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## Q technique applied to changes in self-concepts and ideal self-concepts in a high school class

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Q TECHNIQUE APPLIED TO CHANGES IN SELF-CONCEPTS AND  
IDEAL SELF-CONCEPTS IN A HIGH SCHOOL CLASS

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A Thesis  
Presented to  
the Faculty of the Department of Psychology  
College of the Pacific

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

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by  
Robert Edward Eaton

June 1957

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## CHAPTER I

### THE PROBLEM, DEFINITIONS, AND OVERVIEW

#### I. THE PROBLEM

Statement of the problem. The problem in this experiment was to determine whether significant changes in the relationship between self-concepts and ideal self-concepts take place in a twelfth-grade family life class.

The need for the experiment. There is a need for understanding of the changes which take place in the high school student in a family life class. The amount of time devoted to this type of course by the high school, and to similar courses, has increased greatly in recent years. Little has been done to evaluate the outcomes in terms of changes taking place in students. This study attempts to move in that direction.

The Hypotheses. The thesis of this experiment was that there would be significant changes in the relation between students' self-concepts and their ideal self-concepts in a twelfth-grade family life class during a nine-week experimental period in which the course dealt with life adjustment.

A further hypothesis was that in a control group of twelfth-grade students not enrolled in the family life class,

no significant change would take place in the relation between students' self-concepts and their ideal self-concepts during the same period.

## II. DEFINITIONS OF TERMS USED

Self-concept. The self-concept or self-structure is defined by Rogers as "an organized, fluid, but consistent pattern of characteristics and relationships of the 'I' or the 'me', together with the values attached to these concepts."<sup>1</sup>

Ideal self-concept. Butler and Haigh define the ideal self-concept as "the organized conceptual pattern of characteristics and emotional states which the individual consciously holds as desirable (and undesirable) for himself."<sup>2</sup>

## III. OVERVIEW

Following this introductory chapter, Chapter II reviews the literature relevant to this study. The instru-

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<sup>1</sup>Carl R. Rogers, Client-Centered Therapy (Boston, Houghton Mifflin Company, 1951), p. 56.

<sup>2</sup>John M. Butler and Gerald V. Haigh, "Changes in the Relation Between Self-concepts and Ideal Self-concepts Consequent Upon Client-centered Counseling," Carl R. Rogers and Rosalind F. Dymond (eds.) Psychotherapy and Personality Change (The University of Chicago Press, 1954), p. 56.



ment used and the procedure with it form the subject of Chapter III. The next two chapters describe the population for the experiment and the courses, family life (experimental group), and civics (control group). The results of the experiment are in Chapter VI. Chapter VII contains the summary and conclusions.

## CHAPTER II

### REVIEW OF THE LITERATURE

This chapter presents a summary and review of previous research immediately relevant to the present study. Although no precisely similar studies have been located, it is important to review the literature to show the development of the instrument used, and to show its previous application in a classroom situation.

#### I. THE BUTLER AND HAIGH WORK<sup>1</sup>

Development of the instrument. Measurement of the changes in self-concepts and ideal self-concepts rests, in the Butler and Haigh work, and in this study, upon the Rogers definition of self-concept noted above.<sup>2</sup>

Butler and Haigh state:

The self-concept consists of an organized conceptual pattern of the "I" or "me" together with the values attached to those concepts. This implies that many single self-perceptions, standing in relation each to

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<sup>1</sup>John M. Butler and Gerald V. Haigh, "Changes in the Relation Between Self-concepts and Ideal Self-concepts Consequent Upon Client-centered Counseling," Carl R. Rogers and Rosalind F. Dymond (eds.) Psychotherapy and Personality Change (The University of Chicago Press, 1954), p. 56. The experimental design for the Butler and Haigh work, also relevant to Dymond's work, is described in Donald L. Grummon, "Design, Procedures, and Subjects for the First Block" Carl R. Rogers and Rosalind F. Dymond (eds.), op. cit., pp. 35-52.

<sup>2</sup>Supra, p. 2.

the other, exist for the same individual. It is quite possible for the individual to order these self-percepts along a subjective or psychological continuum from "unlike me" to "like me."<sup>3</sup>

It is thus possible for an individual to read a series of self-referrent statements, presented to him on 3 by 5 cards, and place them along a continuum according to the extent to which he views each statement as like him or not like him.

The Butler-Haigh sort consists of one hundred self-referrent statements taken from therapeutic protocols at the University of Chicago Counseling Center.<sup>4</sup> Clients were required to sort the cards containing these statements into a quasi-normal distribution. Thus, a specified number of cards was placed in each of eleven piles along the continuum from "most like" to "least like." Forcing a quasi-normal sort, with a value assigned to each pile, enables the experimenter to analyze the data with correlational methods. It has, according to Butler and Haigh, the further psychological advantage that the forced sort into the several piles produces less fatigue and carelessness than would be the case in an untied ranking of as many as one hundred items.<sup>5</sup>

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<sup>3</sup>Butler and Haigh, op. cit., p. 55.

<sup>4</sup>The Butler-Haigh sort is reproduced in Appendix A.

<sup>5</sup>Butler and Haigh, op. cit., p. 57.



Results of the study. The Butler-Haigh sort was administered to three groups: a client group, an equivalent-control group, and an own-control group. Measurements with the Q sort consisted of pre-counseling tests, post-counseling tests, and follow-up tests. In addition, the own-control group was tested sixty days prior to the beginning of counseling (pre-wait test).

The authors of this study concluded that there was shown by the Q sort analysis a significant change in the self-ideal relationship in the client group from pre-counseling to follow-up. There was no significant change in the equivalent-control group over the same period. There was no significant change in the own-control group from the pre-wait test to the pre-counseling test.<sup>6</sup>

## II. THE DYMOND THEMATIC APPERCEPTION TEST FOLLOW-UP<sup>7</sup>

This study, by Rosalind F. Dymond, at the University of Chicago, entailed the blind scoring of Thematic Apperception Test protocols of the same individuals involved in the Butler-Haigh study just described. The results showed that "T A T ratings agreed . . . with the change in the corre-

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<sup>6</sup>Ibid., pp. 60-69.

<sup>7</sup>Rosalind F. Dymond, "Adjustment Changes Over Therapy From Thematic Apperception Test Ratings," Carl R. Rogers and Rosalind F. Dymond (eds.) op. cit., pp. 109-120.

lation of their self and ideal sortings."<sup>8</sup>

### III. OTHER STUDIES

Bower's work. Eli Bower applied Q methodology to his study of changes in self-concepts and ideal self-concepts in a mental health institute, using two other groups for comparison and control. In a summary of this study, Bower and Peter J. Tashnovian conclude:

The results indicate that this methodology has differential sensitivity both to individual differences within groups and among groups themselves. The results further suggest that this methodology holds promise in attempting the difficult excursion behind the diaphanous but often impenetrable curtain of the "self-realization" objectives of education. The results are hopeful signs that what we say or do in workshops, courses, or institutes may indeed be subjected to systematic examination.<sup>10</sup>

The Hanlon, Hofstaetter, and O'Connor study.<sup>11</sup> A conclusion that the Q sort technique was useful in evaluating

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<sup>8</sup>Ibid., p. 120.

<sup>9</sup>Eli M. Bower, The Application of Q Methodology in Investigating Changes in Self and Ideal-Self as a Result of a Mental Health Workshop, (Ann Arbor, Michigan: University Microfilms, Doctoral Dissertation, Series No. 9458, Stanford University, 1954).

<sup>10</sup>Eli M. Bower and Peter J. Tashnovian, "Q Methodology: An Application in Investigating Changes in Self and Ideal Self in a Mental Health Workshop," California Journal of Educational Research, 6:204, November, 1955.

<sup>11</sup>Thomas E. Hanlon, Peter R. Hofstaetter, and James P. O'Connor, "Congruence of Self and Ideal Self in Relation to Personality Adjustment," Journal of Consulting Psychology, 18: 217, June, 1954.



the extent of personality maladjustment and evaluating changes during psychotherapy was reached in a study by Thomas E. Hanlon and his associates. They use a sample of 78 high school students and a sort based on items from the California Test of Personality. This is the only study discovered in which Q methodology was used with high school students.

The Walther study.<sup>12</sup> Clarence J. Walther used the Butler-Haigh sort with eighteen students enrolled in a Beginning Psychology class at Humphreys College, Stockton, California. The sorts were administered for self-concept and ideal self-concept sortings at successive class meetings at the beginning and at the end of the course. The class was taught with a "student-centered procedure." The experiment was designed to test the efficacy of that procedure in terms of change in the self-ideal relationships.

Walther obtained results significant at the two per cent level of confidence. His study demonstrated the usefulness of Q sort technique in the classroom. He concluded that "student-centered teaching resulted in a change in the self-ideal relationships of the experimental group as meas-

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<sup>12</sup>Clarence J. Walther, "An Experimental Study of Changes in Self-Concepts and Ideal Self-concepts," (Unpublished Masters Thesis, College of the Pacific, Stockton, California, 1956).

ured by this Q sort technique."<sup>13</sup>

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<sup>13</sup>Ibid., p. 26.

## CHAPTER III

### THE INSTRUMENT AND PROCEDURE

This chapter sketches the development of the instrument used in this study, showing its dependence on the instrument developed and refined by the Rogers group at the University of Chicago. Administrative and statistical procedures are described.

#### I. DEVELOPMENT OF THE PRESENT INSTRUMENT

The Q-adjustment score.<sup>1</sup> In her work with the Butler-Haigh data, Rosalind Dymond developed a scoring technique for the Butler-Haigh sort. She utilized the services of two clinical psychologists from outside the client-centered orientation. The twenty-six statements which these judges agreed did not differentiate on adjustment were put aside, and scores assigned to the remaining seventy-four items by additional judges.<sup>2</sup> This is significant here because it is from these seventy-four items that the modification of the Butler-Haigh sort used in the present study was developed.

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<sup>1</sup>Rosalind F. Dymond, "Adjustment Changes Over Therapy From Self-sorts," Carl R. Rogers and Rosalind F. Dymond (eds.), Psychotherapy and Personality Change (Chicago: The University of Chicago Press, 1954), pp. 76-84.

<sup>2</sup>Ibid., p. 79 et passim. The twenty-six items judged non-differentiating are parenthesized in Appendix A.



The present instrument. The seventy-four differentiating items referred to in the preceding paragraph formed the basis for the present instrument. Vocabulary changes were made in some items to increase readability for the twelfth-grade student. The extent of these changes may be determined by reference to Appendixes A and B. In Appendix B, the parenthetical numeral following each item indicates the comparable item in Appendix A. Two items were added to bring the total to seventy-six. These items were based on the feeling that, in the age-group being studied, the individual's concept of his own physical development is important. These are items 75 and 76 in the sort reproduced in Appendix B.

The distribution of the seventy-six items on the sorting chart follows a suggestion by William Stephenson as reported by Bower.<sup>4</sup>

## II. ADMINISTRATION

The administration of the Q sort used in this experiment is described in the paragraphs that follow.

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<sup>3</sup>The instrument used in the present study is to be found in Appendix B.

<sup>4</sup>Eli M. Bower, The Application of Q Methodology in Investigating Changes in Self and Ideal-Self as a Result of a Mental Health Workshop (Ann Arbor, Michigan: University Microfilms, Doctoral Dissertation. Series No. 9458, Stanford University, 1954) p. 106.

Practice session. The first period was a practice session in which procedure was explained and demonstrated and practice initiated.

A package of 3 by 5 cards, each having typed on it a number and an item of the sort, and a sorting chart, were distributed to each student.<sup>5</sup> Students were instructed to think about each of the statements in terms of the extent to which it did or did not apply to them. The next steps were to shuffle the cards and divide them into two piles. One pile was of statements like the student, the other of unlike statements. The "like" pile was then read through to find the two statements most like oneself. The numbers of those two statements were entered in the two squares farthest right on the sorting chart. The remaining "like" cards were sorted to find the four most like oneself and those numbers entered in column X. This procedure was to be followed until all the squares through column VII contained numbers. Students were cautioned to eliminate from consideration a card whose number had been written on the paper.

The next step was to deal with the "unlike" pile, first placing in it any cards left from the "like" pile. Sorting now was from left to right, beginning with the two items least like oneself and continuing until all of the squares

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<sup>5</sup>See Appendix B for the items, Appendix C for the chart.



were filled.

The instructor was available for help with procedure in case any difficulty was experienced. It was found that a forty minute period was sufficient time for the sorting.

Self I sort. The day following the practice session, the first sort was completed as described above.

Ideal self I sort. On the third day, instructions were changed so that students would sort the cards according to their view of an ideal person, or themselves as they would like to be.

The second sorts. At the end of the nine week experimental period, the procedure was repeated on successive days for self II sort and ideal self II sort. No practice session was held, but instructions were reviewed on each occasion.

### III. STATISTICAL PROCEDURE

Self-ideal correlations. The first step in the statistical treatment of the data was to determine for each case the relationship between self I sort and ideal self I sort, and between self II sort and ideal self II sort. This was done by a correlational method described by Lacey.<sup>6</sup>

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<sup>6</sup>Oliver L. Lacey, Statistical Methods in Experimentation (New York: The Macmillan Company, 1953) pp. 161-164.

Conversion to z' score. The next step was to convert the coefficients of correlation to z' scores using the table of r values and the corresponding value of z' given by Edwards.<sup>7</sup>

Difference between the means. The standard error of the difference between the means of the two z' arrays was computed by a method suggested by Edwards.<sup>8</sup>

The t value and the level of confidence. The final step was to compute the subsequent t value and enter the table of t to determine the level of confidence.

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<sup>7</sup>Allan L. Edwards, Experimental Design in Psychology (New York: Rinehart and Company, 1936) p. 409.

<sup>8</sup>Ibid., pp. 276-277.

## CHAPTER IV

### THE POPULATION<sup>1</sup>

Chapter IV consists of a description of the students used as subjects in this experiment. All the students were enrolled at the Galt Joint Union High School, Galt, California, in the twelfth-grade. All were in classes taught by this investigator. All twelfth-grade students present the third day of the semester participated initially in the experiment.

#### I. THE EXPERIMENTAL GROUP

The students in the experimental group were enrolled in the family life class. The course is required of all twelfth-grade students. There were two sections of this class. Those not enrolled first semester would take the class during the second semester.

Number and sex. The original group was composed of forty students, twenty-two boys and eighteen girls. Thirteen dropped out of the experiment. The final group then numbered twenty-six, of whom fourteen were boys and twelve girls. The dropouts were for the following reasons:

---

<sup>1</sup>Data on the population are summarized in Appendix D.



|                                       |   |
|---------------------------------------|---|
| Missed one or more sorts . . . . .    | 8 |
| Left school . . . . .                 | 2 |
| Unable to read sufficiently . . . . . | 2 |
| Sorted erroneously . . . . .          | 1 |

Ages. The range of ages of the original group was from sixteen years to eighteen years, five months, with a median of seventeen years, five months. The final group (after dropouts) ranged from sixteen years to eighteen years, two months, with a median of seventeen years, four months.

Intelligence quotients. IQ, as measured by the California Test of Mental Maturity, Intermediate Form, ranged from 65 to 124 in the original group, with a mean of 97.583, and a standard deviation of 13.770. N was 36, with 3 not known. In the final group, the range was 78 to 124, with a mean of 102.791, and a standard deviation of 11.514. N was 24, with 2 not known. The dropoff tended to be from the lower part of the range.

Grade average. The grade average for the original experimental group was as follows:

A - 2; B - 11; C - 16; D - 8; ? - 3.

For the final group it was as follows:

A - 2; B - 11; C - 10; D - 3; ? - 0.

All of the dropouts fell in the C, D, or unknown

categories.

The effect of depletion. Depletion of the original group made the final experimental group more capable, and of higher academic achievement, than the original group had been.

## II. THE CONTROL GROUP

The students in the control group were enrolled in civics, of which there were two sections. The essential element here is that they were not enrolled in the family life class. (Civics is a required course. Those in the family life class first semester would take civics second semester.)

Number and sex. The original group was composed of thirty-six students, ten boys and twenty-six girls. Ten students dropped out of the experiment. Those remaining totaled twenty-six, seven boys and nineteen girls. The dropouts were for the following reasons:

|                                       |   |
|---------------------------------------|---|
| Missed one or more sorts . . . . .    | 3 |
| Left school . . . . .                 | 4 |
| Unable to read sufficiently . . . . . | 1 |
| Sorted erroneously . . . . .          | 1 |
| Uncooperative . . . . .               | 1 |

The control group was overbalanced with girls as compared with the experimental group. The groups were deter-



mined by administrative assignment to classes. The experimenter had no control over this factor.

Ages. The range of ages of the original group was from sixteen years, six months to nineteen years, one month, with a median of seventeen years, three months. The final group ranged from sixteen years, six months to nineteen years, with the median remaining at seventeen years, three months. There appeared to be no significant differences between the experimental and control groups in terms of ages.

Intelligence quotients. IQ, as measured by the California Test of Mental Maturity, Intermediate Form, ranged from 77 to 119 in the original group, with a mean of 98.457, and a standard deviation of 10.677. N was 35, with one not known. In the final group, the range was 82 to 119, with a mean of 99.96, and a standard deviation of 9.787. N was 25, with one score unknown. There was a tendency for dropouts to be from the lower part of the range. This tendency was less pronounced in the control group than in the experimental group.

Grade average. The grade average for the original control group was as follows:

A - 2; B - 10; C - 19; D - 3; ? - 0.

For the final control group, it was as follows:

A - 2; B - 9; C - 13; D - 2; ? - 0.

All except one of the dropouts was from C, D, or unknown categories, as in the experimental group.

The effect of depletion. The depletion of the original control group had a similar effect as with the experimental group. Thus, the final group in both cases was a more capable one, and of higher achievement, than the original group. This effect was observed to be more pronounced in the experimental group than in the control group.

### III. THE MATCHED GROUPS

An attempt was made to match pairs between the experimental and control groups on the bases of age, sex, and grade average. This was possible for only twelve pairs. The data for those subjects in each group who had been matched with subjects from the other group were treated statistically in the same manner as the whole groups. That is, the statistical treatment involved finding the results for a sub-group within the experimental group and a sub-group within the control group, and comparing these results.

## CHAPTER V

### THE COURSES, AND THE ORIENTATION OF THE TEACHER

The purpose of this chapter is to provide information on the nature of the courses in which the students participating in this study were enrolled. All of the students involved were in either a family life or a civics class, as part of a six period day. The determination of whether a student was in one or the other of the classes was made routinely by the administration of the school. An attempt was made simply to distribute the students equally among four sections, two each of family life and civics. This was accomplished to a satisfactory degree. A further attempt to distribute equally by sexes was considerably less successful, as may be seen by reference to the discussion of the population in the preceding chapter.

#### I. THE FAMILY LIFE CLASS

The Galt High School District accepts as a responsibility the provision of specific instruction in family life. The course taught might well be called Preparation for Marriage. It is a course that begins by directing the student's attention to himself, considers his relations with others in general, then specifically with members of the opposite sex, with a spouse, and with other family members.



The latter part of the course deals in a detailed fashion with parent-child relationships.

Material covered. The experimental period of this study covered the first half (first quarter) of the course. A listing of topics will indicate the scope of the curriculum:

- Individual personality
- Problem solving
- Getting along with others
- Dating
- Use of alcohol
- Family understanding
- Mate selection
- Age for marriage
- Religion and marriage
- Love.

Approximately half of the nine-week period was devoted to the first three topics.

Teaching methods. The principal activity of the family life class was group discussion. The teacher assigned material to be read from a textbook<sup>1</sup> and this material was dis-

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<sup>1</sup>Judson T. Landis and Mary G. Landis, Personal Adjustment, Marriage and Family Living, A High School Text (New York: Prentice-Hall, Inc., 1950).

cussed in class. Usually, the topics for discussion were determined by students; they raised questions which interested them. Before a new reading assignment was discussed, the teacher raised for discussion those questions or topics he felt had not been covered. The teacher did not attempt to draw many conclusions in such discussions, but attempted to stimulate student thinking by the asking of questions whenever appropriate. The teacher did, from time to time, present factual materials, and occasionally--more, as the course progressed--offered his opinions.

A weekly movie was used covering some relevant phase of the subject matter.

Grading. Students were informed that satisfactory attendance, satisfactory citizenship, and satisfactory participation in the class would yield a C grade. The teacher treated a C grade as almost routine in this class, with inadequate performances being handled individually. Students interested in A or B grades were told to contact the instructor about a term paper assignment. An extensive classroom library of books and pamphlets is maintained for term paper work. Nine students in the experimental group were writing term papers.

Results. Both sections of the family life class became effective discussion groups, one more so than the



other. They were characterized by relaxed, spontaneous, and candid discussion. Almost all students became verbal participants. Written reaction reports required at intervals of three weeks indicated that many students were being stimulated to think deeply about themselves and the material presented in the course.

## II. THE CIVICS CLASS

The same general organization applied to the civics class as to the family life class. The nature of the material was such that these situations tended frequently to be recitative, rather than discussive. They were less relaxed and less spontaneous. However, it was felt that a satisfactory student-teacher relationship existed in both sections, with a distinctly superior relationship in one of them. The material of the course was California government. Grading was to be based on test and recitation performance.

## III. ORIENTATION OF THE WRITER

Since the investigator taught the classes involved in this experiment, it is relevant to present, in brief, his orientation to teaching. Nathaniel Cantor has said:

The teacher's greatest responsibility is to assume the role of skillful challenge . . . , to evoke the latent social needs only dimly perceived by the child. The



teacher assumes the role of an alter ego, representing the social realities which the child senses but does not see. The child cannot assume full responsibility for his growth. Confusion must be narrowed, limits defined, and needs clarified. This can be attempted in specific settings, if the teacher is careful to remain close to where the child is, not too far ahead but far enough to offer a challenge which is perceived as an opportunity rather than a threat.<sup>2</sup>

To a large extent, this expresses the viewpoint of this investigator. An attempt is made to follow a set of principles which might be summarized as follows:

1. The teacher operates in, and is limited by, the context of his school situation.
2. The teacher is responsible for setting and maintaining orderly limits on classroom behavior. Such limits are basically inherent in the situation, and the teacher is at once interpreter, enforcer, and mediator of the limits. He maintains limits on behavior as prerequisite to a learning situation, using his skill to avoid giving central place to the limits, but realizing that the finest curricular planning will not lead to learning in a poorly controlled situation.
3. The teacher is responsible for planning his course. He recognizes and accepts his role of expert in the situation. He is willing and, indeed, anxious for students

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<sup>2</sup>Nathaniel Cantor, The Teaching-Learning Process (New York: The Dryden Press, 1953) pp. 105-6. Underlining added.

to act and think independently, but realizes that such acting and thinking needs to take place within the framework of a well-planned curriculum.

4. The essence of the teaching situation is the relationship between the teacher and his students, individually and collectively. But, such relationships, to contribute to learning, change in a desirable direction, must fall within the context of orderly behavioral limits and careful curricular planning. A teacher-student relationship outside this context does not contribute to healthy change in a desirable direction on the part of the student.

The approach described does not fall within the idea of "student-centered teaching" developed by Rogers, but certainly many, if not all, of the principles developed by Rogers are applicable in this viewpoint.<sup>3</sup> This orientation, particularly as it is concerned with the role of challenge, is closer to Cantor's "reality-centered" point of view.<sup>4</sup> The investigator sees himself as operating a far from "instructor-centered" classroom.

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<sup>3</sup>Carl R. Rogers, Client-Centered Therapy (Boston: Houghton Mifflin Company, 1951), especially pp. 384-428.

<sup>4</sup>Nathaniel Cantor, op. cit., especially Chapter Five.



## CHAPTER VI

### RESULTS OF THE EXPERIMENT

The chapter which follows will provide a report on the statistical results of this experiment.

#### I. THE EXPERIMENTAL GROUP

Table I, page 27, shows the distribution of the two self-ideal relationships and the  $z'$  arrays for the experimental group. The distribution of the first self-ideal relationship showed a mean  $z'$  of .738, with a corresponding  $r$  of .604 ( $r_1$  and  $z'_1$ ). The distribution of the second self-ideal relationship showed a mean  $z'$  of .842 and a corresponding  $r$  of .665 ( $r_2$  and  $z'_2$ ). The  $t$  value obtained is 3.611, which is substantially greater than the figure required for the one per cent level of confidence with twenty-five degrees of freedom.

#### II. THE CONTROL GROUP

Table II, page 28, shows the results for the control group. The distribution of the first self-ideal relationship showed a mean  $z'$  of .738 and a corresponding  $r$  of .605 ( $r_1$  and  $z'_1$ ). The distribution of the second self-ideal relationship showed a mean  $z'$  of .762 and a corresponding  $r$  of .611 ( $r_2$  and  $z'_2$ ). The  $t$  value obtained is .472, a non-



TABLE I

## STATISTICAL RESULTS, EXPERIMENTAL GROUP

| Case  | $r_1$  | $r_2$  | $z'1$  | $z'2$  |
|-------|--------|--------|--------|--------|
| 01    | .816   | .821   | 1.142  | 1.157  |
| 02    | .406   | .488   | .430   | .536   |
| 04    | .780   | .733   | 1.045  | .940   |
| 05    | .667   | .637   | .802   | .750   |
| 08    | .719   | .705   | .897   | .877   |
| 10    | .800   | .745   | 1.099  | .962   |
| 11    | .811   | .880   | 1.127  | 1.376  |
| 14    | .606   | .679   | .701   | .829   |
| 15    | .832   | .867   | 1.188  | 1.313  |
| 19    | .665   | .762   | .802   | .996   |
| 21    | .585   | .627   | .670   | .717   |
| 22    | .627   | .767   | .733   | 1.008  |
| 23    | .597   | .745   | .685   | .962   |
| 24    | .627   | .752   | .733   | .973   |
| 28    | .738   | .776   | .940   | 1.033  |
| 29    | .481   | .700   | .523   | .867   |
| 30    | .719   | .696   | .908   | .858   |
| 31    | .236   | .479   | .239   | .517   |
| 34    | .599   | .676   | .693   | .820   |
| 36    | .557   | .717   | .626   | .897   |
| 37    | .264   | .248   | .271   | .255   |
| 38    | .564   | .705   | .633   | .877   |
| 39    | .175   | .354   | .177   | .371   |
| 40    | .552   | .561   | .618   | .633   |
| 41    | .686   | .696   | .838   | .858   |
| 42    | .589   | .462   | .678   | .497   |
| Total | 15.698 | 17.278 | 19.198 | 21.879 |
| Mean  | .604   | .665   | .738   | .842   |

TABLE II

## STATISTICAL RESULTS, CONTROL GROUP

| Case  | r <sub>1</sub> | r <sub>2</sub> | z' <sub>1</sub> | z' <sub>2</sub> |
|-------|----------------|----------------|-----------------|-----------------|
| 20    | .632           | .708           | .741            | .887            |
| 33    | .656           | .755           | .784            | .984            |
| 43    | .795           | .670           | 1.085           | .811            |
| 45    | .741           | .724           | .950            | .918            |
| 47    | .663           | .663           | .802            | .802            |
| 48    | .748           | .608           | .973            | .709            |
| 49    | .759           | .783           | .996            | 1.058           |
| 51    | .679           | .743           | .829            | .962            |
| 52    | .340           | .542           | .354            | .604            |
| 53    | .540           | .663           | .604            | .802            |
| 54    | .691           | .766           | .848            | 1.008           |
| 55    | .078           | .314           | .080            | .326            |
| 56    | .797           | .899           | 1.085           | 1.472           |
| 57    | .458           | .649           | .497            | .775            |
| 58    | .649           | .627           | .775            | .733            |
| 59    | .682           | .493           | .829            | .543            |
| 60    | .804           | .653           | 1.113           | .784            |
| 61    | .545           | .767           | .611            | 1.008           |
| 62    | .736           | .580           | .940            | .662            |
| 64    | .689           | .757           | .848            | .984            |
| 69    | .519           | .575           | .576            | .655            |
| 70    | .384           | .290           | .406            | .299            |
| 73    | .627           | .778           | .733            | 1.045           |
| 74    | .663           | .224           | .802            | .229            |
| 76    | .366           | .040           | .383            | .040            |
| 77    | .495           | .608           | .543            | .709            |
| Total | 15.736         | 15.879         | 19.187          | 19.809          |
| Mean  | .605           | .611           | .738            | .762            |

significant result.

### III. THE MATCHED GROUPS

The matched experimental group. Table III, page 30, shows the results for the matched experimental group. Here, for the z'1 array, the mean z' is .711, with a corresponding r of .569. The mean z' for the z'2 array is .798, with a corresponding r of .623. The t value obtained is 2.74, a result significant at the five per cent level of confidence for eleven degrees of freedom.

The matched control group. Table IV, page 31, shows the results for the matched control group. Here, the mean z' for z'1 array is .689, with a corresponding r of .570. For the z'2 array, the mean z' is .744, with a corresponding r of .609. The t value is .786, a non-significant result.

### IV. INTERPRETATION

Thus, in the cases of both the matched and total experimental groups, self-concepts and ideal self-concepts moved closer together. At the close of the experiment, the individuals in the experimental group had less discrepancy between their views of themselves and their view of an ideal self than they had at the beginning of the experiment. This was not true of the control group.



TABLE III

## STATISTICAL RESULTS, MATCHED EXPERIMENTAL GROUP

| Case  | $r_1$ | $r_2$ | $z'_1$ | $z'_2$ |
|-------|-------|-------|--------|--------|
| 11-1  | .811  | .880  | 1.127  | 1.376  |
| 37-2  | .264  | .248  | .271   | .255   |
| 30-3  | .719  | .696  | .908   | .858   |
| 08-4  | .719  | .705  | .897   | .877   |
| 39-5  | .175  | .354  | .177   | .371   |
| 40-6  | .552  | .561  | .618   | .633   |
| 41-7  | .686  | .696  | .838   | .858   |
| 02-8  | .406  | .488  | .430   | .536   |
| 14-9  | .606  | .679  | .701   | .829   |
| 01-10 | .816  | .821  | 1.142  | 1.157  |
| 31-11 | .236  | .479  | .239   | .517   |
| 15-12 | .832  | .867  | 1.188  | 1.313  |
| Total | 6.822 | 7.474 | 8.536  | 9.580  |
| Mean  | .569  | .623  | .711   | .798   |

TABLE IV

## STATISTICAL RESULTS, MATCHED CONTROL GROUP

| Case  | r <sub>1</sub> | r <sub>2</sub> | z' <sub>1</sub> | z' <sub>2</sub> |
|-------|----------------|----------------|-----------------|-----------------|
| 51-1  | .679           | .743           | .829            | .962            |
| 61-2  | .545           | .767           | .611            | 1.008           |
| 55-3  | .078           | .314           | .080            | .326            |
| 57-4  | .458           | .649           | .497            | .775            |
| 59-5  | .682           | .493           | .829            | .543            |
| 53-6  | .540           | .663           | .604            | .802            |
| 49-7  | .759           | .783           | .996            | 1.058           |
| 70-8  | .384           | .290           | .406            | .299            |
| 43-9  | .795           | .670           | 1.085           | .811            |
| 69-10 | .519           | .575           | .576            | .655            |
| 48-11 | .748           | .608           | .973            | .709            |
| 33-12 | .656           | .755           | .784            | .984            |
| Total | 6.843          | 7.310          | 8.270           | 8.932           |
| Mean  | .570           | .609           | .689            | .744            |

## CHAPTER VII

### SUMMARY, CONCLUSIONS, AND DISCUSSION

#### I. SUMMARY

An experimental group of twelfth-grade students in a family life class, and a comparable control group in a civics class, were administered a Q sort of seventy-six self-referrent statements at the beginning and end of a nine week experimental period. The cards were sorted twice on each occasion, for self-concept and for ideal self-concept. The relationships between the first two sorts were compared with the relationships between the second two sorts. The relationship between the second two sorts was found to be significantly higher than that between the first two sorts in the experimental group. There was no significant difference in the control group.

#### II. CONCLUSIONS

The first hypothesis, to the effect that the family life group would show significant changes in the relationship between students' self-concepts and their ideal self-concepts during the experimental period, is confirmed by the statistical results. Likewise, the second hypothesis, to the effect that no significant difference would appear in



the control group, is confirmed by the statistical results.

The results in the matched groups tend further to confirm the hypotheses.

### III. DISCUSSION

Why did the change take place? The two groups were similar in major respects except one. The experimental group was in a family life class, dealing with life adjustment topics, and experiencing a large measure of relatively free group discussion, while the control group, in the civics class, was not exposed to this experience. However, it is not possible, as a result of this experiment, to separate content and method. It can only be said that the results obtained with the instrument used were obtained under the curricular and methodological conditions described.

Further investigation needed. The following represent questions suggested, but not answered, by this experiment:

1. Does the increased congruity of self-concept and ideal self-concept represent a permanent change? Would greater change be shown in a longer experimental period? Follow-up on this experiment may contribute to answering these questions. A study might well be projected using students at a lower grade level, such as in a ninth grade

adjustment (orientation) class, with a longer experimental period, and with follow-up over a period of years. Other psychological instruments might well be used in addition to the Q sort.

2. What was the effect on Q sort performance of the experience of learning some psychological terminology? Does the student with a greater understanding of some of the terms used in the Q sort items--after nine weeks of instruction--perform differently on the Q sort because of this fact?

3. Can this instrument be further refined by elimination of non-differentiating items? The data of this experiment, analyzed in terms of the placement of the items on the sorting chart, might show that some items are not differentiating. If a smaller number of items would do the same job, a more usable instrument would result.

4. Would it be possible to standardize this instrument, a refined one, or a similar one, so that it might be scored after a single administration? Dymond's work suggests this possibility. Such a project might lead to a more useful personality screening device than now exists for high school use.

5. Are the results obtained for this population, primarily rural, heavily lower socio-economic status, similar to those which might be obtained in a more typical, urban high school? This question suggests a need for

further experimentation under different conditions.

All of these represent areas for further investigation, questions which need to be answered. Some of them represent conditioning factors for the present experiment. However, the evidence of this experiment is substantial. This investigator concludes that students in the family life class at Galt High School did experience significant changes in the relationship between self-concepts and ideal self-concepts as measured by this Q sort.



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APPENDIXES

## APPENDIX A

THE BUTLER-HAIGH 100 ITEM Q SORT<sup>1</sup>

The twenty-six items eliminated by the Dymond study are in parentheses.

- (1. I feel uncomfortable while talking to someone)
2. I put on a false front
- (3. I am a competitive person)
4. I make strong demands on myself
5. I often kick myself for the things I do
6. I often feel humiliated
- (7. I am much like the opposite sex)
8. I have a warm emotional relationship with others
- (9. I am an aloof, reserved person)
10. I am responsible for my troubles
11. I am a responsible person
12. I have a feeling of hopelessness
- (13. I live largely by other people's values and standards)
14. I can accept most social values and standards
15. I have few values and standards of my own
16. It's difficult to control my aggression
17. Self-control is no problem to me
- (18. I am often down in the dumps)
- (19. I am really self-centered)
20. I usually like people
21. I express my emotions freely
- (22. Usually in a mob of people I feel a little bit alone)
23. I want to give up trying to cope with the world
24. I can live comfortably with the people around me
25. My hardest battles are with myself
26. I tend to be on guard with people who are somewhat more friendly than I expected
27. I am optimistic
- (28. I am just sort of stubborn)
- (29. I am critical of people)
30. I usually feel driven
31. I am liked by most people who know me

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<sup>1</sup>Julius Segal, "The Differentiation of Well and Poorly Adjusted Clinicians by the Q-sort Method," Journal of Clinical Psychology, 10:321-325, October, 1954.

- (32. I have an underlying feeling that I'm not contributing enough to life)
- 33. I feel helpless
- 34. I can usually make up my mind and stick to it
- 35. My decisions are not my own
- (36. I often feel guilty)
- 37. I am a hostile person
- 38. I am contented
- 39. I am disorganized
- 40. I feel apathetic
- 41. I am poised
- (42. I just have to drive myself to get things done)
- (43. I often feel resentful)
- 44. I am impulsive
- (45. It's important for me to know how I seem to others)
- 46. I don't trust my emotions
- 47. It's pretty tough to be me
- 48. I am a rational person
- 49. I have a feeling I'm just not facing things
- 50. I am tolerant
- 51. I try not to think about my problems
- 52. I have an attractive personality
- 53. I am shy
- (54. I need somebody to push me through on things)
- (55. I feel inferior)
- 56. I am no one. Nothing really seems to be me
- (57. I am afraid of what other people think of me)
- 58. I am ambitious
- 59. I despise myself
- 60. I have initiative
- 61. I shrink from facing a crisis or difficulty
- 62. I just don't respect myself
- (63. I am a dominant person)
- 64. I take a positive attitude toward myself
- 65. I am assertive
- 66. I am afraid of a full-fledged disagreement with a person
- 67. I can't seem to make up my mind one way or another
- 68. I am confused
- 69. I am satisfied with myself
- 70. I am a failure
- 71. I am likable
- 72. My personality is attractive to the opposite sex
- 73. I have a horror of failing in anything I want to accomplish
- 74. I feel relaxed and nothing really bothers me
- 75. I am a hard worker
- 76. I feel emotionally mature
- 77. I am afraid of sex



- (78. I am naturally nervous)
- 79. I really am disturbed
- 80. All you have to do is just insist with me and I give in
- 81. I feel insecure within myself
- 82. I have to protect myself with excuses, with rationalizing
- (83. I am a submissive person)
- 84. I am intelligent
- (85. I feel superior)
- 86. I feel hopeless
- 87. I am self-reliant
- (88. I often feel aggressive)
- (89. I am inhibited)
- 90. I am different from others
- 91. I am unreliable
- 92. I understand myself
- 93. I am a good mixer
- 94. I feel adequate
- 95. I am worthless
- 96. I dislike my own personality
- (97. I am not accomplishing)
- 98. I doubt my sexual powers
- 99. I am sexually attractive
- (100. I have a hard time controlling my sexual desires)

## APPENDIX B

## THE Q-SORT USED IN THIS STUDY

The numeral in parentheses after each item refers to the item in Appendix A from which that item was prepared.

1. I am self reliant (87)
2. I feel relaxed, and nothing really bothers me (74)
3. I am likable (71)
4. I am no one. Nothing really seems to be me (56)
5. I have a feeling I'm just not facing things (49)
6. I am a responsible person (11)
7. I put on a false front (2)
8. I doubt my sexual powers (98)
9. I feel adequate (fully able to cope with things) (94)
10. I am intelligent (84)
11. I really am disturbed (uneasy, inwardly upset) (79)
12. I am confused (68)
13. I have an attractive personality (52)
14. I am tolerant (50)
15. I am a hostile person (antagonistic, angry) (37)
16. I can usually make up my mind and stick to it (34)
17. Self-control is no problem to me (17)
18. I have a warm emotional relationship (mutual good feelings) with others (8)
19. I have a low opinion of myself (59)
20. It's pretty tough to be me (47)
21. I shrink from facing a crisis or difficulty (61)
22. I feel apathetic (lack feeling, indifferent) (40)
23. I am optimistic (hopeful, cheerful) (27)
24. I have initiative (often suggest or start things) (60)
25. I am a rational (thoughtful, logical) person (48)
26. I am impulsive (44)
27. I usually feel driven (30)
28. I tend to be on guard with people who are somewhat more friendly than I expected (26)
29. It's difficult to avoid attacking or quarreling with people (16)
30. I am responsible for my troubles (10)
31. I am contented (38)
32. I feel helpless (33)
33. My hardest battles are with myself (25)
34. I understand myself (92)
35. I am different from others (90)
36. I express my emotions (feelings) freely (21)
37. I usually like people (20)
38. I often feel humiliated (shamed or disgraced) (6)



39. I make strong demands on myself (4)
40. I am worthless (95)
41. I feel hopeless (86)
42. I am afraid of sex (77)
43. I am satisfied with myself (69)
44. I am assertive (positive, sure, dogmatic) (65)
45. I am unreliable (91)
46. I feel emotionally mature (grown up in my feelings)  
(76)
47. My personality is attractive to the opposite sex (72)
48. I have few values and standards of my own (15)
49. I dislike my sex feelings (96)
50. I feel insecure within myself (not at rest, unsafe) (81)
51. All you have to do is just insist with me and I give  
in (80)
52. I am a failure (70)
53. I can't seem to make up my mind one way or another (67)
54. I am a hard worker (75)
55. I have a horror of failing in anything I want to  
accomplish (73)
56. I just don't respect myself (62)
57. I am shy (53)
58. I try not to think about my problems (51)
59. I have to protect myself with excuses (with rational-  
ization) (82)
60. I take a positive attitude toward myself (64)
61. I am ambitious (58)
62. I have a feeling of hopelessness (12)
63. I often kick myself for the things I do (5)
64. I am physically attractive (99)
65. I am a good miser (93)
66. I am disorganized (39)
67. My decisions are not my own (35)
68. I want to give up trying to cope with (struggle against)  
the world (23)
69. I can accept most social values and standards (14)
70. I don't trust my emotions (feelings) (46)
71. I am poised (balanced, calm) (41)
72. I am liked by most people who know me (31)
73. I can usually live comfortably with the people around  
me (24)
74. I am afraid of a full-fledged disagreement with a  
person (66)
75. I am more developed physically than most of my class  
(Added)
76. I am less developed physically than most of my class  
(Added)





## APPENDIX D

## POPULATION DATA

TABLE V

NUMBER AND SEX OF STUDENTS IN EXPERIMENT

| Original Group  |       |      |       |
|-----------------|-------|------|-------|
| Group           | Total | Boys | Girls |
| Experimental    | 40    | 22   | 18    |
| Control         | 36    | 10   | 26    |
| Remaining Group |       |      |       |
| Experimental    | 26    | 14   | 12    |
| Control         | 26    | 7    | 19    |

TABLE VI

## AGES, EXPERIMENTAL GROUP

| Ages   | Boys        |       | Girls    |       |
|--------|-------------|-------|----------|-------|
|        | Original    | Final | Original | Final |
| 18-5   | 2           |       |          |       |
| 18-4   |             |       |          |       |
| 18-3   | 1           |       |          |       |
| 18-2   | 1           | 1     |          |       |
| 18-1   | 2           | 2     |          |       |
| 18-0   |             |       |          |       |
| 17-11  |             |       | 1        |       |
| 17-10  | 2           | 1     |          |       |
| 17-9   | 1           | 1     |          |       |
| 17-8   | 1           | 1     | 1        |       |
| 17-7   | 1           | 1     |          |       |
| 17-6   | 2           | 2     | 3        | 2     |
| 17-5   | 1           | 1     |          |       |
| 17-4   |             |       | 1        | 1     |
| 17-3   | 1           | 1     | 1        | 1     |
| 17-2   | 2           | 2     | 2        | 2     |
| 17-1   | 2           |       |          |       |
| 17-0   | 2           | 1     | 3        | 2     |
| 16-11  |             |       |          |       |
| 16-10  |             |       | 2        | 1     |
| 16-9   |             |       |          |       |
| 16-8   |             |       | 2        | 1     |
| 16-7   |             |       | 1        | 1     |
| 16-6   |             |       |          |       |
| 16-5   |             |       |          |       |
| 16-4   |             |       |          |       |
| 16-3   |             |       |          |       |
| 16-2   |             |       |          |       |
| 16-1   |             |       |          |       |
| 16-0   |             |       | 1        | 1     |
| Totals | 21          | 14    | 18       | 12    |
|        | One unknown |       |          |       |

Medians: Original--17-5; Final--17.4.



TABLE VII  
AGES, CONTROL GROUP

| Ages   | Boys     |       | Girls    |       |
|--------|----------|-------|----------|-------|
|        | Original | Final | Original | Final |
| 19-1   | 1        |       |          |       |
| 19-0   | 1        | 1     |          |       |
| 18-11  |          |       |          |       |
| 18-10  |          |       |          |       |
| 18-9   |          |       |          |       |
| 18-8   |          |       |          |       |
| 18-7   | 1        |       |          |       |
| 18-6   |          |       |          |       |
| 18-5   |          |       | 1        | 1     |
| 18-4   |          |       |          |       |
| 18-3   |          |       |          |       |
| 18-2   |          |       |          |       |
| 18-1   |          |       |          |       |
| 18-0   | 1        | 1     |          |       |
| 17-11  |          |       |          |       |
| 17-10  |          |       |          |       |
| 17-9   |          |       | 1        | 1     |
| 17-8   |          |       | 1        | 1     |
| 17-7   |          |       | 1        | 1     |
| 17-6   |          |       | 1        |       |
| 17-5   |          |       | 3        | 2     |
| 17-4   | 2        | 2     | 2        | 2     |
| 17-3   | 2        | 2     | 3        | 2     |
| 17-2   |          |       | 2        | 1     |
| 17-1   |          |       | 2        | 2     |
| 17-0   |          |       |          |       |
| 16-11  | 1        |       | 1        | 1     |
| 16-10  | 1        | 1     |          |       |
| 16-9   |          |       | 1        | 1     |
| 16-8   |          |       | 2        | 1     |
| 16-7   |          |       | 4        | 2     |
| 16-6   |          |       | 1        | 1     |
| Totals | 10       | 7     | 26       | 19    |

Medians: Original--17-3; Final--17-3.

TABLE VIII

## GRADE AVERAGE

| Average | Experimental |       | Control  |       |
|---------|--------------|-------|----------|-------|
|         | Original     | Final | Original | Final |
| A       | 2            | 2     | 2        | 2     |
| B       | 11           | 11    | 10       | 9     |
| C       | 16           | 10    | 19       | 13    |
| D       | 8            | 3     | 3        | 2     |
| ?       | 3            | 0     | 2        | 0     |
| Totals  | 40           | 26    | 36       | 26    |

TABLE IX

## IQ, EXPERIMENTAL GROUP

The following is a list of scores for the entire experimental group on the California Test of Mental Maturity, Intermediate Form. Those in parentheses are of students who dropped out of the experiment.

|       |      |      |      |
|-------|------|------|------|
| 124   | 104  | 97   | (81) |
| 122   | 104  | 96   | 79   |
| 118   | 104  | (95) | (79) |
| 117   | 103  | (93) | 78   |
| 116   | 103  | (93) | (68) |
| 109   | 101  | (92) | (65) |
| (108) | 101  | 89   | ?    |
| 105   | 100  | 88   | ?    |
| 105   | 99   | (87) | (?)  |
| 105   | (99) | (86) | (?)  |

## Original Group

M = 97.583  
 SD = 13.770  
 Range = 124-64  
 N = 36 (4 ?)

## Final Group

M = 102.791  
 SD = 11.514  
 Range = 124-78  
 N = 24 (2 ?)



TABLE X

## IQ, CONTROL GROUP

The following is a list of California Test of Mental Maturity, Intermediate Form, scores for the entire control group. Those in parentheses dropped out of the experiment.

|       |     |      |      |
|-------|-----|------|------|
| 119   | 105 | 97   | 90   |
| 116   | 103 | (97) | 89   |
| 116   | 103 | 96   | 85   |
| 113   | 103 | (96) | 83   |
| (112) | 102 | 95   | 82   |
| 109   | 101 | (95) | (82) |
| (108) | 101 | 93   | (80) |
| 107   | 99  | (92) | ?    |

## Original Group

M = 98.457  
 SD = 10.677  
 Range = 119-77  
 N = 35 (1 ?)

## Final Group

M = 99.96  
 SD = 9.789  
 Range = 119-82  
 N = 25 (1 ?)