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**The Interrelationship of Cheating, IQ, Grades  
Family Socioeconomic Level, and Teacher  
Rating of High School Students**

by

**Kenneth L. Leveque**

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

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## Vita

Kenneth Leveque was born in Los Angeles, California, on May 14, 1936. He was graduated from Mont La Salle High School, Napa, California, in June of 1954.

In June, 1958, he received a Bachelor of Science degree from Saint Mary's College of California, Moraga, California, with a major in Psychology and a minor in Education.

From 1958 to 1962 he taught high school in California, and was a college instructor of Psychology for one semester in 1962.

Since September of 1963 he has been a student in the Department of Psychology at Loyola University, Chicago, Illinois.

In the Summer of 1964 he began the Veterans Administration training program for Clinical Psychologists and spent thirteen weeks at West Side Veterans Administration Hospital, Chicago, Illinois. He returned to this same hospital in September of 1965, and is presently completing the clinical training program.

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The Interrelationship of Cheating, IQ, Grades, Family Socioeconomic Level, and Teacher Rating of High School Students

Kenneth L. Leveque

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Many articles and books have been written on the subject of student cheating during the last forty-five years. In general, studies have attempted to analyze the extent of student deception, the conditions under which it is likely to occur, and the reasons students resort to this type of behavior. A few studies have been done with grade school and junior high school subjects; a few have investigated high school students. However, the majority of experiments have been with college subjects.

The aims of the present study are fivefold: 1) To investigate the extent of cheating at the high school level; 2) To determine whether a relationship exists between cheating and the IQ scores of high school students; 3) To determine whether there is a relationship between previous academic achievement and the incidence and extent of cheating; 4) To ascertain the existence of a relationship between cheating and family socioeconomic level; and 5) To ascertain the relationship between cheating by individual students and a teacher rating of each student for honesty.

A review of the literature on student cheating in the area

of our five aims shows clearly that Hartshorne and May's (1928) studies are the most comprehensive in the field. These authors list eighteen separate factors they studied in association with deceitful behavior. Most prominent in the list of factors are age, sex, intelligence, socioeconomic and cultural factors, grades and school status, and teacher influence. It will be profitable to consider the relative effect of these factors on deceitful behavior and show the results previous experimentalists have found, relative to the present study.

A relationship between the age factor and tendencies to cheat is not clearly defined when first surveying the literature. Hartshorne and May (1928) showed that between 30 and 40% of the students in the age groups of nine to fifteen can be expected to cheat given the opportunity. Only a slight association between age and the tendency to deceive was determined. As a consequence, how and when cheating in school begins was not discussed. However, in general, Hartshorne and May found that cheating is most prevalent around the age of ten or eleven, and then tends to decline progressively to the age of fifteen. However, since the less intelligent are gradually eliminated from the school systems, and honesty was found to correlate positively with intelligence, the authors concluded that the low correlations between age and a tendency to deceive actually represented a spreading of the tendency to deceive, based on the fact that new

cheaters were recruited to take the place of the cheaters who drop out, thus keeping the average constant. In a study of children ten to thirteen years old, Tuttle (1931) found that there are tendencies toward less deceit in each consecutively higher grade from the fourth to seventh, but that these tendencies are not uniform in all schools. In general, however, the case histories of over 1,300 pupils revealed that a tendency to abandon deceit was ten times greater than a tendency to become deceitful. Gross (1946) found very little consistency in deception among grade school children who were given two tests a week apart. Two thirds of the children who were dishonest in this experiment were dishonest on only one of the days, and the motivation variable introduced into one of the groups did not appear to increase dishonesty either in the number of children or the number of answers changed.

In studies using junior high school students as subjects, Steiner (1930) found that 16 to 40% of the students were deceptive. He also found that older students cheated less than younger ones, although a considerable amount of cheating was still evidenced. In a study of honesty and group loyalty among junior high school students, Maller (1932) found that in general the children were more deceptive where the score on the test was to count for a personal gain than when the score was to count as a gain for the group. Similarly, children worked at a much higher efficiency level when

working for themselves than when working for the group. There were, however, marked individual differences in this respect. In a study of junior high school students answering adjustment questionnaires in the Philadelphia school system, Gordon and Davidoff (1943) found that using a reliable questionnaire with an expectation on an "honesty" trait scale of thirty or more for 5% of the students, 20% of the population tested had scores above this score. Since the test was of no academic value to the student, the implication was that the students did not want the school administration and counseling staff to have any significant knowledge of them.

A number of studies have been reported which indicate the extent of cheating during the college years. Drake (1941) did a study in a women's college and found that 47% of the students cheated in his examination. Parr (1936) determined that between 30 and 45% of the freshmen students in his experiment cheated, and that the frequency of cheating increased with the age of the students, beginning with seventeen year olds and going up to the twenty-one year olds. There were discrepancies here, however, because a direct comparison of the freshmen and sophomores indicated that the latter were far more honest than the former, and that the twenty-two year old students in the freshman class were more honest than any others, except the seventeen year olds. Also, when classifying the students according to their age position



in relation to other children in the family, there is little, if any, relationship to dishonesty. Campbell (1930) found no relationship between age and deception in the study of a college population, but in another study reported a year later (Campbell, 1931), lower division college students cheated more frequently and seriously than upper division students. Another study by one other investigator (Anonymous, 1930), in comparing freshman and junior college classes, also demonstrated much less cheating in the junior class than in the freshman class. Miller (1927) gave tests to his students and had them scored by competent personnel, but had no marks put on the papers. The author then put the true score on some of the papers and false scores on the others. Following a definite semester plan, sometimes a student was given his true score, and sometimes his score was above or below his true score. The students were then asked to check their papers and to report any discrepancies in their score. A careful record was kept of all discrepancies reported. Miller found that graduate students and seniors in college were the most honest in reporting discrepancies, both in their favor and against them; lower division college students were considerably less honest. Add to these studies the fact that Yepsen (1927) found a lower percentage of cheating among a group of school teachers than the average commonly found among college students, and it can seemingly be concluded from the evidence at hand that

cheating runs in cycles, with high points around ages ten to eleven, and eighteen to twenty-one. During the years between one and ten, twelve and seventeen, and after the age of twenty-one, cheating seems to be less prevalent.

Hartshorne and May (1928) found statistically significant differences between the sexes in cheating on a number of their tests, girls being considerably more deceptive than boys. They conjectured that the cause of these differences is to be found in the motivation of girls during this age period to get good grades. Parr (1936), and Hetherington and Feldman (1964) found with college students that the distribution of cheating according to sex was approximately equal. Hetherington and Feldman concluded that by the time males enter college they become more motivated to succeed academically and take greater risks to do so.

Hartshorne and May (1928) found a very definite relationship between intelligence and cheating in a study of 3,000 grade school children. Cheating percentages in the various IQ ranges were as follows: IQ below 60, 82%; IQ 60 to 79, 70%; IQ 80 to 89, 49%; IQ 90 to 109, 46%; IQ 110 to 119, 30%; IQ 120 to 139, 31%; IQ 140 and up, 21%. In two experiments with students of the same age group, Tuttle (1931-a, 1931-b) received similar results, as did Gross (1946) with a junior high school population. Agreement with Hartshorne and May's findings is presented in college

studies by Drake (1941), Hetherington and Feldman (1964), and one other investigator (Anonymous, 1930). There is not full agreement on this topic, however, because Campbell (1930) and Howells (1938) found no correlation between honesty and intelligence in studies with college students. However, the evidence is strong enough to place heavy emphasis upon Hartshorne and May's original finding that intelligence and honesty are definitely related.

A relatively large number of investigators have studied the relationship of grades and school status to deception. Hartshorne and May (1928) conclude there is nothing in the general academic situation of grades four through eight which favors cheating more than prevents or overcomes it. Neither do they find any correlation between teachers' marks and the tendency to deceive. However, a number of investigators have found definite relationships between academic grades and cheating. Drake (1941) found in his study of college students that no A student cheated in his experiment, but that 4% of the B students, 23% of the C students, 75% of the D students, and 67% of the F students cheated. From this it is inferred that poorer students tend to cheat most; that is, students tend to cheat in proportion to their needs. Similar findings and conclusions are reached by Fenton (1927), Canning (1956), Campbell (1937), Parr (1936) and one other investigator (Anonymous, 1930). Parr (1936) also did a study

of extracurricular activities and dishonest behavior. The study compared the number of extracurricular activities during high school and college with the incidence of dishonest behavior. Although the type of activity in which the individual engaged during high school had little or no relation to his tendency toward dishonesty, the number of activities did have some bearing. In fact, the percentage was found to increase proportionately with the increase in the activity load of the student, a total of 36% cheating for those who took part in only one activity, as compared to 57% for those who engaged in more than four. Very different results were found in the study of extracurricular college activities. Of those engaged in publication enterprises in college, only 32% were dishonest. College politicians showed the highest percentage of cheating, and athletes ranked next highest. Parr (1936) showed that the fraternity man was more dishonest than the independent student, but the differences were slight. On the other hand, Drake (1941) found that fraternity members cheated over twice as much as independent students, and he postulated that fraternity pressure for better grades was responsible for this difference, since there were no significant differences between the two groups in intelligence or scholarship. In short, it appears that academic achievement and school status factors are related to deceptive behavior, but not in any simple way.

The socioeconomic and cultural factors involved in cheating behavior are not widely studied. Hartshorne and May (1928) found that children from higher social levels cheated less on some tests, but that overall, coming from a more favorably situated home carries with it very little presumption of superior honesty. Coster (1959), in a study of characteristics among high school students from three income groups, found that high income pupils were more likely than low or middle income pupils to get high grades in school, and to be named to the honor roll. It might be implied from these findings that these students would, therefore, cheat less than the lower income students. Parr (1936) did a more extensive study in this area and found that by dividing parental occupations into six classifications, only 30% of the students representing the professional group were dishonest, as compared to 64% of those coming from the laboring groups. However, when the subjects were divided into three family income classifications there was little, if any, relationship between the income of the parents and the tendency of the children to be dishonest. Further, and contrary to the prevalent belief that those who come from smaller towns are more honest than those from the large cities, this study showed the opposite tendency, with 71% of the students coming from the smallest towns displaying dishonesty, as compared to 43% of those from the large cities. Parr also found that the size of the high school

attended by the student probably has less influence on the individual's behavior than any other factor considered. Another interesting result from this study, and one that tends to disprove a rather prevalent belief, is that, of those students who are totally self-supporting, 53% were dishonest, as compared to 34% of those who were non-supporting. Of those who were partially self-supporting, 45% succumbed to the temptation of cheating. Additional information in the area of socioeconomic and cultural factors and deceit is reported by Tuttle (1931-a, 1931-b). In his studies of grammar school children no correlation was determined between any given social factor and tendencies toward deceit. However, a definite environmental factor was believed to influence the results. The factor was not defined, but by an analysis of the extreme cases in his population, he concluded that the force affecting deceit lies outside the school, not in it.

With respect to the influence of teachers upon cheating, Hartshorne and May (1928) formulate the hypothesis, although it is based on a follow up study of only one teacher, that subtle differences exist between teachers and that these differences are occasionally large enough to account for wide differences in student cheating. The hypothesis seems to be supported by Mueller (1953) who reported the results of a student opinion study concerning cheating. The students gave eight clear examples of how teachers and class environment encouraged student decep-

tion. It is interesting in association with this point that neither Hartshorne and May (1928) nor Steiner (1930) find that teachers are very reliable in predicting which of their students will cheat.

In short, cheating has been shown to be related to IQ, grades, socioeconomic factors, and teacher influence, but the relationships have not always been definite. The purpose of this study is an attempt to clarify these relationships.

## Method

### Subjects

Ten sophomore geometry teachers in three Chicago high schools were asked to provide students for the experiment. The sample included 366 fifteen-year-old boys. The schools chosen were in different socioeconomic areas, with the expectation that they would provide a continuum from lower-to-middle-to-high socioeconomic family levels.

### Materials

Each student was given Form Am of the Shaycoft Plane Geometry Test (Marion F. Shaycoft, 1951). The test is part of the High School Evaluation and Adjustment Series published by the World Book Company. It includes sixty items, separate IBM answer sheets, and a forty-minute time limit.

When the test was administered, each student was asked to write his parent's occupation in a space provided on the answer sheet, thus providing data for the socioeconomic variable in the study.

The SRA Placement Tests had been given to each student in the study before he entered high school. The IQ scores from this battery and the students' grades for the previous semester of geometry were taken from the schools' permanent records.

The teachers were also asked to rate each of their students



for honesty on a five-point scale: 1) Outstandingly Honest; 2) Above-Average Honesty; 3) Average Honesty; 4) Below-Average Honesty; 5) Definitely Dishonest. The teachers rated their students according to their own subjective concept of honesty (see Appendix III).

### Procedure

The principal of each school was visited to obtain permission to carry out the study, to gain admission to the school records, and to set an appointment with geometry teachers of the school.

At the meeting with the teachers, cooperation was requested and the experiment outlined. Cooperation was advantageous for the teachers in that students' scores on the national test would be supplied, worked out on curves of percentages and centiles; also, a letter grade would be provided for use as part of the students' semester grades.

The experiment required one and a half class periods on two days. The teachers were given supplementary instructions to the Shaycoft test (see Appendix I). In each school all the classes were given the geometry test on the same school day. Each student received the same instructions, test, answer sheet, and a pencil with an eraser. During that day the examiner obtained the SRA IQ scores and the previous semester grades in geometry from the school records. At the end of the school

day all test materials were collected and each teacher was given the student rating sheets to fill out. (see Appendix III)

The answer sheets were then corrected by the experimenter, but no mark was put on them. Percentage and centile curves were worked out for each class; and the curve was divided into letter-grade areas. Also, each answer sheet was Verifaxed to provide a record of each student's true performance on the test.

On the morning of the second day the answer sheets and pencils were returned to the teachers and the completed rating sheets were collected. At this time each teacher was also given a list of the test answers. The supplementary instructions specified that each student be given his own answer sheet, a pencil, and a reason for the correction of the test at that time. The teacher then turned his back to the class and wrote the test answers on the blackboard. Each student corrected and scored his own answer sheet. About fifteen minutes was required for the procedure.

At the end of the second school day all the materials were collected and each teacher was given the curves and grades for his class. At that point, all the data in the experiment had been obtained, i. e., a name, IQ score, true score and cheating score, grade for the previous semester, teacher rating for honesty, and parental occupation for each student.

On the summary data sheets, each school, teacher, class,

and student was given a coded identifying number. The IQ scores, true scores and cheating scores, and teacher ratings were transferred as received. The previous semester grades were converted from a letter to a number scale: F = 0, D = 1, C = 2, B = 3, and A = 4. A numbered socioeconomic scale was adapted from scales devised by Centers (1949) and Wechsler (1955) (see Appendix II). On this nine-point scale, #1 includes bankers and large business owners; #2 includes professional people; #3 includes small business owners; #4 is white collar workers; #5 is farm owners and managers; #6 includes skilled workers and foremen; #7 is semi-skilled workers; #8 includes unskilled workers; #9 is the miscellaneous category, i. e., father is dead, has no occupation, is retired, not in the home, etc. The rating of parental occupation was first done by three independent raters. The three raters then met and agreed on the few rating discrepancies that had occurred. Statistical analyses were then performed on the data, treating the discrete data as continuous.

## Results

Cheating was defined in this analysis as the deviation score between students' true and changed test scores on the Shaycoft Plane Geometry Test. Table 1 shows the means and standard deviations of all the variables in this study, by school and for the total sample. It was apparent that students in all three schools cheated with most cheating evidenced in school one, the lowest socioeconomic sample. Schools two and three were found to have quite different socioeconomic levels but did not evidence large differences in the extent of cheating. This is in contrast to schools one and two where the socioeconomic levels are more similar, but where there are large differences in extent of cheating.

The difference between students' true scores and changed scores on the Shaycoft Geometry test were shown to be significant at the .01 level for all three schools and for the total sample. The results are shown in Table 2. It is evident from the data in Table 2 that students at the lower socioeconomic and IQ levels received the poorest true scores, and that progressively higher true scores were achieved as the socioeconomic and IQ levels increased. The degree of significance between true and changed scores showed an inverse progression.

Table 1

The Means and Standard Deviations of the Variables,  
by Schools and for the Total Sample

School	N	Cheating Score		IQ Score		Semester Grade		Teacher Rating		Socioeconomic Level	
		M	SD	M	SD	M	SD	M	SD	M	SD
1	150	9.35	7.60	110.04	12.06	2.25	1.14	2.99	0.88	5.97	1.80
2	116	1.96	3.25	113.27	9.69	2.20	1.00	2.80	0.81	5.61	1.85
3	100	1.82	3.86	122.18	11.37	2.19	0.84	2.31	1.05	3.75	1.88
<b>Total</b>	<b>366</b>	<b>4.95</b>	<b>6.65</b>	<b>114.38</b>	<b>12.20</b>	<b>2.22</b>	<b>1.00</b>	<b>2.74</b>	<b>0.95</b>	<b>5.25</b>	<b>2.06</b>

Table 2

Significance of Differences between True  
Test Scores and Changed Test Scores  
by School and for the Total Sample

School	N	True Score		Changed Score		t
		M	SD	M	SD	
1	150	34.51	8.24	43.85	7.12	15.08**
2	116	37.60	8.39	39.53	8.18	6.57*
3	100	47.24	7.25	49.06	5.74	4.72*
Total	366	38.96	9.58	43.91	8.00	14.14**

\* p <.01

\*\*p <.001

The relationship between cheating and IQ is presented in Table 3. Cheating was found to be inversely related to IQ in the total sample, and in the lowest and highest IQ student populations. No significant relationship appeared in the middle IQ classification.

Correlations between cheating and the previous semester's grades in Geometry are included in Table 3. These negative relationships, by school and for the total sample, were found to be significant at the .01 level. An unexpected general finding is that the mean grade point averages, although not significant, decreased from low to high IQ and socioeconomic schools. However, there was least variance in grade point averages in the high IQ sample, as might be expected.

Table 3 also contains the correlations of cheating scores and teacher ratings. The relationships were significant at the .01 level for all the schools and the total sample. It seems to be apparent contrary to Hartshorne and May's findings (1928) that teachers in general know their students rather well. The mean rating of the lower socioeconomic and IQ classifications was highest, indicating the teachers knew that more of their students were potential cheaters; the ratings decrease respectively in the high socioeconomic and IQ samples. It is interesting that the teachers of this group predicted their students' cheating

Table 3

Correlations of Cheating Scores and IQ Scores, Previous Semester Grades, Teacher Ratings, and Socioeconomic Levels, by School and for the Total Sample

School	N	Cheating and IQ Scores	Cheating and Semester Grades	Cheating and Teacher Ratings	Cheating and Socioeconomic Levels
1	150	-0.34*	-0.30*	0.34*	-0.03
2	116	-0.16	-0.33*	0.25*	-0.07
3	100	-0.32*	-0.44*	0.42*	0.04
Total	366	-0.40*	-0.25*	0.38*	0.14*

\*p<.01



best, as shown by the most significant correlation in the analysis of these variables.

The relationship between cheating scores and socioeconomic level are presented in Table 3. Only the correlation for the total sample was found to be significant at the .01 level in this analysis. The homogeneity of the groups within the individual schools may have prevented significant findings with these variables. Evidently heterogeneity was achieved by considering all the groups as a whole, giving the one significant relationship.

## Discussion

In this study of 366 second-year high school Geometry students from three schools in different socioeconomic areas of Chicago, it was found that the students, considered by school and by the total sample, cheated significantly.

Considering the relationships between the amount of cheating and teacher rating for honesty, all correlations were found to be significant at the .01 level, both by school and for the total sample.

The relationship between cheating and IQ was found to be similarly significant for schools one and three and the total sample, but not for school two. To ascertain the reason for this occurrence, an analysis of cheating and IQ was carried out by class in school two. Of the three classes that comprised the sample from this school, two were found to correlate significantly at the .01 level on these variables ( $r=.41$  and  $r=.40$ , respectively). The correlation between cheating and IQ in the third class was found to be low ( $r=.14$ ). This single correlation probably was the factor that lowered the school correlation between cheating and IQ below a significant level.

None of the correlations between cheating and socioeconomic level were significant for the individual schools; this relationship was significant, however, at the .01 level for the total

sample. The homogeneity of the school samples may have been the major contributing factor to this situation. However, since these groups were from different socioeconomic areas of the city, they formed a more heterogeneous total sample and thus the relationship between cheating and socioeconomic level is significant. Admittedly, the amount of variance between these two variables accounted for by a correlation of .14 is quite small.

In studying the data it was thought that the teacher ratings might have been influenced by factors other than student honesty. In an adjunct analysis of the data on teacher ratings it was found that semester grades and teacher ratings for honesty correlated significantly ( $r = -.43$ ). The reason for this finding is not clear from the analysis. Possible factors would include: students act according to needs, so that more cheating would be evidenced among students with low grades; or, teachers have a tendency to stereotype pupils. There was some evidence for support of the latter speculation. It was found that teacher rating also correlated significantly with socioeconomic level of the students ( $r = .14$ ). Perhaps the conception of the guileful, deviant child of the lower socioeconomic level as opposed to his more affluent peer enters into teacher ratings, particularly when the lower middle class roots of the majority of high school teachers is considered.

The results of the present study supported the findings of previous investigators. Considering the extent of student deception, the following percentages of student cheating have been reported: Steiner (1930), 16-40% in a junior high school sample; Fenton (1927), 63% of a college sample when considering three situations measured, but only 39% when the instructor was in the room; Parr (1936), Drake (1941), Hetherington and Feldman (1964), and Omwake (1939), from 30-70% in college samples. In the present study 61% of the total sample increased their score on the Shaycoft Geometry test by cheating. When the sample was broken down to schools it was found that 85% of the sample from school one, 48% of the sample from school two, and 41% of the sample from school three illegitimately raised their scores in this experiment. This supports in general Parr's findings (1936), where 64% of a low socioeconomic group and 30% of a high socioeconomic group were found to cheat.

Considering the relation of cheating and IQ scores, Hartshorne and May (1928) and Tuttle (1931-a, 1931-b) found a very definite relationship with grade school samples, as did Gross (1946) with a junior high school sample, and Drake (1941), Hetherington and Feldman (1964) and one other investigator (Anonymous, 1930) with college samples. On the other hand, Campbell (1930) and Howells (1938) found no relationship between cheating and IQ scores in their experiments. The results of the present

study support these contradictory findings, since correlations of cheating and IQ were found significant in schools one and three and for the total sample, but not for school two. The low correlation of only one class in school two lowered that school's correlation below statistical significance.

A number of investigators have found a consistent relationship between cheating and academic achievement (Fenton, 1927; Anonymous, 1930; Parr, 1936; Campbell, 1937, Drake, 1941; and Canning, 1956). The results of the present study support these findings since correlations between previous semester grades in Geometry and cheating on the Shaycoft Geometry test were found to be significant for all three schools and for the total sample.

The present study failed to support the findings of other investigators in one area. Previous studies have found very little relationship between cheating and teacher ratings (Hartshorne and May, 1928; Steiner, 1930). The correlations between cheating and teacher ratings in the present study were found to be significant at the .01 level for all three schools and for the total sample. It appears that teachers can predict the classroom behavior of their students better than has been previously expected.

In summary, the results of the present experiment generally support the findings of other studies in the field of student deception. The only contradictory finding was that teachers are better at predicting student dishonesty than had been demonstrated before.

## Summary

Hartshorne and May's self-scoring technique (1928) was used in a study of cheating among 366 male second-year high school students from three schools in different socioeconomic areas. The students were given a national geometry test with separate IBM answer sheets and a chance to change their scores. The extent of cheating at the high school level and the relationship of cheating to IQ scores, previous semester grades, family socioeconomic levels, and teacher ratings of students were investigated. Amount of cheating was found to be statistically significant in all three schools, and to be significantly correlated with previous grades and teacher ratings. With the exception of one school, cheating and IQ were found to be significantly related. Cheating and socioeconomic level were found to be related in the total sample only. Various implications of findings were discussed.

## Appendix I

## SUPPLEMENTARY INSTRUCTIONS FOR THE SHAYCOFT GEOMETRY TEST

## I. FIRST DAY:

Before the test: "A Testing Bureau is doing a study to see how we measure, at the end of our Geometry course, with other students throughout the country. A representative of the Testing Bureau is going to be here tomorrow to pickup the test materials, and so we must take the test today.

"This is a national test, and although the Testing Bureau wants your score for comparison purposes, I want the scores too. The score you receive is going to count as a test-grade, and I'm going to use it toward your final grade. So, do your very best."

Go to the instructions in the test manual.

## II. SECOND DAY:

Instructions: "I didn't get a chance to correct the tests that you took yesterday. I want your score, and since the representative to the Testing Bureau is going to collect all the test materials this afternoon, we'll spend a few minutes correcting the test now.

"We must erase any marks that we put on these answer sheets, so DO NOT put any mark on the sheet if the answer is CORRECT. Just put a light dash, next to the number of the answer, if the answer is WRONG. Remember, the only mark you make on the sheet is a light dash if the answer is WRONG.

"I'll put the correct answers on the board. Keep up with me, because we don't want to waste time doing this."

(Turn your back on the class, and put the numbers and answers on the board, in columns.)

After correction: "Now count up the number of answers that you have correct, either by counting up the number of answers without dash-marks, or by counting the number of dashes and subtracting from sixty. Do not put any mark on the sheet; just get the number, and remember it. . . . Double-Check the number you got."

"Now turn the sheet so that you can read your name, and the other information you wrote in yesterday. At the top you'll find some rows of numbers. In the RAW SCORE row you'll find the numbers from one to sixty. Follow the raw-score row to the number that you got correct, and circle it.

"Now go back and erase all the light dash-marks that you put on the sheet, next to your wrong answers."

(Collect all the materials)



## Appendix II

## SOCIOECONOMIC SCALE (Center--Campbell--DeWolfe)

- #1 - Large Business owners: Bankers, manufacturers, large department store owners and managers, etc.
- #2 - Professionals: Physicians, dentists, professors, teachers, ministers, engineers, lawyers, etc.
- #3 - Small Business owners: Small retail dealers, contractors, proprietors of repair shops employing others, etc. Includes owners and managers.
- #4 - White Collar workers: Clerks, salesmen, agents, semi-professional workers, technicians, representatives.
- #5 - Farm owners and managers: Persons who own or manage a farm, ranch, grove, etc.
- #6 - Skilled workers and foremen: Carpenters, machinists, electricians, plumbers, printers, etc. Includes foremen, barbers, and cooks if not domestic.
- #7 - Semi-Skilled workers: Truck drivers, machine operators, service-station attendants, waiters, counter men, etc.
- #8 - Unskilled workers: Sweepers, porters, janitors, street-cleaners, construction men, etc.
- #9 - Dead, no occupation, divorced, retired.



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APPROVAL SHEET

The thesis submitted by Kenneth L. Leveque has been read and approved by three members of the Department of Psychology.

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

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

Jan 13 1966  
Date

Ronald E. Walker  
Signature of Adviser