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A study of personality characteristics which distinguish between achievers and underachievers in a talented group of eighth grade pupils

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A STUDY OF PERSONALITY CHARACTERISTICS WHICH DISTINGUISH
BETWEEN ACHIEVERS AND UNDERACHIEVERS IN A
TALENTED GROUP OF EIGHTH GRADE PUPILS

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

In Partial Fulfillment
of the Requirements for the Degree

Master of Arts

by
Carl Gustav Mueller, Jr.

August 1966

This thesis, written and submitted by

Carl Gustav Mueller, Jr.,

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Dated June 3, 1966

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CHAPTER I

THE PROBLEM AND DEFINITION OF TERMS USED

Scholastic underachievement by talented students presents one of the major problems confronting the present educational system.

Why are some students who are classified as "talented," "bright," and "very able" according to their predicted capabilities, found not to function in that manner within the academic framework?

In the present study an attempt is made to discover some of the personality differences which contribute to the underachievement of certain talented pupils. Perhaps, by investigating the presence of such characteristics, it will be possible to develop curricula to assist these talented pupils in the fullest development of their academic potential.

I. THE PROBLEM

Statement of the Problem

The purpose of this study was to investigate whether significant personality differences might be obtained from the administration of selected paper and pencil tests to two composite groups of achieving and underachieving talented eighth grade pupils.

II. DEFINITION OF TERMS

Talented

All eighth grade cumulative records at the Mark Twain School and the Roosevelt School, Modesto, California, were reviewed by the author for Total I.Q. scores of one hundred twenty or higher on the California Test of Mental Maturity, an academic ability device routinely administered in California schools. This cut-off point was chosen in order to include in the achiever and underachiever groups sufficient numbers of pupils with as great differences in academic ability as possible. It is also that score selected by the Modesto school system to identify the "very able" for inclusion in accelerated programs. Ninety-five male students and one hundred sixteen female students were selected by means of the above criterion. They were designated, for the purposes of this study, as academically talented, i.e., exhibiting potential for achieving high academic grade point averages.

Achiever

A grade point average was computed for each of the talented eighth grade students in a manner similar to that used in higher education. Numerical values were computed for all course work completed during the entire seventh grade and the first semester of the eighth grade. The

letter grades and their numerical values were expressed as follows: A=4, B=3, C=2, D=1, and F=0. Three semesters were utilized because of the testing date and the fact that the study was conducted at schools composed of a seventh and eighth grade student body. The grade point averages were recorded in a continuum from the highest to the lowest and further separated by sex. The highest 25 per cent of the talented male pupils (N=24) and the highest 20 per cent of the talented female pupils (N=24) in the sample were designated as achievers. The percentages used herein reflect the decision of the examiner to identify as achievers those pupils having grade point averages highest on the continuum. Review of the continuum disclosed a grade point average range for achieving males from 2.97 to 3.70; the corresponding grade point average range for achieving females was from 3.64 to 4.00. The upper and lower limits shown for achieving males and females apply primarily to the present investigation and should not be construed as universally correct.

Underachiever

The same continuum was used in the selection of underachieving students. The lowest 25 per cent of the talented males (N=24) and the lowest 20 per cent of the talented females (N=24) in the sample were identified as underachievers. These percentages, again, reflect a decision

of the examiner to select as underachievers a sample composed of twenty-four students from the lowest limits of the continuum. The present study revealed a grade point average range for underachieving males from 1.39 to 2.21; the corresponding grade point average range for underachieving females was from 1.98 to 2.80. Once more it should be noted that the upper and lower limits of underachievement recorded herein pertain specifically to the present investigation and are not universal.

Hostility

For the purposes of this investigation, we shall accept the definition of hostility as stated by Cook insofar as we will be using his test as a measure of this characteristic.

Thus revealed, the hostile person is one who has little confidence in his fellowman. He sees people as dishonest, unsocial, immoral, ugly, and mean, and believes they should be made to suffer for their sins. Hostility amounts to chronic hate and anger.¹

III. ORGANIZATION OF THE REMAINDER OF THE THESIS

Literature pertinent to the present study is reviewed in the following chapter. Chapter III entails a discussion

¹Walter W. Cook and Donald M. Medley, "Proposed Hostility and Pharisaic-Virtue Scales for the MMPI," The Journal of Applied Psychology, 38:6, 1940, pp. 414-18.

of the sources of data, tests used, and method. The succeeding chapter presents an analysis of significant results or lack thereof and an interpretation as to their bearing upon achievement and underachievement at the eighth grade level. The last chapter contains a final summary and recommendations for further study.

CHAPTER II

REVIEW OF THE LITERATURE

Pertinent literature investigating achievement and underachievement is reviewed in this chapter.

I. PERSONALITY

The response of an individual to a given situation provides a basis for making casual inferences regarding behavior.¹ This assumption appears most useful with regard to psychometric techniques and statistical analysis and will be considered in the present study.

II. HOSTILITY

In a study undertaken at the high school level, Shaw and Grubb probed for a characteristic defined as hostility.² The devices administered were the Social Scale from the Bell Preference Inventory, the Cook Hostility Scale from the Minnesota Multiphasic Personality Inventory, the F and P Scales from the Guilford-Zimmerman Temperament Survey

¹Robert M. Allen, Personality Assessment Procedures (New York: Harper and Brothers, 1958), p. 3.

²Merville C. Shaw and James Grubb, "Hostility and Able High School Underachievers," Journal of Counseling Psychology, V (1958), pp. 263-66.

combined, and the F Scale by itself. Hostility was found to be of more significance in the case of the male under-achievers than the male achievers. This investigation suggested that underachievement among bright students does not have its beginning within the academic framework. It may be brought with him when he enters high school.

A further investigation of hostility by Shaw and Black attempted to determine whether or not achievers differed in the amount of hostility shown and in the qualitative aspects of hostility.³ Their study was confined to male students in view of the fact previously identified (Shaw and Grubb, 1958) which demonstrated that hostility appeared to be a male characteristic. The investigation showed that achievers would aggressively deny responsibility for their inadequate behavior whereas underachievers would admit their guilt, claiming that circumstances beyond their control were responsible for their behavior. There was also evidence to indicate that achievers might be achieving through conformity, rather than through attempts at creative work such as might be expected.

Gallagher suggested that underachievers were doing less well than predicted in order to strike back in a

³Merville C. Shaw and Michael D. Black, "The Reactions to Frustration of Bright High School Underachievers" (unpublished Master's thesis, Chico State College, Chico, California).

passive-aggressive manner at parents and a culture which they wished to reject.⁴ In so doing, they could be considered as behaving in a socially acceptable manner.

III. SELF-CONCEPTS

Shaw, Edson, and Bell undertook to learn about the underachiever in terms of an investigation of his self-concepts.⁵ In the investigation a comparison was made between the underachiever's perception of himself and the achiever's perception of himself. They observed that differences in self-concepts do exist; that male under-achievers appear to have more negative feelings about themselves than do achievers; that female underachievers tend to be the most ambivalent; and that the results did not indicate whether differences in self-concept were the cause of or the result of underachievement.

Shaw in another study observed that demands by parents upon achievers were directed toward them learning to make their own decisions whereas parents of underachievers were

⁴James J. Gallagher, "The Gifted Child in the Elementary School," National Education Association (February 1959), pp. 16-17.

⁵Merville C. Shaw, Kenneth Edson, and Hugh M. Bell, "The Self-Concept of Bright Underachieving High School Students as Revealed by an Adjective Check List," The Personnel and Guidance Journal, XXXIX (November 1960), pp. 193-96.

more concerned with their children learning to protect their personal rights.⁶

Hall has shown self-concepts to be lower among underachieving college students rating themselves on self-motivation, conscientiousness, study habits, and choice of majors.⁷

Combs found that "underachievers showed a significant and consistent difference from achievers in that they:

Saw themselves as less adequate;
 Saw themselves as less acceptable to others;
 Saw their peers as less acceptable;
 Saw adults as less acceptable;
 Showed an inefficient and less effective approach to problems; and
 Showed less freedom and adequacy of emotional expression."⁸

In another investigation Chabassol studied underachieving males at grade ten and learned a variety of factors.⁹ He found them to have experienced rejection by

⁶Merville C. Shaw, "Note on Parent Attitudes Toward Independence Training and the Academic Achievement of their Children," Journal of Educational Psychology, 55:6, 1964, pp. 371-74.

⁷Olive A. Hall, "Achievement of Superior Majors," Journal of Home Economics, LII (April 1960), pp. 249-52.

⁸Charles F. Combs, "Perception of Self and Scholastic Underachievement in the Academically Capable," The Personnel and Guidance Journal, 42:1, September 1964, pp. 47-51.

⁹David J. Chabassol, "A Theory of Underachievement," Canadian Education and Research Digest, 3:3, September 1963, pp. 371-74.

one or both parents which in turn lessened their self-concept. The lessening of the self-concept resulted in their becoming self-critical and in turn critical of others. Personality characteristics such as suppressed hostility, belligerence, and a strong desire to resist domination by others were evident.

Gallagher ". . . found that the low achievers see themselves as less free to pursue their own interests, to express their own feelings, and to respond adequately to the environment than adequately achieving children."¹⁰

It has been demonstrated by Broedel and others, however, that group counseling of ninth grade underachievers increased their acceptance of themselves and improved their relations with others.¹¹

IV. SOCIO-ECONOMIC CHARACTERISTICS

Certain of the investigators have studied socio-economic characteristics and their effects upon achievement among adolescents. Wade compared groups of seventh graders with regard to one parent working or both parents working.¹² He

¹⁰Gallagher, op. cit., p. 17.

¹¹John Broedel, Merle Ohlson, Fred Proff, and Charles Southard, "The Effects of Group Counseling on Gifted Under-achieving Adolescents," Journal of Counseling Psychology, VII (Fall 1960), pp. 163-70.

¹²Durlyn E. Wade, "School Achievement and Parent Employment," The Journal of Educational Sociology, 36:2, October 1962, pp. 93-95.

was unable to find significant differences in scholastic achievement. However, he did state that children with both parents employed had a lower intelligence quotient than children with only one parent employed.

Curry, in his investigation, discovered that under-achievement and over-achievement were not peculiar to any one socio-economic level.¹³ Therefore he questions the bearing of socio-economic status upon the problem of under-achievement.

V. IDENTIFICATION OF ACHIEVERS AND UNDERACHIEVERS

The determination of the earliest possible grade level at which achievement or the lack thereof first becomes noticeable is of interest to educators. Shaw and McCune have shown that underachieving males made significantly lower marks than achieving males in the third grade; in fact, the differences in marks were very significant. Female underachievers were found to obtain higher grades than female achievers during the first years of school; at grade nine, however, the grade point level of the underachievers had dropped significantly lower.¹⁴

¹³Robert L. Curry, "Certain Characteristics of Under-achievers and Over-achievers," Peabody Journal of Education, 39:1, July 1961, p. 45.

¹⁴Merville C. Shaw and J. T. McCune, "The Onset of Academic Underachievement in Bright Children," (unpublished Master's thesis, Chico State College, Chico, California).

Literature concerned primarily with the search for individuals with potential to learn engineering suggested that talented students can begin to be identified in the fourth grade.¹⁵ It is at this grade level that group tests can first be used successfully.

Robert Curry, in a study of sixth grade pupils from a school system in the southwest in which he attempted to identify some characteristics of overachievers and underachievers, found some significant results.¹⁶ Boys outnumbered girls two to one within the underachieving group. However, girls outnumbered boys more than two to one within the overachieving group. Working mothers did not appear to be associated with success or the lack thereof in academic achievement. His conclusions were that male and female underachievers were not achieving to the level that they are capable of achieving and that they were achieving considerably below grade level.

Emory Parks identified some characteristics related to underachievement.

- (1) lived with both parents rather than coming from broken homes
- (2) lived in homes with several children

¹⁵A. A. Freeman (ed.), "Prospecting for Potential Engineers," Brainpower Quest (New York: The Macmillan Company, 1957), pp. 192-93.

¹⁶Curry, op. cit., pp. 44-45.

- (3) mother usually had more extensive formal education than the father
- (4) most underachievers had attended two or more schools
- (5) teachers estimated their motivation as average or better
- (6) most are in good physical condition
- (7) most pupils feel they have many friends, are well liked, and are happy.¹⁷

¹⁷Emory C. Parks, "Factors Relating to Underachievement," School and Community (November 1962), p. 23.

CHAPTER III

ORGANIZATION OF THE STUDY

This chapter will be devoted to a discussion of methods and devices used in the present investigation.

I. METHODS

Two seventh and eighth grade schools in Modesto, California, were selected for this study: the Mark Twain School and the Roosevelt School. The cumulative grade point averages were reviewed and letter grades were converted to grade point averages. Those pupils were chosen from the total populations of both schools whose Total I.Q. on the California Test of Mental Maturity was one hundred twenty or higher. The chronological age range of those students selected was observed to be from twelve to fifteen. The grade point averages of those students chosen were then listed in a continuum from which were selected the highest twenty-four males and the lowest twenty-four males. These were designated as achievers and underachievers, respectively. The same continuum was used in the selection of the highest twenty-four females and the lowest twenty-four females. These were designated as achievers and underachievers, respectively. It was found that this procedure was effective in obtaining significant differences between the grade point averages of the achievers and the underachievers.

A total of ninety-six pupils was tested in two separate sessions. One session was held at each school cafeteria with provision for make-up testing of absentees.

II. DISCUSSION OF DEVICES USED

California Psychological Inventory¹

Harrison G. Gough, author of this device, was concerned with psychological concepts having broad personal and social relevance. Previously personality tests had been constructed to deal with specific problems in specific settings. Here the author attempted to deal with favorable aspects of personality rather than morbid and pathological.

The California Psychological Inventory consists of a test booklet containing four hundred eighty items and yields eighteen standard scores. The answer sheets may be hand-scored or machine scored. Profile sheets are included on which may be plotted the eighteen scores. The test was constructed so as to be suitable for large-scale administration.

The eighteen scores from the California Psychological Inventory are grouped in four broad categories as given below:

¹Harrison G. Gough, Manual for the California Psychological Inventory (Palo Alto: Consulting Psychologists Press, Inc., 1957).

Class I. Measures of Poise, Ascendancy, and
Self-Assurance

1. Do - Dominance
2. Cs - Capacity for Status
3. Sy - Sociability
4. Sp - Social Presence
5. Sa - Self-acceptance
6. Wb - Sense of Well-being

Class II. Measures of Socialization, Maturity,
and Responsibility

7. Re - Responsibility
8. So - Socialization
9. Sc - Self-control
10. To - Tolerance
11. Gi - Good Impression
12. Cm - Communalinity

Class III. Measures of Achievement Potential and
Intellectual Efficiency

13. Ac - Achievement via conformance
14. Ai - Achievement via independence
15. Ie - Intellectual efficiency

Class IV. Measures of Intellectual and Interest
Modes

16. Py - Psychological mindedness
17. Fx - Flexibility
18. Fe - Femininity

Several of the scales may be used to detect dissimulation and faking. They are Gi (good impression) when very high, and low scores on both Wb (sense of well-being) and Cm (communalinity).

The testing time was reported in the manual as forty-five minutes to an hour, although it was essentially an untimed test and was used as such in the present study. Identification of the aims of the test to those being

tested was usually sufficient for the retention of their interest. The examiner is permitted to answer questions if they arise during the course of an examination.

It was observed that the California Psychological Inventory had been used in testing children aged twelve and thirteen through adults aged sixty-five and seventy. Despite the irrelevance of certain test items at the lower age ranges, the author states that the test results were meaningful in most cases and readily interpreted by the test users.

The sample used in the development of norms for the California Psychological Inventory was not offered as a random sample of the general population by the author. The norms were developed from a consolidation of available samples into a single composite score for each sex. The norms that appear most applicable to the sample selected in the present study were the high school norms. No other norms were available at a more appropriate grade level. It was explained that the mean profiles for high school students tended to fluctuate five to ten points below the median standard score of fifty on the profile sheets for the male and female norms.

It was hypothesized that data gathered by means of the California Psychological Inventory would assist in identifying some personality characteristics which would

distinguish between achievers and underachievers as defined for the purposes of this study.

Gough Adjective Check-List²

The Gough Adjective Check-List was chosen as a measure of self-concepts. The author attempted to select terms which could be systematically analyzed and which were, in turn, meaningful.

Two methods of analysis were discussed in the manual: empirical and rational. In empirical analysis, the responses to the adjective check-list are correlated with external variables. In rational analysis, on the other hand, the adjective clusters are defined in a predetermined or theoretical manner, such as favorable, unfavorable, etc.

Gough constructed the check-list consisting of three hundred adjectives listed alphabetically and covering the widest possible range of behavior. The check-list may be completed by the subject himself, or by an observer who records the subject's reactions to an adjective.

Thirty judges rated each of the three hundred adjectives: seventy-five adjectives were selected as favorable and seventy-five adjectives were selected as unfavorable.

²Harrison G. Gough, Reference Handbook for the Gough Adjective Check-List (University of California Institute of Personality Assessment and Research, April 1955).

Some of the favorable adjectives were as follows: adaptable, independent, and reliable; whereas some of the unfavorable adjectives were as follows: anxious, complaining, and noisy.

Cook Hostility Scale³

The Cook Hostility Scale was chosen as a measure of hostility in the sample under study. It was one of several such scales developed for the Minnesota Multiphasic Personality Inventory in 1940 in an attempt to evaluate the individual's ability to get along well with others.

The Cook Hostility Scale is largely self-administering and usually takes the examinee fifteen minutes to a half hour to complete. It consists of fifty items to be answered either true or false, whichever applies to the person taking the test. Items marked true are hostile responses. A high score is indicative of high hostility which is perhaps characteristic of a person disliking and distrusting of others.

According to the author the hostility scale tends to be more effective with males than females because the males do not hesitate to reveal their hostility.

³Walter W. Cook and Donald M. Medley, "Proposed Hostility and Pharisaic-Virtue Scales for the MMPI," The Journal of Applied Psychology, 38:6, 1940, pp. 414-18.

The North-Hatt Occupational Check-List⁴

The North-Hatt Occupational Check-List was selected because of its usefulness in identifying occupational levels and aspirations of individuals. The authors' study, which was made in 1947, was based upon twenty-nine hundred interviews. Ninety occupations were identified. It is their conclusion that the most important characteristics of a high prestige occupation are ". . . (1) the requirement of highly specialized training for its performance, and (2) a large amount of responsibility for the welfare of the public inherent in it."⁵

Income was tied to an occupation and in turn influenced the opportunity of an individual to receive an education.

"At the ninth grade and at the twelfth grade level, father's status has less influence than intelligence on educational opportunity; but, at the college level, the situation is sharply reversed," noted Sibley.⁶ In some high income brackets college merely confirms a position already guaranteed by inherited wealth.

⁴Blaine E. Mercer and Robert K. Merton, The Study of Society (New York: Harcourt, Brace, and Company, 1958), pp. 453-505.

⁵Ibid., p. 483.

⁶Elbridge Sibley, "Some Demographic Clues to Stratification," American Sociological Review (June 1942), p. 330.

In the present investigation letter designations were assigned to obtain the following information:

- A. Occupational aspirations of males
 - B. Occupation which females envisioned for their husbands-to-be
 - C. Occupation held by primary wage earner of family, usually the father
 - D. Occupational aspirations of females
-

CHAPTER IV

ANALYSIS OF THE DATA

This chapter involves statistical analysis and interpretation of findings.

California Psychological Inventory

Small sample statistics were employed in the evaluation of the significance of differences between mean raw scores on the eighteen scales of the California Psychological Inventory. The comparison was to be made between male achievers and male underachievers; female achievers and female underachievers. Group means of raw scores were plotted on a profile sheet which automatically yielded standard scores.

Average mean standard scores for high school students were chosen as the most applicable norm with regard to the talented seventh and eighth grade pupils in this study. It was noted that the mean profiles for high school students tended to fluctuate five to ten points below the median standard score of fifty as shown in the author's manual.

If the "t" value was greater than 2.01, then it was considered to be significant at the .05 level; i.e., a difference this large would occur by chance only 5 per cent of the time. A "t" value exceeding 2.69 was considered

significant at the .01 level; i.e., a difference this large would occur by chance only 1 per cent of the time. The degrees of freedom for the present study were $N-2$ or 46.¹

Findings. The scores of male achievers exceeded those of male underachievers and the "t" values obtained were significant at the .05 level on the following scales: To (tolerance), Ac (achievement via conformance), and Ai (achievement via independence). Persons scoring high on these scales tend to be seen as clear-thinking and resourceful; as being intellectually able, responsible; as being independent and self-reliant.

Underachievers, scoring low on these scales tend to be seen as suspicious and distrustful in personal and social outlook; as easily disorganized under stress or pressure to conform, as pessimistic and unambitious about their occupational futures, as dissatisfied, lacking in self-insight and understanding.

Male achievers exceeded male underachievers on the So (socialization), Cm (communality), Fe (femininity), and Ie (intellectual efficiency) scales with "t" values significant at the .01 level. Individuals scoring high on these scales tend to be seen as conscientious and responsible,

¹Harold Yuker, A Guide to Statistical Calculations, (New York: G. P. Putnam's Sons, 1958), pp. 63-64, 86.

TABLE I
DIFFERENCES BETWEEN MALE ACHIEVERS AND UNDERACHIEVERS
ON EIGHTEEN SCALES OF THE CALIFORNIA
PSYCHOLOGICAL INVENTORY

Variable	Achievers			Underachievers			t
	Mean	S.D. N = 24	S.E.	Mean	S.D. N = 24	S.E.	
Do	23.54	6.51	1.36	22.96	4.96	1.03	.34
Cs	15.58	3.83	.80	14.46	3.52	.73	1.04
Sy	22.92	4.50	.94	22.38	4.13	.86	.43
Sp	33.50	4.88	1.02	33.21	4.55	.95	.21
Sa	19.79	4.30	.90	18.13	3.85	.80	1.38
Wb	32.88	5.37	1.12	29.96	6.62	1.38	1.65
Re	27.50	5.23	1.09	24.50	5.78	1.20	1.85
So	39.96	4.29	.89	32.54	6.86	1.43	3.23*
Sc	23.17	8.00	1.67	21.04	8.50	1.77	.88
To	19.58	4.81	1.00	16.75	4.49	.94	2.07**
Gi	11.29	6.72	1.40	12.46	6.70	1.40	.59
Cm	26.25	1.87	.39	22.04	4.49	.94	4.17*
Ac	23.79	5.20	1.08	20.75	4.61	.96	2.10**
Ai	16.79	3.68	.77	14.42	3.61	.75	2.21**
Ie	35.75	5.17	1.08	31.92	4.40	.92	2.70*
Py	9.38	3.62	.75	8.96	2.82	.59	.44
Fx	8.67	3.16	.66	9.54	3.11	.65	.94
Fe	16.79	2.79	.58	13.67	2.89	.60	3.71*

* Yields "t" significant beyond .01 level

** Yields "t" significant beyond .05 level

dependable, and as having good judgement, and as being respectful and accepting of others, and as placing a high value on cognitive and intellectual matters.

Male underachievers, on the other hand, who scored low on these scales tend to be seen as resentful, rebellious, disorderly, confused, and as being manipulative.

Plate 1 shows the mean deviations between male achievers and male underachievers on the eighteen scales of the California Psychological Inventory.

Table II shows the differences between female achievers and female underachievers on the eighteen scales of the California Psychological Inventory.

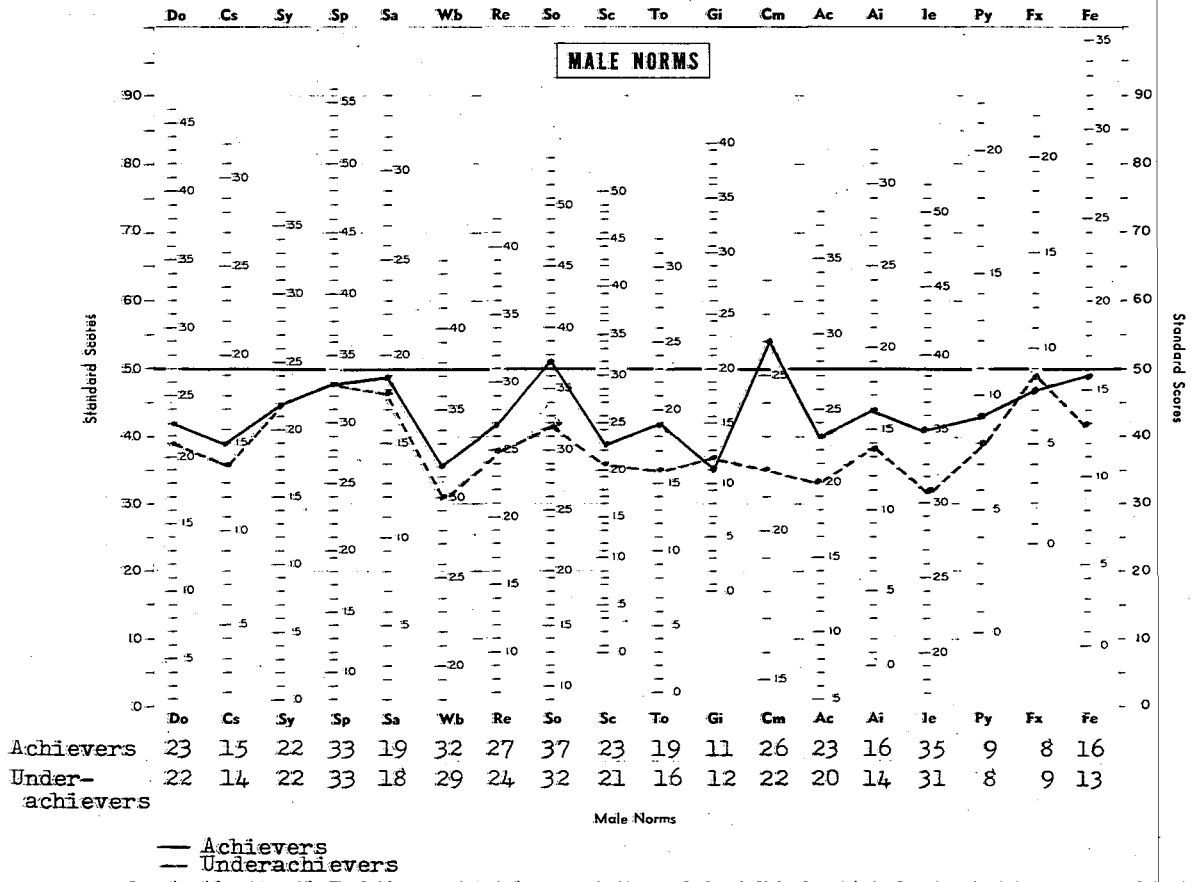
Female achievers obtained "t" values significantly higher than female underachievers at the .05 level on the following scales: Sy (sociability), So (socialization), To (tolerance), Cm (communality), and Ie (intellectual efficiency). Persons scoring high on these scales tend to be seen as outgoing, reliable, competitive, industrious; as being conscientious and responsible, clear-thinking and resourceful; as being intellectually able, as being alert and well-informed.

On the other hand, female underachievers who scored lower on the scales tend to be seen as awkward, overly influenced by others' reactions and opinions; resentful, rebellious, suspicious, and as distrustful in personal and

PROFILE SHEET FOR THE *California Psychological Inventory*: MALE

Name _____ Age _____ Date Tested _____
 Other Information _____

Notes:



MEAN DEVIATIONS BETWEEN MALE ACHIEVERS AND MALE UNDERACHIEVERS ON THE EIGHTEEN CALIFORNIA PSYCHOLOGICAL INVENTORY SCALES

PLATE 1

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TABLE II
DIFFERENCES BETWEEN FEMALE ACHIEVERS AND UNDERACHIEVERS
ON EIGHTEEN SCALES OF THE CALIFORNIA
PSYCHOLOGICAL INVENTORY

Variable	Achievers			Underachievers			t
	Mean	S.D.	S.E.	Mean	S.D.	S.E.	
	N = 24			N = 24			
Do	26.67	5.92	1.23	24.29	5.03	1.05	1.47
Cs	17.17	3.90	.81	15.63	4.06	.85	1.32
Sy	25.67	4.93	1.03	22.38	4.08	.85	2.47**
Sp	32.63	5.32	1.11	32.25	5.26	1.10	.24
Sa	20.75	3.19	.66	20.21	3.46	.72	.55
Wb	33.67	4.02	.84	30.92	5.27	1.10	1.98
Re	30.75	3.93	.82	28.96	4.37	.91	1.47
So	40.79	4.05	.84	27.54	5.33	1.11	2.34**
Sc	25.83	5.52	1.15	22.42	9.43	1.96	1.50
To	20.33	4.02	.84	17.50	4.82	1.00	2.16**
Gi	15.04	4.63	.96	12.33	6.20	1.29	1.68
Cm	26.33	1.52	.32	25.04	2.65	.55	2.05**
Ac	27.33	3.42	.71	22.54	5.20	1.08	3.52*
Ai	17.29	3.46	.72	15.54	3.67	.76	1.67
Ie	38.04	4.45	.93	34.38	5.22	1.09	2.56**
Py	8.96	2.60	.54	9.13	2.37	.49	.23
Fx	9.42	4.13	.86	10.63	2.92	.61	1.15
Fe	23.54	3.89	.81	23.17	3.45	.72	.34

* Yields "t" significant beyond .01 level

** Yields "t" significant beyond .05 level

social outlook, and as lacking in self-direction and self-discipline.

The female achievers had one "t" value significant at the .01 level and it was Ac (achievement via conformance). Persons scoring high on this scale tend to be seen as efficient, organized; and as valuing intellectual activity and intellectual achievement.

The female underachievers who scored lower on this scale tend to be seen as coarse, insecure, and opinionated; as easily disorganized under stress or pressures to conform; and as pessimistic about their occupational futures.

Plate 2 shows the mean deviations between female achievers and female underachievers on the eighteen scales of the California Psychological Inventory.

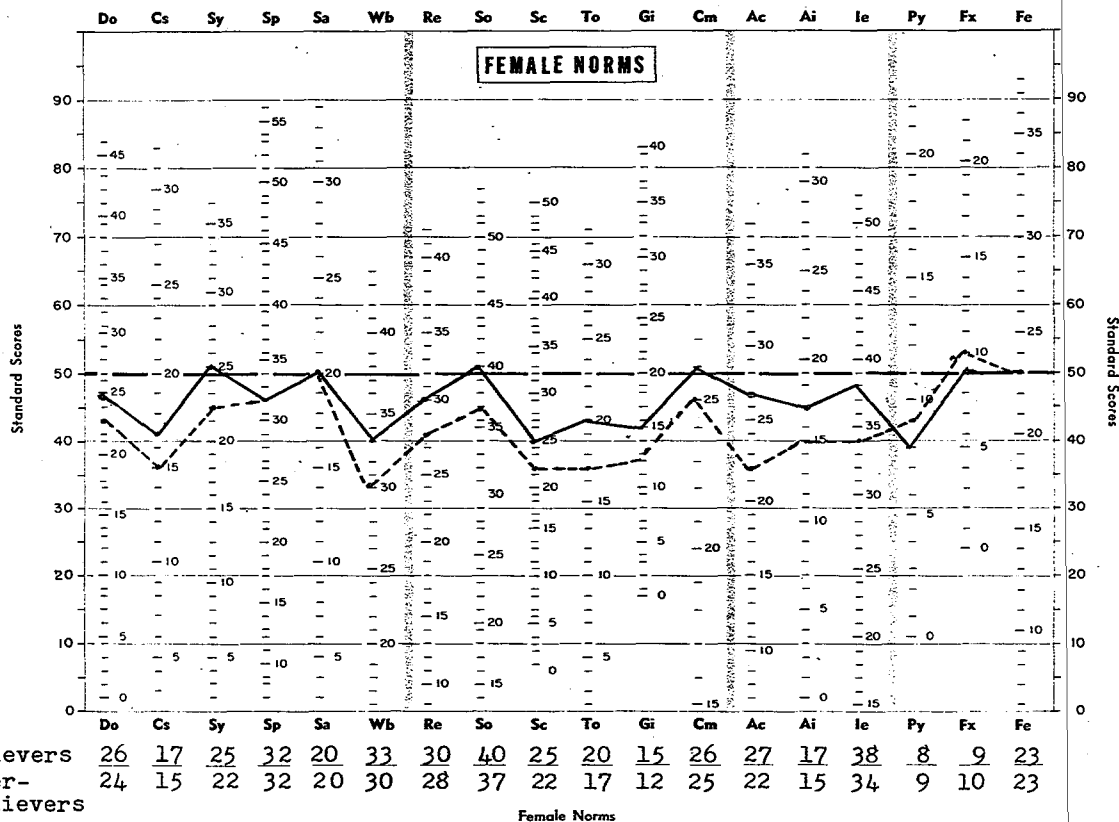
Gough Adjective Check-List

In this portion of the investigation, self-concepts were evaluated. First, a separate tally was made each time an achiever or underachiever, male or female, chose one of the three hundred adjectives as being self-descriptive. Secondly, a total of the tallies was made for each of the four categories. Thirdly, the number of students in the study was divided into the number of times the adjective was selected in each group so as to arrive at a proportion. Differences in self-concepts were identified when the

PROFILE SHEET FOR THE *California Psychological Inventory*: FEMALE

Name _____ Age _____ Date Tested _____

Other Information _____



Notes:
 MEAN DEVIATIONS BETWEEN FEMALE ACHIEVERS AND FEMALE UNDERACHIEVERS ON THE SEVENTEEN CALIFORNIA PSYCHOLOGICAL INVENTORY SCALES
 PLATE 2

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proportion of difference in the number of times the adjective was selected equaled or exceeded .25.

Findings. As shown in Table III, the male achievers selected eighteen adjectives significantly more times than the male underachiever, whereas, as shown in Table IV, the male underachiever selected eight adjectives significantly more times than the male achiever.

Inspection of Table III shows the male achiever exceeding the male underachiever in the number of times the following adjectives were checked: conservative, capable, intelligent, sharp-witted, steady, clear-thinking, aggressive, cooperative, efficient, mature, versatile, ambitious, cautious, sincere, thoughtful, unselfish, warm, and witty. Male underachievers checked the following adjectives more often: reckless, cheerful, humorous, rude, confused, noisy, restless, and sly.

The self-concept of the achiever appears to be more wholesome and characteristic of the successful person in our culture. The selection of self-concept adjectives by the male underachievers does not lend itself to academic or social distinction.

The number of adjectives checked as self-descriptive by the female achiever is shown in Table V. The number of adjectives selected as self-descriptive by the female underachiever is shown in Table VI.

TABLE III

ADJECTIVES SELECTED AS SELF-DESCRIPTIVE BY MALE
ACHIEVERS ON THE GOUGH ADJECTIVE CHECK-LIST

Adjective	Achiever	Underachiever	Proportion of Difference*
conservative	17	5	.50
capable	21	10	.46
intelligent	19	8	.46
sharp-witted	12	2	.42
steady	15	5	.42
clear-thinking	18	9	.37
aggressive	12	4	.33
cooperative	18	10	.33
efficient	12	5	.29
mature	10	3	.29
versatile	10	3	.29
ambitious	19	13	.25
cautious	19	13	.25
sincere	15	9	.25
thoughtful	13	7	.25
unselfish	9	3	.25
warm	11	5	.25
witty	14	8	.25

*Differences in self-concept were identified when the proportion of difference in the number of times the adjective was selected equaled or exceeded .25.

TABLE IV

ADJECTIVES SELECTED AS SELF-DESCRIPTIVE BY
 MALE UNDERACHIEVERS ON THE GOUGH
 ADJECTIVE CHECK-LIST

Adjective	Achiever	Underachiever	Proportion of Difference*
reckless	1	11	.42
cheerful	14	21	.30
humorous	10	17	.29
rude	0	7	.29
confused	2	8	.25
noisy	7	13	.25
restless	7	13	.25
sly	3	9	.25

*Differences in self-concept were identified when the proportion of difference in the number of times the adjective was selected equaled or exceeded .25.

TABLE V
 ADJECTIVES SELECTED AS SELF-DESCRIPTIVE BY FEMALE
 ACHIEVERS ON THE GOUGH ADJECTIVE CHECK-LIST

Adjective	Achiever	Underachiever	Proportion of Difference*
artistic	12	2	.42
efficient	17	7	.42
interests wide	22	12	.42
wholesome	11	2	.38
sincere	19	10	.37
planful	10	2	.34
energetic	20	12	.33
intelligent	19	11	.33
witty	12	4	.33
progressive	9	2	.30
sharp-witted	9	2	.30
dependable	23	16	.29
enthusiastic	20	13	.29
excitable	20	13	.29
opportunistic	8	1	.29
reliable	18	11	.29
thorough	12	5	.29
aggressive	9	3	.25
initiative	7	1	.25
obliging	9	3	.25
organized	11	5	.25
responsible	15	9	.25
suggestible	8	2	.25

*Differences in self-concept were identified when the proportion of difference in the number of times the adjective was selected equaled or exceeded .25.

TABLE VI
 ADJECTIVES SELECTED AS SELF-DESCRIPTIVE
 BY FEMALE UNDERACHIEVERS ON THE GOUGH
 ADJECTIVE CHECK-LIST

Adjective	Achiever	Underachiever	Proportion of Difference*
complaining	4	12	.33
absent-minded	4	10	.25
confused	2	8	.25
flirtatious	6	12	.25

*Differences in self-concept were identified when the proportion of difference in the number of times the adjective was selected equaled or exceeded .25.

The adjectives selected as self-descriptive by the female achiever which equal or exceed .25 are as follows: artistic, efficient, interests wide, wholesome, sincere, planful, energetic, intelligent, witty, progressive, sharp-witted, dependable, enthusiastic, excitable, opportunistic, reliable, thorough, aggressive, initiative, obliging, organized, responsible, and suggestible.

Female underachievers selected the following adjectives as being self-descriptive: complaining, absent-minded, confused, and flirtatious.

As noted in the case of the male achiever, the female achiever maintains a view of herself which indicates an awareness of those characteristics of academic and social success, whereas the underachiever does not. The question has been raised as to whether the achievers and under-achievers understood the adjectives. For the purposes of the present study and in view of the Total I.Q. of one hundred twenty or higher on the California Test of Mental Maturity, let us presume that the adjectives were within their understanding.

Further discussion of these results will be undertaken in Chapter V.

Cook Hostility Scale

The Cook Hostility Scale was chosen as a measure of hostility. The mean, standard deviation, and standard error

of the mean were computed for male achievers and male underachievers; female achievers and female underachievers.

A high score on the Hostility Scale is accepted as indicative of high hostility for the purposes of this investigation.

Findings. When the "t" test was applied to the results as shown in Tables VII and VIII, measurable hostility could not be demonstrated. The male underachiever shows somewhat more hostility than the male achiever, but the level of significance is negligible; i.e., less than .05 or .01. On the other hand, the female achiever exhibits slightly more hostility than the female underachiever, but the significance is again negligible.

Therefore it is shown that hostility is either negligible in the eighth grade or else the Cook Hostility Scale is unable to detect hostility in this group.

North-Hatt Occupational Check-List

This device was used in order to measure levels of aspiration and differences in socio-economic status.

The males in the sample selected that occupation most nearly like that of their father or primary wage earner, and the occupation which they desired; the females identified the occupation most nearly like that of their father or primary wage earner, the occupation they desired, and the occupation which they would like for their husband-to-be.

TABLE VII

DIFFERENCES BETWEEN MALE ACHIEVERS AND
MALE UNDERACHIEVERS ON THE
COOK HOSTILITY SCALE

Achievers			Underachievers			t
Mean	S.D.	S.E.	Mean	S.D.	S.E.	
26.04	8.34	1.74	28.17	9.04	1.88	.83

TABLE VIII

DIFFERENCES BETWEEN FEMALE ACHIEVERS AND
FEMALE UNDERACHIEVERS ON THE
COOK HOSTILITY SCALE

Achievers			Underachievers			t
Mean	S.D.	S.E.	Mean	S.D.	S.E.	
22.29	5.08	1.06	22.25	7.28	1.52	.02

Choice of occupation was ranked and the differences between male achievers and male underachievers, and female achievers and female underachievers were computed according to the North-Hatt scale. In those instances where the occupation could not be located on the answer sheet, the pupils were instructed to write the occupation and the examiner then selected that one on the scale most like it.

The larger numerical rating indicated a more professional occupation.

The use of small sample statistics was again employed in order to measure significance of differences between occupation and occupational aspiration.

Findings. When the "t" test of significance was applied several factors became apparent. The male achiever aspired to a more professional position than did the male underachiever. The statistical difference was significant at the .05 level (see Table IX). The male achievers also expressed interest in an occupation rated significantly higher in prestige on the North-Hatt scale than that held by their father. It was also observed that the father of the male achiever held a job rated significantly higher than that held by the male underachiever's father. These facts resulted even though no attempt was made to control the diversity of hereditary and environmental influences of the two school populations.

TABLE IX

COMPARISON OF OCCUPATIONS AND OCCUPATIONAL ASPIRATIONS
AS RECORDED BY TALENTED MALES ON THE NORTH-HATT
OCCUPATIONAL CHECK-LIST

Category	Mean	S.D.	S.E.	Category	Mean	S.D.	S.E.	t
Achiever	83.92	8.11	1.69	Underachiever	77.46	9.43	1.96	2.49**
Achiever	83.92	8.11	1.69	Achiever's Father	70.25	9.25	1.93	5.34*
Under- achiever	77.46	9.43	1.96	Underachiever's Father	63.83	11.56	2.41	4.38*
Achiever's Father	70.25	9.25	1.93	Underachiever's Father	63.83	11.56	2.41	2.08**

**significant beyond .05 level

*significant beyond .01 level

The underachieving male sought a significantly better job than that held by his father. This difference was significant beyond the .01 level.

Table X shows the comparison of occupations and occupational aspirations as depicted by the female achiever and the female underachiever.

Applying the "t" test once again, the occupational aspirations of the female achiever were not significantly higher than that of the female underachiever. Similarly, the occupational aspiration of the female achiever does not significantly exceed that occupation held by the achiever's father.

The father of the female achiever holds an occupation rated more significant on the North-Hatt scale than that held by the female underachiever's father.

The female achiever also aspires that her husband-to-be hold a better position than that of her father.

The female underachiever seeks a more professional occupation than that held by her father. The difference was significant at the .01 level.

Similarly, the female underachiever desires her husband-to-be to hold a better job than that of her father. The difference was significant beyond the .01 level.

TABLE X

COMPARISON OF OCCUPATIONS AND OCCUPATIONAL ASPIRATIONS
AS RECORDED BY TALENTED FEMALES ON THE NORTH-HATT
OCCUPATIONAL CHECK-LIST

Category	Mean	S.D.	S.E.	Category	Mean	S.D.	S.E.	t
Achiever	79.33	6.89	1.44	Underachiever	77.17	13.03	2.71	.70
Achiever	79.33	6.89	1.44	Achiever's Father	77.63	9.09	1.89	.72
Under- achiever	77.17	13.03	2.71	Underachiever's Father	64.33	15.46	3.22	3.05*
Achiever's Father	77.63	9.09	1.89	Underachiever's Father	64.33	15.46	3.22	3.57*
Achiever's Father	77.63	9.09	1.89	Achiever's Husband-to-be	87.63	3.06	.64	5.03*
Under- achiever's Father	64.33	15.46	3.22	Underachiever's Husband-to-be	79.71	12.88	2.68	3.67*

*significant beyond .01 level

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter involves a summary of the results of the investigation. Conclusions drawn by the investigator and recommendations for continued research are offered.

I. SUMMARY AND CONCLUSIONS

This investigation has been undertaken to determine whether or not significant personality differences might be identified in a talented group of eighth grade pupils by the administration of selected paper and pencil tests.

Devices used in the study were as follows: the California Psychological Inventory, the Gough Adjective Check-List, the Cook Hostility Scale, and the North-Hatt Occupational Check-List.

Four numerically equal groups of talented students made up the sample. The groups were divided into an equal number of male achievers and male underachievers; female achievers and female underachievers.

California Psychological Inventory

The California Psychological Inventory was used as a measure of psychological concepts having broad personal and social relevance. Small sample statistics were employed

and the mean, standard deviation, standard error of the mean, and the "t" test of significance were computed.

Male achievers exceeded the male underachievers with "t" values significant at the .05 level on the following scales: To (tolerance), Ac (achievement via conformance), and Ai (achievement via independence). These individuals may be seen as clear-thinking, responsible, and self-reliant. Underachievers scoring significantly lower on these scales tend to be seen as suspicious, pessimistic, dissatisfied, and lacking in self-understanding.

Male achievers exceeded male underachievers on four scales significant at the .01 level: So (socialization), Cm (communality), Fe (femininity), and Ie (intellectual efficiency). They tend to be seen as conscientious, dependable, and respectful. On the other hand, the male underachievers tend to be seen as resentful, rebellious, and disorderly.

Female achievers achieved "t" values significant at the .05 level on four CPI scales: Sy (sociability), So (socialization), To (tolerance), and Ie (intellectual efficiency). They tend to be seen as outgoing, competitive, responsible, and alert. On the other hand, the female underachiever may be seen as awkward, resentful, suspicious, and distrustful.

The female achievers received one "t" value significant at the .01 level. It was Ac (achievement via conformance). Persons scoring high on this scale tend to be seen as efficient, organized, and valuing intellectual achievement. The female underachievers who scored lower on this scale tend to be seen as insecure, pessimistic about their occupational futures, and easily disorganized under stress or pressure to conform.

Conclusions. Male and female achievers scored significantly higher than corresponding underachievers on those scales of the California Psychological Inventory which reflect personality characteristics which contribute to academic and social success in our culture. It is perhaps suggestive of the achievers' awareness of those characteristics which are associated with social and academic progress. The underachievers, on the other hand, do not appear to hold a similar attitude. The California Psychological Inventory, as used in this study, would appear to be a useful tool in identifying personality differences which distinguish between achievers and underachievers.

Gough Adjective Check-List

The Gough Adjective Check-List was used as a measure of self-concepts. A tally was made each time a particular group checked an adjective and a total was figured for the

group. The number in the sample was divided into the number of times the adjective was selected so as to arrive at a proportion. Differences in self-concept were said to exist when the proportion of differences equaled or exceeded .25.

Male achievers viewed themselves as conservative, capable, intelligent, sharp-witted, steady, clear-thinking, aggressive, cooperative, efficient, mature, versatile, ambitious, cautious, sincere, thoughtful, unselfish, warm, and witty. The underachieving male saw himself as reckless, cheerful, humorous, rude, confused, noisy, restless, and sly.

The female achiever, on the Gough Adjective Check-List, saw herself as artistic, efficient, interests wide, wholesome, sincere, planful, energetic, intelligent, witty, progressive, sharp-witted, dependable, enthusiastic, excitable, opportunistic, reliable, thorough, aggressive, initiative, obliging, organized, responsible, and suggestible. The female underachiever viewed herself as complaining, absent-minded, confused, and flirtatious.

Conclusions. The achievers, both male and female, tended to check significantly more adjectives than the underachievers. In addition, the self-concepts of the achievers tended to be more wholesome. It would appear that the underachievers readily admit inadequacies in themselves.

Whether the pupils in the sample were sufficiently sophisticated in their language development to understand all the adjectives is questionable. However, for the purposes of this study, let us assume that the students whose Total I.Q. was one hundred twenty or higher on the California Test of Mental Maturity were sophisticated enough in their vocabulary development to function adequately in this test.

One might hypothesize that the home environment, parental academic preparation, etc., would affect language development. No attempt was made to control for this characteristic in the present investigation. Significant differences appear to exist between achievers and under-achievers and can reasonably be expected to show up in the analysis of the Gough Adjective Check-List.

Cook Hostility Scale

The Cook Hostility Scale was chosen as a measure of hostility. Small sample statistics were utilized and the significance of hostility was determined.

Conclusions. The Cook Hostility Scale failed to identify hostility as a factor differentiating between achievement and underachievement when evaluated by means of the "t" test. It can be hypothesized that this device is not a valid indicator of hostility in individuals of this age group and educational attainment. Perhaps the Cook

Hostility Scale is not effective when taken out of the context of the Minnesota Multiphasic Personality Inventory.

North-Hatt Occupational Check-List

The North-Hatt Occupational Check-List was selected in order to detect differences in socio-economic status and aspirational levels. Males identified that occupation most nearly like that of their father or primary wage earner and the occupation most like the one they desired. Females in the study selected that occupation most like that of their father or primary wage earner, the occupation they would like, and the occupation they could foresee for their husband-to-be. These selections were assigned a number according to the North-Hatt scale. Small sample statistics were used to measure differences between occupations and occupational aspirations.

Statistical analysis showed that the male achiever preferred a more prestigious occupation than the male underachiever. In addition the male achiever selected an occupation which was more prestigious than that of his father. The father of the male achiever was shown to hold a job rated significantly higher in status on the North-Hatt Occupational Check-List than that of the male underachiever's father. The underachieving male was found to aspire to a better job than that held by his father.

Female achievers were found not to seek employment rated significantly higher than that sought by the female underachiever; in addition, the female achiever did not seek a position more significant than that of her father. The father of the female achiever was found to have a significantly better occupation than the father of the female underachiever. The female achiever selected an occupation for her husband-to-be which was more significant than that of her father.

Conclusions. A higher socio-economic level was sought by all male pupils in the study. This may or may not be indicative of an awareness of the importance of the world of work and its relation to socio-economic status. One factor which was not investigated and which has a direct bearing upon this phase of the study is the knowledge of these pupils of the qualifications for the occupations listed by North-Hatt. In this area, counseling would be a valuable asset.

Similar results to those reported for the male pupils occurred with the female pupils with two remarkable exceptions. Statistically significant differences were not observed between the female achievers and the female underachievers nor between the female achiever and the father of the female achiever.

Those differences which were statistically significant should be useful in identifying achievers and underachievers at this grade level.

II. GENERAL CONCLUSIONS

General conclusions to be drawn from the present investigation are as follows:

1. The use of the Cook Hostility Scale did not identify hostility as a significant characteristic in the sample of talented pupils under study.
2. Achievers tend to check significantly more adjectives than underachievers even though there may be some question as to their language comprehension at this grade level.
3. Male achievers aspire to more prestigious occupations than male underachievers. This may or may not indicate an awareness of the world of work and its relationship to socio-economic status.
4. Male and female achievers scored higher on those scales of the California Psychological Inventory which reflect personality characteristics which contribute to academic and social success in our culture. A number of scales were significant at the .05 and .01 level.

III. RECOMMENDATIONS

An effort should be made to consolidate the findings of the three related theses undertaken concurrently with the present investigation in order to detect common personality characteristics which would assist in the identification of achievers and underachievers. These related investigations were carried on at the following locations:

University of the Pacific

Modesto Junior College

Modesto High School

Downey High School

The characteristics of the devices used by which one is able to distinguish between achievers and underachievers should be further investigated.

Verification of language development should be undertaken before use of the Gough Adjective Check-List rather than by presuming that achieving and underachieving students understand the vocabulary.

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