MARTIN, LYNDA JOYCE. The Relationship between Children's Perception of Maternal Discipline and Performance on Two Operant Tasks: A Study in Methodology. (1968) Directed by: Dr. Frances Dunham. pp. 60.

The purpose of the present study was to replicate parts of two previous studies conducted by Dunham (1962) and Dunham and Furey (unpublished) in which it was found that scores on a Discipline Orientation Questionnaire (DOQ) which was presumed to measure maternal love-oriented discipline were related to performance on two operant tasks. In the first study, fourth grade girls who had reported that their mothers used love-oriented discipline less often pulled the lever on a box more times per minute than did fourth grade girls who reported that their mothers used love-oriented discipline more often. In the second study, the reverse obtained. Fourth grade boys and girls who reported that their mothers used love-oriented discipline more often worked harder at filling in circles than did boys and girls who reported that their mothers used love-oriented discipline less often.

In replicating the two studies discussed above, a repeated measurements design was used. One hundred thirty-six fourth grade children (68 boys and 68 girls) were dichotomized into two groups on the basis of scores on the DOQ: High (scores of 7 and above) and Low (scores of 3 and below). All subjects were administered both the Circle Task and the Lever Task. A 2 x 2 x 2 x 2 x 15 mixed factorial design which included the between subjects' effects of sequence (circle or lever task first), sex and DOQ and the within subjects'

effects of task and timeblocks (performance over time).

As predicted, there was a significant difference between tasks: all subjects pulled the lever more times per minute than they filled in circles. Also, as predicted there was a significant increase in performance over time. Not predicted was the finding that the slope for the circle task was significantly steeper than the slope for the lever task. There was a significant sequence effect: subjects receiving the circle task first had a higher total score than did subjects receiving the lever task first. It was predicted that there would be a significant Task x DOQ interaction. Although the results were in the right direction (Lows pulled more levers per minute than did Highs and Highs filled in more circles per minute than did Lows), the difference was not great enough to produce a significant interaction. There was a significant Task x Sex interaction. Boys pulled the lever more times per minute than girls whereas girls filled in more circles per minute than did boys. Several higher order interactions were significant: Task x Timeblocks x Sequence x DOQ; Task x Timeblocks x Sequence x Sex; Timeblocks x Sequence x Sex x DOQ; and the fifth-order interaction.

Scores on the Children's Manifest Anxiety Scale (CMAS) were obtained for all subjects. Pearson product moment correlations were computed to see if any relationship existed between performance and CMAS scores. None was found to exist.

No theoretical interpretation was offered for the results of this study. The potential importance of baseline response measures in psychological research was stressed.

THE RELATIONSHIP BETWEEN CHILDREN'S PERCEPTION OF MATERNAL DISCIPLINE AND PERFORMANCE ON TWO OPERANT TASKS: A STUDY IN METHODOLOGY

by

Lynda Joyce Martin

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Approved by

Frances Dunham
Thesis Adviser

APPROVAL SHEET

This thesis has been approved by the following committee of the Faculty of the Graduate School at The University of North Carolina at Greensboro.

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January 28, 1968
Date of Examination

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I wish to express my sincere appreciation for the advice of my thesis adviser, Dr. Frances Dunham, and the members of my committee, Dr. David Cole, Dr. Mary Elizabeth Keister and Dr. Kendon Smith. Also, I extend my thanks to several other persons who have helped me in different ways: Dr. William Burnett, Mrs. Camden Greer, Mr. Gary McClure, and Mr. and Mrs. Paul Vicinanza. To the principals and teachers and all the fourth grade boys and girls (who each in his/her own individual way worked very hard), I express my appreciation.

Lynda Joyce Martin

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INTRODUCTION

The present investigation grew out of conflicting results from two previous research projects, one by Dunham (1962) and the other, an unpublished study by Dunham and one of her students in 1962*. A brief synopsis of each of these studies, followed by a comparison of the two, will be presented in order to point out possible factors giving rise to the particular methodological problems in question and to facilitate the understanding of the purpose of the present study.

Dunham, as part of a larger study, had made the implicit assumption that children with a high potential for guilt arousal would work harder at a monotonous task (pulling the lever of a box) after being requested to do so by an adult experimenter than would children with a low potential for guilt arousal. Empirical research in the area of socialization and conscience development suggest that children who come from homes in which the primary mode of discipline is love-oriented (Withdrawal of Love and Imposition of Isolation) are more susceptible to the arousal of guilt feelings than are children who come from homes in which

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* Carol Furey collected the data for the second study; she was supported by an N-IMH Undergraduate Training Award.

the primary mode of discipline is non-love-oriented (Physical Punishment and a mixture of Withdrawal of Privileges or Tangible Rewards and Ridicule). (Allinsmith, 1961; Sears, Maccoby, Levin, 1957; Whiting, Child, 1953).

Potential for guilt arousal was measured by means of a group questionnaire dealing with maternal disciplinary techniques. This questionnaire consisted of verbal descriptions of 25 situations which typically would evoke some disciplinary response from the mother, followed by five choices (two reflecting love-oriented discipline, two reflecting non-love-oriented discipline, and one response of "Do Nothing"). The theoretical assumption was that the more often the child chose a love-oriented disciplinary technique as the one her mother was most likely to use, the higher the potential for guilt arousal.

Subjects for this part of the study consisted of 78 fourth grade girls; data were also collected for 18 fourth grade boys as a pilot study. The dependent variable was the number of times the subject pulled the handle of the box over a period of nine minutes; the subject was tested in an individual situation.

In the Dunham and Furey study each subject, in a classroom situation, was asked to work on a monotonous task -- that of filling in small circles by placing an 'X' in each one. A response rate was obtained by simply requesting that the subjects work for a specified period

of time -- in this case four minutes in two timeblocks of two minutes each. The subjects (Although third, fourth, and sixth graders were tested, this discussion is primarily concerned with the 136 fourth grade boys and 127 fourth grade girls.) were also administered Dunham's Orientation Questionnaire (DOQ).

Results from the two studies were not in accord with each other. Of especial interest, and lacking any present satisfactory theoretical or methodological explanation, was the finding in the Dunham study that there was a significant difference in mean number of responses of the two groups: "Lows (children reporting that their mothers used love-oriented disciplinary techniques less often) had a higher total number of responses and a more rapid increase in response rate over the nine minute session than did the Highs (children reporting that their mothers used love-oriented disciplinary techniques more often)" (Dunham, p. 11). Also of interest was the slope obtained over the nine minute time period; there was an increase in the rate of responding for both groups over the nine minute period despite the lack of any obvious reinforcement. In the Dunham and Fürey study, in which a group situation was employed, differences between the two groups were in the opposite direction (Highs had a higher response rate than did Lows) but failed to reach the level of significance.

What explanation can be offered for these discrepant and, in the case of Dunham's study, 'theoretically' unpredictable results? One explanation set forth in the interpretation of the results from Dunham's study was in terms of an initial difference in motivation level of the two groups. In two previous studies (Stevenson and Snyder, 1960; Stevenson and Fahel, 1961) mentally retarded children under a no reinforcement condition had performed on a marble-dropping task at a rate as high as or higher than similar subjects who had been punished or rewarded for their performance. The authors offered two possible explanations for these results: 1) reinforcement interrupts and thus lowers performance; and 2) the rise in performance level in the condition of no reinforcement might reflect the subjects' increased motivation to secure adult approval.

Using the theory proposed by McCandless regarding the relationships among authoritarianism, parental disciplinary patterns, and child personality variables (McCandless, 1961), Dunham has speculated about the origin of the need for approval and offered a possible explanation as to why it might differ for the two groups. According to a study conducted by Hart (1957) the higher a mother's score on authoritarianism (as measured by the Traditional Family Ideology Scale), the greater the tendency for her to use non-love-oriented disciplinary techniques ($r = .63$). Children of authoritarian parents tend to be authoritarian (Frenkel-Brunswik and Havel, 1953). Authoritarian children tend to conform in ambiguous

situations because they have encountered more situations in which conforming to adult requests has secured approval and thus allayed the anxiety which typically accompanies novel situations (Mussen and Kagan, 1958). Conformity may result in efficient behavior if the behavior is obvious. McCandless speculates that this differential susceptibility to the arousal of anxiety may have its roots in the parental pattern of rewards and punishments administered before the child is able to verbalize. Authoritarian parents are likely to use an either-or approach to child-rearing. The behavior of their children is seen as all bad or all good, thus they are either all-rewarding or all-punishing. Even though their pattern of rewards and punishments may in fact reflect a high degree of consistency, the child may not perceive this to be true. Before the age of two and one-half or three years, the child is not able to discriminate between good and bad behavior. If some of this behavior which seems only natural to the child is met with reward, and other behavior which seems equally natural to the child is met with punishment, the child is faced with a difficult discrimination problem. Thus, he may never learn to discriminate between behavior which will be rewarded and behavior which will be punished. He may come to react to all novel situations with an increase in anxiety. In contrast, equalitarian parents are more likely to delay the use of punishment until the child is able to understand why he is being punished. For

the child of non-authoritarian parents, novel situations are not accompanied by an increase in anxiety because in the past, he has learned to discriminate between situations which bring reward and those which bring punishment.

Applying this theory to the results from her study, Dunham speculated that the Lows performed at a higher rate on the lever task than did the Highs because of their higher level of anxiety that was aroused in the ambiguous situation. The lack of any approving feed-back from the experimenter might have resulted in increased anxiety for both groups and, consequently, an increased rate over the nine minute session for both.

Indirect support for the above conceptualization of the role of anxiety can be found in learning theorists' explanation of the origin of anxiety and its effect upon behavior. Some of the learning theorists view anxiety as a by-product of socialization and conceive of it as playing a dual role: on the one hand, it can and does function as a <u>drive</u>; and, on the other hand, its reduction is a <u>reinforcer</u>.

In regard to the origin of anxiety, they set forward the following hypotheses: A child, during its first few months of life, has no way of knowing what behaviors are rewarded and what behaviors are punished by society. Through various means of socialization, the child soon learns which are permitted expression and which are not. He learns to inhibit the unacceptable impulses. For a number of reasons,

however, this is a somewhat less than perfect solution: 1) it leaves the original drive unsatisfied; 2) the child is called upon to make some very difficult discriminations between right and wrong behaviors; 3) the period before a child learns to verbalize is an especially vulnerable period for the conditioning of anxiety; 4) it is impossible for the child to be able to discriminate between behavior which will be rewarded and that which will be punished in every instance. One major reason for this is the inconsistencies which spring from the socializing agents (namely the parental figures) (Kimble and Garmezy, 1961; pp. 445-451).

Dunham attempted to investigate this post hoc explanation of her data which involved dependency needs and level of anxiety by choosing from each classroom four or five subjects with extreme scores on the Discipline Orientation Questionnaire, as representative of the two groups (Highs and Lows), and obtaining teacher-ratings on these two behavioral traits. Results showed that in seven of the eleven classrooms, the High scorer was more anxious and dependent than the Low scorer. This relationship was reversed in two classrooms, and equal in the two remaining classrooms. Using a sign test (Siegel, 1956), the probability that such a result might occur by chance is .09.

In order to test this hypothesis concerning anxiety and performance level in the Dunham and Furey study, scores on the Children's Manifest Anxiety Scale (Castaneda, McCandless,

and Palermo, 1956) were obtained for each of the subjects. The subjects were classified as either High Anxious (CMAS score of 26 and above) or as Low Anxious (CMAS score of 15 and below). A t-test for differences between mean response rate of these two groups for the total sample (third, fourth, and sixth grade boys and girls) was not significant. Pearson product moment correlations run for fourth grade subjects (N = 136 boys; N = 127 girls) showed no significant correlation between response rate and CMAS score or between CMAS score and DOQ score.

Several possible explanations might account for the discrepant results from the two studies reviewed. On the one hand, the argument can be advanced that there were differences in the samples used. Secondly, one might suspect that the psychological conditions (the manner in which the child perceives the two situations) in general are not comparable. A third contrast could be made in terms of the child's perception of the task in particular. A fourth explanation is that the results in regard to the differences in response rate were due entirely to chance.

In regard to differences between the samples used, the number of subjects used in the Dunham study (N = 78) was much smaller than the number used in the Dunham and Furey study (N = 263). The subjects for the Dunham study were drawn from both county and city schools, whereas the subjects for the Dunham and Furey study came solely from county schools.

Another comparison of the two studies could be made in terms of the equality of psychological conditions. It is theoretically conceivable that having a strange adult experimenter give instructions and administer a task in a classroom situation (interacting with the subjects both before and during the course of the task) is entirely different from a strange adult experimenter interacting with a subject only at the beginning of a nine minute task and in a person-to-person interaction situation. It may be, as suggested previously, that the presence of an adult in a novel situation may result in a heightened level of anxiety and a concomitant need for approval to reduce this anxiety in the case of the Lows while this does not apply in the case of Highs. However, this theoretical assumption may apply only in a situation when the person is alone with an adult. In the case of the classroom situation, where a person is surrounded by his peers and thus given a context in which to make a judgment concerning the nature of the expected interaction with an adult, perhaps the Low person's anxiety level does not rise to any great extent and, thus, his need for approval is not so great.

Another difference arises from the difference in each of the two tasks used. Both of the tasks seem to be equally monotonous and meaningless in terms of an adult's evaluation, but can this be assumed to be true in the case of the child? A special case in point is in the way boys and girls might

perceive these two tasks. It may be that the task used in the Dunham study (lever pulling) could be thought of as one in which boys might be more "ego-involved" than girls since it requires a certain amount of physical strength.

The purpose of the present study was to replicate the baseline condition of each of the two studies reviewed above. A 2 x 2 x 2 x 2 x 15 mixed factorial design was used. This included the between-subjects' effects of sequence (circle or lever task first), sex, and DOQ (High or Low): and the within-subjects' effects of task and timeblocks. A repeated measurements design was used in order to control for individual differences and for the possibility that the results were due to "unrepresentative" (different) samples. Scores on both the tasks in question were obtained on the same individuals, thus eliminating a major source of experimental variation.

From the results of the two previous studies, it would be predicted that there would be a significant difference in response rate for the two tasks; response rate on the lever task would be higher than response rate on the circle task. There would be a significant increase in response rate over the 15-minute time periods. Subjects with low scores on the DOQ would perform at a higher rate on the lever task while subjects with high scores on the DOQ would perform at a higher rate on the circle task.

To see if any relationship did exist between performance on the two tasks and anxiety, scores on the Children's Manifest Anxiety Scale were obtained for all subjects.

METHOD

Individual Difference Measures

Discipline Orientation Questionnaire (DOQ)

The measure used to select the two extreme groups, children who reported their mothers to be high or low in the use of love-oriented disciplinary techniques, was the same as that used in the two previous studies. It consisted of a group questionnaire in which the child was given 25 written verbal descriptions of actions, 19 of which were typically considered "misbehavior," and was asked to choose the course of action that his/her mother was most likely to follow. There were five possible choices: two of these reflecting love-oriented disciplinary techniques; two reflecting non-love-oriented discipline; and one indicating that the mother would "Do Nothing" (see Appendix A, pp. 43-50). For a more detailed description of the construction of this questionnaire, see Dunham (1962, pp. 14-16). Each item was read aloud as the children were also reading it silently.

Children's Manifest Anxiety Scale (CMAS)

The original purpose of the Children's Manifest Anxiety Scale was to measure anxiety in fourth, fifth, and sixth grade children. It was modeled after the Taylor Manifest Anxiety Scale. It consists of 42 items judged by clinicians

to be symptomatic of anxiety. In addition, there is a built-in Lie Scale consisting of 11 items, which is designed to measure the subject's tendency to falsify (see Appendix B, pp. 51-53). In this study, the experimenter read aloud each statement as the children were also reading it and the subject was asked to indicate whether the statement applied to him by circling either YES or NO. The subject's score was tabulated by simply adding up all of the YES responses.

The original construction and standardization of this scale was carried out on 361 fourth, fifth, and sixth grade children (Castaneda, et. al., 1956).

Administration of DOQ and CMAS

Arrangements were made through the principals of each of the schools and the teachers of each of the fourth grades involved for Experimenter I* to administer the two questionnaires. Precautions were taken to keep the persons who would be communicating with the students about this research project (namely, the teachers) naive, so as to avoid any possible contaminating influences from "ego-involvement" on the part of the teachers. Only a very sketchy description, devoid of details, was presented to the principals in the

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* At this point, I wish to acknowledge my appreciation to Mrs. Camden Greer for conducting all of the group testing.

preliminary search for potential subjects (see Appendix C, pp. 54-55). Also, it was requested that the principals not elaborate on the nature of this project to the teachers.

Experimenter I administered both the DOQ and the CMAS on the same day. After the students had filled in the preliminary sheet requesting biographical information, Experimenter I read aloud the directions for filling out the DOQ (see Appendix A, p. 45). She then read each of the questions and possible choices aloud, allowing adequate time for the students to respond. The same procedure was followed in administering the CMAS.

Figure I gives the distribution of scores on the Discipline Orientation Questionnaire by sex. It was possible for scores to vary from 0 to 19; the actual range was 0 to 15. To dichotomize the group into Highs (those reporting primarily love-oriented discipline) and Lows (those reporting primarily non-love-oriented discipline or no discipline), a score of seven and above was designated as "High" and a score of three or below was designated as "Low".

Selection of Subjects

Subjects for this study consisted of fourth grade boys and girls drawn from nine public schools in Guilford County, North Carolina. Twenty-one classrooms were used. Each child in the classroom at the time of the initial group testing filled out the DOQ and the CMAS. The initial sample

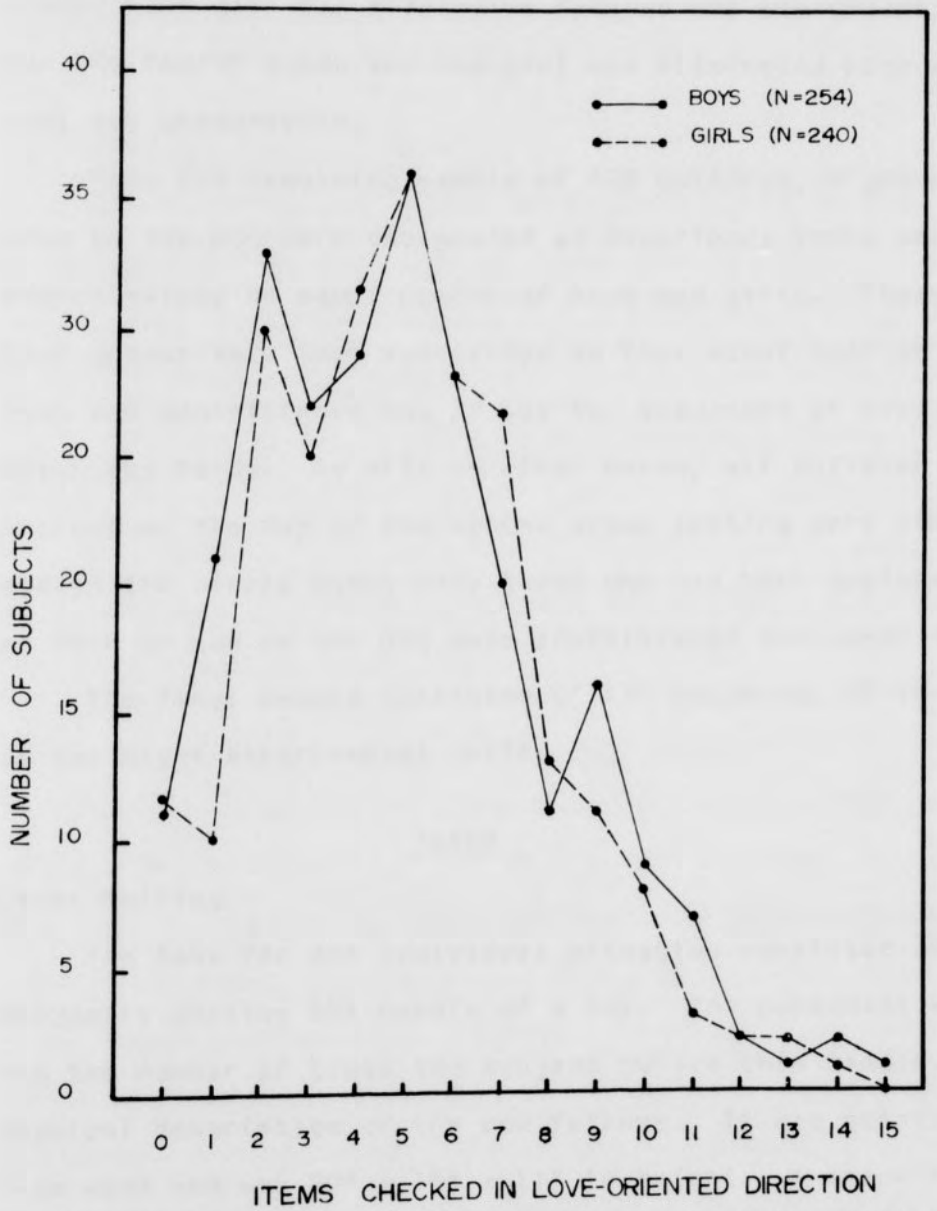


Figure 1: Frequency Distribution of Boys' and Girls' Scores on Discipline Orientation Questionnaire

consisted of 590 boys and girls; 66 boys and 27 girls were eliminated because they were overage for this particular grade. One girl was eliminated because she was underage for the fourth grade and one girl was eliminated because her test was unscoreable.

From the remaining sample of 495 children, Highs and Lows on the DOQ were designated as described; there were approximately an equal number of boys and girls. These four groups were then subdivided so that about half of each was administered one of the two sequences of testing described below. As will be clear below, all children present on the day of the second group testing were administered the circle task; only those who had been designated as High or Low on the DOQ were administered the lever task.

The final sample consisted of 136 subjects, 17 in each of the eight experimental cells.

Tasks

Lever Pulling

The task for the individual situation consisted of the subject's pulling the handle of a box. The dependent variable was the number of times the subject pulled this handle. A physical description of the box follows. It was constructed from wood and was 20" x 15" x 11" in height. A steel rod, approximately 1/2 inch in diameter, projected through a slot (1/2" x 1 3/4") in the top of the box. In order to

minimize the noise coming from the print-out mechanism, the box was lined inside with 1/2 inch Celotex. A response counter was constructed to print out cumulatively every 15 seconds on adding machine paper.

Filling in Circles with an 'X'

Material for the second task consisted of 15 8 1/2" x 11" pages of white paper on which small circles approximately five typewriter spaces apart had been printed out. Each page was approximately half-filled with these circles (see Appendix D, pp. 56-57). The dependent variable was the number of circles filled in with an 'X' during a timed one-minute interval. The experimenter told subjects when the pages were to be turned at the end of each minute for a total time period of 15 minutes.

Administration of Treatments

As indicated in the Introduction, each subject was tested on the lever task and on the circle task. To take account of possible sequence effects, the sequences were assigned randomly to classroom; i.e., half of the classes were tested in the group situation first and selected subjects from the class were run in the individual situation second and for the other half of the classrooms, individual sessions were run first and the group situation second. At least two weeks elapsed between treatments.

In order to disguise the fact that the two tasks were related, different experimenters were used in the different conditions. Teachers were asked either by personal communication or by way of letter (see Appendix E, p. 58) to circumvent any questions from the students concerning the relationship between the two tasks.

Administration of the Circle Task

Experimenter I went to each of the classrooms approximately two months after she had administered the DOQ and CMAS and administered the circle task. After allowing the children to fill out the biographical data sheet, Experimenter I read aloud the instructions for the task (see Appendix D, p. 56). The subjects were allowed to work at filling in circles for one minute on each of 15 separate pages of circles. The experimenter timed the subjects with a Brenet Interval Stopwatch.

Administration of the Lever Task

Experimenter II, the writer, conducted the individual task. A list of the students chosen for this condition (see p. 12 for criterion) was given to the teacher. The teacher was asked to allow time for the experimenter to reach the experimental room, and then to send the first student on the list. As the student entered the room with no preliminary conversation, the experimenter said to the subject,

"I need the handle on this box pulled a whole lot of times and I want you to pull it for me. I will tell you when to stop." The subject was timed for 15 and 1/2 minutes (so that the print-out mechanism would print at least 15 minutes). Any question, comment, etc. from the subject during this time period was answered by the experimenter with a 'Sh..h'. During the course of this period the experimenter sat approximately 10 feet away from the subject with her back turned reading a book. At the end of the 15 and 1/2 minutes, the experimenter said to the subject: "You may stop now. Thank you. When you return to the room, would you please have your teacher send the next student on the list."

Within any single classroom, subjects were seen in a random order, so far as sex or DOQ score was concerned. In four classrooms where a random order was not followed, the two most important variables which random assignment would have taken care of were controlled for: the two sexes were alternated in order and the DOQ score was unknown. Indeed, for all subjects, the experimenter was naive concerning the DOQ score.

RESULTS

Scores on the dependent variables (number of lever pulls per minute and number of circles filled in per minute) were entered into a 2 x 2 x 2 x 2 x 15 mixed factorial design. This design included the between-subjects' effects of Sequence (circle task or lever task first), Sex, and DOQ (High scores versus Low scores); and the within-subjects' effects of Task (lever or circles) and Timeblocks (performance over time). The results of this analysis appear in Table 1.

The main effect of A (task) was significant at the .0001 level. This was a function of all groups having performed at a higher rate on lever-pulling (mean per minute = 102.79) than on filling in circles (mean per minute = 61.30).

The main effect of B (timeblocks) was significant at the .001 level; it is clear from the graph of performance (see Figure 2) that the overall rate of response increased from the beginning to the end of the 15-minute sessions.

The interaction A x B (task x timeblocks) was significant at the .001 level, indicating that there was a difference in the slope over time for the two tasks (see Figure 2). Apparently, over the time period covered, lever-pulling increased at a negatively accelerated rate and performance on the circles increased at a positively accelerated rate.

Table 1

Analysis of Variance

Source of Variance	df	ms	F	P
Between-subjects	135			
Circle-Lever (C)	1	106,743.92	4.58	.05
Boys-Girls (D)	1	39,513.20	1.69	
Hi-Lo DOQ (E)	1	2,855.05		
C x D	1	1,308.99		
C x E	1	10,894.33		
D x E	1	100.07		
C x D x E	1	24,671.84		
error (b)[a]	128	23,301.51		
Within-subjects				
Pulls-Circles (A)	1	1,755,906.60	79.08	.0001
Timeblocks (B)	14	7,355.71	56.12	.0001
A x B	14	514.49	7.39	.001
A x C	1	88,080.34	4.24	.05
A x D	1	114,278.72	5.15	.01
A x E	1	17,133.89		
B x C	14	35.47		
B x D	14	47.40		
B x E	14	76.54		
A x B x C	14	53.71		
A x B x D	14	52.15		
A x B x E	14	66.42		

Analysis of Variance

Source of Variance	df	ms	F	P
A x C x D	1	10,149.44		
A x C x E	1	4,248.20		
A x D x E	1	858.11		
B x C x D	14	140.87		
B x C x E	14	142.62		
B x D x E	14	75.38		
A x B x C x D	14	120.73	1.73	.05
A x B x C x E	14	213.38	3.07	.025
A x B x D x E	14	81.06		
A x C x D x E	1	22,348.27		
B x C x D x E	14	319.19	2.44	.01
A x B x C x D x E	14	360.01	5.17	.001
error (A x Subjects)[b]	128	22,203.48		
error (B x Subjects)[c]	1792	131.06		
error (A x B x Subjects)[d]	1792	69.58		

[a] Used to test all between terms

[b] Used to test all interactions containing A, but not B.

[c] Used to test all interactions containing B, but not A.

[d] Used to test all interactions containing both B and A.

The differences were accentuated at the beginning and end of the sessions. There seemed to be a more gradual increase in the number of lever-pulls from minute one to minute two than in the number of circles filled in; there seemed to be a decrease in the number of lever-pulls from minute 14 to minute 15, while there was an increase in the number of circles filled in from minute 14 to minute 15.

The main effect of C (Sequence: circle or lever task first) was significant at the .05 level. All groups receiving the circle task first had an overall higher performance when both scores were combined than did those receiving the lever task first.

The interaction A x C (task x sequence) was significant at the .05 level (see Figure 3). This seems to be a function of all groups who received the circle task first having a much higher performance score on lever-pulling than did those groups receiving the lever task first. It appears as though prior experience on the circle task resulted in a higher performance on the lever task, but that the same effect did not occur from the lever task to the circle task.

The interaction A x D (task x sex) is significant at the .01 level. It seemed that boys pulled levers more times per minute (111.20) than did girls (94.39) and girls filled in more circles per minute (63.48) than did boys (59.12).

The interaction A x B x C x D (task x timeblocks x sequence x sex) was significant at the .05 level. This appears

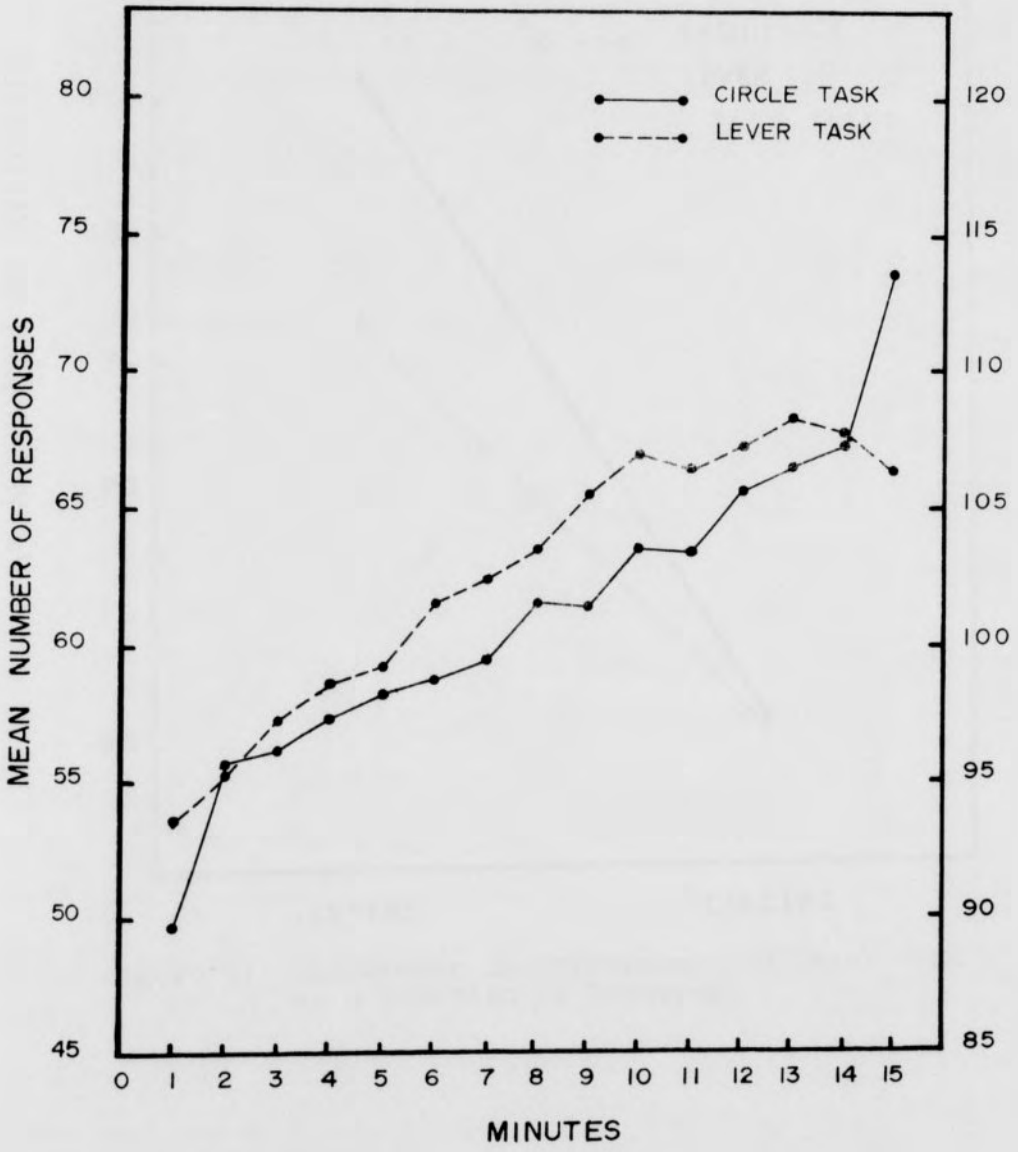


Figure 2: Difference in Slope Over Time as a Function of Task (Scale for Circle Task on Left, for Lever Task on Right)

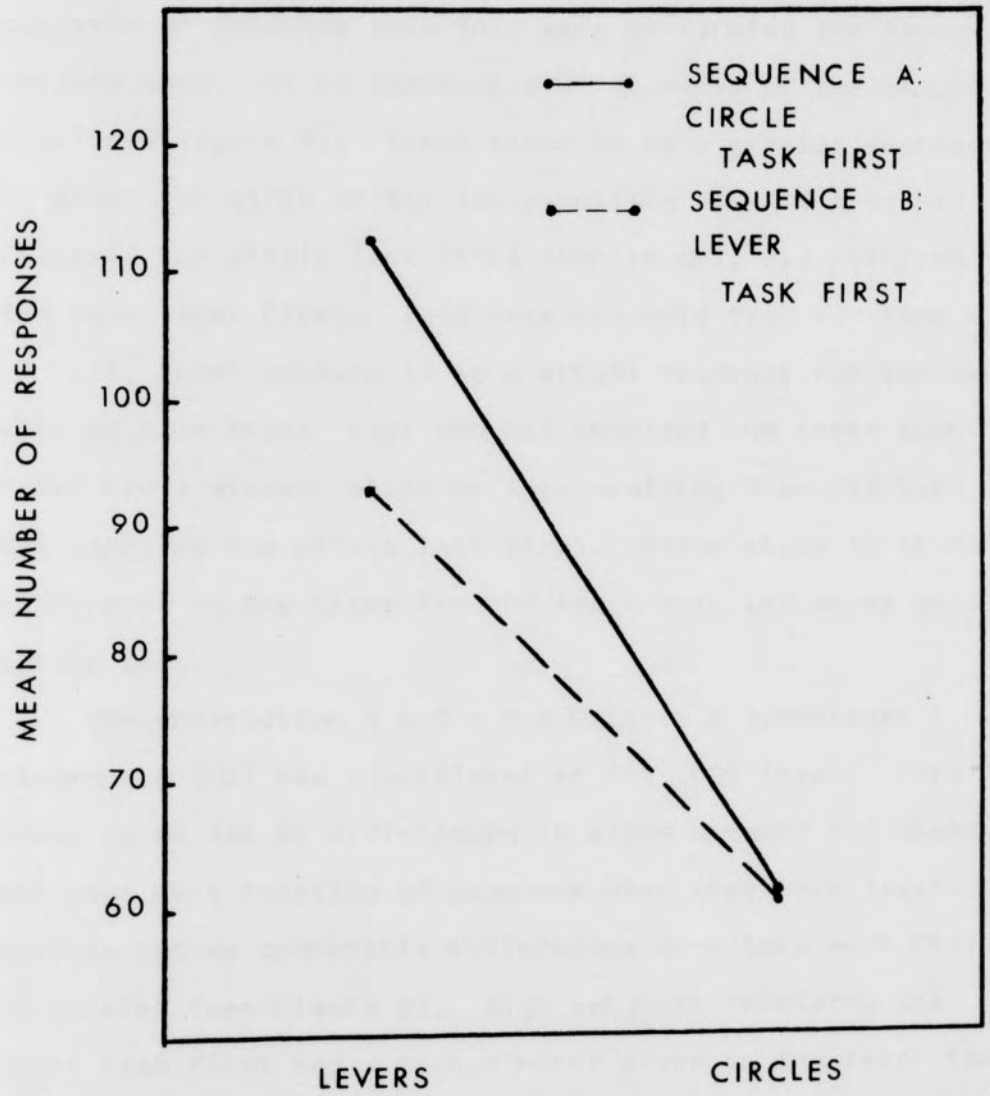


Figure 3: Difference in Performance on Lever Task as a Function of Sequence

to be due to differences in slope for the two sexes as a function of sequence when they were performing the lever-pulling task, but no comparable differences on the circle task (see Figure 4). There seems to be a greater increase in slope for girls on the lever-pulling task if they had received the circle task first than if they had received the lever task first. This does not hold true for boys -- in fact, there appears to be a slight tendency for the opposite to hold true: boys who had received the lever task first had a steeper slope on lever-pulling than did boys who received the circle task first. There seems to be no difference in the slope for the two groups and sexes on the circle task.

The interaction A x B x C x E (task x timeblocks x sequence x DOQ) was significant at the .025 level. This seems to be due to differences in slope between the Highs and Lows as a function of sequence when they were lever-pulling but no comparable differences when they were filling in circles (see Figure 5). High subjects receiving the lever task first had a much steeper slope on the lever task than did Low subjects receiving the lever task first. For subjects who received the circle task first, the tendency was apparently reversed, with Low subjects having a steeper slope on the lever task than did the High subjects. For the circle task, these trends did not obtain. There is no obvious difference in rate of performance over time for these groups.

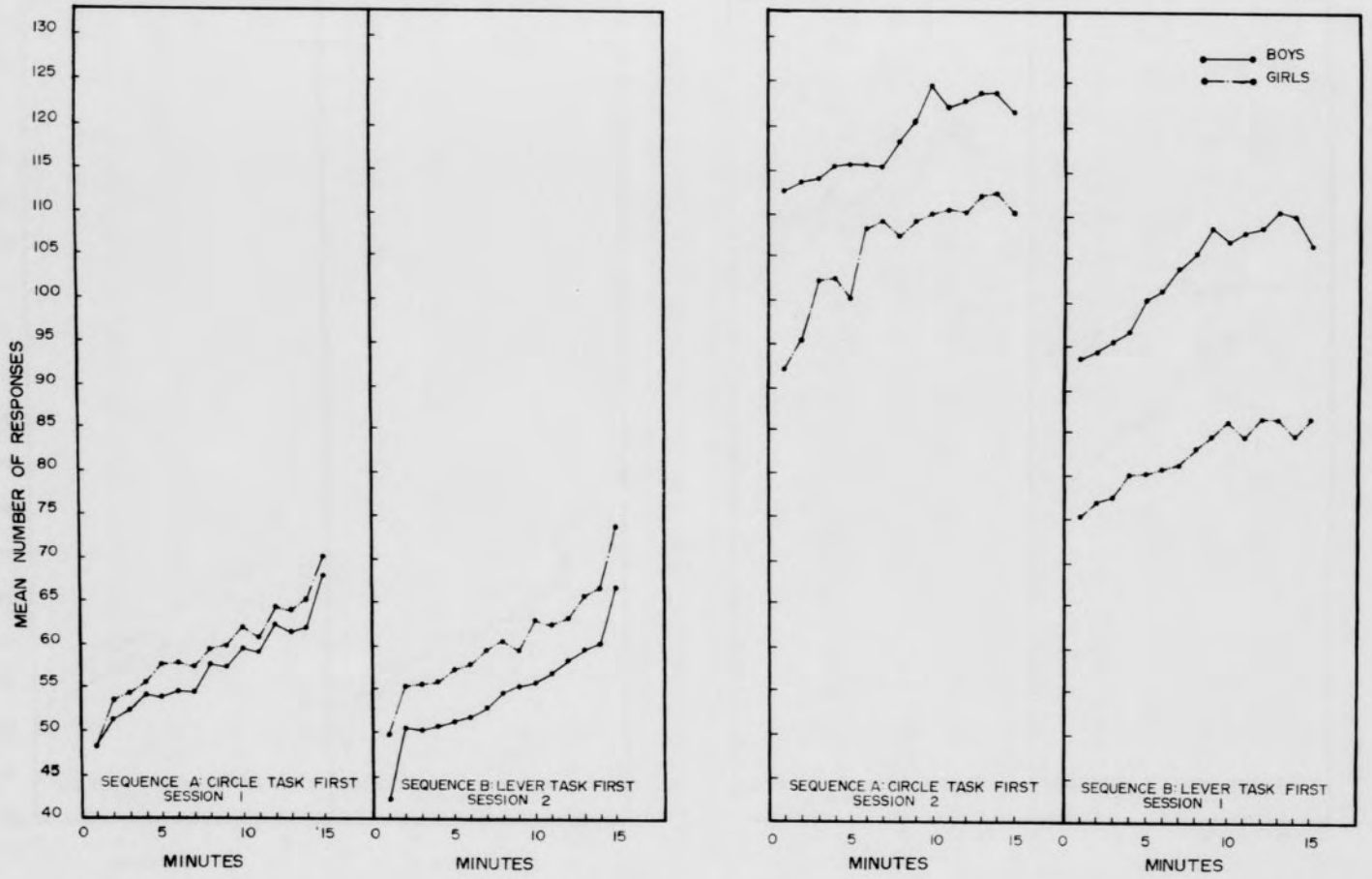


Figure 4: Difference in Slope Over Time as a Function of Task, Sequence, and Sex
(Circle Task Data on Left; Lever Task Data on Right)

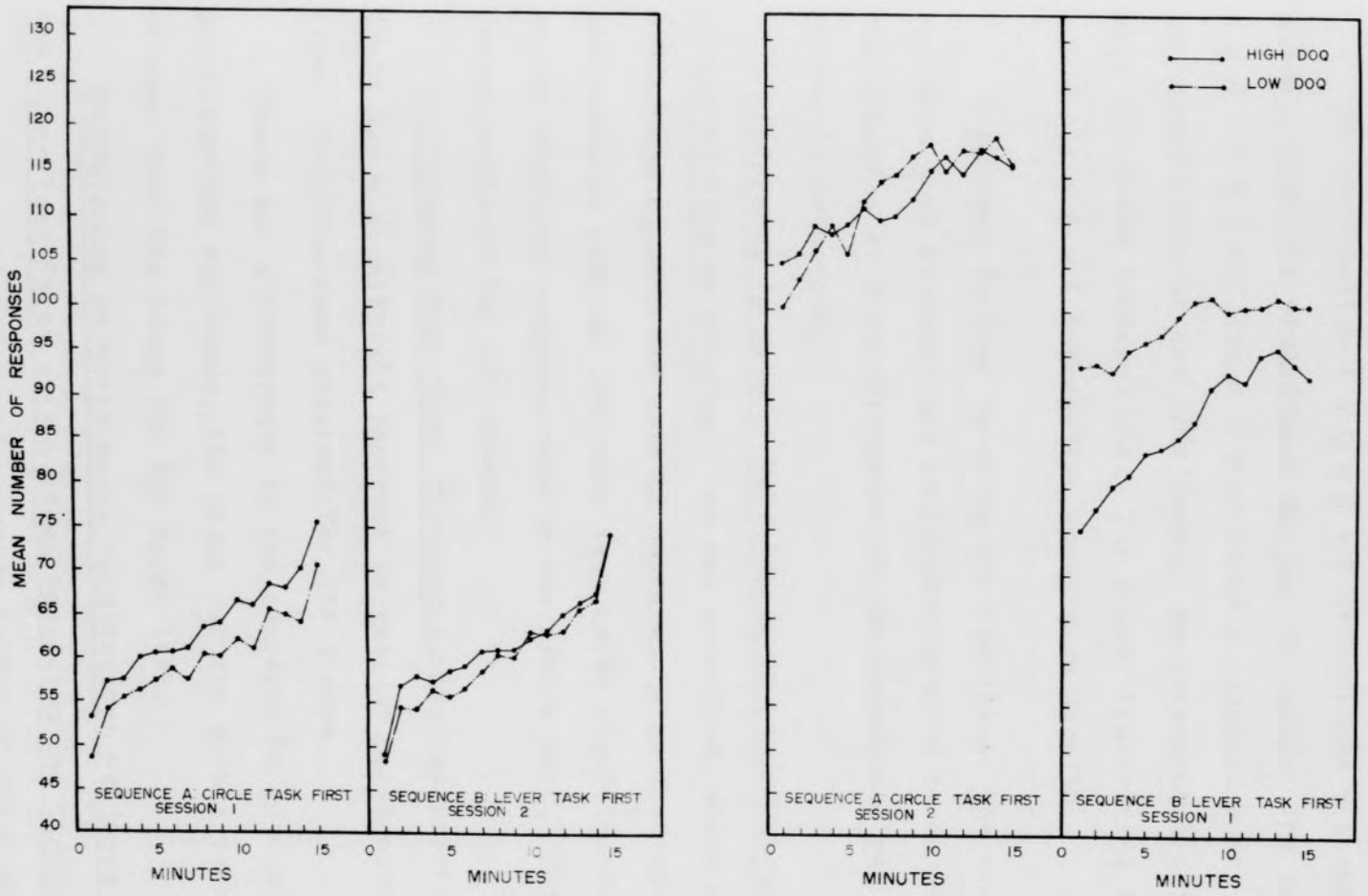


Figure 5: Difference in Slope Over Time as a Function of Task, Sequence, and DOQ (Circle Task Data on Left; Lever Task Data on Right)

The interaction B x C x D x E (timeblocks x sequence x sex x DOQ) was significant at the .01 level. The interaction A x B x C x D x E (task x timeblocks x sequence x sex x DOQ) was significant at the .001 level. No interpretations were made for these interactions. The graph illustrating the A x B x C x D x E interaction appears on page 30.

A summary follows in which the results of the statistical analysis just reviewed are elaborated upon in terms of the confirmation or disconfirmation of the hypotheses set forth in the Introduction.

Difference in Rate of Performance on Lever-Pulling versus Filling in Circles. As was predicted, there was a difference between the rate of performance on the two tasks: the response rate on the lever task being significantly higher than the response rate on the circle task. This result obtained for all groups.

Performance Over Time: Timeblocks. As was predicted, there was a significant increase in rate of performance over time. This increase obtained for all groups.

There was a difference in the increase in rate of performance for the two tasks, the slope for the circle task being steeper than the slope for the lever task.

Differences in Performance Rate Between Subjects Receiving the Lever Task First versus Those Receiving the Circle Task First. The main effect of sequence (order in which subjects

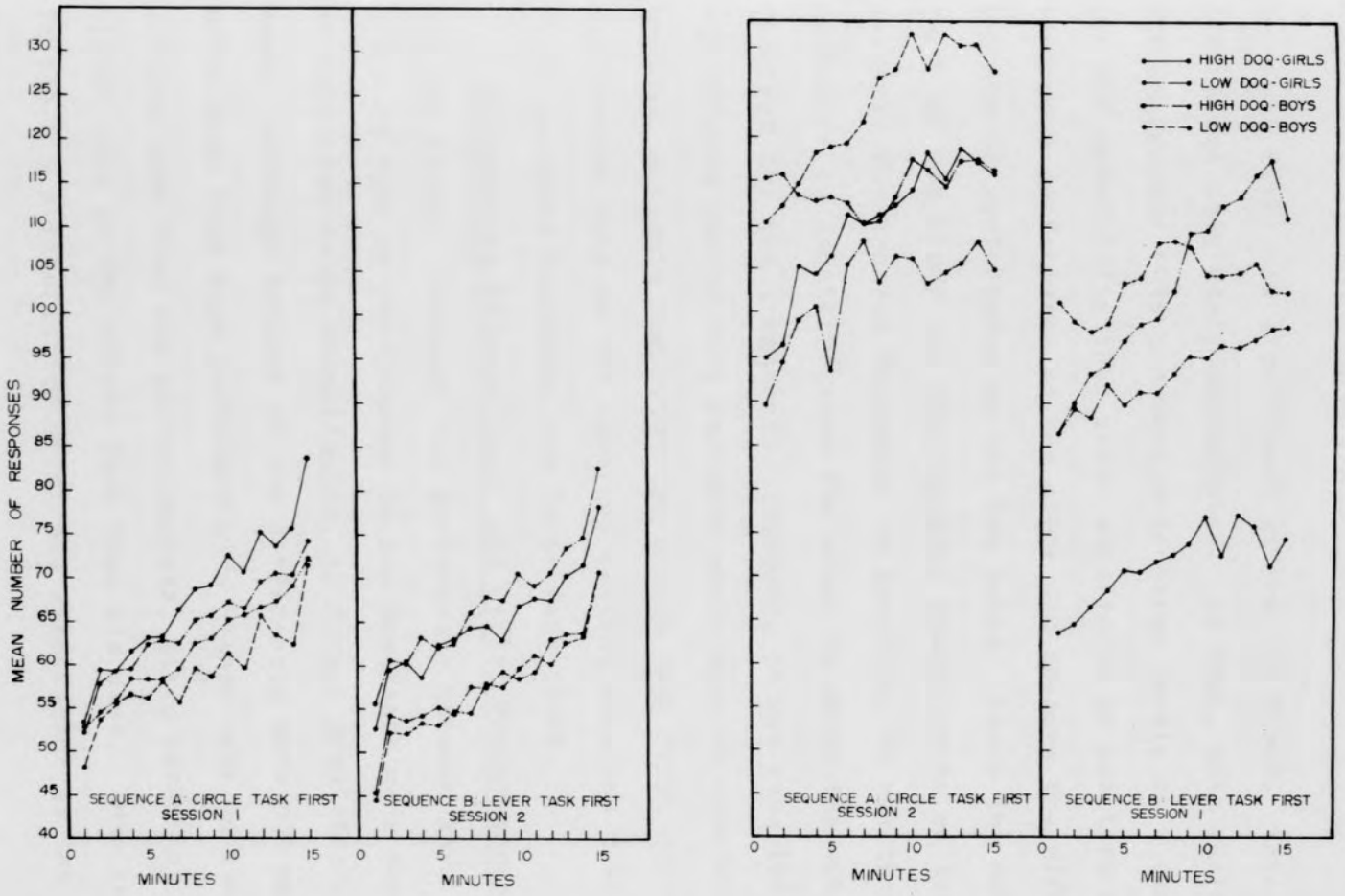


Figure 6: Graphical Representation of the Task x Timeblocks x Sequence x Sex x DOQ Interaction (Circle Task Data on Left; Lever Task Data on Right)

received task) was significant at the .05 level. This result was completely unpredicted. In fact, this variable was introduced into the design to serve merely as a control for the possibility that prior experience on one task would influence performance on the other and obscure the difference in rate of performance on the two tasks. Since the main point of the study was the repeated measurements on the same subjects for the two responses in question, it was thought desirable to counterbalance the order in which the subjects received the two treatments. However, it was expected that any effects due to this variable would also be counterbalanced. Instead, subjects receiving the circle task first had a higher performance rate on the combined testing sessions than did those subjects receiving the lever task first.

Differences Between Boys' and Girls' Performances on the Two Tasks. Although the differences between boys and girls in rate of performance on the two tasks were designated as variables to be investigated, no formal predictions were made. Although t-tests of the differences were not made, it would seem that boys performed at a higher rate on the lever-pulling task than did girls; whereas, girls performed at a higher rate on the circle task than did boys. This is reflected in the A x D interaction which was significant at the .05 level.

Differences Between Rate of Performance of Highs versus Lows on the Two Tasks. It was predicted that there would be a significant A x E interaction (task x DOQ). This prediction was not confirmed. In general, the results were in the right direction: Lows performed at a higher rate on the lever task than did Highs, while Highs performed at a higher rate on the circle task than did Lows. However, this difference was not great enough to produce a significant A x E interaction.

Difference in Slope Over Time as a Function of Task, Sequence, and Sex. It would seem that the following relationships existed. The response rate on the lever task for girls receiving the circle task first increased more rapidly over the 15-minute time period than did the response rate for those receiving the lever task first. Boys who received the lever task first had a more rapid increase in response rate on the lever task than did boys who received the circle task first. There was no comparable effect of sex and sequence on the circle task.

Difference in Slope Over Time as a Function of Task, Sequence, and DOQ. Although these differences were not statistically tested, the graphical data suggest that the significant interaction can be interpreted as follows. Subjects scoring High on the DOQ and receiving the lever task first had a more rapidly increasing response rate over time on the lever task than did subjects scoring Low on the

DOQ and receiving the circle task first. The opposite obtained for subjects receiving the circle task first. Lows had a more rapidly increasing response rate over time on the lever task than did Highs.

Pearson product moment correlations were computed to see if a relationship did exist between performance on the two tasks and scores on the Children's Manifest Anxiety Scale. As can be seen from Table 2, for boys, there was a negative but nonsignificant correlation between performance on both tasks and CMAS score. For girls, there was a positive correlation between lever pulls and CMAS score, and a negative correlation between number of circles filled in and CMAS score. This latter result was in the predicted direction; however, neither of the correlations was high enough to be significant.

Table 2

Pearson Product Moment Correlations

	Boys	
	Lever Pulls	Circles
CMAS Score (Anxiety)	-.09	-.07
	Girls	
	Lever Pulls	Circles
CMAS Score (Anxiety)	+.15	-.13

DISCUSSION

In essence, the purpose of this study was to replicate parts of two previous studies in which it was found that scores on a Discipline Orientation Questionnaire were related to two operant response levels. In summary, it was found that fourth grade girls who scored Low on the DOQ (four and below) performed at a significantly higher rate on a simple nonreinforcing motor task (pulling a lever on a box) than did girls who scored High on the DOQ (seven and above). Contrary to these results, in the second study, it was found that girls and boys who scored High (seven and above) on the DOQ performed at a higher rate on a simple nonreinforcing task (filling in small circles with an 'X') than did subjects who scored Low (four and below). Using a repeated measurements design (response rates for the two task were obtained on the same subjects), these two studies were replicated to see if the results discussed above obtained.

Differences in The Two Tasks Used

As was predicted, there was a significant difference in the rate of performance on the two tasks. This seems to be a function of all groups performing at a higher rate on the lever task than on filling in circles. One possible explanation of this could be made in terms of the dimension of

complexity-simplicity. The group task could be conceptualized as a more complex task than the lever-pulling task since it requires more movements and, also, it demands closer attention since the subject must concentrate on placing the 'X' within the small circle provided.

Another factor which conceivably could have lowered performance on the group task was the interruptions that occurred at the end of every minute. Results from previous studies in which subjects who had received no reinforcement performed on a marble-dropping task at a rate as high as or higher than similar subjects who had been either reinforced or punished during their performance led to the speculation that perhaps reinforcement interrupts and thus lowers performance (Stevenson and Snyder, 1960; Stevenson and Fahel, 1961).

Increase in Rate of Performance Over Time on the Two Tasks

As stated in the Results section, the main effect of time was highly significant. This seemed to be a function of the increase in rate of performance over the 15-minute time period for all groups on both tasks. This was as predicted, since results from the two previous studies had shown that there was a significant increase in rate of performance over time. However, one is hard put to find a logical explanation for these results. It would be expected that practice might contribute to the rise in rate of performance at the beginning of a simple motor task but it

would be a dubious assumption to make that this factor accounted for the continued rise in performance. This result forces one to examine the previous assumption that these tasks are non-reinforcing and to search for possible sources of reinforcement and/or motivation. In regard to the lever task, it might be that being chosen from the class could have served as a source of motivation and consequently contributed to the continued rise in performance over time. Another source of reinforcement could derive from being able to escape "classroom" work for a period of time. Perhaps, the competitive need and/or achievement need is called into play, especially in the classroom situation.

There is a difference in the increase in rate of performance over time for the two tasks. The increase in rate of performance over time is greater for the circle task than for the lever task. This appears to be a function of the lever task requiring a longer warm-up period than does the circle task. This is evidenced graphically as a more gradual increase in the number of lever pulls from minute one to minute two than in the number of circles filled in (see Figure 2, p. 24). Also, it appears as though physiological limits (asymptotic performance) is being reached over a shorter period of time for lever-pulling than for filling in circles. Graphically, this appears as a decided decrease from minute 14 to minute 15 in the number

of lever pulls (see Figure 2, p. 24). Another possible explanation for the drastic change in performance from minute 14 to minute 15 could be that the subjects were able to pick up some subtle cue from the experimenters that the end was approaching. In the case of the circle task, a rather obvious cue would be that the subject could tell that it was the last page of circles. A question that remains to be answered, however, is why there should be an increase in the circle task and a decrease in the lever task at that point.

Performance of Boys and Girls on the Two Tasks

Although no formal predictions were made regarding any differences between the performance rate of the two sexes on these tasks, it was designated as an area to be investigated. For that reason, the variable sex was included in the design. Dunham, in the selection of subjects for her experiment, had excluded boys as subjects because of the possibility that the nature of the task was one that would appeal more to the ego needs of fourth grade boys than to fourth grade girls. Data collected on a pilot study of boys in conjunction with her study revealed no significant difference between the mean rate of performance for the two sexes. However, this result could not be taken as conclusive since the number of subjects used was so small. In regard to the possibility of differences between rates of

performance for the two sexes on the circle task data collected in the Dunham and Furey study revealed no significant trends. Results from the present study revealed that there was a relative difference between the two sexes on the tasks in question. Boys pulled levers more times per minute (111.20) than did girls (94.39), while girls filled in more circles per minute (63.48) than did boys (59.12). This is reflected in a significant A x D interaction. This difference between the sexes could reflect something inherent in the nature of the tasks. Perhaps, lever-pulling appeals more to the ego needs of boys since it requires more physical strength than does filling in circles. Filling in circles might appeal more to the ego needs of girls since it requires precision and delicacy of movement.

Differences in Performance Rate of Those Receiving The Circle Task First versus Those Receiving the Lever Task First

The main effect of sequence (circle or lever task first) was significant at the .05 level. All groups receiving the circle task first had an overall higher performance rate when both scores were combined than did those receiving the lever task first. As mentioned briefly in the Results section this was entirely unanticipated. This variable was included only as a control; it was expected that if sequence did contribute any variance it would be minimal and would be equally distributed with regard to the other important variables

under investigation.

There is no apparent confounding of any other variable with the sequence variable; e.g., the time period between testing sessions was exactly the same for both sequences (a mean of 19.2 days for both groups).

SUMMARY AND CONCLUSION

Even though the A x E interaction (task x DOQ) was not significant, the results were in the right direction -- subjects scoring low on the Discipline Orientation Questionnaire had a higher performance score on a lever-pulling task than did subjects scoring high on the DOQ; in contrast, on the second task, (filling in small circles with an 'X'), subjects scoring high on the DOQ filled in more circles than did subjects scoring low on the DOQ. Thus, the results from the two previous studies have replicated. It is of interest at this point to examine the initial assumption underlying the use of these two operant tasks, i.e., that they were basically comparable. Not only has this study refuted that in the sense that it has shown that scores on the DOQ are not related to performance on the two tasks in any comparable fashion but it has also uncovered a number of seemingly simple variables which are related in a complex way to performance on the tasks involved. These results might serve to introduce a note of caution to researchers and theoreticians who so often tend to equate operant response tasks. Also, the finding that scores on a questionnaire presumed to measure maternal use of love-oriented discipline are related to performance on these two 'nonreinforcing' simple tasks might serve to stress the potential importance

of simple baseline response measures which heretofore have either been disregarded or used only for statistical purposes.

Here we have replicated what appears to be a stable relationship between children's perception of maternal discipline and performance on two simple tasks. At this point, no theory can be advanced for these results; therefore, the possible utility of this must await further research.

APPENDICES

APPENDIX A

QUESTIONNAIRE

I. Discipline Orientation Questionnaire

The categories of the response alternatives for punishment and reward items are keyed as follows:

1. Withdrawal of Love; Praise
2. Isolation; Praise
3. Physical Punishment; Privilege
4. Denial of Tangible Reward or Privilege, Ridicule; Tangible Reward
5. Do Nothing

Categories 1 and 2 are love-oriented; categories 3 and 4 are non-love-oriented.

NAME _____

BOY OR GIRL - Circle

BIRTHDATE _____ _____ _____

AGE _____

I would like to find out what mothers do when their children do certain things.

In this booklet are 25 sentences about something that you might do. After each sentence are 5 answers about what your mother might then do.

a. Pretend that you have done whatever the sentence says.

b. Then find the answer that you think is the most like what your mother would do. CIRCLE THAT LETTER.

Here is an example to try out.

1. It is snowing and is very cold.

Your mother would:

A. Tell you to wear just a sweater.
B. Tell you to wear summer clothes.
C. Tell you to wear your warmest clothes.

You put a circle around C because your mother would most likely do that.

Now before we turn the page, remember that your answers to these questions will be a secret and your family and teacher will not know what you said.

1. You cut yourself with a knife that you are not supposed to play with.

   Your mother would:

1 A. Say, "I don't like children who don't mind."
2 B. Send you to bed.
3 C. Say that she would spank you if you ever do that again.
4 D. Say that sometimes you don't have good sense.
5 E. Do nothing.

2. You do something like pick a neighbor's flowers.

   Your mother would:

2 A. Send you to your room.
5 B. Do nothing.
4 C. Not let you play outside the rest of the day.
3 D. Spank you.
1 E. Say, "Mother does not like you when you do things like that."

3. You play with matches.

   Your mother would:

3 A. Slap you on the hands pretty hard.
4 B. Say that sometimes you are pretty stupid.
5 C. Do nothing.
1 D. Say that she does not like bad children.
2 E. Put you to bed for the afternoon.

4. You make a lot of noise when your mother is feeling bad.

   Your mother would:

4 A. Say that you always do everything wrong.
1 B. Look like she did not like you.
2 C. Make you eat your supper alone in some other room.
5 D. Do nothing.
3 E. Say that she would spank you if you don't stop.

5. You get bad grades on your report card.

   Your mother would:

5 A. Do nothing.
3 B. Spank you when you come home.
1 C. Look like she wished you did not belong to her.
2 D. Make you stay in your room when you get home from school.
4 E. Tell you that you are dumb.

6. You talk back to your mother.

Your mother would:

2 A. Tell you not to come near her.
5 B. Do nothing.
4 C. Not let you do something you had planned like going to a movie.
3 D. Give you a whipping.
1 E. Act like you don't even belong to her.

7. You go to school without cleaning up your room as you are supposed to.

Your mother would:

5 A. Do nothing.
1 B. Say that she is not proud of you.
3 C. Say that she will spank you if it happens again.
4 D. Call you lazy.
2 E. Make you stay in your room after school.

8. You leave home without washing the dishes when you know it was your turn to do them.

Your mother would:

4 A. Not give you an allowance that week.
2 B. Make you go right to your room when you come back.
1 C. Tell you nobody likes children who don't do their part of the work.
5 D. Do nothing.
3 E. Spank you when you come home.

9. You offer to help your mother with her work around the house.

Your mother would:

1 A. Say that it was thoughtful of you.
3 B. Let you go to the movie.
5 C. Do nothing.
2 D. Tell you how pleased she is to have help.
4 E. Give you money for a new toy.

10. You say "please" or "thank you" at the right time.

Your mother would:

3 A. Say that you may go visiting the next time you ask.
4 B. Give you a nickel.
2 C. Say that it was a nice way to act.
1 D. Say that you were very polite.
5 E. Do nothing.

11. You let your company have the biggest dessert.

Your mother would:

3 A. Say that you may decide on the family dessert for the next day.
4 B. Give you some candy later.
5 C. Do nothing.
1 D. Say that you were nice to your company.
2 E. Tell you that was a nice thing to do.

12. You are sassy to a grown-up who is visiting.

Your mother would:

4 A. Say that you can't watch TV for a week.
3 B. Give you a good spanking.
1 C. Say that she does not like you when you do that.
2 D. Send you to bed.
5 E. Do nothing.

13. You keep running through the house after your mother tells you not to.

Your mother would:

5 A. Do nothing.
1 B. Look like she did not like you.
2 C. Send you to your room.
4 D. Not let you watch TV that evening.
3 E. Give you a whipping.

14. You and some other child have a big fight.

Your mother would:

2 A. Make you stay alone for a while.
5 B. Do nothing.
3 C. Whip you.
4 D. Say that you are a big bully.
1 E. Say that nobody likes a child who does that.

15. You are late getting home for supper.

Your mother would:

1 A. Say, "I don't like children who don't mind."
2 B. Make you eat your supper alone in some other room.
4 C. Say, "You dhave a terrible memory."
5 D. Do nothing.
3 E. Whip you.

16. You take a cookie from the kitchen just after your mother tells you not to.

Your mother would:

4 A. Not let you have any dessert.
1 B. Say, "I'm not proud of you."
2 C. Tell you just not to come near her.
5 D. Do nothing.
3 E. Slap your hands.

17. You do your homework without being told.

Your mother would:

3 A. Let you stay up late.
2 B. Say, "That is the best way to be."
5 C. Do nothing.
1 D. Tell you that your are a good worker.
4 E. Give you stars or something.

18. You are so slow getting ready for school that you are going to be late.

Your mother would:

1 A. Act like she did not love you.
3 B. Give you a little spanking.
4 C. Say that you never do anything right.
2 D. Say that you would have to stay in your room this
5 afternoon.
5 E. Do nothing.

19. You keep fighting with your brother or sister or with some friend.

Your mother would:

5 A. Do nothing.
4 B. Make you turn off the TV.
1 C. Say she won't love you if you keep doing that.
3 D. Say that she would spank you if you don't stop.
2 E. Send you to your room.

20. You carry out the trash without being asked.

Your mother would:

1 A. Look very pleased with you.
5 B. Do nothing.
3 C. Let you have a friend over to your house.
4 D. Give you a cookie or some candy.
2 E. Tell you that it was a big help to her.

21. Your mother finds out you have not been doing your homework.

Your mother would:

5 A. Do nothing.
3 B. Give you a spanking.
1 C. Say that she does not want to talk to a child who does that.
2 D. Say that you would have to stay in your room this afternoon.
4 E. Say that you could not watch TV for a week.

22. You tell a story that is not true.

Your mother would:

1 A. Say that she does not want a child who does that.
4 B. Call you a liar.
2 C. Tell you that she does not want you around when you do things like that.
5 D. Do nothing.
3 E. Whip you.

23. You get a very good report card.

Your mother would:

2 A. Look happy about it.
5 B. Do nothing.
3 C. Say that you may watch TV for an extra hour.
4 D. Give you something like 25¢.
1 E. Tell you what a smart child you are.

24. You take some money that is not yours.

Your mother would:

3 A. Really spank you hard.
2 B. Put you to bed for the afternoon.
4 C. Call you a thief.
1 D. Say that it makes her not love you.
5 E. Do nothing.

25. You break a dish.

Your mother would:

4 A. Call you something like "Clumsy".
1 B. Act like she did not love you.
5 C. Do nothing.
3 D. Slap your hand.
2 E. Make you stay alone for a while.

APPENDIX B

QUESTIONNAIRE

Children's Manifest Anxiety Scale

Those items with asterisk are Lie Scale items and are scored in the direction of the underlining.

Score on the anxiety scale is computed by summing all of the YES responses.

(Material within brackets is not on child's form.)

Directions

I would like to know what school children feel about certain things.

Read each question carefully as I read it. Put a circle around the word YES if it is true about you. Put a circle around the word NO if it is not true about you.

Let's take one as an example.

1. I go to school..... YES NO

You put a circle around YES because you do go to school. The statement is true of you.

Your answers to these questions will be a secret and your family and teacher will not know what you said.

Let's turn the page and begin.

1. It is hard for me to keep my mind on anything..... Yes No
2. I get nervous when someone watches me..... Yes No
3. I feel I have to be best in everything..... Yes No
4. I blush easily..... Yes No
5. I like everyone I know..... Yes* No
6. I notice my heart beats very fast sometimes..... Yes No
7. At times I feel like shouting..... Yes No
8. I wish I could be very far from here..... Yes No
9. Others seem to do things easier than I can..... Yes No
10. I would rather win than lose a game..... Yes No*
11. I am secretly afraid of a lot of things..... Yes No
12. I feel that others do not like the way I do things. Yes No
13. I feel alone even when there are people around me.. Yes No
14. I have trouble making up my mind..... Yes No
15. I get nervous when things do not go the right way for me..... Yes No
16. I worry most of the time..... Yes No
17. I am always kind..... Yes* No
18. I worry about what my parents will say to me..... Yes No
19. Often I have trouble getting my breath..... Yes No
20. I get angry easily..... Yes No
21. I always have good manners..... Yes* No
22. My hands feel sweaty..... Yes No
23. I have to go to the toilet more than most people... Yes No
24. Other children are happier than I ..... Yes No
25. I worry about what other people think about me..... Yes No
26. I have trouble swallowing..... Yes No

27. I have worried about things that did not really make any difference later..... Yes No

28. My feelings get hurt easily..... Yes No

29. I am always good ..... Yes* No

30. I worry about what is going to happen..... Yes No

31. I worry about doing the right things..... Yes No

32. It is hard for me to go to sleep at night..... Yes No

33. I worry about how well I am doing in school..... Yes No

34. I am always nice to everyone..... Yes* No

35. My feelings get hurt easily when I am scolded..... Yes No

36. I tell the truth every single time..... Yes* No

37. I often get lonesome when I am with people..... Yes No

38. I feel someone will tell me I do things the wrong way..... Yes No

39. I am afraid of the dark..... Yes No

40. It is hard for me to keep my mind on my schoolwork. Yes No

41. I never get angry..... Yes No*

42. Often I feel sick in my stomach..... Yes No

43. I worry when I go to bed at night..... Yes No

44. I often do things I wish I had never done..... Yes No

45. I get headaches..... Yes No

46. I often worry about what could happen to my parents Yes No

47. I never say things I shouldn't..... Yes No*

48. I get tired easily..... Yes No

49. It is good to get high grades in school..... Yes No*

50. I have bad dreams..... Yes No

51. I am nervous..... Yes No

52. I never lie..... Yes No*

53. I often worry about something bad happening to me.. Yes No

APPENDIX C

Letter to Principals of Schools Requesting Permission to use Fourth Grade Classes in Study

The impetus for the research project I am about to undertake stems from an interest in the relationship between children's perception of their mother's disciplinary techniques and the rate at which they are willing to work on a tedious task. Research conducted in the past by my present adviser, Dr. Frances Dunham, Assistant Professor of Psychology at UNC-G, and a student of hers, Miss Carol Furey, in the Greensboro County Schools bears evidence that such a relationship does exist. The purpose of the present study is to further investigate this relationship and, especially, to try to understand some of the discrepancies in the results of the two previous studies.

The design of this particular study will require about 600 fourth grade boys and girls. The actual testing time involved will include: (a) one session of about 45 minutes in which the children will be asked to fill out two questionnaires, the first consisting of 25 hypothetical child behaviors followed by a list of five choices of maternal discipline and the second questionnaire dealing with situations, things, etc. which may or may not be of concern to the child. He will be asked to indicate whether they are true about himself by marking Yes

or No. (b) the second session will require about 30 minutes during which the child will be asked to work on a task in the classroom situation. (c) the last situation will involve only half (about 300) of the children; it will require about 15 minutes of each child's time during which he will be asked to work at a given task in the presence of the experimenter alone.

APPENDIX D

Directions for Circle Task

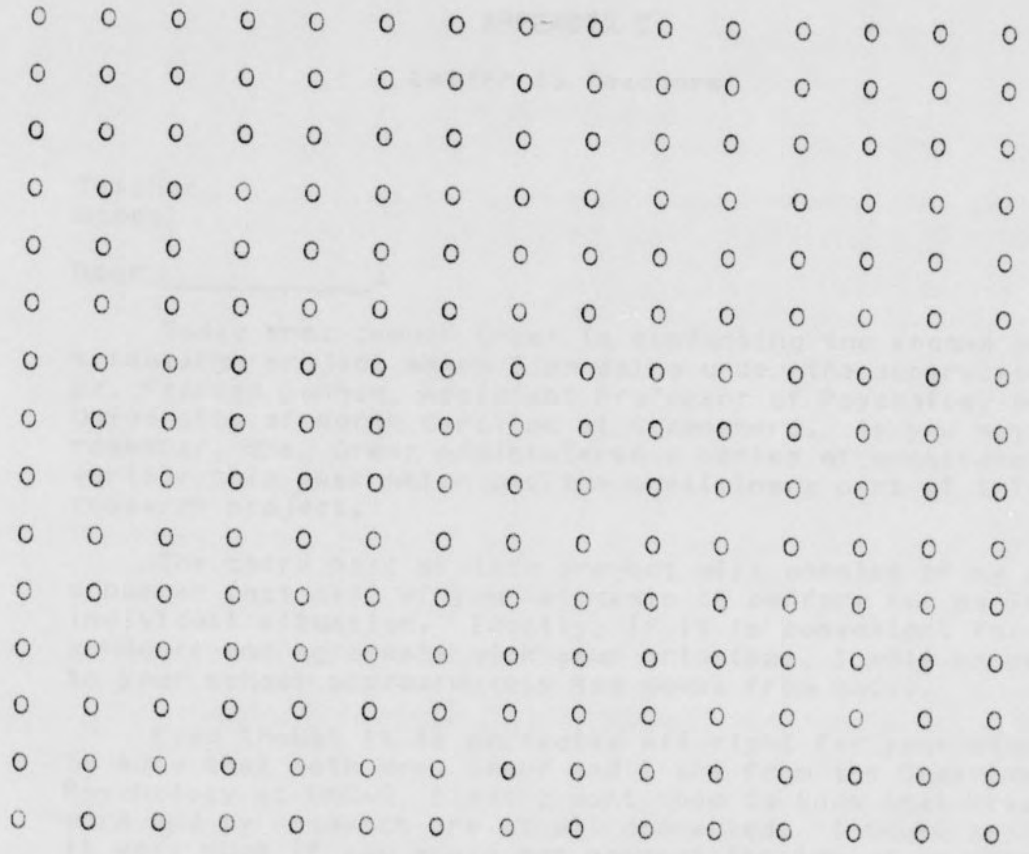
FILL OUT COVER PAGE

DIRECTIONS: "Now, I want you to do something very different. Turn to the next page with all the circles. I need an 'X' put in each of these circles on the paper in front of you (DEMONSTRATE) -- one in each circle. There are several of these pages with circles on them. On each page I'll tell you when to start and then I'll tell you when to stop. After you have worked a little while on a page, I will tell you when to turn to the next page. Do not turn the page until I tell you to, even if you have finished filling in the circles on that page."

"ANY QUESTIONS?"

"START" -- 1 minute elapses -- "STOP" -- "TURN THE PAGE" -- "START", etc.

NOTE TO EXPERIMENTER: Stop them after the first minute, have them turn the page, set the stop watch for another minute, tell them to start simultaneously as the stop watch begins, stop them after one minute elapses, etc. until they have spent one minute on each of the 15 pages.



APPENDIX E

Letter to Teachers

Teacher
School

Dear _____:

Today Mrs. Camden Greer is conducting the second part of a research project which I am doing under the supervision of Dr. Frances Dunham, Assistant Professor of Psychology at the University of North Carolina at Greensboro. As you may remember, Mrs. Greer administered a series of questionnaires earlier this year which was the preliminary part of this research project.

The third part of this project will consist of my asking a number (not all) of your students to perform for me in an individual situation. Ideally, if it is convenient for your schedule and agreeable with your principal, I will be coming to your school approximately two weeks from today.

Even though it is perfectly all right for your students to know that both Mrs. Greer and I are from the Department of Psychology at UNC-G, I don't want them to know that Mrs. Greer's work and my research are at all connected. I would appreciate it very much if you would not connect the two of us when you talk to them. <u>If they ask</u>, you could just say something like, "They're both from the University but my understanding is that Miss Martin will be doing something entirely different from Mrs. Greer. In fact, Miss Martin is only planning to test a few children in each room." That is, focus on what we <u>do</u> rather than what research project this is.

Thank you very much for your cooperation.

Sincerely,

Lynda Joyce Martin

BIBLIOGRAPHY

Allinsmith, Wesley. Conscience and conflict: the moral force in personality. Child Develpm., 1957, 28, 469-476.

Allinsmith, Wesley. Moral standards II. The learning of moral standards. In Miller, Daniel R., and Swanson, Guy E., Inner conflict and defense. New York: Holt, 1960, pp. 141-176.

Allinsmith, Wesley, and Greening, Thomas C. Guilt over anger as predicted from parental discipline: a study of superego development. Amer. Psychologist, 1955, 10, 320.

Castaneda, A., McCandless, B. R., and Palermo, D. S. The children's form of the manifest anxiety scale. Child Develpm., 1956, 27, 317-326.

Dunham, Frances Y. The effect of verbal and maternal flattery on the performance of girls differing in reported extent of maternal love-oriented discipline. Unpublished doctoral dissertation, Duke University, Durham, N. C., 1962.

Edwards, Allen L. Experimental design in psychology. Revised edition. New York: Rinehart, 1960.

Frenkel-Brunswick, Else, and Havel, Joan. Prejudice in the interviews of children: I. Attitudes toward minority groups. J. genet. Psychol., 1953, 82, 91-136.

Hart, I. Maternal child-rearing practices and authoritarian ideology. J. abnorm. soc. Psychol., 1957, 55, 232-237.

McCandless, Boyd R. Children and adolescents. Behavior and development. New York: Holt, Rinehart, and Winston, 1961, pp. 357-404.

McCandless, Boyd R. Children. Behavior and Development. 2nd edition, New York: Holt, Rinehart, and Winston, 1967, pp. 500-506.

Mussen, Paul H., and Kagan, J. Group conformity and perception of parents. Child Develpm., 1958, 29, 57-60.

Piaget, Jean. The moral judgment of the child. New York: Harcourt, Brace, 1932.

Ray, William S. An introduction to experimental design. New York: The MacMillan Company, 1960.

Sears, Robert S., Maccoby, Eleanor E., and Levin, Harry. Patterns of child rearing. Evanston, Illinois: Row, Peterson, 1957.

Siegel, Sidney. Nonparametric statistics for the behavioral sciences. New York: McGraw-Hill, 1956.

Stevenson, Harold W., and Fahel, Leila. The effect of social reinforcement on the performance of institutionalized and noninstitutionalized normal and feebleminded children. J. Pers., 1961, 29, 136-147.

Stevenson, Harold W., and Snyder, Leila. Performance as a function of the interaction of incentive conditions. J. Pers., 1960, 28, 1-11.

Whiting, John, and Child, Irvin. Child training and personality. New Haven: Yale University Press, 1953.