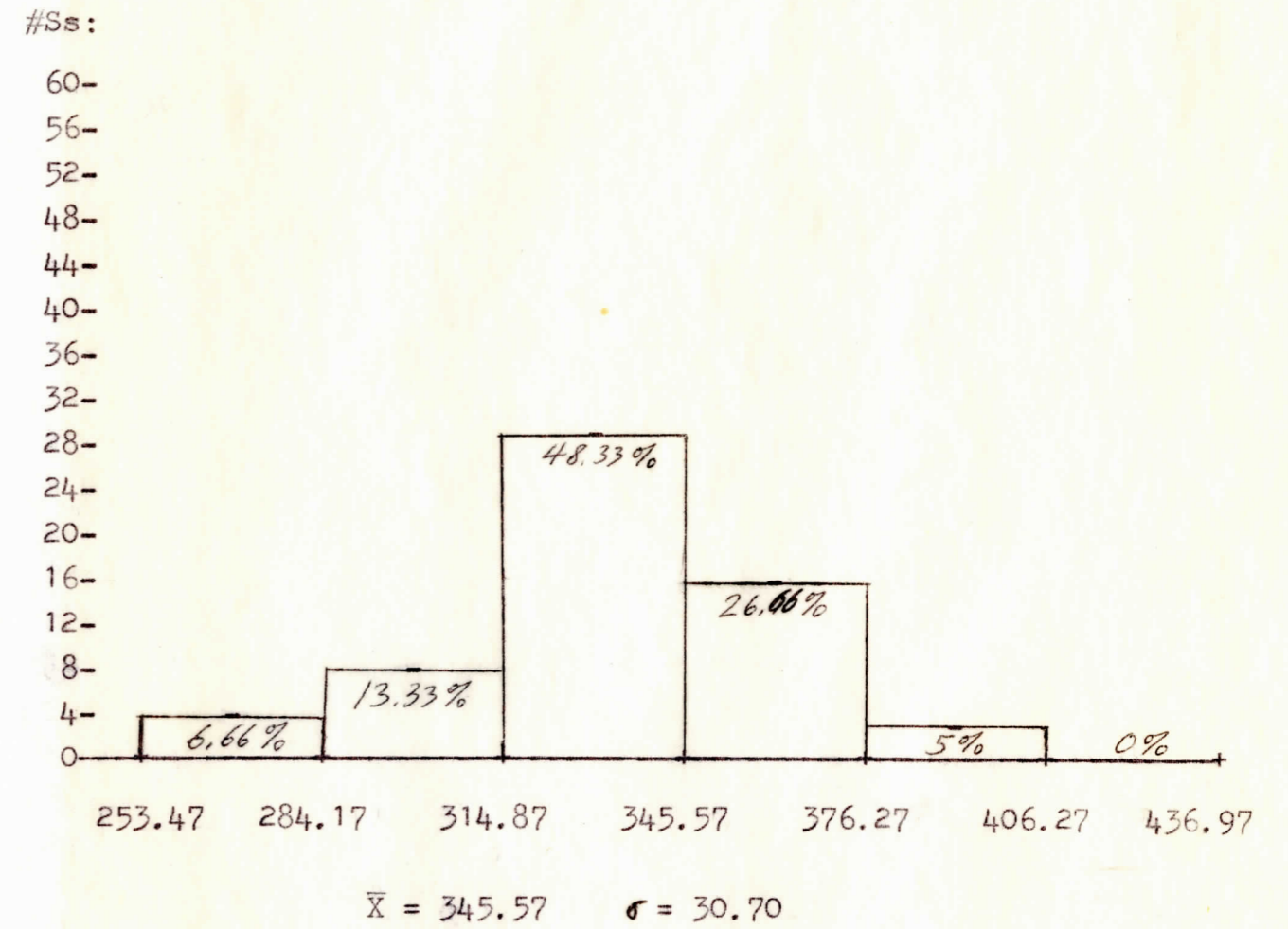
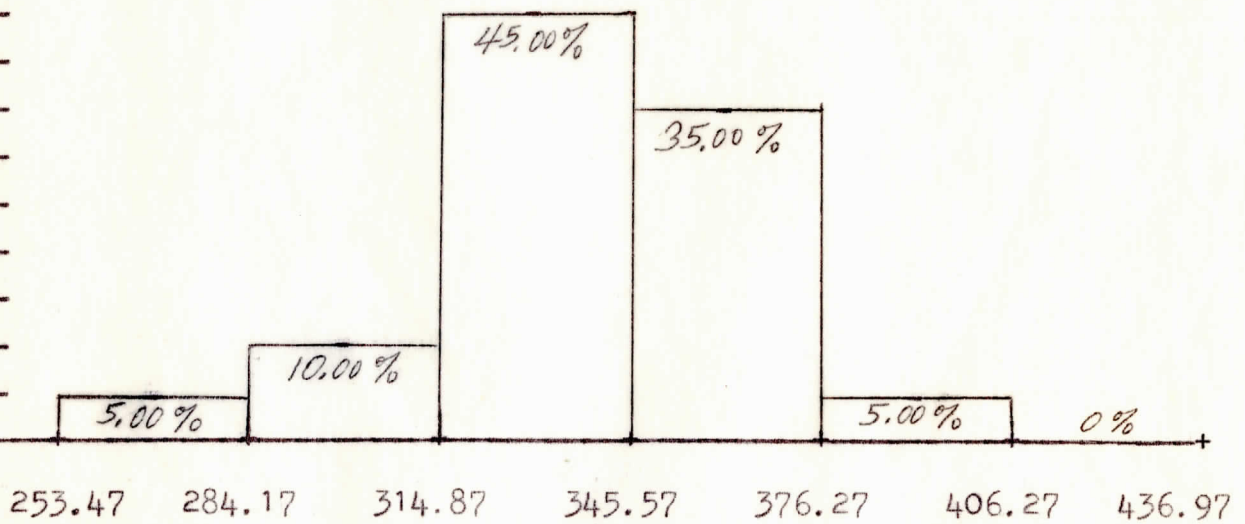


Figure 3

Distribution of Control Group Self-Concept Scores

#Ss:

20-  
19-  
18-  
17-  
16-  
15-  
14-  
13-  
12-  
11-  
10-  
9-  
8-  
7-  
6-  
5-  
4-  
3-  
2-  
1-  
0



$$\bar{X} = 345.57 \quad \sigma = 30.70$$