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# The Effects of Positive and Negative Verbal Reinforcement on the Verbal Behavior of College Females as a Function of Need-For-Approval

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THE EFFECTS OF POSITIVE AND NEGATIVE VERBAL  
REINFORCEMENT ON THE VERBAL BEHAVIOR OF COLLEGE  
FEMALES AS A FUNCTION OF NEED-FOR-APPROVAL

by

George Edward Schultz

A Thesis Submitted to the Faculty of the Graduate School  
of Loyola University in Partial Fulfillment of  
the Requirements for the Degree of  
Master of Arts

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## LIFE

George Edward Schultz was born in Chicago, Illinois, September 15, 1941.

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## TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION AND REVIEW OF LITERATURE . . . . .	1
II. SCOPE AND LIMITATIONS OF RESEARCH . . . . .	4
A. Negative Reinforcement . . . . .	4
B. The Dependent Variable . . . . .	5
C. The Marlowe-Crowne Social Desirability Scale. . . . .	7
III. PROBLEMS OF DESIGN AND CONTROL. . . . .	12
A. Problem of Control Versus Artificiality . . . . .	12
B. The Problem of Awareness . . . . .	14
C. The Problem of Subject Variables . . . . .	15
D. Problem of Experimenter Variables . . . . .	17
IV. PROCEDURE . . . . .	21
V. RESULTS . . . . .	26
VI. DISCUSSION . . . . .	37
VII. SUMMARY AND CONCLUSIONS . . . . .	43
REFERENCES. . . . .	45
APPENDIX I     PRELIMINARY PILOT STUDY QUESTIONNAIRE TO EQUATE TOPICS . . . . .	49
APPENDIX II.   POST-TEST QUESTIONNAIRE FOR EXPERIMENTAL CONDITIONS . . . . .	50
APPENDIX III.  THE MARLOWE-CROWNE SOCIAL DESIRABILITY SCALE AS ADMINISTERED TO SUBJECTS . . . . .	51
APPENDIX IV.   TOPICS AND SEQUENCE OF TOPICS USED FOR ALL SUBJECTS IN ALL CONDITIONS . . . . .	53

LIST OF TABLES

Table		Page
1.	THE MEAN TIME (IN SECONDS) AND THE STANDARD DEVIATION OF THE AMOUNT OF TIME SS IN EACH CONDITION SPENT ON TOPICS 1, 2 AND 3 . . . . .	26
2.	INTERCORRELATIONS BETWEEN THE TOPICS WITHIN THE SAME CONDITION . . . . .	31
3.	THE MEAN AND STANDARD DEVIATION MARLOWE-CROWNE SOCIAL DESIRABILITY SCALE SCORES FOR EACH GROUP . . . . .	32
4.	THE CORRELATION FOR EACH CONDITION BETWEEN THE TIME SPENT ON THE VARIOUS TOPICS AND THE MARLOWE-CROWNE SOCIAL DESIRABILITY SCALE . . . . .	33
5.	A COMPARISON OF THE DIFFERENCES IN THE MEAN TIMES SPENT AMONG THE SAME TOPICS UNDER POSITIVE, NEGATIVE AND NO REINFORCEMENT (CONTROL). . . . .	35

LIST OF FIGURES

Figure		Page
1.	A COMPARISON OF THE MEAN AMOUNT OF TIME SPENT ON THE THREE TOPICS FOR EACH CONDITION . . . . .	28
2.	A COMPARISON OF THE VARIATION, AS MEASURED BY THE STANDARD DEVIATION, IN THE THREE TOPICS FOR EACH CONDITION . . . . .	29
3.	A COMPARISON OF THE MEAN AMOUNT OF TIME THE SS SPENT IN SILENCE IN EACH OF THE REINFORCEMENT CONDITIONS . . . . .	30

## CHAPTER I

### INTRODUCTION AND REVIEW OF LITERATURE

The implications of the research work on verbal reinforcement are both fascinating and controversial. Since the area of verbal reinforcement research has shown promise of being very fruitful for the theory and practice of psychology, there has been voluminous literature published. It is impossible and irrelevant to cite all of the research done for the purpose here, and there have been some excellent reviews done: Greenspoon (1962), Krasner (1958), Salzinger (1959) and Williams (1964). The difficulty of determining whether "verbal conditioning" is truly conditioning at all in the traditional sense is a conjectural point (see Dulaney, 1961), and it is not necessarily germane to this research. Whether or not this research can be subsumed under the operant conditioning paradigm is also problematical. This study does not propose to definitively answer these questions; rather, this study only attempts to relate an aspect of verbal behavior, i.e., the amount of time Ss spend talking on a topic when influenced by positive or negative verbal reinforcement of the E, as a function of the S's need for social approval -- as measured by the Marlowe-Crowne Social



## Desirability Scale.

The literature suggests that the task of classifying "verbal conditioning" phenomena is perhaps premature; however, the theoretical and practical significance of gaining a precise understanding of the variables which influence verbal behavior is of much significance. Therapists and others interested in attitude and behavior change were quick to see the possibilities of a learning theory approach, including operant conditioning, in psychotherapy. Rogers (1960) reports an increase in the self-reference statements of the S due to the E's introjection of "Mm-hms" in a quasi-therapy situation. Craddick and Stern (1964) used "good" and a partial reinforcement schedule and increased the number of early memories recalled by the subject -- suggesting that the therapist controls variables in psychotherapy which may influence the behavior of the client. A similar conclusion could be drawn from the research of Salzinger and Pisoni (1958) who successfully reinforced "affect" responses in normal subjects. These are but a few examples of the research stimulated by an operant conditioning approach to verbal behavior.

However, by no means have the research results and interpretations been univocal. Many researchers, especially Dulaney (1961), have not found this "verbal conditioning" phenomenon to take place if the subject is not aware of the contingencies involved. Even Greenspoon (1962), a pioneer in

verbal reinforcement research, questions whether or not many of the experiments done can be considered to be comparable to the operant conditioning typical of animal experiments. The results of many verbal conditioning experiments have been confounded by variables such as sex differences, awareness, experimenter influences, schedules of reinforcements, etc., (see Krasner, 1958). Attempts to correlate personality factors, as measured by personality tests or diagnosis have had confusing results (see review of Williams, 1964). Some of the problems encountered in previous research will be discussed in relation to the design and scope of this experiment.

## CHAPTER II

### SCOPE AND LIMITATIONS OF RESEARCH

This research attempts to control many of the variables which confounded the results of some of the previous research, and to extend the research to a somewhat neglected area: the effect of negative reinforcement, i.e., when the experimenter disagrees with the S. Also it attempts to relate the dependent variable in this situation, i.e., the amount of time the S spends talking about a topic, to a scale: the Marlowe-Crowne Social Desirability Scale.

#### A. Negative Reinforcement

Although much research exists using positive reinforcers, e.g., "Mh-hmm," "good," "right," etc., little work has been found by this writer on negative reinforcers. The research that has been done seems to indicate, for example, that saying "wrong" is not just the simple opposite of saying "right" to the S. Buss's work (1956a, 1956b) like Buchwald's work (1959) indicated that "right" was a much weaker reinforcer than "wrong" in his experimental situation. Both authors found that saying nothing at all after saying "right" or "wrong" changed the reinforcement value of saying nothing. Nothing, it seemed, could take on mildly reinforcing properties depend-

ing upon the context of the situation, e.g., during an exposure to a right-nothing sequence, nothing becomes a negative reinforcer. Buchwald, however, found evidence in his 1962 research that weakened his 1959 hypothesis somewhat. "Right" and "wrong" then appeared more equally potent as reinforcers.

In the experiment to be described, negative verbal reinforcement was decided to be one of the experimental variables to be manipulated. It was hypothesized that this type of reinforcement (i.e., the E telling the S that his arguments are weak or not convincing) would be a greater influence on the S's verbal behavior than the E's comments during the positive reinforcement condition (where E tells S that he has "a good point," or "that's a good argument," or says "right"). It was also hypothesized that the "nothing" trial (i.e., when E would say nothing) following a reinforcement trial, would show a significant difference from the first "nothing" trial.

#### B. The Dependent Variable

The dependent variable measured in this research was the time in seconds the S spends talking on each topic. This measure was not selected because of any conviction that it would be the most sensitive indicator of the S's response to the E's manipulations. Rather it was selected for the pragmatic reason that it would be an easily measurable,

reliable datum which would not require the services of judges. The amount of time spent talking admittedly is a gross indicator of the Ss behavior, yet it avoids the costly and complicated problems presented by an analysis of what the subject said. (This problem will be discussed further in the section concerning control versus artificiality.)

The Matarazzos and their associates (1958, 1960) have been publishing their accomplishments using much more elaborate and complex measures of temporal factors. The interaction chronograph is an instrument and methodology developed by them which allows the observer to record in time units with a high degree of accuracy the verbal behavioral interactions of two people -- including the number of utterances, number of interruptions, durations, etc. It does not study the content of conversation. Using this method they have studied the influence of status and role of the interacting participants (Saslow and Matarazzo, 1955). In this test on a psychiatric population definite results important for this study were not found. They did find, however, wide differences between individuals but remarkably stable intra-individual behavior, and also a high reliability for their complex technique of definition and measurement - with trained observers. Matarazzo, Saslow and Hare (1958) found two "very stable" factors: how long the S remains silent before communicating, and the number and average duration of each communicative

interaction.

### C. The Marlowe-Crowne Social Desirability Scale

Previous research using the Marlowe-Crowne Social Desirability Scale (MC-SDS) dictated its use as the most appropriate instrument for the purpose of this research, although it is still an instrument which is in the stage of being researched, and in need of further validation. The scale developed by Crowne and Marlowe (1960) is one developed with the express purpose of being independent of psychopathology -- the present writer considers this important when it will be used on a college population. It contains thirty three items (see Appendix III) and is administered in a true-false form. The scale was developed with this rationale in mind:

"In the present research, a social desirability scale was developed according to a different psychometric model, avoiding the ambiguities of a statistical approach. Basic to this model is the sampling procedure of the selection of items from a defined universe. The population from which items were drawn is defined by behaviors which are culturally sanctioned and approved but which are improbable of occurrence. This will be readily recognized as the rationale underlying the Lie Scale of the MMPI (Meehl and Hathaway, 1946). Items in the present scale, however, are probably less extreme than the lie items." (Crowne-Marlowe, 1960, p. 350)

The authors of the test report an internal reliability of .88, a test-retest reliability within one month of .89, and a distribution closely approximating normal with negative skewness. In comparison with other scales, they state that the Edwards Social Desirability Scale (a commonly used measure

of social desirability) and the MMPI have demonstrated a consistently high correlation with each other, thus suggesting that they are functionally equivalent: "correlations between the Edwards SDS and Pt, Sc, and MAS, in fact, approach the asymptotic value of the reliabilities of the separate tests." (Crowne and Marlowe, 1960, p. 352) They feel that the pathological implications of some of the Edwards items make it unsuitable for a college population since a low social desirability score may simply reflect the low frequency of pathological symptoms in the population and not the need of the Ss to present themselves in a favorable light.

This brings up the question of just what the Edwards scale or the Marlowe-Crowne scale is measuring. Marlowe and Crowne (1961) define social desirability as: "...a need for social approval and acceptance and the belief that this can be attained by means of culturally acceptable and appropriate behavior. (p. 109)" In their research (1961) they hypothesized that need for approval is a motivational variable and they predicted that individuals with a high need for approval would express more favorable attitudes toward a dull, monotonous task than those with a low need for approval. Their hypothesis was borne out at the .05 level. Crowne and Strickland (1961), using a Greenspoon-type verbal conditioning experiment, predicted and found that Ss with a high need for social approval would respond to positive reinforcement with an

increase in the response class and were more effected by negative reinforcement. Strickland and Crowne (1962) correlated the MC-SDS scale with the behavior of naive female subjects in a situation where the subject had a choice to conform to the opinions of another. They found a significant difference between those with a high need for approval as measured by the MC-SDS in their conformity scores at the .01 level. The authors state that:

The image of the conformer that emerges from these investigations is of a person who is not only submissive to group pressures, but who also appears to adopt the cultural stereotypes of what is good to personally acknowledge in evaluating himself on personality tests. The result of the present study along with those of prior investigators would suggest that the conformer's favorable self'descriptions serve his high need for the approval of others. (p. 180)

Lest the preceding discussion give the reader an overconfidence in the validity of the MC-SDS, the study by Goldfried (1964) should be noted. Goldfried did a cross validation of the MC-SDS and found, among other things, that sex differences were a highly important variable. For females only 27 of the 33 items yielded a significant number of responses in the scored direction. Three types of instructions were used in the administration of the test: standard administration, with a set for social approval, and with a set for social desirability. Goldfried found a lack of agreement between the social approval and the social desirability conditions; which led him to feel some doubt toward the



hypothesis that social approval and social desirability are manifestations of the same phenomenon.

McGee (1962a, 1962b) surveyed the research done on social desirability and acquiescence using a variety of scales to test the hypothesis that there is a measurable tendency for some Ss to agree with the test items regardless of the content. This hypothesis assumes that there is a response tendency, called acquiescence, which may be expected to appear in a variety of "agree-disagree" situations. McGee found little support for this hypothesis. He concluded that this response set cannot be thought of as independent of context, and that he found "no general trait of acquiescence independent of the specific instrument used to measure it (1962a)." In another study (1962b) in order to determine whether or not Ss who manifest a tendency to choose acquiescent options in a paper and pencil test would tend to display socially orientated behavior. He used several behavioral tasks and several measures of acquiescence (including the MC-SDS) but found no real relation between them. McGee notes the importance of getting behavior correlates of tests so that we can have some assurance of what the test is really measuring.

This scale, despite the limited validation and other criticisms, was selected since it seemed more appropriate than any others for the purpose of the experiment. The author does not feel that it is possible at this point to make a precise

definition of social desirability -- or what exactly is being measured by the Marlowe-Crowne scale. Unfortunately, it would seem that the scale is still in need of validation -- and one of the ways to find out what it is measuring is to measure with it. This research could contribute, in some way, to the validation of the MC-SDS scale.

## CHAPTER III

### PROBLEMS OF DESIGN AND CONTROL

#### A. Problem of Control Versus Artificiality

Experiments, especially laboratory experiments, are carried out in a highly controlled and usually a somewhat artificial setting in order that adequate controls can be imposed on the many variables which usually confound the interpretation of the causal factors at work. Because of the imposition of these controls, the situation of the organism is changed and his behavior is usually changed from what it might be outside of the laboratory. Thus, generalizing what the organism will do outside of the experimental situation must be done with caution. Orne (in a lecture given at Roosevelt University, Chicago, Illinois, in February, 1965) pointed out that just calling something "an experiment" has a decided influence on the S's behavior. It is especially relevant to notice variables like this in verbal conditioning experiments.

The original verbal conditioning experiments of Greenspoon (1952) could be criticized as highly artificial and having little generalizability and for not taking into account the experimental set of the S. On the other hand,

studies like Verplank's (1955), which attempt to control the content of normal conversation, seem to have a number of uncontrolled variables which cripple the interpretation of the experiment. Azrin, Holy, and Ulrich's (1961) attempted replication of Verplank's study was a fiasco because of the difficulty they encountered in controlling the experiment.

The present experiment attempts to combine experimental control with a situation which at least resembles normal interaction...Hildum and Brown (1956) tightened up some of the controls, and yet retained some normalcy by using the telephone and having the interviewer (E) reinforce according to a pre-selected bias. Their results, including their replication, indicate that reinforcement by "Mm-hmm," and even moreso by "good," could influence the attitudes expressed by the S.

In this experiment Ss were requested to give their opinions on three topics for an attitude survey. Also a tape recorder distracted the Ss from the purpose of the experiment and provided a manipulation check. In this manner it was attempted to retain some normalcy in the situation while controlling some of the troublesome variables such as excessive experimenter influence, measurement difficulties, and the S's awareness of the true purpose of the experiment. Less than four per cent of the Ss could verbalize the true purpose of the experiment. Many Ss felt the E was trying to

influence them but could not verbalize the correct contingency.

### B. The Problem of Awareness

In the work on verbal reinforcement the problem of awareness is of crucial importance. The problem of learning without awareness in the Greenspoon or Taffle-type experiment has not been fully resolved -- some experimenters bring evidence and arguments to bear upon both sides of the issue. Dulaney (1961), for example, finds that "conditioning" occurs only when the Ss are aware of the contingency. This would suggest that the subject attempts to guess at the nature of the experiment and then to comply with what he thinks the E wants; this would hardly be considered conditioning even in the loosest usage of the term. Dulaney would prefer to call this type of behavior human problem solving.

The extent of the awareness or the level of awareness is also a difficult problem. Questionnaires were used in some studies (e.g., Saranson and Ganzer, 1962) in order to determine the level of awareness of the S of the true purpose of the experiment -- or to note the S's hypothesis of the contingencies involved. A post-experiment questionnaire was used (see Appendix II) to control this variable. The data from those Ss who could verbalize the correct contingency were discarded: these were five Ss who were told about the experiment by previous Ss or who had a strong hypothesis about the E's true

purpose of the experiment. It was felt that Ss who were aware of the contingency could not be considered with naive Ss, since their psychological set would be quite different. Those who perceived that the E was purposely and arbitrarily disagreeing or agreeing with them for purposes of an experiment seemed to be in a different psychological framework than those who believed that the E was personally and sincerely agreeing or disagreeing with their ideas. Inspection of the data on these five Ss showed no peculiar or consistent trend in comparison with the other Ss. For the above reason it was felt that their data could not validly be statistically manipulated and compared with the other Ss.

The E wanted the S to be aware of his reinforcements but not aware of their true purpose. The dependent variable was used to measure, to some degree, how the Ss interpreted what the E did, and how they acted on this perception.

### C. The Problem of Subject Variables

This experiment used a fairly large number of Ss in each group to assure that the individual differences would be randomly and equally distributed among the conditions. This method is somewhat superior, in this case, to prior matching of the groups since one is not sure which are the crucial variables to match. However, this approach is not without its shortcomings, obviously, if the primary assumption of a random distribution among the groups is not met.

The results relating verbal conditioning experiments to personality variables via personality tests are highly confusing. For example, Crowne and Strickland (1961) report:

Other studies of individual differences in "conditionability" or "responsivity" have predicted change in response from such diverse personality measures as manifest anxiety (Taffel, 1955), compliance in psychotherapy as well as test anxiety and fearfulness in new situations (Saranson, 1958), achievement via independence (Krasner, Ulman, Weiss, and Collins, 1960) and hypnotizability (Weiss, Ulman, and Krasner, 1960).

Kanfer (1959) found no relationship between general adjustment and variability of speech rate on some topics, but on sex and family relation topics poor adjustment was related to high variability. Binder and Salop (1961) found evidence of verbal conditioning, but the results were ambiguous when they tried to relate this phenomenon to the MMPI. These authors cite other studies which show no significant and consistent relationship.

Sex differences in verbal conditioning have been reported. Buss (1958) found that women produced significantly fewer hostile responses than men in a verbal conditioning experiment. Carlson and Carlson (1960) reports sex differences in a review of many experiments on many traits. Sex differences have also been found on the Marlowe-Crowne Scale (Goldfried, 1964; Crowne and Strickland, 1961).

In light of the previous research it was thought best to limit the population to one sex. Females were chosen because

of the probability that acquiescent traits would be more apparent in them because of their cultural training (Buss, 1958). Intelligence, adjustment, education and like factors were also controlled to some degree since a college population was used. Limiting the population thus limited the generalizability of the results; however, there can be no generalization without adequate control.

No further attempts at matching were made on the supposition that the MC-SDS would be sufficient to correlate with the behavior in the experimental situation.

Since evidence from the pilot study research and the reports of Matarazzo, et. al. (1958) indicate that there are large inter-individual differences but small intra-individual differences, a control period or base rate period was used for each subject. Quay (1959) found it useful to establish a base rate during the first ten minutes of his sessions; Kanfer (1959) found that there seems to be a decrease in the amount of talking as the S gets used to the situation. Thus, in this research, a base rate or warm-up topic -- when E said and did nothing -- was given to each subject so that comparisons could be made in relation to each subject's own base rate.

#### D. Problem of Experimenter Variables

Although in this experiment the experimenter -- or a defined set of his actions -- were meant to be one of the



independent variables, it was necessary to apply control so that the experimenter was not an uncontrolled variable. The experimenter practiced a defined set of procedures so that his influence would be consistent with all of the subjects. However, other than the examiner's verbalizations recorded on the tape, there can be no post-experiment check on this variable. It was the impression of the experimenter that, even though fifteen trial subjects had been run for practice, his handling of the reinforcements became more adroit as testing proceeded; however, since subjects were tested in a proscribed sequence (i.e., ten controls, ten positive, ten negative, ten controls, etc.) this variable was largely controlled. The E's verbalizations and gestures were kept as consistent as possible, since Reece (1962) reported that a "warm" treatment of the S (i.e., when the E leaned toward the S, smiled and kept his hands still) caused a significant difference in verbal reinforcement results than the "cold" treatment (where the E leaned away from the S, looked around the room, did not smile and drummed his fingers). Ferguson and Buss (1960) used a hostile and neutral experimenter and found that the aggressive E retarded verbal conditioning. These works indicated that the attitude and appearance of the E did effect the behavior of the Ss in these situations.

The procedure section gives a more detailed description of the experimenter than is usually found in journal articles, since Binder, McConnell, and Sjöholm (1957) reported that when a husky male experimenter and a petite female experimenter were both used with female subjects, there occurred more verbal conditioning of the Ss of the female E. The impressiveness of the E, his social status, and so forth, probably are variables as well although this author has not found data on this as related to verbal conditioning.

In many of the early verbal conditioning experiments and critiques it was found that "Mm-hmm" or "Um-hmm," the often used reinforcers, have been variously interpreted by Ss. Post-experiment questionnaires revealed that the Ss often interpreted these ambiguous verbalizations antithetically to the experimenter's intent. Hildum and Brown (1956) attempted to control this variable by having a trained linguist administer this type of reinforcement. A simpler method often used by researchers, (e.g., Kasner, 1958), is to use words like "good," "right," etc. This reduces the ambiguity of the verbalization and leads to essentially the same or better results (e.g., Buss, 1956). The verbalizations used in this experiment were of this latter type, e.g., "good point," "good argument," or "weak," "still weak," "not convincing," etc. The examiner sought to use expressions which have a fairly common connotation, but, which are not so

specific as to embroil the E in a discussion with the S.

In summary then, the hypothesis of this experiment was that negative reinforcement is more influential than either the control or positive reinforcement. (This hypothesis was indicated from the pilot research.) It was also expected that the Marlowe-Crowne Social Desirability Scale would be related to the behavior in the testing situation, i.e., those Ss who scored high on the social desirability scale would tend to talk longer under positive reinforcement than under negative reinforcement (thus displaying a need to please the experimenter or meet his expectations.) It was also expected that the time spent on the post-reinforcement control topic would show significant differences from the pre-reinforcement control topic.

## CHAPTER IV

### PROCEDURE

One hundred and four freshmen general psychology females were recruited from the psychology 101 classes at Loyola University, Lake Shore Campus, Chicago, Illinois: sixty-eight per cent happened to be first year student nurses. The data from four Ss was not compared with the rest of the Ss since they could not correctly verbalize the contingency of the experiment when questioned with the post-experiment questionnaire. Seven other Ss data was discarded because they either knew of the experiment from previous Ss, because of incorrect reinforcement by the E, or because their MC-SDS test scores were not available. They were told in their psychology 101 classes that they would receive one credit point for participating in the experiment. They were tested individually by the author in a testing booth containing a tape recorder in full view. The E was a twenty-three year old white male of 180 pounds and average appearance. He was clean shaven and wore a suit and tie and a wedding band. He conducted the initial introduction to the experiment in a friendly manner, attempting to put the S at ease. He asked the S to be seated and then asked her questions about her age, school status,

academic major, religion, etc., in a casual manner. The

E then read the following instructions to the S:

We are doing a pilot study to a larger study in order to determine students' attitudes towards various topics. We are attempting to gather a large number of student opinions both for and against these topics. We will then select the best arguments pro and con and use them to attempt to change the attitudes of other students. Your task is to give me your opinion on these topics. (E hands S sheet with three topics -- see Appendix II -- and waits for approximately thirty seconds and then continues). We are recording them serially on this tape recorder and I will be making notes so that I know where I can find them later. Of course, all opinions will be anonymous. I will give you some time -- one minute--to think about each one. Please begin when I turn on the tape recorder. You may talk as long as you like and end at any time you wish. Please tell me when you wish to go on to the next topic so that I can stop the recorder. Any questions? (If so instructions are repeated.) We will start with topic number one in one minute. (E starts stop watch.) Ready.....begin.

(Underlined phrases were emphasized.)

The Ss were tested and distributed using the following sequence of conditions and topics:

31 Ss

Control - topic 1\*  
Control - topic 2  
Control - topic 3

31 Ss

Control - topic 1\*  
Positive Reinforcement - topic 2  
Control - topic 3

31 Ss

Control - topic 1\*  
Negative Reinforcement - topic 2  
Control - topic 3

\*Topic 1 will be used as the base rate topic.

Topics were selected by a preliminary questionnaire and it was attempted to equate topics for the frequency of being talked about by students (see Appendix I). The topics finally selected were presented to the S on a sheet of paper (see Appendix IV).

The reinforcement conditions were the following:

Positive: E looked at S, nodded his head, and without smiling said "good" or "good point" or "right" or "good argument." This reinforcement was given every thirty seconds on the average when the experimenter found a logical opportunity to insert the comment. As much as possible, the E attempted to give one reinforcement for each thirty seconds of speaking time.

Negative: Same conditions as for positive except E said "weak" or "weak argument" or "still weak" or "not a convincing argument." It was not possible for E to give this reinforcement as often without betraying the arbitrariness of the reinforcement.

Control: E said nothing, made no facial expression and

looked at S.

The time from when the E started the tape recorder until the S told him to stop the recorder was used as the dependent variable and was recorded for each topic on which the S spoke. The E also recorded the number of reinforcements given. Although the E attempted to give a reinforcement every thirty seconds in the experimental conditions, in actuality, because of the pauses of the S, and because an arbitrary reinforcement regardless of what the S was saying would surely cue the S that something was amiss, the reinforcement averaged 58.4 seconds in the negative condition, and 24.4 seconds in the positive condition. Longer pauses in the Ss' verbalization were characteristic of the negative condition. Measurement of the pauses over two seconds duration shows an average of 68 seconds. However, the average number of reinforcements for each group was approximately equal (3.5 for positive and 3.4 for negative).

At the end of the session the S was given a questionnaire to determine if she was aware of the purpose of the experiment or the contingencies (see Appendix II).

The questionnaire was administered in the following manner. The first question "What did you think about during the experiment" was one of a series of questions attempting to get at the level of awareness of the S of the experimental

manipulations. This is the first and vaguest question to see if the S spontaneously perceived the purpose of the experiment or had some hypothesis concerning the E's behavior. The E usually prefaced the questions with a statement like "Now I would like to ask you some questions about the experiment because the experimenter sees things one way and sometimes the S sees them quite differently; the first question is 'What did you think about during the experiment?'" If a blank stare was the result, the E said, "Just what things came to mind?" or "What things struck you?". This was usually enough to stimulate the S to say what she was thinking of, e.g., the topics, or just what purpose the E had in disagreeing with her. The ensuing questions attempted to determine the depth to which the S understood the true purpose of the experiment.

The Ss were given the Marlowe-Crowne Social Desirability Scale by another E in a group situation in their psychology classes (see Appendix III). They were given the questionnaire anonymously (identifying themselves by student number only).



## CHAPTER V

### RESULTS

Table 1 shows that the mean time spent on the first topic was almost exactly equal, although the standard deviation varies to some degree in the control condition. For topic 2 the negative experimental condition shows the greatest mean time score. In topic 3 only the negative condition deviates to any degree.

Table 1

The Mean Time (in seconds) and the Standard Deviation of the Amount of Time Ss in Each Condition Spent on Topics 1, 2 and 3. The Number of Ss in All Groups Is 31.

	CONTROL CONDITION		POSITIVE CONDITION		NEGATIVE CONDITION	
	M	SD	M	SD	M	SD
TOPIC 1	61.5	46.1	58.5	31.1	60.9	30.6
TOPIC 2	86.0	102.5	86.7	75.7	200.4	146.5
TOPIC 3	98.9	115.9	88.9	79.2	134.6	113.7
TOTAL TIME	246.4	252.9	234.1	178.4	396.0	253.1

These relationships become apparent when Figure 1, a plotting of the mean times on each topic for each condition is examined. Figure 2 plots a similar relationship for the standard deviation.

Figure 3 is a graphic representation of the amount of time in seconds which the S spent in silence. An arbitrary criterion of a pause over two seconds was used so as to provide for normal pauses between words and sentences. It will be noted that there are almost no significant pauses in the positive and control conditions. There is an appreciable amount of pauses only in the negative reinforcement condition, topic 2.

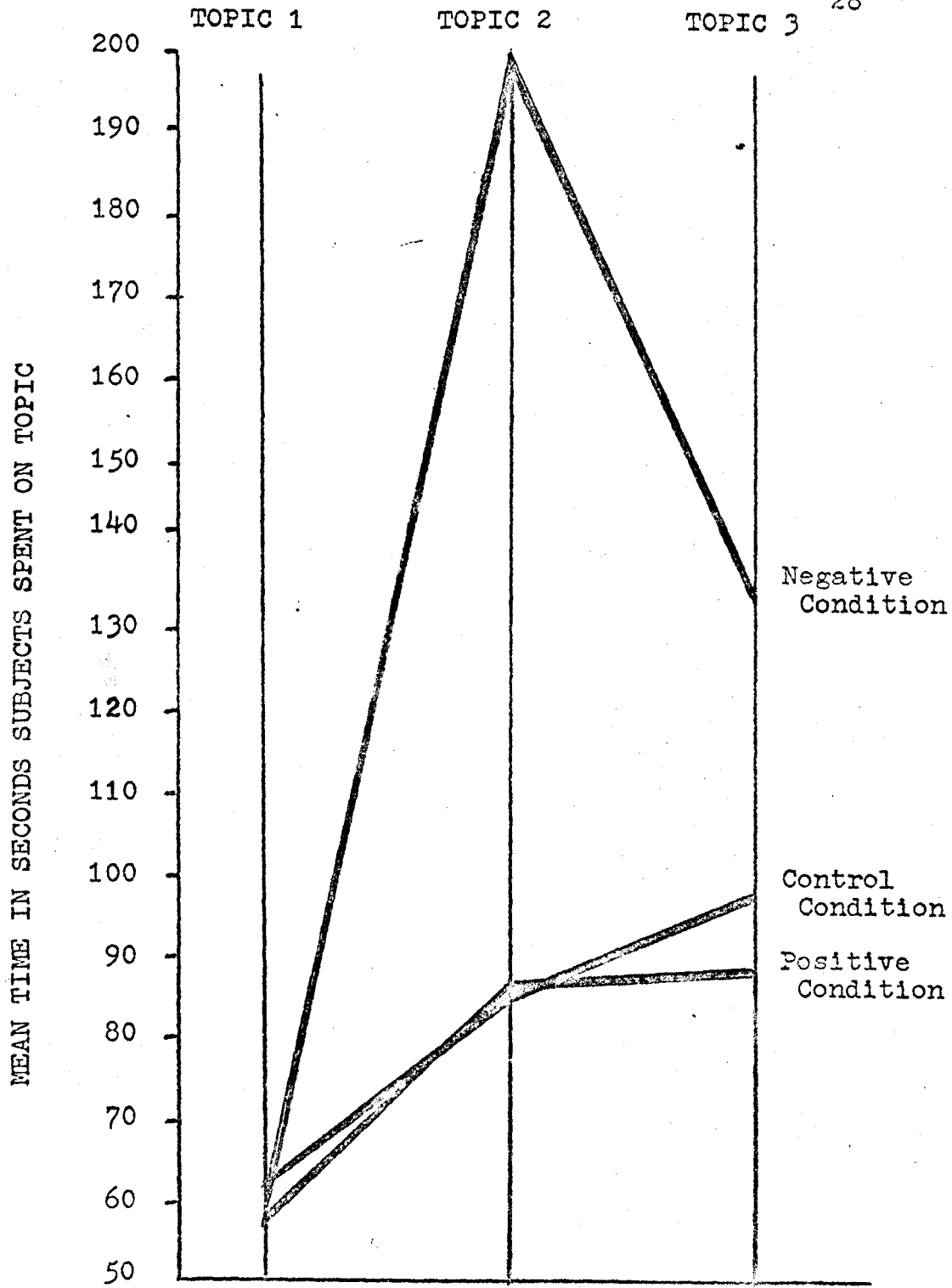


Figure 1. A comparison of the mean amount of time spent on the three topics for each condition.

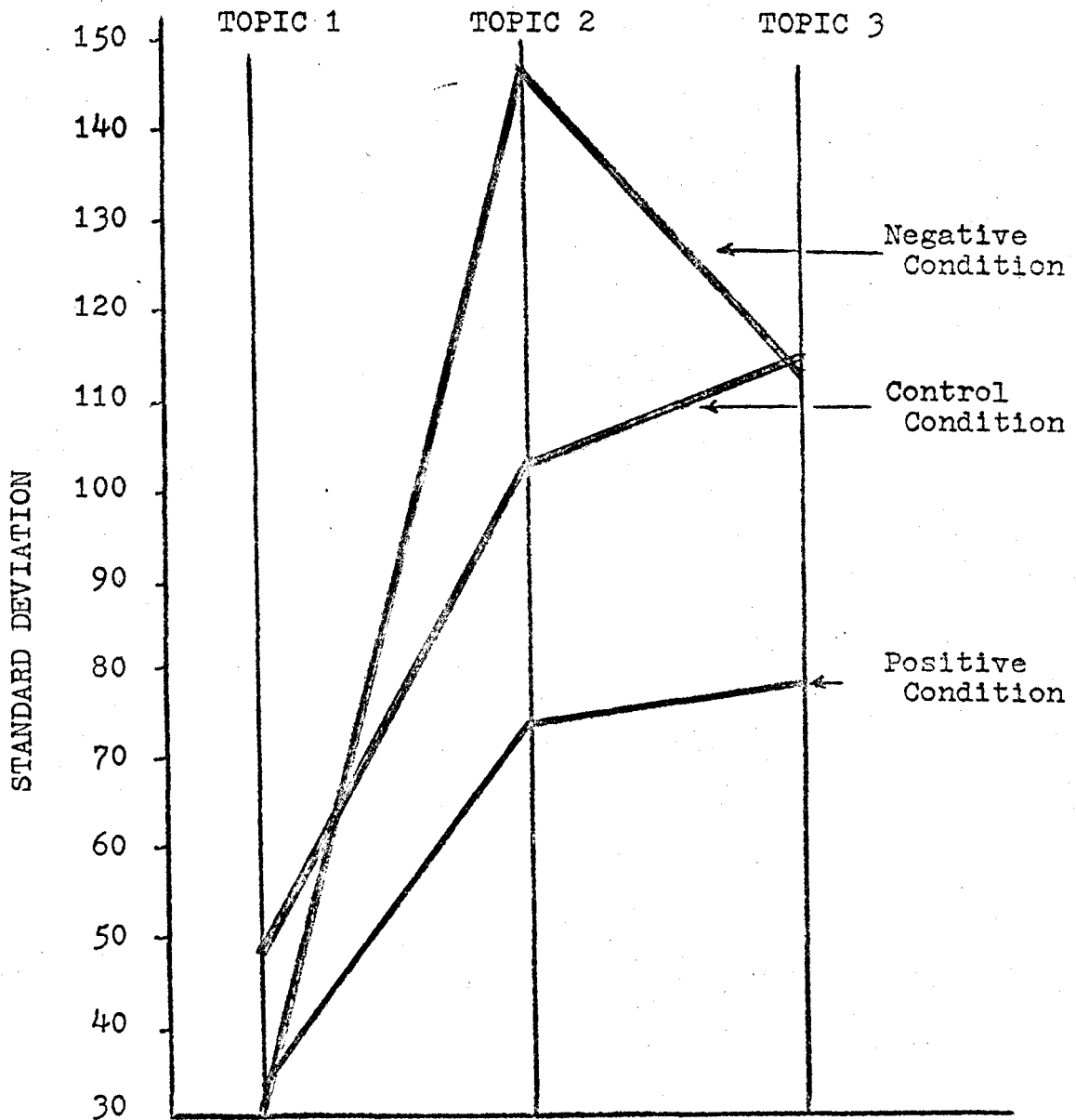


Figure 2. A comparison of the variation, as measured by the standard deviation, in the three topics for each condition.

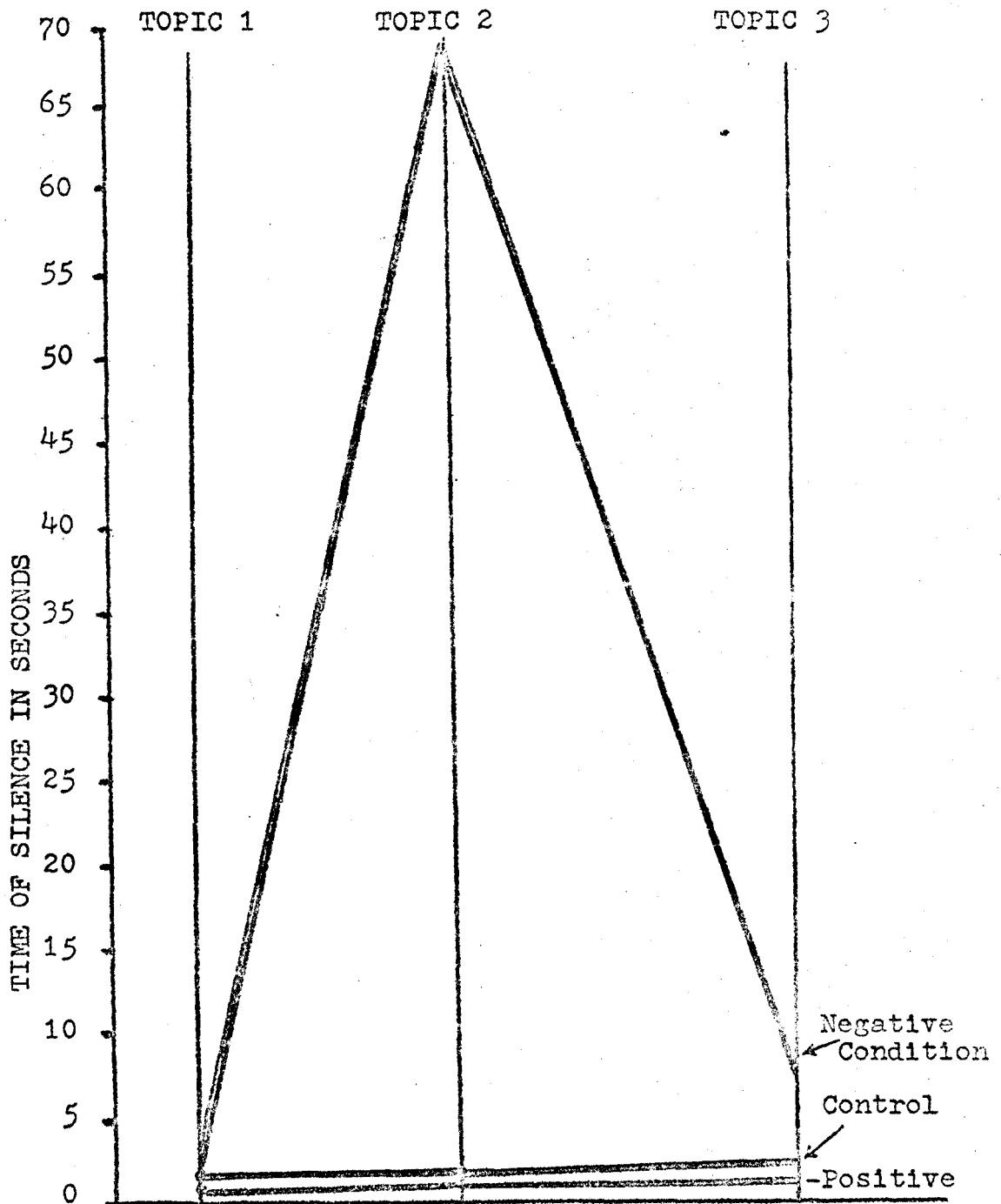


Figure 3. A comparison of the mean amount of time the Ss spent in silence in each of the reinforcement conditions. (Pauses defined as silence longer than two seconds duration.)

Table 2 shows the high correlation between the Ss' behavior on the various topics in the control and positive condition. Note that in the negative condition the correlation between topic 1 and topic 2 is much less than the correlation between topic 1 and topic 2 in the other conditions. The consistency between topics in the same condition is apparent except in the negative condition.

Table 2

Intercorrelations Between the Topics  
Within the Same Condition

	CONTROL CONDITION	POSITIVE CONDITION	NEGATIVE CONDITION
TOPIC 1 & 2	.83**	.81**	.24
TOPIC 1 & 3	.73**	.78**	.59**
TOPIC 1 & TOTAL TIME	.84**	.86**	.52**
TOPIC 2 & 3	.94**	.93**	.67**
TOPIC 2 & TOTAL TIME	.98**	.98**	.91**
TOPIC 3 & TOTAL TIME	.97**	.98**	.91**

\* Significant at the .05 level

\*\* Significant at the .01 level

The mean, standard deviation and range of scores for each group on the Marlowe-Crowne Social Desirability Scale are presented in Table 3. The data shows the positive and negative and control groups to be very similar in mean and standard deviation. There is no significant difference between the mean scores on the MC-SDS among the three groups, even at the .05 level.

Table 3

The Mean and Standard Deviation Marlowe-Crowne Social Desirability Scale Scores for Each Group.

N=31 in Each Group.

	MEAN	STANDARD DEVIATION	RANGE
CONTROL	14.4	5.0	6 - 23
POSITIVE	16.2	5.8	3 - 23
NEGATIVE	16.4	5.6	5 - 33

In Table 4 the relationship between the amount of time spent on each topic and the Marlowe-Crowne Social Desirability Scale for each condition is presented. All correlations in all conditions are low -- and only slightly higher in the control condition. None of these correlations are statistically significant at even the .05 level.

Table 4

The Correlation for Each Condition Between the Time Spent on the Various Topics and the Marlowe-Crowne Social Desirability Scale.

	CONTROL CONDITION	POSITIVE CONDITION	NEGATIVE CONDITION
TOPIC 1	.29	.11	-.15
TOPIC 2	.28	.13	.04
TOPIC 3	.23	.18	.03
TOTAL TIME	.28	.15	.15





Table 5 presents a comparison of the statistical probability of the differences between the groups arising from chance factors. The control condition times are compared to those of the positive and negative conditions; the positive and negative times are also compared for each topic. A t test for uncorrelated means was used (Crowley and Cohen, 1963, p. 36). It was decided that the t test would provide as much or more information in this instance as would an analysis of variance -- since the design used does not lend itself to an uncomplicated application of analysis of variance or trend analysis. It is thought that since only nine t tests are run the probability of getting significant differences by chance alone at the .05 level is small (1 in 180).

It could be noted in Table 5 that the only two t tests support a rejection of the null hypothesis at the traditionally accepted .05, .01, or .001 levels: the negative condition on Topic 2 differs significantly from the positive condition on Topic 2 at beyond the .001 level; the negative condition on Topic 2 differs significantly at beyond the .01 level from the control condition on Topic 2.

Table 5

A Comparison of the Differences in the Mean Times  
Spent Among the Same Topics Under Positive,  
Negative and No Reinforcement (Control).

<u>CONTROL</u>	<u>CONDITION</u>	<u>VS.</u>	<u>POSITIVE</u>	<u>CONDITION</u>	<u>RESULTS</u>
TOPIC 1			TOPIC 1		NOT SIGNIFICANT
TOPIC 2			TOPIC 2		NOT SIGNIFICANT
TOPIC 3			TOPIC 3		NOT SIGNIFICANT
<u>CONTROL</u>	<u>CONDITION</u>	<u>VS.</u>	<u>NEGATIVE</u>	<u>CONDITION</u>	<u>RESULTS</u>
TOPIC 1			TOPIC 1		NOT SIGNIFICANT
TOPIC 2			TOPIC 2		SIGNIFICANT AT BEYOND .01 (t=3.40)
TOPIC 3			TOPIC 3		NOT SIGNIFICANT
<u>POSITIVE</u>	<u>CONDITION</u>	<u>VS.</u>	<u>NEGATIVE</u>	<u>CONDITION</u>	<u>RESULTS</u>
TOPIC 1			TOPIC 1		NOT SIGNIFICANT
TOPIC 2			TOPIC 2		SIGNIFICANT AT BEYOND .001 (t=3.63)
TOPIC 3			TOPIC 3		NOT SIGNIFICANT

df=N+N-2

A comparison was made across the various groups on the same topics, since within the groups the topics seem to have an unequal stimulus value (see the control group differences in the time spent talking on the three topics, Table 1).

The topics may have been unequal in stimulus value as far as the amount of talking they provoke or there is a warm-up effect which accounts for the greater length of time on succeeding topics in all three groups. Whatever the reason for the difference the comparison of the same topics made in Table 5 seems to be the most meaningful.

## CHAPTER VI

### DISCUSSION

The data revealed in Table 1 and Figure 1 suggests that the negative reinforcement condition was much more influential in causing the Ss to spend a longer time on the topic than the positive or control condition did. A somewhat surprising finding is that the positive condition -- or saying "good," "right," or "good argument" -- seemed to be no more effective than saying nothing. This finding indicates that no measurable "verbal conditioning" took place under these conditions in the positive group. However, Salzinger and Pisoni (1960) report that a minimum of eight reinforcements must be present for conditioning to occur. The mean number of reinforcements in the present experiment was only 3.5 for the positive condition, because the E judged it impossible to give more to many Ss without causing them to suspect something was strange. Only two Ss received eight or more reinforcements in the positive condition and both showed large increments in talking time in topics 2 and 3 as compared to topic 1. It would seem rash to make general conclusions upon the effectiveness of positive verbal reinforcement from this study. Since no increment is seen

in the positive condition from the base rate, and since there is no significant difference from the control condition in the expected direction in this study, the writer could ponder whether or not this research should be compared to studies using the Greenspoon or Taffel-type situation.

It was the author's impression that the Ss, in this experiment, largely ignored the E's positive comments. A probable interpretation of previous verbal conditioning experiments would be that the S, looking for some guidance from the E, and attempting to do what the E wanted, sought to do that which the E signified as correct. Orne (1962) emphasized that the human S is not a passive organism in the experiment, but is often actively trying to do what he thinks is expected of him. Apropos here are Dulaney's comments (1961) about "verbal conditioning" being problem solving when the S is aware. Perhaps when the S is task orientated and has little need or motivation to please the E, "conditioning" or an increase in the operant level will be lowered. The ten Ss in the positive condition, however, who in answer to question four on the post-test questionnaire ("Did you notice anything the experimenter did during the experiment? If so, what?") answered that they had noticed the E's comments, do seem to differ from the other Ss in the amount of time they spent talking on the topics. They account for 25% of the total group yet their mean score on the MC-SDS

is only 14.7 -- with a range from 3 to 24, which is not markedly different from the other Ss.

The negative reinforcement group shows a clear increase in the amount of time they spent talking from their own base rate and from the control group. The author would argue that this difference was due to the negative reinforcement because the base rate topics for all three groups are almost exactly equal. The pauses for the negative condition are also much greater than the other conditions. Judging from the increase over the base rate in the negative reinforcement group, it seems that negative reinforcement is very influential for most Ss. Just why it is so and how the Ss interpreted the words spoken to them cannot be ascertained in this study. It seemed that many of the Ss felt obliged to go on to find better arguments. Whether they did this to please themselves or to please the E is an unanswered question. The relation of their behavior to the MC-SDS is not helpful in answering this question. There is a slight positive correlation in the control condition (from approximately .20 to .30) between the time spent on the topic and the MC-SDS. However, these correlations are not statistically significant.

Ball, in an unpublished dissertation, (cited by Krasner, 1958), found that "Mmm-hmm" in a verbal conditioning situation resulted in significant conditioning at the .01 level while "Huh-uh" was not an effective reinforcer. An

analysis of individual cases indicated "two different -- possibly opposite effects--some Ss showing a decrease in frequency, but in some others showing a marked increase contrary to the socially accepted meaning of the verbal stimulus." It would seem to this author that Ball's Ss interpreted the "Huh-uh" as "that's not it, and since the experiment isn't over I guess I had better try something else". Perhaps the Ss in this experiment interpreted "weak," "still weak," and "not a convincing argument," in a similar manner. However, they were told in the instructions that "they could talk as long as they like or end at any time they wish." It seems less likely that the Ss would interpret the reinforcements -- in view of the preliminary instructions -- in terms of an attempt to give the E what he wanted. Only three subjects felt that the E was arbitrarily disagreeing with them and it was the E's impression that most of the Ss took it as genuine criticism of their ideas.

These findings tend to be in agreement with those of Buchwald (1962) who found "right" a much weaker reinforcer than "wrong." And it would seem to agree with Buchwald's (1959) finding that saying nothing takes on reinforcement value opposite in direction to that of the event with which it is combined. Figure 1 shows that, in the negative condition at least, the time measurement on Topic 3 does not reduce to the level of the other two conditions, indicating

that the E's silence now is affecting the S or that there is some residual effect from the previous trial. Which explanation is valid cannot be answered here. In the positive condition this effect is not seen; but it is likely that this is so because the reinforcement trial had so little effect in the first place.

Sander (1962) reports that negative verbal cues ("Unh-unh") caused a decrease in response probability when administered and an increase in response probability when withdrawn. His study is difficult to compare with this one since he used a hospital population and also used a different criterion for response. In this study, when the amount of time spent talking is deemed the response the negative reinforcement seems to increase its probability; conversely, when reinforcement is withdrawn the response probability decreases. Even more likely is the probability that "weak" is not interpreted the same as "Unh-unh" and the situations cannot be equated. Salzinger in his review (1959) concludes that reinforcers using more words are more effective than those which use fewer words.

In Figure 3 it was shown that although there were virtually no significant pauses during the speaking time of the Ss in the control and positive conditions, the negative condition contained a great number of pauses. This increased the total time the Ss spent on the topics and seems to



indicate a mode of coping with negative reinforcement.

Heller (1965) recently reported similar findings. He found that negative reinforcement reduced the verbalizations of the S. He also noted that negative reinforcement increased the "noticing behavior" along an information theory model. Spence (1965) also sees much of what has been called conditioning as cue learning and reported that Ss who are given negative reinforcement are more likely to become aware of the cues and the contingencies involved in the reinforcement. She claims that the performance in these "conditioning" situations is largely related to the amount of information given, or as Heller would say, to the amount of information noticed.

## CHAPTER VII

### SUMMARY AND CONCLUSIONS

Ninety-three college freshmen coeds were used as Ss to determine the effect of the experimenter's verbal reinforcement, both positive and negative, on the amount of time the Ss would talk on a topic. An attempt was made to relate this behavior to the Marlowe-Crowne Social Desirability Scale.

Problems which have plagued the research on verbal reinforcement, such as subject awareness, experimenter variables, subject variables, and various problems related to the control of these variables, were discussed in relation to this study.

All Ss were individually tested by the E who instructed them to give their opinions on three different topics. Following a reinforcement schedule, the E either said "right," "good point," or "good argument," or said "weak," "still weak," "that's not a convincing argument" or said nothing. It was found that only the negative reinforcement condition differed significantly from the control condition (at the .01 level). No consistent relationship was found between the

Marlowe-Crowne Social Desirability Scale and the Ss' talking time. Positive reinforcement did not prove to be influential on the dependent variable, although perhaps too few reinforcements were given to each S.

This study indicates that negative reinforcements, as administered in this situation, are quite influential in inducing the S to spend longer on the topic. This study gives no support to the validity of the Marlowe-Crowne Social Desirability Scale since acquiescent Ss did not talk longer whether positively or negatively reinforced. Alternative explanations for the "verbal conditioning" phenomenon were discussed.

## REFERENCES

- Azrin, N. H., Holy, W., Ulrich, R., & Goldiamond, I. The control of the content of conversation through reinforcements. J. exp. anal. Behav., 1961, 4, 25-30.
- Binder, A., McConnell, D., & Sjöholm, N. A. Verbal conditioning as a function of experimenter characteristics. J. abnorm. soc. Psychol., 1957, 55, 309-314.
- Binder, A., & Salop, P. Reinforcement and personality factors. J. Psychol., 1961, 51-52, 379-402.
- Buchwald, A. M. Experimental alterations in the effectiveness of verbal reinforcement combination. J. exp. Psychol., 1959, 57, 351-361.
- Buchwald, A. M. Variations in the apparent effects of "Right" and "Wrong" on subsequent behavior. J. verbal Learn., verbal Behav., 1962, 1, 71-78.
- Buss, A. H. & Buss, E.H. The effect of verbal reinforcement combinations on conceptual learning. J. exp. Psychol., 1956, 52, 283-287.(a)
- Buss, A. H., Braden, W., Orgel, A., & Buss, E. H. Acquisition and extinction with different verbal reinforcement combinations. J. exp. Psychol., 1956, 52, 288-295.(b)
- Buss, A. H. & Durkee, A. Conditioning of hostile verbalizations in a situation resembling a clinical interview. J. consult. Psychol., 1958, 22, 415-418.
- Carlson, E. R. & Carlson, R. Male and female subjects in personality research. J. abnorm. soc. Psychol., 1960, 61, 482-483.
- Craddick, R. A. & Stern, M. R. Verbal conditioning: the effect of partial reinforcement upon the recall of early memories. J. abnorm. soc. Psychol., 1964, 68, 353-355.

- Crowley, F. J. & Cohen, M. Basic Facts of Statistics.  
New York: Collier Books, 1963.
- Crowne, D. P. & Marlowe, D. A new scale of "social desirability independent of psychopathology. J. consult. Psychol., 1960, 24, 349-354.
- Crowne, D. P. & Strickland, B. The conditioning of verbal behavior as a function of the need for social approval. J. abnorm. soc. Psychol., 1961, 63, 395-401.
- Dulaney, D. E., Jr. Hypothesis and habits in verbal "operant conditioning." J. abnorm. soc. Psychol., 1961, 63, 251-263.
- Ferguson, D. & Buss, A. Operant conditioning of hostile verbs in relation to experimenter and subject characteristics. J. consult. Psychol., 1960, 24, 324-327.
- Goldfried, M. A cross validation of the Marlowe-Crowne Social Desirability Scale items. J. soc. Psychol., 1964, 64, 137-145.
- Greenspoon, J. Verbal conditioning and clinical psychology. In A. J. Bachrach (Ed.) Experimental Foundations of Clinical Psychology. New York: Basic Books, 1962, 510-554.
- Heller, K. Needed: a broader perspective for interview therapy. Paper read at Midwest Psychol. Ass., Chicago, April, 1965.
- Hildum, D. C. & Brown, R. W. Verbal reinforcement and interviewer bias. J. abnorm. soc. Psychol., 1956, 53, 108-111.
- Kanfer, F. H. Verbal rate, content, and adjustment ratings in experimentally structured interviews. J. abnorm. soc. Psychol., 1959, 58, 305-311.
- Krasner, L. Studies of the conditioning of verbal behavior. Psychol. Bull., 1958, 55, 148-170.
- Marlowe, D. & Crowne, D. P. Social desirability and response to perceived situational demands. J. consult. Psychol., 1961, 25, 109-115.

- Matarazzo, J. D., Saslow, G., & Paresis, E. N. Verbal conditioning of two response classes: some methodological considerations. J. abnorm. soc. Psychol., 1960, 61, 190-206.
- Matarazzo, J. D., Saslow, G., & Hare, P. Factor analysis of interview interaction behavior. J. consult. Psychol., 1958, 22, 419-429.
- Matarazzo, R. G., Matarazzo, J. D., Saslow, G., & Phillips, J. S. Psychological test and organismic correlates of interview interaction behavior. J. abnorm. soc. Psychol., 1958, 56, 324-338.
- McGee, R. The relationship between response style and personality variables. J. abnorm. soc. Psychol., 1962, 64, 229-233.(a)
- McGee, R. The relationship between response style and personality variables. J. abnorm. soc. Psychol., 1962, 65, 347-351.(b)
- McNair, D. M. Reinforcement of verbal behavior. J. exp. Psychol., 1957, 53, 40-46.
- Orne, M. T. On the social psychology of the psychological experiment: with particular reference to demand characteristics and their implications. Amer. Psychologist, 1962, 17, 776-783.
- Quay, H. The effect of verbal reinforcement on the recall of early memories. J. abnorm. soc. Psychol., 1959, 58, 254-257.
- Reece, M. & Whitman, R. Expressive movements, warmth, and verbal reinforcements. J. abnorm. soc. Psychol., 1962, 64, 234-236.
- Rogers, J. Operant conditioning in a quasi-therapy setting. J. abnorm. soc. Psychol., 1960, 60, 247-252.
- Salzinger, K. Experimental manipulation of verbal behavior: a review. J. gen. Psychol., 1959, 61, 65-94.

- Salzinger, K & Pisoni, S. Reinforcement of verbal affect responses of normal subjects during the interview. J. abnorm. soc. Psychol., 1958, 56, 339-344.
- Sandler, J. The effect of negative verbal cues upon verbal behavior. J. abnorm. soc. Psychol., 1962, 64, 312-316.
- Saranson, I. G. Interrelationships among individual differences variables, behavior in psychotherapy and verbal conditioning. J. abnorm. soc. Psychol., 1958, 56, 339-344.
- Saranson, I., & Ganzer, U. Anxiety, reinforcement, and experimental instructions in a free verbalization situation. J. abnorm. soc. Psychol., 1962, 65, 300-307.
- Saslow, G., Matarazzo, J. D., & Guse, S. B. The stability of interaction chronograph patterns in psychiatric interviews. J. consult. Psychol., 1955, 19, 417-430.
- Spence, Janet T. Verbal conditioning. Paper read at Loyola University, Chicago, April, 1965.
- Strickland, B. R. & Crowne, D. P. Conformity under conditions of simulated group pressure a a function of the need for social approval. J. soc. Psychol., 1962, 58, 171-181.
- Taffel, C. Anxiety and the conditioning of verbal behavior. J. abnorm. soc. Psychol., 1955, 51, 496-501.
- Verplank, W. S. The control of the content of conversation: reinforcement of statements of opinion. J. abnorm. soc. Psychol., 1955, 51, 668-676.
- Williams, J. Conditioning of Verbalizations: a review. Psychol. Bull., 1964, 62, 383-393.

APPENDIX I

PRELIMINARY PILOT STUDY QUESTIONNAIRE TO EQUATE TOPICS

PROJECT VR:4

QUESTIONNAIRE CONCERNING PREVAILING ATTITUDES  
OF CATHOLIC COLLEGE STUDENTS

INSTRUCTIONS: In preparation for a study of the attitudes of Loyola students we would appreciate your cooperation. What we are trying to do here is to find out what subjects are most talked about by the students. Below are listed a few topics and we would ask you first to add a list of your own topics which are discussed frequently by Loyola students. When you have done this, rank the combined list; i.e., the most frequently talked about topic would be given a number 1, the second most frequent topic 2, and so on. Do not sign your name but please fill out the information below. Thank you very much for your cooperation.

AGE \_\_\_\_\_ SEX \_\_\_\_\_ NUMBER OF YEARS OF COLLEGE \_\_\_\_\_ RELIGION \_\_\_\_\_

TOPICS:

(rank order)

- \_\_\_\_\_ Censorship of the Loyola News
- \_\_\_\_\_ The adequacy of Pow Wow Weekend
- \_\_\_\_\_ The conservative philosophy of government
- \_\_\_\_\_ Birth control and the Catholic Church
- \_\_\_\_\_ The wearing of beanies by freshmen
- \_\_\_\_\_ The value of fraternities and sororities
- \_\_\_\_\_ The value of the required religion and philosophy courses



## APPENDIX II

### POST-TEST QUESTIONNAIRE FOR EXPERIMENTAL CONDITIONS

1. What did you think about during the experiment?
2. How did you go about deciding when you had said enough?
3. Which topic do you think you talked the longest about?  
Why?
4. Did you notice anything the experimenter did during the experiment? If so, what?
5. Why do you think the experimenter did that? (If 4 is yes)
6. Did it have any effect on what you did? What was that effect?
7. Do you think the experimenter's comments (for example, "weak point" or "good point") affected you in any way?  
How?

(on separate second sheet)

#### PURPOSE OF THE EXPERIMENT

One of the purposes of this experiment was to see what effect the experimenter's agreement or disagreement with the subject would have on what the subject said and how long the subject spent talking on the various topics. In light of this information, do you think the experiment was effective?

## APPENDIX III

### THE MARLOWE-CROWNE SOCIAL DESIRABILITY SCALE

#### AS ADMINISTERED TO SUBJECTS

#### PERSONAL REACTION INVENTORY

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is TRUE or FALSE as it pertains to you personally. (Use T or F)

- 1.( ) Before voting I thoroughly investigate the qualifications of all the candidates.
- 2.( ) I never hesitate to go out of my way to help someone in trouble.
- 3.( ) It is sometimes hard for me to go on with my work if I am not encouraged.
- 4.( ) I have never intensely disliked anyone.
- 5.( ) On occasion I have had doubts about my ability to succeed in life.
- 6.( ) I sometimes feel resentful when I don't get my way.
- 7.( ) I am always careful about my manner of dress.
- 8.( ) My table manners at home are as good as when I eat out in a restaurant.
- 9.( ) If I could get into a movie without paying and be sure I was not seen I would probably do it.
- 10.( ) On a few occasions, I have given up doing something because I thought too little of my ability.
- 11.( ) I like to gossip at times.
- 12.( ) There have been times when I felt like rebelling against people in authority even though I knew they were right.
- 13.( ) No matter who I'm talking to, I'm always a good listener.
- 14.( ) I can remember "playing sick" to get out of something.
- 15.( ) There have been occasions when I took advantage of someone.
- 16.( ) I'm always willing to admit it when I make a mistake.
- 17.( ) I always try to practice what I preach.

- 18.( ) I don't find it particularly difficult to get along with loud mouthed, obnoxious people.
- 19.( ) I sometimes try to get even rather than forgive and forget.
- 20.( ) When I don't know something I don't mind at all admitting it.
- 21.( ) I am always courteous, even to people who are disagreeable.
- 22.( ) At times I have really insisted on having things my own way.
- 23.( ) There have been occasions when I felt like smashing things.
- 24.( ) I would never think of letting someone else be punished for my wrongdoings.
- 25.( ) I never resent being asked to return a favor.
- 26.( ) I have never been irked when people expressed ideas very different from my own.
- 27.( ) I never make a long trip without checking the safety of my car.
- 28.( ) There have been times when I was quite jealous of the good fortune of others.
- 29.( ) I have almost never felt the urge to tell someone off.
- 30.( ) I am sometimes irritated by people who ask favors of me.
- 31.( ) I have never felt that I was punished without cause.
- 32.( ) I sometimes think when people have a misfortune they only got what they deserved.
- 33.( ) I have never deliberately said something that hurt someone's feelings.

APPENDIX IV

TOPICS AND SEQUENCE OF TOPICS  
USED FOR ALL SUBJECTS IN ALL CONDITIONS

1. THE ADEQUACY OF SOCIAL ACTIVITIES FOR LOYOLA STUDENTS  
\_\_\_\_\_ ADEQUATE  
\_\_\_\_\_ INADEQUATE
  
2. THE VALUE OF THE REQUIRED RELIGION AND PHILOSOPHY COURSES  
\_\_\_\_\_ ADEQUATE  
\_\_\_\_\_ INADEQUATE
  
3. BIRTH CONTROL AND THE CATHOLIC CHURCH  
\_\_\_\_\_ PRO BIRTH CONTROL  
\_\_\_\_\_ ANTI BIRTH CONTROL

APPROVAL SHEET

The thesis submitted by George Edward Schultz has been read and approved by three members of the Department of Psychology.

The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated, and that the thesis is now given final approval with reference to content, form, and mechanical accuracy.

The thesis is therefore accepted in partial fulfillment of the requirements for the degree of Master of Arts.

Nov 2 1965  
Date

Howard H. Johnson  
Signature of Adviser