8-1-1967

The effect of individual and group counseling on underachievers

Joyce Ann Williams
Atlanta University

Follow this and additional works at: http://digitalcommons.auctr.edu/dissertations

Part of the Education Commons

Recommended Citation
THE EFFECT OF INDIVIDUAL AND GROUP
COUNSELING ON UNDERACHIEVERS

A THESIS
SUBMITTED TO THE FACULTY OF THE SCHOOL OF EDUCATION
ATLANTA UNIVERSITY, IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE
OF MASTER OF ARTS

BY

JOYCE ANN WILLIAMS

SCHOOL OF EDUCATION

ATLANTA UNIVERSITY

ATLANTA, GEORGIA
AUGUST, 1967
DEDICATION

To my parents

Mr. and Mrs. R. C. Williams

whose support and
understanding cannot be sur-
passed

J.A.W.
ACKNOWLEDGEMENT

The writer wishes to express her sincere gratitude to Dr. Paul I. Clifford and Dr. Robert Smothers of Atlanta University who offered valuable assistance during this study. Gratitude is also acknowledged to Miss Mary B. Flemming whose advice was instrumental in writing this thesis. Furthermore, the writer is indebted to the twenty-six seventh graders attending Hampstead Hill Junior High School, Baltimore, Maryland, who served as subjects for the experimental study.

J.A.W.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEDICATION</td>
<td>ii</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENT</td>
<td>iii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>v</td>
</tr>
</tbody>
</table>

## Chapter

### I. INTRODUCTION

- Rationale .................................................. 1
- Evolution of the Problem .............................. 3
- Contribution to Educational Knowledge .............. 4
- Statement of the Problem ............................... 4
- Purpose of the Study .................................... 5
- Definition of Terms ..................................... 5
- Instruments ............................................... 6
- Limitations of the Study .............................. 6
- Locale of the Study ..................................... 7
- Research Procedure ..................................... 7
- Survey of the Literature .............................. 8

### II. PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA.

- General Description and Treatment of Data .......... 15
- Grade-Point-Averages .................................... 17
- Mooney Problem Check List, Form J ................... 22
- Summary and Interpretation ............................ 25

### III. SUMMARY, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

- Problem and Methodology ................................ 27
- Summary of Related Literature ........................ 29
- Summary of Findings ..................................... 32
- Conclusions ............................................... 33
- Implications ............................................. 33
- Recommendations ......................................... 34

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIBLIOGRAPHY</td>
<td>35</td>
</tr>
<tr>
<td>VITA</td>
<td>38</td>
</tr>
<tr>
<td>APPENDIXES</td>
<td>39</td>
</tr>
</tbody>
</table>
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Otis-Beta Intelligence I.Q.'s Obtained by the Seventh Grade Underachievers</td>
<td>18</td>
</tr>
<tr>
<td>2.</td>
<td>A Comparison of the Grade-Point-Averages Earned by the Experimental and Control Groups During the Initial Grading Period</td>
<td>20</td>
</tr>
<tr>
<td>3.</td>
<td>A Comparison of the Grade-Point-Averages Earned by the Experimental and Control Groups Following the Period of Experimentation</td>
<td>21</td>
</tr>
<tr>
<td>4.</td>
<td>A Pre- and Post- Comparison of the Distribution of Responses to the Mooney Problem Check List, Form J</td>
<td>23</td>
</tr>
<tr>
<td>5.</td>
<td>A Summary of the Analysis of Variance of the Mooney Problem Check List, Form J Over Three Scoring Categories for the Experimental and Control Group of Underachievers</td>
<td>24</td>
</tr>
</tbody>
</table>
CHAPTER I

INTRODUCTION

Rationale.--Contributors to the educational world have long been concerned and perplexed by the performances of students whose academic achievement is far below their intellectual ability. In fact, educators and psychologists have found many concomitants of underachievement and devised means of attempting to rectify the problem. However, with the rapid transition from the simple agrarian culture to an increasing demand for technical competence, there is more concern with the problem of underachievement than ever before. Now, prevention and remediation are paramount in terms of assisting underachievers since our country needs the contributions of every person with talent.

Helen Roberts states that according to Terman:

Intellect and achievement are far from being perfectly correlated. Causes of underachievement are numerous and interrelated. However, much of the literature on underachievement indicates that intelligence is a causal factor. This lack of achievement can be closely related to home backgrounds of students, especially as it concerns the socio-economic status and education of the parents.¹

Consequently, some educators speculate that this phenomenon of underachievement, not specifically caused by the school situation, is fixed in the personalities of the students before they enter the first grade.

After establishing many of the underlying factors in underachievement,

it seems dubious that junior high school counselors can alleviate all alienating conditions associated with underachievement. In spite of this, counselors can endeavor to investigate methods by which they can remediate certain correlates of underachievement such as: academic performance, achievement test scores, self-acceptance, self-concepts and behavior changes.

Studies have not resulted in distinct answers or optimistic conclusions about underachievers in the amount of academic improvement that results from counseling. Nevertheless, studies do suggest a need for more research to actually determine the efficacy of group and individual counseling on groups of underachieving junior high school students. If educators hope to reduce the number of underachievers in American junior high schools, greater research must explore the nature of underachievement.

Adequate counseling and guidance services on the junior high school level appear to be promising approaches since many underachievers do not respond even to the best teaching procedures. In particular, some of these students may have been hurt psychologically by intense personal problems and, for them carefully designed plans for individual and group counseling be mapped out.¹

Equally important, there is a tremendous need to identify these underachievers at an early stage in their educational development. Then, it would seem logical that counseling could obviate an overwhelming "loss of talent" in our society, eliminate some frustration

encountered by teachers with underachievers, and, for the most part, assist these underachievers in "achieving full promise of their potential." Possibly many of these students may be encouraged to remain in school. Bloom suggests that:

The goal of counseling is to produce self-actualized people, i.e. people who are adequate and completely functioning individuals who are well adjusted and have a positive view of themselves.\(^1\)

Then, with his statement as a major goal, the chances are great that counseling underachievers on the junior high school level may result in fulfilling at least one of the goals of counseling.

Although the research on the effect of group and individual counseling underachievers on the junior high school level is not extensive, counselors should realize that both methods must be employed concurrently in assisting underachievers.

Total group counseling will present many problems since no group member is a "perfect replica" of the group membership. The basic problem may be reciprocal, but a multiplicity of conditions may impinge on one student's underachievement that may not relate to the other members. Of course, sometimes individual interactions between counselors and adolescents may not be as productive as adolescents with adolescents in a group counseling situation. In contrast, in an effort to prevent conformity and minimization of individuality, individual counseling should be utilized.

Evolution of the problem.--As a teacher, the writer wanted to

---

\(^1\) Interview with Dr. Benjamin Bloom, Professor, University of Chicago, Chicago, Illinois (March 19, 1966 at Atlanta University, Atlanta, Georgia).
intensify her knowledge of the educational problems of underachievers. In an attempt to study the problem and improve her professional skills, the writer searched for ways to increase enthusiasm in students who seemed to lack motivation and were actually underachieving according to their standardized test scores. However, limited research indicated that underachievement was a problem that seemed to warrant special consideration that it is not receiving.

Since the writer's need for enlightenment could only be obtained by research, she resolved to conduct a study on the effects of individual and group counseling on underachievers.

Contribution to educational knowledge.--Since there is a paucity of research and lack of empirical data to support the effect of counseling on underachieving junior high school students, educators, and others who are concerned with many of our country's human problems should profit from the results of this research. There is a likelihood that this research might provide an impetus for more action in group and individual counseling, if it is found that counseling plays a dynamic role in improving academic performance. In contrast, if it is found that group and individual counseling do not facilitate academic achievement, educators may realize that they must look elsewhere for assistance with this problem.

It is hoped that, as a result of this study, there will be a considerable decrement in the "serious drain on society's reservoir of talent" and an increment in underachieving students' chances to realize a sense of worth and fulfillment in an increasing technological society.

Statement of the problem.--This thesis was devoted to an
experimental determination of the effect of individual and group

counseling on underachieving junior high school students.

The crux of the experiment was to evaluate the procedures and
techniques utilized to ascertain the extent to which group and individual
counseling would improve students' grade-point averages. In addition,
the writer hoped to determine the major concerns of a group of seventh
grade underachievers as well as the students' attitudes toward re-
solving their concerns.

Purpose of the study.--The study represented an attempt to set an
estimated value on the effect of individual and group counseling on
underachievers. More specifically, the study was concerned with:

1. The effect of counseling on the students' academic
   performance.

2. The extent to which counseling enabled the students to
   perceive and resolve their major concerns.

3. The efficacy of the counseling service for underachievers.

Definition of terms.--For clarity and more effective communication
the following terms were defined:

1. **Underachievers** - students who were not achieving on the
   basis of their appraised intellectual abilities on the
   Otis Quick-Scoring Mental Ability Test, Beta Form.
   Students with I.Q.'s between 105 and 128 were considered.

2. **Group counseling** - a process whereby the counselor worked
   with a small group of six to eight students in a per-
   missive setting to explore and discuss the reciprocal needs,
   interests, and problems of the students.

3. **Experimental group** - the group of underachieving seventh
   grade students selected by random sampling and which re-
   ceived guidance in order to identify the cause of a
   particular outcome.
4. Control group - the group of underachieving students with the same characteristics as the experimental group, but which did not receive individual and group counseling from the writer.

5. Perception of problem - represented the students' visualization of their major concerns according to the Mooney Problem Check List, Form J.

Instruments.--The following instruments were utilized in the experimental study.

1. Mooney Problem Check List, Form J - a check list method that is used for group surveys and research purposes for identifying persons who want and/or need assistance with a variety of problems.

2. Otis Quick-Scoring Mental Ability Test, Beta Form - a group test of mental ability.¹

Limitations of the study.--Inherent in this study were certain limitations which may have a bearing on the writer's conclusions and recommendations.

1. The experimental study was confined to selected students in one junior high school in a Maryland city.

2. Other aspects of individual adjustment such as a change in self concepts, personality and achievement test scores could have been investigated, but the time element and materials required placed some limitations upon what could be done.

3. The population was confined to predominantly seventh-grade Caucasian students. It was possible that these students had or had not acclimated themselves to the transition from elementary to junior high school.

4. The Otis-Quick-Scoring Mental Ability Test, Beta, Form CM was required by the Baltimore City Schools and was not the writer's choice.

5. Absenteeism was a major problem in the school.

¹ The Psychological Test Catalog (New York: Psychological Corporation, 1965), pp. 26, 34.
Locale of the study.--The locale of the study was Hampstead Hill Junior High School, Baltimore, Maryland.

Research procedure.--The procedural steps used in this study included the following:

1. Permission was secured from the Baltimore City School officials to conduct the study.

2. The literature germane to the study was surveyed.

3. The Otis-Quick Scoring Mental Ability Test - Beta, Form CM was administered to the members of the seventh-grade class.

4. All students who were not achieving on the basis of their appraised intellectual abilities on the Otis-Quick Scoring Mental Ability Test - Beta, Form CM were selected.

5. Grade-point-averages for the students whose IQ's ranged from 100 to 128 were computed.

6. The selected population was divided into two equivalent groups: one group was designated to be the experimental and the other the control group.

7. The Mooney Problem Check List, Form J was administered to the underachievers in the experimental and control groups prior to the experiment.

8. The concerns underlined on the check list were a basis for themes in the group counseling sessions.

9. The underachievers were placed in equivalent groups prior to the administration of the Mooney Problem Check List, Form J.

10. Possible scheduling problems were checked and students with similar schedules were selected, but there was no sample bias.

11. The experimental study began after the third grading period.

12. The experimental group was exposed to nine-weeks of individual and group counseling; most of the counseling sessions were tape-recorded so as to make possible accurate descriptions which were included in the thesis.

13. Each group session was forty minutes in length and each
individual counseling sessions was twenty-five to thirty minutes in length.

14. Each student in the experimental group received a minimum of three individual counseling sessions and nine group sessions.

15. Each group was subjected to the Mooney Problem Check List, Form J, at the culmination of the experiment.

16. Grade-Point-Averages for these experimental and control groups were determined following the experimental period.

17. The pre- and post- tests for both groups were compared. Fisher's "t" test, an analysis of variance, and "f" ratio, were used to determine the significance of the difference between two means.

18. Results extracted from the data collected were synthesized; conclusions, in conjunction with the study, were formulated; and implications and recommendations were drawn and made in accord with needs discovered.

Survey of the literature.—The continuous pace of group and individual dynamics in counseling in the last three decades has resulted in a voluminous accumulation of literature. Many studies in the literature have attempted to implement group and individual counseling in assisting underachievers.

A study by Kurtz listed several discernible causal factors of underachievement such as: academic inclination, aspiration and perspective for the future.¹

By and large, most of the studies in the area of counseling underachievers entail senior high school and college students. The unanimity of their successful results indicates that counseling techniques should be tried on the junior high school level. Many

educators contend that "underachievement may be a symptom of decay in our society." Therefore, it seems expedient to detect the underachievers at an early stage in their development.

A comprehensive study on counseling underachieving adolescents, which the writer will partially replicate, was conducted by Broedel, Ohlsen and Proff in 1960. In their well designed study, group and individual techniques were utilized. The investigation revealed that although experimental subjects improved more than controls in self-acceptance and others related to behavior, there was no improvement in grades either immediately or after an eighteen month follow-up period.¹

A study by Calhoun in 1956 at the eighth-grade level presented clear positive evidence for the values of counseling underachievers. One factor in the study that may warrant some consideration is that Calhoun's procedure was quite definite and more structured than it ordinarily is in counseling. Students were presented with the evidence of their underachievement and encouraged to analyze its causes and plan ways of correcting it. It may be that, in connection with this particular problem, such methods have a more direct effect than those in which the focus is on the more subtle aspects of motivation and personal relationships.²


The literature generally supports group counseling in influencing the behavior of underachievers. Some research has indicated that in studying underachievement, the differences between the two counseling techniques have not been striking. D. A. Davis reported in 1959 that both group and individual methods of counseling produced significant improvements in students with low citizenship grades and that group methods were more effective than individual treatment in counseling underachievers.¹

Although their interests were focused on a different approach to counseling, Baymur and Paterson studied the theory that emotional factors were involved in underachievement. In 1960, they employed a "therapeutic" counseling approach in an attempt to reduce underachievement. They utilized individual and group counseling and in one session motivational group counseling. When compared to the control group on the criteria of change in self-concepts and other improvements, no significant differences were found.²

Research by Calhoun resulted in significant changes following individual counseling. A standardized achievement test battery was administered prior to the individual counseling. After several weeks of counseling, the same test battery was administered. Achievement test scores did not improve, but a significant increment in grade point

averages was discernible.\textsuperscript{1}

Another evaluative of the effectiveness of group counseling with adolescents in changing self concepts, school behavior, and achievement was conducted by Caplan. A group of "problem" boys who had long records of conflicts with school authorities and were considered by teachers to be anti-social, incapable of being taught, and unmanageable, was selected for experimental and control groups. Group meetings were conducted in a permissive atmosphere. Counselors tried to get the boys to discover the reasons for forming the group. As the meetings progressed, the boys seemed to come closer to understanding their own problems. Significant changes were noted in self versus ideal self correlation; and, in a number of classes in which "poor citizenship grades were given." The boys showed slight improvement in scholarship in some cases. Caplan concluded that there were significant differences between the experimental and control group in favor of the group counseled.\textsuperscript{2}

Since academic performance has and can be utilized as a goal of group counseling, many counselor-educators have proposed group counseling for improved academic efficiency.

In the late forties, R. E. Bills reported an experimental study of nondirective group play therapy with eight retarded readers in the third grade. Bills did not use a control group nor did he attempt

\textsuperscript{1}Calhoun, op. cit., pp. 312-16.

to match them with another group. Significant changes were noticeable, according to the Gray's Oral Reading Test and Gates Test of Paragraph Meaning.

Lifton also cited some group counseling procedures with an underachieving students in which academic efficiency improved and antisocial behavior decreased. One of his approaches was utilized in a Sullivan, Illinois, high school. Lifton explained that the counselor asked boys and girls who were failing in school to participate in group counseling sessions with other students who were not doing so well. After several sessions, feeling of security were established among group members and all received support and help from one another.

With quite a different kind of population, Sheldon and Landsman investigated the effect of nondirective group counseling on the academic success of college students in scholastic difficulty. They invited a group of potentially capable college students who were not performing in school at a level commensurate with their ability to join an academic methods courses. A total sample was divided into an experimental and control group. Both groups met five times a week for one semester. The usual lecture and discussion methods were used in both groups. However, the experimental groups substituted two of its periods each week with nondirective group therapy. Evaluation at the end of the semester revealed that the experimental group

---


obtained significantly higher grade-point-averages.\(^1\)

Gersten conducted a study in which academic efficiency was a criterion for determining the efficacy of group therapy. His approach entailed directive and nondirective techniques with additional activities as films and psychodrama. Activities were utilized when the counselees were not verbalizing or tense.

Forty-four boys took part in the experiment and they were divided into two groups - a control and an experimental. In order to evaluate the groups, pre- and post-testing with the \textit{Stanford Achievement Battery}, the \textit{Wechsler-Bellevue Intelligence Scale}, the \textit{Rorschach} and the \textit{Haggerty-Olsen-Wickman Behavior Rating Scale} were used. The results indicated that the experimental group manifested significant gain in academic performance and I.Q. After scrutinizing the recording and studying the data, authorities stated that emotional maturity and social maturity occurred as a result of group therapy.\(^2\)

Although conflicts found in the studies cited may be ascribed to many inconsistencies such as approaches, age groups, grade level, possible theoretical backgrounds and research structure, it seems quite clear that there are some "unique advantages" in counseling underachievers. In fact, the research studies cited in the survey have indicated that some investigators have found counseling in a group setting, on an individual basis and group therapy to be successful.


in bringing about desirable changes in academic and mental efficiency.¹

The efficacy of the approaches and conclusions to group and individual counseling, as described in procedures promoting academic growth and change in self-concepts, cannot be assumed on the basis of previous research. Nevertheless, the research has indicated possibilities for continuous investigations as to the influence of group and individual counseling on the achievement test scores, grade-point-averages, and self concepts of junior high school under-achievers.

¹Broedel, op. cit., p. 33.
CHAPTER II

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

General description and treatment of data.--The data for the experiment were collected from the test scores on the Otis Quick-Scoring Mental Ability Test, Beta, Form CM, concerns underlined on The Mooney Problem Check List, Form I and grade-point-averages for the second quarter of school as recorded on the junior high school scholarship cards. The population of students was composed of three hundred and eighty-one seventh-graders from a large inner city junior high school in Baltimore, Maryland. All three hundred and eighty-one seventh-graders were administered the Otis Quick-Scoring Mental Ability Test, Beta, Form CM.

Since the mean I.Q. on the Otis was 100, the grade-point-averages for all students whose intelligence scores fell above one hundred were computed. Students who had grade-point-average below 2.90 on the school's 4.00 scale were classified as underachievers for the study. These grade-point-averages were computed on the basis of the second nine-week grading period.

As a result of the computation, twenty-six students were classified as underachievers. In order to select students for the experimental and control groups, a statistical procedure of random sampling was utilized. Thirteen students for the experimental group
and thirteen students for the control group were selected. The exper-
imental group of thirteen was further divided into two small
groups of six and seven students for group counseling. These groups
were also selected by random sampling.

The writer administered The Mooney Problem Check List, Form J
to all twenty-six underachievers to determine their perception of
major concerns and their means of resolving them. The check list
was divided into seven major areas: Home and Family, Money, Work, the
Future, Boy and Girl Relation, Relation to People in General and
Self-centered Concerns. The concerns underlined on the Mooney Problem
Check List, Form J were utilized to delineate themes in the group
counseling sessions.

During the nine-week period of experimentation, that commenced
with the third grading period, the underachievers in the experimental
group was exposed to individual and group counseling sessions.

The experimental group met once a week for a forty-minute session.
Each underachiever in the experimental group received a minimum of
three individual counseling sessions. Additional individual sessions
were given if requested by the students. Three underachievers
terminated individual counseling after three sessions. Four under-
achievers had as many as nine individual sessions and the remaining
six had sessions ranging from four to seven. Most of the group and
individual sessions were tape-recorded for professional improvement,
accurate evaluations, and interpretation of the underachievers
problems.

Neither counseling or special academic attention was given or
available to the control group. However, many of the underachievers in the control group requested individual counseling sessions during the experimental period.

The data for this study have been presented in tabular and textual forms in this chapter.

Two statistical procedures were utilized for comparative purposes in the study to determine the significance of differences between the mean performance of the experimental and control groups. There were an analysis of variance, the "F" test and Fisher's "t" test.

Analysis of variance was utilized to test significant changes involving grade-point-averages. The "F" test was utilized with the responses to the Mooney Problem Check List, Form J. All data were tested statistically at the .05 level of confidence.

The Otis Quick-Scoring Mental Ability Test, Beta, Form CM served as the first criterion for selecting the underachievers. Table 1, page 18, includes the I.Q.'s for the experimental and control groups.

Inspection of the data in Table 1 indicates that the mean differences of I.Q.'s were not significant. In order for the data to be significant at the .05 level with twelve degrees of freedom, a "t" ratio of 2.179 was mandatory. However, the standard error of difference between the mean for the experimental and control groups was 2.2 yielding a "t" ratio of .14 that was not significant at the .05 level of confidence. In fact, both the experimental and control groups were equivalent in the area of intelligence.

Grade-point-averages.—Much of the research has stipulated that grade-point-averages are not as reliable as standardized achievement
TABLE 1

OTIS-BETA INTELLIGENCE I.Q.'S OBTAINED BY THE SEVENTH GRADE UNDERACHIEVERS

<table>
<thead>
<tr>
<th>Underachievers</th>
<th>Experimental Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>119</td>
<td>121</td>
</tr>
<tr>
<td>2</td>
<td>119</td>
<td>119</td>
</tr>
<tr>
<td>3</td>
<td>119</td>
<td>117</td>
</tr>
<tr>
<td>4</td>
<td>116</td>
<td>116</td>
</tr>
<tr>
<td>5</td>
<td>114</td>
<td>115</td>
</tr>
<tr>
<td>6</td>
<td>113</td>
<td>113</td>
</tr>
<tr>
<td>7</td>
<td>111</td>
<td>108</td>
</tr>
<tr>
<td>8</td>
<td>108</td>
<td>108</td>
</tr>
<tr>
<td>9</td>
<td>106</td>
<td>107</td>
</tr>
<tr>
<td>10</td>
<td>105</td>
<td>106</td>
</tr>
<tr>
<td>11</td>
<td>104</td>
<td>106</td>
</tr>
<tr>
<td>12</td>
<td>104</td>
<td>105</td>
</tr>
<tr>
<td>13</td>
<td>104</td>
<td>105</td>
</tr>
</tbody>
</table>

$M_1 = 110.9$  
$SD = 5.9$  
$SEM = 1.6$

$M_2 = 111.2$  
$SD = 5.5$  
$SEM = 1.5$

$M_1 - M_2 = .3$  
$SEM = 2.2$  
"t" = .14

Not significant at the .05 level of confidence.
test data in conjunction with specific information. In spite of the research, teachers' grades represent a tremendous range of information about students achievement and/or underachievement.

According to Broedel:

The reliability and validity of teacher assigned grades often have been questioned. One of the major disadvantages is that the standard of marking varies widely from teachers to teacher. It is also recognized that teachers' grades are influenced by their own personal biases and the "halo-effect" enters into their marking. Some teachers rely too heavily on their subjective evaluation of students while others depend on poorly constructive, objective tests.

However, since parents, future employers, and the students themselves accept the grade-point as the principal measure of school performance and since the teachers' contributing grades which entered into the grade-point-averages used were well trained, high caliber, experienced professional people, grade-point-averages can be used as one criterion of academic.

Most of the underachievers in the study had the same teachers and came from the same parent population.

Table 2, page 20, includes a comparison of the grade-point-averages of the experimental and control groups during the initial grading period for the experiment.

Table 2 did not reveal a statistically reliable difference between the mean grade-point-average of the experimental and control groups. The difference between the means of .12 and a standard error of the differences between the means of .31 revealed a "t" ratio of .38. The accumulated data indicated no significant difference at the .05 level of confidence for grade-point-averages for either group.

TABLE 2

A COMPARISON OF THE GRADE-POINT-AVERAGES EARNED BY THE EXPERIMENTAL AND CONTROL GROUPS DURING THE INITIAL GRADING PERIOD

<table>
<thead>
<tr>
<th>Underachievers</th>
<th>Experimental Grade-Point Averages</th>
<th>Control Grade-Point Averages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.86</td>
<td>2.75</td>
</tr>
<tr>
<td>2</td>
<td>2.88</td>
<td>1.76</td>
</tr>
<tr>
<td>3</td>
<td>2.88</td>
<td>2.00</td>
</tr>
<tr>
<td>4</td>
<td>1.57</td>
<td>1.86</td>
</tr>
<tr>
<td>5</td>
<td>2.86</td>
<td>1.43</td>
</tr>
<tr>
<td>6</td>
<td>.43</td>
<td>.57</td>
</tr>
<tr>
<td>7</td>
<td>1.50</td>
<td>.57</td>
</tr>
<tr>
<td>8</td>
<td>1.13</td>
<td>2.43</td>
</tr>
<tr>
<td>9</td>
<td>1.86</td>
<td>2.14</td>
</tr>
<tr>
<td>10</td>
<td>1.71</td>
<td>2.00</td>
</tr>
<tr>
<td>11</td>
<td>1.86</td>
<td>1.00</td>
</tr>
<tr>
<td>12</td>
<td>2.43</td>
<td>1.62</td>
</tr>
<tr>
<td>13</td>
<td>1.14</td>
<td>2.14</td>
</tr>
</tbody>
</table>

\[
M_1 = 1.83 \quad M_2 = 1.71 \\
SD = .85 \quad SD = .72 \\
SEM = .24 \quad SEM = .20 \\
M_1 - M_2 = .12 \\
\text{S.E.D.}^2 = .31 \\
^t^ = .39
\]

Not significant at the .05 level of confidence.

Grade-Point-Average Scale

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4 points</td>
</tr>
<tr>
<td>B</td>
<td>3 points</td>
</tr>
<tr>
<td>C</td>
<td>2 points</td>
</tr>
<tr>
<td>D</td>
<td>1 point</td>
</tr>
<tr>
<td>E</td>
<td>0 points</td>
</tr>
</tbody>
</table>
A comparison of the grade-point-averages of the experimental and control groups subsequent to the experimental period is delineated in Table 3.

**TABLE 3**

A COMPARISON OF THE GRADE-POINT-AVERAGES EARNED BY THE EXPERIMENTAL AND CONTROL GROUPS FOLLOWING THE PERIOD OF EXPERIMENTATION

<table>
<thead>
<tr>
<th>Underachievers</th>
<th>Experimental Grade-Point Averages</th>
<th>Control Grade-Point Averages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.14</td>
<td>1.88</td>
</tr>
<tr>
<td>2</td>
<td>2.00</td>
<td>1.50</td>
</tr>
<tr>
<td>3</td>
<td>3.00</td>
<td>1.00</td>
</tr>
<tr>
<td>4</td>
<td>1.86</td>
<td>2.14</td>
</tr>
<tr>
<td>5</td>
<td>2.71</td>
<td>1.57</td>
</tr>
<tr>
<td>6</td>
<td>1.43</td>
<td>1.27</td>
</tr>
<tr>
<td>7</td>
<td>2.00</td>
<td>.71</td>
</tr>
<tr>
<td>8</td>
<td>1.50</td>
<td>2.00</td>
</tr>
<tr>
<td>9</td>
<td>2.00</td>
<td>2.14</td>
</tr>
<tr>
<td>10</td>
<td>2.29</td>
<td>1.28</td>
</tr>
<tr>
<td>11</td>
<td>2.14</td>
<td>1.28</td>
</tr>
<tr>
<td>12</td>
<td>2.43</td>
<td>2.29</td>
</tr>
<tr>
<td>13</td>
<td>2.14</td>
<td>1.68</td>
</tr>
</tbody>
</table>

\[
\begin{align*}
M_1 &= 2.12 \\
SD &= .62 \\
SEM &= .17 \\
M_2 &= 1.59 \\
SD &= .46 \\
SEM &= .13 \\
M_1 - M_2 &= .53 \\
SED_m &= .21 \\
"t" &= 2.52 \\
\end{align*}
\]

Significant at the .05 level of confidence.
Inspection of the data in Table 3 reveals a statistical significant difference at the .05 level and indicates that individual and group counseling were essential elements in elevating the grade-point averages of the underachievers in the experimental group for a nine-week period. A "t" ratio of 2.52, which was more than the required ratio of 2.179, showed statistically significant differences at the .05 level of confidence for the experimental group.

Mooney Problem Check List, Form J.--The check list was utilized to determine the underachievers' perception of their concerns, their attitudes toward resolving their concerns, to decide themes for group counseling sessions and to strengthen the writer's means of assisting the underachievers.

Table 4, page 23, compares the pre- and post-distribution of responses to the Mooney Problem Check List, Form J over the seven major categories by the experimental and control groups of underachievers.

The Fisher's t-test, a form of chi square, was used to determine a pre- and post-test comparison of the distribution on the Mooney Problem Check List, Form J. The statistical analysis indicated that the pre-test for the experimental group mean was 126 with a post-test mean of 111. In the next step, a deviation was made with the experimental and control groups for the pre-and post-administrations. At this point, it was necessary to square the deviation within groups. A sum for each pre- and post-test square of deviation for the experimental and control groups was derived. Then the deviation of group means from the grand means and the summation of the derivation of squares were set up. A deviation, deviation square, and number of
TABLE 4
A PRE-AND POST-COMPARISON OF THE DISTRIBUTION OF RESPONSES TO THE MOONEY PROBLEM CHECK LIST, FORM J

<table>
<thead>
<tr>
<th>Categories</th>
<th>Experimental Group</th>
<th>Control Group</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>1</td>
<td>104</td>
<td>100</td>
<td>73</td>
<td>54</td>
</tr>
<tr>
<td>2</td>
<td>127</td>
<td>105</td>
<td>76</td>
<td>54</td>
</tr>
<tr>
<td>3</td>
<td>141</td>
<td>133</td>
<td>57</td>
<td>48</td>
</tr>
<tr>
<td>4</td>
<td>151</td>
<td>131</td>
<td>61</td>
<td>48</td>
</tr>
<tr>
<td>5</td>
<td>121</td>
<td>98</td>
<td>52</td>
<td>41</td>
</tr>
<tr>
<td>6</td>
<td>126</td>
<td>107</td>
<td>51</td>
<td>33</td>
</tr>
<tr>
<td>7</td>
<td>113</td>
<td>104</td>
<td>52</td>
<td>48</td>
</tr>
<tr>
<td>Total</td>
<td>893</td>
<td>778</td>
<td>422</td>
<td>326E-2,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>419</td>
</tr>
<tr>
<td>Mg</td>
<td>126</td>
<td>111</td>
<td>60</td>
<td>47 Mt-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>86</td>
</tr>
</tbody>
</table>

\[ F = 64.5 \]

Significant at the .01 and .05 level of confidence.

categories time the deviation square was computed. In the number
time the deviation square (\( nd^2 \)), a variance between groups of 30, 954
existed. The "f" ratio revealed a clear significant difference at the
.01 and .05 levels of confidence in connection with the distribution
of responses.

After the pre- and post- administration of the check list, each underachiever was instructed to label the underlined concerns as A, B, or C:

A. Serious concern, but nothing can be done about it.
B. Serious concern, with someone's help I think I can solve it.
C. Serious concern, but with individual effort I can solve it myself.

Table 5 presents the results of the comparison of the initial distribution of responses. To determine the change of attitude in the

**TABLE 5**

A SUMMARY OF THE ANALYSIS OF VARIANCE OF THE MOONEY PROBLEM CHECK LIST FORM J OVER THREE SCORING CATEGORIES FOR THE EXPERIMENTAL AND CONTROL GROUP OF UNDERACHIEVERS

<table>
<thead>
<tr>
<th>Categories</th>
<th>Experimental Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>1. Cannot be Solved</td>
<td>216</td>
<td>198</td>
</tr>
<tr>
<td>2. With Assistance Can be Solved</td>
<td>189</td>
<td>206</td>
</tr>
<tr>
<td>3. I can Solve</td>
<td>263</td>
<td>176</td>
</tr>
<tr>
<td>Total</td>
<td>668</td>
<td>580</td>
</tr>
<tr>
<td>Mean</td>
<td>223</td>
<td>193</td>
</tr>
</tbody>
</table>

\[ F = 6.931 \]
\[ P = .05 \]

Significant at .05 level of confidence.
three scoring categories in the readministration of the instrument
nine weeks later, all twenty-six underachievers, the experimental and
control subjects were administered the check list.

An analysis of variance of the three categories in the modified
Mooney Problem Check List, Form J for the pre- and post-test scores
provided a significant difference of 6.931 at the .05 level of con-
fidence. The "F" test revealed an overwhelming significant difference
at both the .05 and .01 levels of confidence.

Summary and interpretation.--The interpretation delineated in
the preceding paragraphs should give an approximation of the re-
liability of the effect of individual and group counseling on under-
achievers. More specifically, the effect is manifested in the im-
provement of academic performance. The subsequent interpretive
summaries can be made.

1. In Table 1, it may be noted that each group was composed
of thirteen underachievers. The I.Q.'s ranged from 104
to 119 in the experimental group and 105 to 121 in the
control group. The mean for the experimental group was
110.9 and for the control group the mean was 111.2.

2. Table 2, which gives a comparison of the grade-point-
averages earned by the experimental and control groups
prior to the experimental period, compares and reveals no
significant difference for grade-point-average for each
group. It may be important that there was a standard
error or mean of .24 for the experimental group and .20
for the control group. The experimental group's mean
was 1.83 and the control group's was 1.71.

3. Table 3, which compares the grade-point-averages earned by
the experimental and control groups following the period
of experimentation, reveals statistically reliable dif-
ference at the .05 level of confidence and indicates that
individual and group counseling elevated the grade-point
averages of the experimental group of underachievers.
The experimental group mean was 2.12 and the control group
mean was 1.59 at the culmination of the experimental period.
4. Table 4, a pre- and post- comparison of the distribution of responses to the Mooney Problem Check List, Form J revealed a difference at the .05 and .01 levels of confidence. However, the highly significant difference is questionable. There is such a wide range of differences.

5. Table 5, is a summary of the analysis of variance of the Mooney Problem Check List, Form J over three scoring categories for the control and experimental groups. There was no significant difference at the .01 level, but the difference existed at the .05 level between groups in conjunction with recognizing major concerns and how to resolve them.
CHAPTER III

SUMMARY, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

Problem and methodology.--The purpose of the study was to evaluate the outcomes of group and individual counseling on a group of seventh-grade underachievers. It was hoped that counseling in either setting, group or individual, would ameliorate the academic performance of the experimental group and the group's perception of itself in relation to concerns and its attitudes toward resolving them.

In January, 1967, the study was initiated at Hampstead Hill Junior High School, Baltimore, Maryland. A class of 381 seventh-graders was administered the Otis Quick-Scoring Mental Ability Test, Beta, Form CM. Twenty-six underachievers whose academic performance was below their appraised intellectual abilities on the Otis Quick-Scoring Mental Ability Test, Beta, Form CM were participants in the study.

After the group had been divided into two equivalent groups of thirteen each, the experimental group was further divided into two smaller groups by random sampling.

The problem to which this thesis was devoted was an experimental determination of the efficacy of individual and group counseling on seventh-grade underachievers. However, the crux of the experiment was
to evaluate the procedures and techniques utilized.

The procedural steps in the study included the following:

1. Permission was secured from the Baltimore City School officials to conduct the study.

2. The literature germane to the study was surveyed.

3. The *Otis Quick-Scoring Mental Ability Test, Beta, Form CM* was administered to members of the seventh grade class.

4. All students who were not achieving on the basis of their appraised intellectual ability on the *Otis Quick-Scoring Mental Ability Test, Beta, Form CM* were selected.

5. Grade-point-averages for the students whose I.Q.'s ranged from 100 to 128 were computed.

6. The selected population was divided into two equivalent groups: one group was designated to be the experimental group and the other the control group.

7. The *Mooney Problem Check List, Form J* was administered to the underachievers in the experimental and control groups prior to the experiment.

8. The concerns underlined on the check list were a basis for themes in the group counseling sessions.

9. The following group themes were discussed in the group counseling sessions; these themes were based on the underachievers' responses on the *Mooney Problem Check List, Form J*:
   
   a. "Problem Parents"
   b. "Concern Over Academic Ability"
   c. "Home and Family Concerns"
   d. "Sometimes Nobody Loves Me"
   e. "My Health and Physical Development"
   f. "My Vices at School"

10. The students were placed in equivalent groups prior to the administration of the *Mooney Problem Check List, Form J*.

11. Possible scheduling problems were checked and students with similar schedules were selected, but there was no sample bias.

12. The experimental study began after the third grading period.
13. The experimental group was exposed to nine-weeks of individual and group counseling; most of the counseling sessions were tape-recorded so as to make possible accurate descriptions which were included in the thesis.

14. Each group session was forty-minutes in length and each individual counseling session was twenty-five to thirty minutes in length.

15. Each student in the experimental group received a minimum of three individual counseling sessions and nine group sessions.

16. Each group was subjected to the Mooney Problem Check List, Form J at the culmination of the experiment.

17. Grade-point-averages for the experimental and control groups were determined following the experimental period.

18. The performance on the pre- and post-tests for both groups were compared. Fisher's "t" test, an analysis of variance and an "F" ratio, were used to determine the significance of the difference between the two means.

19. Results extracted from the data collected were synthesized; conclusions, in conjunction with the study, were formulated, and implications and recommendations were drawn and made in accord with needs discovered.

Summary of related literature.--The survey of literature divulged that very little research has been executed on the junior high school level with reference to group and individual counseling as it affects the grade-point-averages of underachievers. Most of the studies implementing group and individual counseling entailed self concepts and modifying behavior on the senior high school or college level.

Numerous studies concerning the efficacy of group and individual counseling on grade-point-averages have reported no improvement. Some studies, however, revealed significant differences in improvement of the experimental groups. Therefore, the unanimity of some successful
results evince that counseling techniques should be tried on the junior high school level. After, all, many educators contend that "under-achievement may be a symptom of decay in our society." Then considering this statement, it appears expedient to detect underachievers at an early stage in their development.

John Kurtz, in an effort to discern causal factors for under-achievement listed the subsequent factors: home conditions, peer relations, physical and mental well-being, academic inclination, aspiration and prospective for the future.\(^1\)

In 1956, Calhoun implemented a study at the eighth grade level. The study presented clear positive manifestation for the values of counseling underachievers. One factor in the study that may warrant some consideration was that Calhoun's procedure was quite definite and more structured than it ordinary is counseling. Students were presented with the evidence of their underachievement, encouraged to analyze the causes, and plan ways of correcting it. It may be that, in conjunction with their particular problem, such method had a more direct effect than those in which focus was on the more subtle aspects of motivation and personal relationships.

Research by Calhoun resulted in significant changes following individual counseling. A standardized achievement test battery was administered prior to the individual counseling. After several weeks of counseling, the same test battery was administered. Achievement test scores did not improve, but a significant increment in grade-point

averages was discernible.¹

Lifton also cited some group counseling procedure with under-achieving students in which academic efficiency improved and anti-social behavior decreased. One of his approaches was utilized in a Sullivan, Illinois high school. Lifton explained that the counselor asked boys and girls who were failing in school to participate in group counseling sessions with students who were not doing so well. After several sessions, feelings of security were established among group members and all received support and help from one another.²

With quite a different kind of population, Sheldon and Landsman aimed their study at evaluating college students in scholastic difficulty. They included some potentially capable college students who were not performing at a level commensurate with their ability to join an academic methods course. Both groups met five times a week for one semester. The usual lecture and discussion methods were utilized with both groups. However, the experimental group substituted two of its periods each week with nondirective group therapy. Evaluation at the termination of the semester revealed that the experimental group obtained significantly higher grade-point-averages.³

Since conflicts found in empirical research cited may be ascribed to many divergent factors such as approaches, age groups, grade levels, possible theoretical backgrounds and research structure, it seems clear that there are some "unique advantages" in individual and group counseling for underachievers.

Nevertheless, the research available has indicated the necessity of more investigations on the influence of group and individual counseling on the total development of junior high school underachievers.

Summary of findings.--A statistical evaluation of the study revealed the effectiveness of individual and group counseling on seventh grade underachievers.

1. No significant difference at the .05 level of confidence was revealed in comparing the I.Q.'s for the experimental and control groups.

2. No significant difference existed between either group's grade-point-averages prior to the experiment.

3. The mean grade-point averages for the experimental group increased from 1.83 to 2.12 subsequent to counseling.

4. There was a decrement in the mean grade-point averages of the underachievers in the control group from 1.71 to 1.59.

5. The "f" ratio indicated a mean of 126 with the pre-test and 111 with the post-test for the experimental group on the Mooney Problem Check List, Form J.

6. A mean of 47 in the readministration in the post-test existed in the control group.

7. There was a statistically significant reliable difference at the .01 and .05 levels of confidence in the experimental group of underachievers.

8. An analysis of variance manifested an overwhelming significance of a difference of 6.93 in perception of problems favoring the experimental group.
9. The findings in this research were somewhat consistent with previously reported research in that most studies did reveal an improvement in the grade-point averages. However, most of the studies were on the senior high or college level.

Conclusions.---The data and findings justify several conclusions:

1. Underachievers who received counseling showed significant changes in academic performances from the pre to post-counseling period. By contrast, the underachievers in the control group showed no improvement.
   a. Counseling seemed to ameliorate grade-point averages.
   b. Counseling seemed to modify the student's perception of problems somewhat.
   c. The success of underachievers can be improved significantly by counseling.

2. An essential element implicit in the study was that control group underachievers may not have been aware of their underachievement.
   a. Underachievers in the control group did not experience interaction with their peers in a counseling situation.
   b. There was no change to bring about a catharsis of feelings in an individual or group setting because they were not exposed to any form of counseling.

3. The administration of the Mooney Problem Check List, Form J revealed students' ability to perceive problems in both groups.
   a. The differences in mean for the experimental and control groups were extreme.
   b. Participants in group and individual counseling sessions made greater gains in perception of self in relation to their problems.

Implications.---Specific implications were derived from the findings in this study.

1. Group and individual counseling benefited underachievers.

2. Both counseling procedures were salutary in precluding some serious or less serious concerns.

3. Empirical evidence revealed more maturity in decision making for the underachievers receiving counseling.
4. Many factors influence underachievement even if counseling is utilized.

5. Adequate individual and group counseling for a longer duration would have a significant impact on the over-all academic performance of students who are underachievers.

Recommendations.--The results are predicated on several factors:

1. Further study to determine the vast significance of a difference in the responses on the Mooney Problem Check List, Form J is needed.

2. More empirical research should be conducted in the junior high school in counseling with underachievers.

3. There is a need for early identification of underachievers in the junior high school.

4. The writer feels that the involvement of parents and teachers will improve the efficacy of assisting underachievers.

5. Underachievers should be presented with evidence of their underachievement and be encouraged to plan and analyze ways of correcting their problems of underachievement.

In conclusion, the writer can agree that further research in the area of counseling underachievers will eliminate some frustrations encountered by teachers of these students and assist the students in their over-all adjustment. In fact, counseling underachievers may decrease the overwhelming "lost of talent in our society."
BIBLIOGRAPHY

Books


Manuals


Public Documents

Periodicals


Unpublished Materials


Other Sources

University of Chicago. Personal interview with Dr. Benjamin Bloom, March 19, 1966 at Atlanta University, Atlanta, Georgia.
VITA

Williams, Joyce Ann

Education: B.A., Texas Southern University, Houston, Texas; Graduate study at the Ohio State University, Columbus, Ohio and Loyola College, Baltimore, Maryland.

Field of Concentration: Undergraduate - Spanish, English Graduate - Guidance and Counseling, Reading and Psychology.


Personal Information: Single - age 23

APPENDIXES
The Quick-Scoring Series

The Otis Quick-Scoring Mental Ability Tests comprise three tests, called Alpha, Beta, and Gamma. The three tests are designed for grades as follows:

- Alpha Test..... Grades 1-4
- Beta Test...... Grades 4-9
- Gamma Test... High Schools and Colleges

The Alpha Test, both in the regular and the short form, consists entirely of pictures. The Beta and Gamma Tests originally were revisions and extensions of the Intermediate and Higher Examinations, respectively, of the Otis Self-Administering Tests of Mental Ability. New forms EM and FM of both the Beta and the Gamma Tests have been equated to the older forms.

Purpose of the Tests

The purpose of the three tests in the series is to measure mental ability — thinking power or the degree of maturity of the mind.

It should be understood from the outset that it is not possible to measure mental ability directly. It is possible only to measure the effect mental ability has had in enabling the pupil to acquire certain knowledge and mental skill. Of course, the answering of some types of questions depends less upon schooling and more upon mental ability than the answering of others, and in making up the test the aim has been for the most part to choose that kind of question which depends as little as possible on schooling and as much as possible on thinking.

However, in the interest of variety it has been found necessary and even advantageous to include in verbal tests of mental ability, such as the Beta and Gamma Tests, certain questions which might seem at first glance to be mere measures of achievement. This type includes questions on vocabulary, arithmetic reasoning, etc. It must be remembered, however, that any test which involves the use of language can measure mental ability only to the extent to which we may assume that pupils of the same age have had approximately the same opportunity to learn. Consequently, if a pupil has grown up with limited educational opportunities, especially with reference to language, his mental ability is not fairly measured by any test involving language. But in a given community in which all children have approximately the same educational opportunities, it is reasonable to assume that a pupil who progresses rapidly in school and learns much has greater mental ability for his age than one who progresses less rapidly and learns less. To this extent, therefore, certain achievement questions such as vocabulary and arithmetic-reasoning questions, even though depending on language, do measure mental ability.

Alternative Forms

There are six forms of the Beta Test. Forms A and B are published in a smaller size for hand scoring only. Forms CM, DM, EM, and FM are for machine scoring or hand scoring.

Special Features

The tests are self-administering. It is necessary merely to pass out the booklets, allow the pupils time to study the first page with a minimum of directions, and then let them go ahead and take the test. A single examiner may administer the tests to all the classes of a moderate-sized school in a day, by devoting a few minutes to start one class taking the test, leaving the class in care of the teacher, and going on to the next class, etc. This is a good way to assure reasonable uniformity of procedure in giving the tests.
In addition to the ease of administration which these tests afford by virtue of their single time limit, a method of stencil scoring is provided by which the tests may be rapidly scored.

Provision is made in Forms CM, DM, EM, and FM for the pupil to put his answers to all the questions on one sheet of the test booklet. This sheet is called the Answer Sheet and appears as page 2. To use the Answer Sheet, the pupil tears it off from the rest of the booklet and slips it under the booklet in such a way that the spaces for the answers appear just to the right of the test page.

A row of 5 spaces like this: 1 2 3 4 5 on the Answer Sheet corresponds to each question. The spaces are numbered consecutively and arranged so as to align perfectly with the questions on the test paper in order to make sure the pupil will not put his answer mark in the wrong row of spaces.

To indicate his answer to a question, the pupil makes a vertical mark in the space that has the same number as the answer he has chosen, like this: 1 2 3 4 5.

The Answer Sheet is then scored by a stencil key containing holes so spaced that if the pupil has put his mark in the right space it will show through the hole in the Key; otherwise not. To score the paper, it is necessary merely to count the marks that can be seen through the holes in the Key. One application of the Key is sufficient, of course, to score the whole test.

Experience shows that this is the quickest possible method of scoring a test "by hand," so to speak. Its principal advantage is that the scorer does not have to look at each answer to see whether a cross is in or not in a given square or circle — he disregards all wrong answers completely and merely counts right ones. It is by reason of this scoring feature that the tests are called "Quick-Scoring Tests."

The test may be scored also by the International Business Machines Corporation scoring machine. For this purpose a special Separate Answer Sheet must be used. It is used in the same way as the Attached Answer Sheet but is printed and sold separately. Special mechanical pencils must be used by the pupils when marking the machine-scored Answer Sheet. Special Directions for Administering with the Machine Scoring Answer Sheet are given on the next page.

**Directions for Administering**

Two separate sets of directions for administering are furnished — one for use with the Attached Answer Sheet (see col. 2, this page) and the other for use with the Machine Scoring Answer Sheet (see col. 1, page 3). Be sure to use the appropriate directions. Give all directions slowly and distinctly, with a pause after each sentence.

To administer Beta, Form CM, DM, EM, or FM, address the pupils as follows:

**Use the following directions with the Attached Answer Sheet.** (Directions for Machine Scoring Answer Sheet are given on next page.)

"We are now going to give you some tests that measure your ability to think. I will pass out the test papers and as soon as you receive one, read the first page and do what it tells you to do; that is, fill the blanks, giving your name, age, etc., and answer the sample questions. "Do not open or turn over the booklet. Part of the test is to see if you can follow directions."

Have the test papers passed, one to each pupil, right side up; that is, with the title page up.

Allow a reasonable time for all to finish reading the first page; then say: "Is there anyone who does not understand how to answer the samples?" Be sure all do.

Instruct the pupils to tear the Answer Sheet off from the rest of the booklet. See that every pupil is supplied with two pencils and an eraser. It is better not to have the pencils too sharp, principally because it is better to have the pupils make wide marks.

Then say: "You are to put your marks in the spaces on the Attached Answer Sheet.

"Slip the Answer Sheet under the edge of page 3 so that the column of spaces marked 'Page 3' is alongside page 3 like this. (Show by holding up page 3 with the "Page 3" column of the Answer Sheet close to page 3 of the booklet.) Notice that the arrow tips on the Answer Sheet point directly toward the arrow tips on page 3. In answering the first question, you put a mark in one of the spaces in the first row, and so on.

"When you finish page 3, pull out the Answer Sheet a little way like this (Show,) so that you can see the column of answers for page 4, and do page 4. Always keep the Answer Sheet shoved under the booklet so that the column of the Answer Sheet on which you are working is close to the test paper.

"When you come to page 5, fold page 6 under like this (Show how,) so that you can get the 'Page 5' column of the Answer Sheet close to page 5 of the booklet like this. (Show.)

"Never put more than one mark in any row of spaces.

"Is there anyone who does not understand what to do?" (Answer any questions about how to take the test.) Then say:

"As explained in the paragraph below the samples, the test contains eighty questions. You are not expected to be able to answer all of them, but do the best you can. You will be allowed a half hour. Try to get as many right as possible. Be careful not to go so fast that you make mistakes. Do not spend too much time on any one question. No questions about the test will be answered after the test begins.

"Now go ahead and answer the questions. Remember to make heavy black marks." (Continue with directions on page 3, column 2.)
Use the following directions with the Machine Scoring Answer Sheet.

"We are now going to give you some tests that measure your ability to think. I will pass out the test papers with the Separate Answer Sheets inserted. As soon as you receive the Answer Sheet, fill the blanks here (Point to place on Answer Sheet.), giving your name, age, etc. Do not write anything on the test booklet.

"Do not open or turn over the test booklet. Part of the test is to see if you can follow directions."

Give each pupil a test paper with the Separate Answer Sheet inserted. Pass out the mechanical pencils, and then say:

"Read this front page of the test booklet carefully. You see that there are spaces here for recording answers. (Hold up booklet and point to the spaces.) DO NOT put the answers to the samples in these spaces. You are not to mark the test booklet in any way.

"If you look in the upper left-hand corner of the Answer Sheet (Hold up an Answer Sheet and point to the spaces for answers to sample.), you will see spaces for the answers to sample questions a, b, and c. Put your answers to the samples in these spaces. Read the front page of the test booklet and answer the sample questions." Allow a reasonable time for all to finish reading the first page; then say: "Is there anyone who does not understand how to answer the samples?" Be sure all do.

Then say: "All your answers are to be marked in the spaces on the Answer Sheet.

"Slip the Answer Sheet under the edge of page 3 so that the column of spaces marked 'Page 3' is alongside page 3 like this. (Show by holding up page 3 with the "Page 3" column of the Answer Sheet close to page 3 of the booklet.) Notice that the arrow tips on the Answer Sheet point directly toward the arrow tips on page 3. In answering the first question, you put a mark in one of the spaces in the first row, and so on.

"When you finish page 3, pull out the Answer Sheet a little way like this (Show.) so that you can see the column of answers for page 4, and do page 4. Always keep the Answer Sheet shoved under the booklet so that the column of the Answer Sheet on which you are working is close to the test paper.

"When you come to page 5, fold page 6 under like this (Show how.) so that you can get the 'Page 5' column of the Answer Sheet close to page 5 of the booklet like this. (Show.)

"Never put more than one mark in any row of spaces.

"In making your marks on the Answer Sheet, move your pencil up and down two or three times so as to make a heavy black mark filling the space between the two dotted lines in each case.

"Is there anyone who does not understand what to do?" (Answer any questions about how to take the test.) Then say:

"As explained in the paragraph below the samples, the test contains eighty questions. You are not expected to be able to answer all of them, but do the best you can. You will be allowed a half hour. Try to get as many right as possible. Be careful not to go so fast that you make mistakes. Do not spend too much time on any one question. No questions about the test will be answered after the test begins.

"Now go ahead and answer the questions. Remember to make heavy black marks."

(Continue here.)

Write immediately on the board the exact time when the pupils begin to take the test. It is helpful to write on the board also the time the pupils must stop work. Thus, if pupils are started at 1:17, write this on the board and under it write 1:47. Or set your watch exactly on the hour and when it is exactly half past the hour by your watch, the time will be up.

It should be understood by the examiner that no questions about the test are to be answered which might give the pupils the slightest help in answering the questions; that is, the examiner or teacher may not explain the meaning of any word or give any hints. It is permissible at the beginning of the examination for the examiner to move quietly about the room to make sure that the pupils are indicating their answers in the proper manner (making heavy black marks), and if during the examination a pupil becomes confused on account of the use of the Separate Answer Sheet, it is permissible, of course, to explain to him how to proceed. Thereafter it is better for the teacher to remain seated at her desk so that the room is quiet and the pupils may work undisturbed.

The one in charge of timing the test should be particularly impressed with the need to watch the time carefully, for it is very easy to forget the time and let the pupils work more than the time allowed.

After exactly 30 minutes, say: "Stop! Lay your pencil down."

If the Attached Answer Sheet is used, have the Answer Sheets collected, then have the pupils write their names at the top of page 3 of the booklet, and have the booklets collected. If the Machine Scoring Answer Sheet is used, have the Separate Answer Sheets and the test booklets collected at once.

Directions for Scoring

Hand scoring

A Key for scoring the Attached Answer Sheet is included in each package of tests.

The pupils have been instructed to be sure not to put more than one mark in any row of spaces. However, if in the case of any item two marks have been put in the same row of spaces, draw a colored line through the row of answer spaces and give no credit for that item.
To score an Answer Sheet, lay the Key over the Answer Sheet in such a way that two of the heavy arrows on the Answer Sheet show through the holes of the Key and point directly toward the two arrows on the Key. The Key will then be adjusted so that all the marks that the pupils have made in the right spaces will show through the holes. The number of marks so appearing is the pupil’s score. This score should be written in the space provided at the top of the title page.

Ordinarily in scoring this test there is no need to mark the answers right or wrong but merely to count them, for only the total score is of significance. To avoid errors in counting, after the numbers right have been counted, continue the count with the wrong and omitted items and make sure that you end with 80.

In the interest of accuracy it is well for each Answer Sheet to be scored independently by two persons. If this is done, the score obtained by the first scorer may be written at the foot of the page. Then, after the next scorer has scored the paper and compared his count with that made by the first scorer and found it correct, enter the raw score in the box provided for it on the Answer Sheet.

Directions for Recording Scores

In each package of tests there is included a Class Record which provides for the recording of scores of a class. Before entering the scores on the Class Record, arrange the Answer Sheets either in alphabetical order or in order of magnitude of score, according to preference. Then enter the name of each pupil, his age in years and months, and his score.

Note that provision is made on the Class Record for entering later the IQ of the pupil and any additional data, such as percentile rank in the class or school, classification designation, etc., and for entering the median age, median score, etc., if desired.

Provision is made at the foot of page 2 of the Class Record for distributing the scores of a class or a school. After the marks are all entered, count those in each interval and write the number in the column headed “Freq.” (Frequency).

To find the median (middle) score, count from either end of the distribution to the middle mark. If the middle mark falls, say, in the interval 50–54, sort out the papers whose scores fall in this interval, and, if the median is the third mark in the interval, find the score on the third paper in that bunch of papers. That score is the median score of the class.

Distributions of Scores

Table 1 shows the distributions of scores by ages of 12,983 sixth-grade pupils in Form A. About half are from a large city in Ohio and about half from towns and villages of New York State. The median age of these pupils was 12 years and 4 months and the median score 42 points.

### Table 1. Distributions of Scores by Ages of 12,983 Sixth-Grade Pupils in the Otis Quick-Scoring Mental Ability Tests: Beta Test, Form A

<table>
<thead>
<tr>
<th>AGE LAST BIRTHDAY</th>
<th>TOTALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>6,285</td>
</tr>
<tr>
<td>10</td>
<td>4,359</td>
</tr>
<tr>
<td>11</td>
<td>5,017</td>
</tr>
<tr>
<td>12</td>
<td>2,262</td>
</tr>
<tr>
<td>13</td>
<td>566</td>
</tr>
<tr>
<td>14</td>
<td>45</td>
</tr>
<tr>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>17</td>
<td>2</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>12,983</td>
</tr>
</tbody>
</table>

Median age: 12 yr., 4 mo. Median score: 42
This table is given partly to show what wide ranges of ages and ability are found in a single grade. Of course, the average classroom does not show quite as wide a range of ages and scores, but nearly so. The need for dividing the pupils of such a grade into more homogeneous groups and the method of doing so are given below under the heading “Application of Results” (page 8).

**Norms**

If a large number of 12-year pupils take a test and the scores are arranged in order, the median or middle score is considered just normal for 12-year pupils and is said to be the norm for the age of 12 years. Table 2a gives the norms for the various ages of pupils taking Beta, Form CM or DM. Table 2b gives the norms for pupils taking Beta, Form EM or FM.

**Table 2a. Age Norms for Beta: Forms CM and DM**

<table>
<thead>
<tr>
<th>YEARS</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18 or over</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>10</td>
<td>17</td>
<td>24</td>
<td>31</td>
<td>37</td>
<td>43</td>
<td>47</td>
<td>54</td>
<td>56</td>
<td>57</td>
<td>-------------</td>
</tr>
<tr>
<td>1</td>
<td>11</td>
<td>18</td>
<td>25</td>
<td>32</td>
<td>38</td>
<td>42</td>
<td>44</td>
<td>48</td>
<td>50</td>
<td>52</td>
<td>54 55 56</td>
</tr>
<tr>
<td>2</td>
<td>11</td>
<td>18</td>
<td>26</td>
<td>32</td>
<td>38</td>
<td>44</td>
<td>48</td>
<td>50</td>
<td>52</td>
<td>54</td>
<td>55 56</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
<td>19</td>
<td>26</td>
<td>33</td>
<td>39</td>
<td>44</td>
<td>48</td>
<td>50</td>
<td>52</td>
<td>55</td>
<td>56 56</td>
</tr>
<tr>
<td>4</td>
<td>13</td>
<td>20</td>
<td>27</td>
<td>33</td>
<td>39</td>
<td>45</td>
<td>49</td>
<td>51</td>
<td>53</td>
<td>55</td>
<td>56 56</td>
</tr>
<tr>
<td>5</td>
<td>13</td>
<td>20</td>
<td>27</td>
<td>34</td>
<td>40</td>
<td>45</td>
<td>49</td>
<td>51</td>
<td>53</td>
<td>55</td>
<td>56 56</td>
</tr>
<tr>
<td>6</td>
<td>14</td>
<td>21</td>
<td>28</td>
<td>34</td>
<td>40</td>
<td>45</td>
<td>50</td>
<td>52</td>
<td>55</td>
<td>57</td>
<td>57 57</td>
</tr>
<tr>
<td>7</td>
<td>14</td>
<td>21</td>
<td>28</td>
<td>35</td>
<td>41</td>
<td>46</td>
<td>50</td>
<td>52</td>
<td>55</td>
<td>57</td>
<td>57 57</td>
</tr>
<tr>
<td>8</td>
<td>15</td>
<td>22</td>
<td>29</td>
<td>35</td>
<td>41</td>
<td>46</td>
<td>50</td>
<td>54</td>
<td>56</td>
<td>57</td>
<td>57 57</td>
</tr>
</tbody>
</table>

**Table 2b. Age Norms for Beta: Forms EM and FM**

<table>
<thead>
<tr>
<th>YEARS</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18 or over</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>9</td>
<td>14</td>
<td>21</td>
<td>29</td>
<td>35</td>
<td>41</td>
<td>46</td>
<td>50</td>
<td>53</td>
<td>56</td>
<td>56 57</td>
</tr>
<tr>
<td>1</td>
<td>10</td>
<td>15</td>
<td>22</td>
<td>30</td>
<td>36</td>
<td>41</td>
<td>47</td>
<td>51</td>
<td>53</td>
<td>56</td>
<td>56 56</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
<td>15</td>
<td>23</td>
<td>30</td>
<td>36</td>
<td>42</td>
<td>47</td>
<td>51</td>
<td>54</td>
<td>56</td>
<td>56 56</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>15</td>
<td>23</td>
<td>31</td>
<td>37</td>
<td>43</td>
<td>47</td>
<td>51</td>
<td>54</td>
<td>56</td>
<td>56 56</td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td>17</td>
<td>24</td>
<td>31</td>
<td>37</td>
<td>44</td>
<td>48</td>
<td>52</td>
<td>54</td>
<td>56</td>
<td>56 56</td>
</tr>
<tr>
<td>5</td>
<td>10</td>
<td>17</td>
<td>24</td>
<td>32</td>
<td>38</td>
<td>44</td>
<td>48</td>
<td>52</td>
<td>55</td>
<td>56</td>
<td>56 56</td>
</tr>
<tr>
<td>6</td>
<td>11</td>
<td>18</td>
<td>25</td>
<td>32</td>
<td>38</td>
<td>44</td>
<td>48</td>
<td>50</td>
<td>53</td>
<td>55</td>
<td>57 57</td>
</tr>
<tr>
<td>7</td>
<td>11</td>
<td>18</td>
<td>25</td>
<td>33</td>
<td>39</td>
<td>45</td>
<td>49</td>
<td>52</td>
<td>55</td>
<td>57</td>
<td>57 57</td>
</tr>
<tr>
<td>8</td>
<td>12</td>
<td>19</td>
<td>26</td>
<td>33</td>
<td>39</td>
<td>45</td>
<td>49</td>
<td>53</td>
<td>56</td>
<td>57</td>
<td>57 57</td>
</tr>
<tr>
<td>9</td>
<td>12</td>
<td>20</td>
<td>27</td>
<td>34</td>
<td>40</td>
<td>45</td>
<td>49</td>
<td>53</td>
<td>56</td>
<td>57</td>
<td>57 57</td>
</tr>
<tr>
<td>10</td>
<td>13</td>
<td>20</td>
<td>27</td>
<td>34</td>
<td>40</td>
<td>46</td>
<td>50</td>
<td>53</td>
<td>56</td>
<td>57</td>
<td>57 57</td>
</tr>
<tr>
<td>11</td>
<td>14</td>
<td>21</td>
<td>28</td>
<td>35</td>
<td>41</td>
<td>46</td>
<td>50</td>
<td>53</td>
<td>56</td>
<td>57</td>
<td>57 57</td>
</tr>
</tbody>
</table>

Table 2a is read as follows: The norm for the age of 8 years 0 months on Beta CM or DM is 10 points of score; the norm for the age of 11 years 3 months is 33 points, etc. Table 2b is read in a similar manner.

The norms in Table 2a are based in part on the scores of 16,242 pupils in Beta, Form A; in part on a comparison of scores in Beta and scores in the Intermediate Examination of the Otis Self-Administering Tests of Mental Ability made by means of an experiment in which 3259 pupils in Grades 4 to 9 took Beta, Forms A and B, and Form A of the Intermediate Examination; in part on a comparison between Beta, Form A, and Alpha, Nonverbal, in which 512 pupils in Grades 4 and 5 took both these tests; in part on a comparison between Beta, Form CM, and Gamma in which 742 pupils in Grades 7, 8, and 9 took both these tests; and in part on two experiments in which Beta, Form CM, was compared with Beta, Form A, using groups of 780 and 1068 pupils in Grades 4 to 9. The norms in Table 2b are based on a comparison of scores on Beta EM and FM with CM, by means of an experiment in which 3107 pupils in Grades 5 to 9 took part.

Local norms for different localities differ markedly. The norms in Tables 2a and 2b, therefore, should not be thought of as necessarily representative of any particular section of the country but rather as representative of the country as a whole.

These norms apply to a first test. If a pupil takes a second form of the test later, it is necessary to make a correction for familiarity with the test before using Tables 2a and 2b. (See “Practice Effect” below.)

**Practice Effect**

When a pupil takes a second form of a test within a short time after the first form, he tends to make a better score on the second test. This increase in score is generally called “practice effect.”

It was found that when a second form of Beta was given two days after the first form, the practice effect was about 4 points. This means that to render the second score of a pupil comparable to the first score if the tests were taken two days apart, 4 points should be subtracted from the second score.

Practice effect decreases, of course, as the length of time between tests increases. Possibly the amount of practice effect would drop to about 3 points if the interval were a week; to 2 points if the interval were a month; to 1 point if the interval were three months or more.

Whenever it is desired to find a Mental Age or IQ (see below) from the score of a pupil in a second test, the proper correction should be made for practice effect in the second score before comparing it with the norm for the pupil's age in Tables 2a and 2b or before finding the pupil's Mental Age.

**Mental Ages**

Some examiners wish to express scores in terms of Mental Age. The term “Mental Age” originally meant the age for which a pupil’s score was normal or median. Thus, if a pupil makes a score just normal or median for pupils 10 years old, he is said to have a Mental Age (MA) of 10 years.
TABLE 3 b. Mental Ages Corresponding to Scores in Beta:
Forms CM and DM

<table>
<thead>
<tr>
<th>SCORE MA</th>
<th>SCORE MA</th>
<th>SCORE MA</th>
<th>SCORE MA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 6-8</td>
<td>21 9-7</td>
<td>41 12-8</td>
<td>61 16-0</td>
</tr>
<tr>
<td>2 6-10</td>
<td>22 9-8</td>
<td>42 12-10</td>
<td>62 16-2</td>
</tr>
<tr>
<td>3 7-0</td>
<td>23 10-0</td>
<td>43 13-0</td>
<td>63 16-4</td>
</tr>
<tr>
<td>4 7-1</td>
<td>24 10-9</td>
<td>44 13-9</td>
<td>64 16-6</td>
</tr>
<tr>
<td>5 7-3</td>
<td>25 10-1</td>
<td>45 14-3</td>
<td>65 16-8</td>
</tr>
<tr>
<td>6 7-5</td>
<td>26 10-3</td>
<td>46 13-6</td>
<td>66 16-10</td>
</tr>
<tr>
<td>7 7-7</td>
<td>27 10-6</td>
<td>47 13-8</td>
<td>67 17-0</td>
</tr>
<tr>
<td>8 7-8</td>
<td>28 10-7</td>
<td>48 13-10</td>
<td>68 17-2</td>
</tr>
<tr>
<td>9 7-10</td>
<td>29 10-9</td>
<td>49 14-0</td>
<td>69 17-4</td>
</tr>
<tr>
<td>10 8-0</td>
<td>30 10-10</td>
<td>50 14-2</td>
<td>70 17-6</td>
</tr>
<tr>
<td>11 8-2</td>
<td>31 11-0</td>
<td>51 14-4</td>
<td>71 17-8</td>
</tr>
<tr>
<td>12 8-3</td>
<td>32 11-2</td>
<td>52 14-6</td>
<td>72 17-10</td>
</tr>
<tr>
<td>13 8-5</td>
<td>33 11-4</td>
<td>53 14-8</td>
<td>73 18-0</td>
</tr>
<tr>
<td>14 8-7</td>
<td>34 11-6</td>
<td>54 14-10</td>
<td>74 18-2</td>
</tr>
<tr>
<td>15 8-9</td>
<td>35 11-8</td>
<td>55 15-0</td>
<td>75 18-4</td>
</tr>
<tr>
<td>16 8-10</td>
<td>36 11-10</td>
<td>56 15-2</td>
<td>76 18-6</td>
</tr>
<tr>
<td>17 9-0</td>
<td>37 12-0</td>
<td>57 15-4</td>
<td>77 18-8</td>
</tr>
<tr>
<td>18 9-2</td>
<td>38 12-2</td>
<td>58 15-6</td>
<td>78 18-10</td>
</tr>
<tr>
<td>19 9-3</td>
<td>39 12-4</td>
<td>59 16-8</td>
<td>79 19-0</td>
</tr>
<tr>
<td>20 9-5</td>
<td>40 12-8</td>
<td>60 15-10</td>
<td>80 19-2</td>
</tr>
</tbody>
</table>

According to this assumption, artificial mental ages are assigned to scores above age 13. This is called “extrapolation.” This extrapolation method is used also with the Binet Scale.

According to the above method tables of Mental Ages (Tables 3a and 3b) have been drawn up.

Table 3a is read as follows: A score of 1 in Beta CM or DM denotes a Mental Age of 6 years 8 months; a score of 61 may be treated as denoting a Mental Age of 16 years 0 months (though actually it is 4 points above the norm for adults). Table 3b is read in a similar manner.

### Measuring Brightness

Pupils making the same score in the test are presumed to have the same mental ability or, as we say, the same Mental Age even though their actual ages (spoken of as “chronological ages”) are not the same. That is, as explained above, a pupil who makes a score equal to the norm for the age of 10 years is said to have a Mental Age of 10 years, whether the pupil is 10 years old or 9 years old or 11 years old.

A 10-year pupil who has a Mental Age of 11 years is brighter than normal, and a measure of his brightness is often found by dividing his Mental Age of 11 years by his “chronological age” of 10 years (11 + 10 = 1.10). The decimal point is then dropped and the 110 is called the pupil’s Intelligence Quotient (IQ). Intelligence Quotients so found cluster most thickly around 100, but in a few instances go above 150 or below 50. They are distributed according to the “law of normal distribution.”

A study of the dispersion of IQ’s of various populations aggregating 100,000 pupils tested by various group tests of mental ability showed standard deviations of IQ’s ranging from 10 to 19 points of IQ for the various populations, the median value of the standard deviations of IQ being between 15 and 16 points; hence theoretically about \( \frac{1}{100} \) of 1% of pupils make IQ’s of 150 or over, \( \frac{3}{100} \) of 1% of pupils make IQ’s of 142 or over, and so on as shown in Table 4.

### Table 4. Per Cents of Pupils Making Various IQ’s

<table>
<thead>
<tr>
<th>This per cent of pupils make these IQ’s:</th>
<th>This per cent of pupils make these IQ’s:</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \frac{1}{4} ) of 1%</td>
<td>150 or over</td>
</tr>
<tr>
<td>( \frac{1}{2} ) of 1%</td>
<td>142 or over</td>
</tr>
<tr>
<td>( \frac{3}{4} ) of 1%</td>
<td>136 or over</td>
</tr>
<tr>
<td>( \frac{3}{4} ) of 1%</td>
<td>130 or over</td>
</tr>
<tr>
<td>( \frac{3}{4} ) of 1%</td>
<td>125 or over</td>
</tr>
<tr>
<td>( \frac{3}{4} ) of 1%</td>
<td>121 or over</td>
</tr>
<tr>
<td>( \frac{3}{4} ) of 1%</td>
<td>117 or over</td>
</tr>
<tr>
<td>( \frac{3}{4} ) of 1%</td>
<td>105 or over</td>
</tr>
<tr>
<td>( \frac{3}{4} ) of 1%</td>
<td>101 or over</td>
</tr>
</tbody>
</table>

A measure of brightness comparable to the IQ can be found from scores of pupils in the Beta Test according to the method below. Although the measures are not quotients, they are called “Beta IQ’s” because they are comparable to IQ’s.
To find a pupil’s “Beta IQ,” proceed as follows:

1. Find the norm for the pupil’s age from Table 2a or 2b, depending upon the form taken.
2. Find the amount by which the pupil’s score exceeds (or falls below) the norm for his age. Call this is “deviation of score.”
3. Add the pupil’s deviation of score to 100 (or subtract from 100 if the deviation is downward). The result is the pupil’s “Beta IQ.”
4. If a pupil’s score is above 70, it is to be augmented before proceeding with Steps 2 and 3 above. Treat a score of 71 as though it were 72. Treat a score of 72 as though it were 74, etc., according to Table 5.

As a sample of Step 4, suppose a pupil of 16 years months makes a score of 75. The norm for 16 years months is 55. To find his deviation of score, treat the score of 75 as though it were 80, subtract 55 from 80 (answer 25), and add 25 to 100, yielding an “IQ” of 25.

Various determinations of the dispersions of “Beta IQ’s” yield standard deviations of “IQ” from 10 to 7 points for various populations. The standard deviation of “IQ’s” of 32,139 pupils of Pittsburgh derived from scores in the Intermediate Examination (similar to Beta) was 16.2 points. It is believed that “Beta IQ’s” tend to be somewhat less dispersed than IQ’s obtained by the division method from group tests in general (that is, they tend to be somewhat nearer to 100); therefore allowance should be made for this fact when comparing “Beta IQ’s” with ordinary IQ’s from other tests.

However, the above method is recommended as yielding measures of brightness that are more consistent and constant for a given individual than ordinary IQ’s.

Reliability and Validity of the Beta Test

By “reliability” is meant the degree of precision with which a test measures what it measures.

One common measure of the reliability of a test is the coefficient of correlation between two forms of the test. Table 6 gives the coefficients of correlation between Forms A and B in Grades 4 to 9 of a large school system, the average number of pupils per coefficient being 86. The average of the 12 coefficients is .79. For Grades 4 to 9 combined the coefficient is .96.

Another measure of reliability is the coefficient of correlation between odd and even items of a single test. This is virtually a correlation between two forms of a short test each half as long as the full test, the two tests being given, we might say, simultaneously.

It is customary, then, to correct the coefficients of correlation between the half tests by the Spearman-Brown formula to obtain the corresponding coefficient for two full-length tests given under the same circumstances.

The coefficients of correlation for the odd and even items of one test (Form CM) are as shown in Table 7a.

The average of the six corrected coefficients in Table 7a is .86, which is 7 points higher than .79, the average of the coefficients of Table 6. This deficiency of 7 points in the coefficients of Table 6 is due to the instability of the pupils themselves. That is, if pupils remained as constant in ability from day to day as from moment to moment, so to speak, the coefficients in Table 6 would be as high as the coefficients in Table 7a.

Table 7b shows the coefficients of correlation for odd and even items for Form Em.

Another measure of reliability which is entirely independent of the degree of heterogeneity of the group is the standard error of measurement. By “standard error of measurement” is meant the amount by which any pupil’s actual score may differ from his “true” score in two cases out of three.

In the case of 465 pupils in Grades 4 to 9 the standard error of measurement was 4.0 points.

That is, a pupil’s score will be in error not more than 4.0 points in 66⅔% of cases.
By validity of a test is meant the degree to which it measures the ability it is designed to measure. Or we might say, it is the degree to which it serves its purpose.

Now the purpose of the Beta Test is most generally that of finding the degree of brightness of a pupil; that is, obtaining some measure (such as the IQ) that indicates the probable rate of progress the pupil will make in school. This being the case, it follows that actual rate of progress of pupils through school is the most appropriate criterion of the validity of the Beta Test.

This criterion is the one that was used in the development of the Otis Intermediate Examination, from which most of the items of Forms CM and DM of the Beta Test were taken. The method is described in the Manual for Otis Self-Administering Tests of Mental Ability (page 3). The determination of the validity of each item consisted of comparing the number of passes of that item by a group of pupils who were making rapid progress through school with the number of passes of the item by a group of pupils who were making slow progress through school. Only those items were used which showed a distinct gain in number of passes of the rapid-progress pupils over the number of passes of the slow-progress pupils. Each item justified its inclusion, therefore, because it contributed definitely to the capacity of the test to measure brightness as reflected in rate of progress through school.

When Forms EM and FM were prepared, difficulty and validity indices \(^1\) were computed for each item in these new forms. Since all pupils in the item-analysis experiment took Form CM as well as one of the new forms, difficulty and validity indices were also computed for the items in the older Form CM. The final items in EM and FM were selected to match those in CM in terms of difficulty, validity, and item type. The mean difficulty for Grades 6 and 7 combined on each of the three forms was found to be approximately 60%. The mean validity index of the test items in each form was approximately .45.

Since the Otis Quick-Scoring Mental Ability Tests will be used mainly for the prediction of scholastic success, it is important that there be some objective evidence of the relation ship between performance on the Otis test and school achievement. In Table 8 are shown the correlations between Otis scores and scores on the subtests of Form J of the Stanford Achievement Test for single grade ranges.

The Otis tests and the Stanford Achievement Test used in these correlations were administered within a month of one another. However, it seems reasonable to assume that if the Otis tests had been administered sometime previous to the achievement test the correlations would not vary greatly.

**Application of Results**

**Purposes of mental ability tests.** The principal purposes for which mental tests are given are these:

1. For teaching purposes, to discover which pupils are bright and capable of doing better school work than they are doing and to discover which pupils are dull and may be attempting work beyond their capacity.

2. For administrative purposes, to regrade pupils so that the pupils in any one grade will be more homogeneous in mental ability and therefore able to progress more nearly the same rate than otherwise.

3. For administrative purposes, to classify pupils into separate groups within grades in order that the brighter or the more mature pupils may be given an enriched curriculum and in order that the dullest or the less mature pupils may be allowed to progress at a slower rate.

Such classifying is sometimes done on the basis of an intelligence quotient (dividing the pupils on the basis of mental maturity) and sometimes on the basis of IQ (dividing the pupils on the basis of brightness). The first of these methods is recommended.

4. For research purposes, to obtain two or more groups of equal mental ability or brightness which may be given different methods of instruction for the purpose of determining which method is superior.

5. For guidance purposes, to assist pupils to choose wisely in planning their educational, recreational, and vocational programs.

6. For administrative purposes, to determine the comparative mental status of pupils of different schools or localities.

<table>
<thead>
<tr>
<th>Table 8. Correlations between Otis Quick-Scoring Mental Ability Tests, Beta Test, and Stanford Achievement Test Form J</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OTIS SCORE</strong></td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>1. Paragraph Meaning</td>
</tr>
<tr>
<td>2. Word Meaning</td>
</tr>
<tr>
<td>3. Spelling</td>
</tr>
<tr>
<td>4. Language</td>
</tr>
<tr>
<td>5. Arithmetic Reasoning</td>
</tr>
<tr>
<td>6. Arithmetic Computation</td>
</tr>
<tr>
<td>7. Social Studies</td>
</tr>
<tr>
<td>8. Science</td>
</tr>
<tr>
<td>9. Study Skills</td>
</tr>
</tbody>
</table>

---

\(^1\) Difficulty values for each item were computed by averaging the per cents passing each item in the upper and lower 27% of the item-analysis population. Validity indices are approximations of the item-total score correlations obtained from the upper-lower 27% groups by means of the Flanagan table.
Tables for Deriving IQ’s on
OTIS QUICK-SCORING MENTAL ABILITY TEST

BETA: FORM $C_M$ or $D_M$

Directly from Score and Chronological Age

This three-page table provides a means of getting IQ’s on Forms $C_M$ and $D_M$
of the Beta test more simply than by the three-step process described in the
Manual of Directions. (The two methods result in identical IQ’s.)

To get a student’s IQ: Note the column whose heading includes his CA and
the row corresponding to his obtained score. Read off his IQ from the inter-
section of this row and column. (Illustration: CA = 9 – 11, Score = 31. The
IQ is 107.)

If a large number of IQ’s are to be obtained, it will save time to sort the an-
swer sheets according to the CA ranges shown in the column headings, then
get all the IQ’s for one CA-column before proceeding to the next. (Folding
the table to bring the Score scale adjacent to each successive CA-column is
suggested.)

When the number of tests is exceedingly large, it will pay to make a second
sort, that by score within each CA-grouping. The IQ for a given CA – Score
combination is obtained only once, then recorded on all appropriate answer
sheets.

TEST DEPARTMENT
HARCOURT, BRACE & WORLD, INC.
<table>
<thead>
<tr>
<th>CA-10-4</th>
<th>CA-10-3</th>
<th>CA-10-2</th>
<th>CA-10-1</th>
<th>CA-10-0</th>
<th>CA-11-1</th>
<th>CA-11-2</th>
<th>CA-11-3</th>
<th>CA-11-4</th>
<th>CA-11-5</th>
<th>CA-11-6</th>
<th>CA-11-7</th>
<th>CA-11-8</th>
<th>CA-11-9</th>
<th>CA-11-10</th>
<th>CA-11-11</th>
<th>CA-11-12</th>
<th>CA-11-13</th>
<th>CA-11-14</th>
</tr>
</thead>
<tbody>
<tr>
<td>163</td>
<td>162</td>
<td>161</td>
<td>160</td>
<td>159</td>
<td>158</td>
<td>157</td>
<td>156</td>
<td>155</td>
<td>154</td>
<td>153</td>
<td>152</td>
<td>151</td>
<td>150</td>
<td>149</td>
<td>148</td>
<td>147</td>
<td>146</td>
<td>145</td>
</tr>
<tr>
<td>161</td>
<td>160</td>
<td>159</td>
<td>158</td>
<td>157</td>
<td>156</td>
<td>155</td>
<td>154</td>
<td>153</td>
<td>152</td>
<td>151</td>
<td>150</td>
<td>149</td>
<td>148</td>
<td>147</td>
<td>146</td>
<td>145</td>
<td>144</td>
<td>143</td>
</tr>
<tr>
<td>159</td>
<td>158</td>
<td>157</td>
<td>156</td>
<td>155</td>
<td>154</td>
<td>153</td>
<td>152</td>
<td>151</td>
<td>150</td>
<td>149</td>
<td>148</td>
<td>147</td>
<td>146</td>
<td>145</td>
<td>144</td>
<td>143</td>
<td>142</td>
<td>141</td>
</tr>
<tr>
<td>157</td>
<td>156</td>
<td>155</td>
<td>154</td>
<td>153</td>
<td>152</td>
<td>151</td>
<td>150</td>
<td>149</td>
<td>148</td>
<td>147</td>
<td>146</td>
<td>145</td>
<td>144</td>
<td>143</td>
<td>142</td>
<td>141</td>
<td>140</td>
<td>139</td>
</tr>
<tr>
<td>155</td>
<td>154</td>
<td>153</td>
<td>152</td>
<td>151</td>
<td>150</td>
<td>149</td>
<td>148</td>
<td>147</td>
<td>146</td>
<td>145</td>
<td>144</td>
<td>143</td>
<td>142</td>
<td>141</td>
<td>140</td>
<td>139</td>
<td>138</td>
<td>137</td>
</tr>
<tr>
<td>153</td>
<td>152</td>
<td>151</td>
<td>150</td>
<td>149</td>
<td>148</td>
<td>147</td>
<td>146</td>
<td>145</td>
<td>144</td>
<td>143</td>
<td>142</td>
<td>141</td>
<td>140</td>
<td>139</td>
<td>138</td>
<td>137</td>
<td>136</td>
<td>135</td>
</tr>
<tr>
<td>151</td>
<td>150</td>
<td>149</td>
<td>148</td>
<td>147</td>
<td>146</td>
<td>145</td>
<td>144</td>
<td>143</td>
<td>142</td>
<td>141</td>
<td>140</td>
<td>139</td>
<td>138</td>
<td>137</td>
<td>136</td>
<td>135</td>
<td>134</td>
<td>133</td>
</tr>
<tr>
<td>149</td>
<td>148</td>
<td>147</td>
<td>146</td>
<td>145</td>
<td>144</td>
<td>143</td>
<td>142</td>
<td>141</td>
<td>140</td>
<td>139</td>
<td>138</td>
<td>137</td>
<td>136</td>
<td>135</td>
<td>134</td>
<td>133</td>
<td>132</td>
<td>131</td>
</tr>
<tr>
<td>147</td>
<td>146</td>
<td>145</td>
<td>144</td>
<td>143</td>
<td>142</td>
<td>141</td>
<td>140</td>
<td>139</td>
<td>138</td>
<td>137</td>
<td>136</td>
<td>135</td>
<td>134</td>
<td>133</td>
<td>132</td>
<td>131</td>
<td>130</td>
<td>129</td>
</tr>
<tr>
<td>145</td>
<td>144</td>
<td>143</td>
<td>142</td>
<td>141</td>
<td>140</td>
<td>139</td>
<td>138</td>
<td>137</td>
<td>136</td>
<td>135</td>
<td>134</td>
<td>133</td>
<td>132</td>
<td>131</td>
<td>130</td>
<td>129</td>
<td>128</td>
<td>127</td>
</tr>
<tr>
<td>143</td>
<td>142</td>
<td>141</td>
<td>140</td>
<td>139</td>
<td>138</td>
<td>137</td>
<td>136</td>
<td>135</td>
<td>134</td>
<td>133</td>
<td>132</td>
<td>131</td>
<td>130</td>
<td>129</td>
<td>128</td>
<td>127</td>
<td>126</td>
<td>125</td>
</tr>
</tbody>
</table>

IQ's on Otis Beta, Form C_{M} or D_{M} (Cont'd)
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>147</td>
<td>146</td>
<td>145</td>
<td>144</td>
<td>143</td>
<td>142</td>
<td>141</td>
<td>140</td>
<td>139</td>
<td>138</td>
<td>137</td>
<td>136</td>
<td>135</td>
<td>134</td>
</tr>
<tr>
<td>79</td>
<td>145</td>
<td>144</td>
<td>143</td>
<td>142</td>
<td>141</td>
<td>140</td>
<td>139</td>
<td>138</td>
<td>137</td>
<td>136</td>
<td>135</td>
<td>134</td>
<td>133</td>
<td>132</td>
</tr>
<tr>
<td>78</td>
<td>143</td>
<td>142</td>
<td>141</td>
<td>140</td>
<td>139</td>
<td>138</td>
<td>137</td>
<td>136</td>
<td>135</td>
<td>134</td>
<td>133</td>
<td>132</td>
<td>131</td>
<td>130</td>
</tr>
<tr>
<td>77</td>
<td>141</td>
<td>140</td>
<td>139</td>
<td>138</td>
<td>137</td>
<td>136</td>
<td>135</td>
<td>134</td>
<td>133</td>
<td>132</td>
<td>131</td>
<td>130</td>
<td>129</td>
<td>128</td>
</tr>
<tr>
<td>76</td>
<td>139</td>
<td>138</td>
<td>137</td>
<td>136</td>
<td>135</td>
<td>134</td>
<td>133</td>
<td>132</td>
<td>131</td>
<td>130</td>
<td>129</td>
<td>128</td>
<td>127</td>
<td>126</td>
</tr>
<tr>
<td>75</td>
<td>137</td>
<td>136</td>
<td>135</td>
<td>134</td>
<td>133</td>
<td>132</td>
<td>131</td>
<td>130</td>
<td>129</td>
<td>128</td>
<td>127</td>
<td>126</td>
<td>125</td>
<td>124</td>
</tr>
<tr>
<td>74</td>
<td>135</td>
<td>134</td>
<td>133</td>
<td>132</td>
<td>131</td>
<td>130</td>
<td>129</td>
<td>128</td>
<td>127</td>
<td>126</td>
<td>125</td>
<td>124</td>
<td>123</td>
<td>122</td>
</tr>
<tr>
<td>73</td>
<td>133</td>
<td>132</td>
<td>131</td>
<td>130</td>
<td>129</td>
<td>128</td>
<td>127</td>
<td>126</td>
<td>125</td>
<td>124</td>
<td>123</td>
<td>122</td>
<td>121</td>
<td>120</td>
</tr>
<tr>
<td>72</td>
<td>131</td>
<td>130</td>
<td>129</td>
<td>128</td>
<td>127</td>
<td>126</td>
<td>125</td>
<td>124</td>
<td>123</td>
<td>122</td>
<td>121</td>
<td>120</td>
<td>119</td>
<td>118</td>
</tr>
<tr>
<td>71</td>
<td>129</td>
<td>128</td>
<td>127</td>
<td>126</td>
<td>125</td>
<td>124</td>
<td>123</td>
<td>122</td>
<td>121</td>
<td>120</td>
<td>119</td>
<td>118</td>
<td>117</td>
<td>116</td>
</tr>
<tr>
<td>70</td>
<td>127</td>
<td>126</td>
<td>125</td>
<td>124</td>
<td>123</td>
<td>122</td>
<td>121</td>
<td>120</td>
<td>119</td>
<td>118</td>
<td>117</td>
<td>116</td>
<td>115</td>
<td>114</td>
</tr>
</tbody>
</table>

IQ's on Otis Beta, Form C_M or D_M (Cont'd)
OTIS QUICK-SCORING MENTAL ABILITY TESTS

By ARTHUR S. OTIS, PH.D.

Formerly Development Specialist with Advisory Board, General Staff, United States War Department

BETA TEST: FORM DM

For Grades 4-9

IQ............. Score...........

Read this page. Do what it tells you to do.

Do not open this booklet, or turn it over, until you are told to do so.

Fill these blanks, giving your name, age, birthday, etc. Write plainly.

Name........................................... Age last birthday ....... years

First name, initial, and last name

Birthday.............................. Teacher.......................... Date.............

Month Day

Grade........ School...................... City and state............................

This is a test to see how well you can think. It contains questions of different kinds. Here are three sample questions. Five answers are given under each question. Read each question and decide which of the five answers below it is the right answer.

Sample a: Which one of the five things below is soft?

1. glass 2. stone 3. cotton 4. iron 5. ice

The right answer, of course, is cotton; so the word cotton is underlined. And the word cotton is No. 3; so a heavy mark has been put in the space under the 3 at the right. This is the way you are to answer the questions.

Try the next sample question yourself. Do not write the answer; just draw a line under it and then put a heavy mark in the space under the right number.

Sample b: A robin is a kind of

1. plant 2. bird 3. worm 4. fish 5. flower

The answer is bird; so you should have drawn a line under the word bird, and bird is No. 7; so you should have put a heavy mark in the space under the 7. Try this one:

Sample c: Which one of the five numbers below is larger than 55?

1. 53 2. 48 3. 29 4. 57 5. 16

The answer, of course, is 57; so you should have drawn a line under 57, and that is No. 14; so you should have put a heavy mark in the space under the 14.

The test contains 80 questions. You are not expected to be able to answer all of them, but do the best you can. You will be allowed half an hour after the examiner tells you to begin. Try to get as many right as possible. Be careful not to go so fast that you make mistakes. Do not spend too much time on any one question. No questions about the test will be answered by the examiner after the test begins. Lay your pencil down.

Do not turn this booklet until you are told to begin.


Copyright in Great Britain. All rights reserved

PRINTED IN U.S.A. BETA/DM-20

This test is copyrighted. The reproduction of any part of it by mimeograph, hectograph, or in any other way, whether the reproductions are sold or are furnished free for use, is a violation of the copyright law.
<table>
<thead>
<tr>
<th>Page 6</th>
<th>Page 5</th>
<th>Page 4</th>
<th>Page 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>61 62 63 64 65</td>
<td>41 42 43 44 45</td>
<td>25 27 28 29 30</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>64</td>
<td>45</td>
<td>22</td>
<td>1</td>
</tr>
<tr>
<td>66 67 68 69 70</td>
<td>46 47 48 49</td>
<td>31 32 33 34 35</td>
<td>2</td>
</tr>
<tr>
<td>65</td>
<td>46</td>
<td>26</td>
<td>2</td>
</tr>
<tr>
<td>67</td>
<td>47</td>
<td>27</td>
<td>3</td>
</tr>
<tr>
<td>68</td>
<td>48</td>
<td>29</td>
<td>4</td>
</tr>
<tr>
<td>69</td>
<td>49</td>
<td>30</td>
<td>5</td>
</tr>
<tr>
<td>70</td>
<td>50</td>
<td>31</td>
<td>6</td>
</tr>
<tr>
<td>71</td>
<td>51</td>
<td>32</td>
<td>7</td>
</tr>
<tr>
<td>72</td>
<td>52</td>
<td>33</td>
<td>8</td>
</tr>
<tr>
<td>73</td>
<td>53</td>
<td>34</td>
<td>9</td>
</tr>
<tr>
<td>74</td>
<td>54</td>
<td>35</td>
<td>10</td>
</tr>
<tr>
<td>75</td>
<td>55</td>
<td>36</td>
<td>11</td>
</tr>
<tr>
<td>76</td>
<td>56</td>
<td>37</td>
<td>12</td>
</tr>
<tr>
<td>77</td>
<td>57</td>
<td>38</td>
<td>13</td>
</tr>
<tr>
<td>78</td>
<td>58</td>
<td>39</td>
<td>14</td>
</tr>
<tr>
<td>79</td>
<td>59</td>
<td>40</td>
<td>15</td>
</tr>
<tr>
<td>80</td>
<td>60</td>
<td>41</td>
<td>16</td>
</tr>
<tr>
<td>81</td>
<td>61</td>
<td>42</td>
<td>17</td>
</tr>
<tr>
<td>82</td>
<td>62</td>
<td>43</td>
<td>18</td>
</tr>
<tr>
<td>83</td>
<td>63</td>
<td>44</td>
<td>19</td>
</tr>
<tr>
<td>84</td>
<td>64</td>
<td>45</td>
<td>20</td>
</tr>
</tbody>
</table>

Non. This Answer Sheet is not intended for machine scoring.
Examination begins here.

1. Which one of the five things below does not belong with the others?
   - horse (1)    dog (2) camel (3) fish (4) bear (5)

2. Which one of the five answers below tells best what a gun is?
   - shoot (1)    a weapon (2) a tool (3) an apparatus (4) a thing (5)

3. Which one of the five words below means the opposite of east?
   - north (1)    pole (2) west (3) equator (4) south (5)

4. A hat is to a head and a glove is to a hand as a shoe is to what?
   - leather (1)   a foot (2) a shoestring (3) walk (4) a toe (5)

5. A child who has accidentally broken another child’s toy should —
   - say he didn’t do it (1) say nothing (2) throw it away (3) say, “I’m sorry” (4)

6. Which one of the five things below is the smallest?
   - an ankle (1)   a leg (2) a toe (3) a knee (4) a foot (5)

7. Which word means the opposite of fail?
   - lose (1) succeed (2) rise (3) recede (4) give up (5)

8. Three of the four designs at the right are alike. Which one is not like the other three?

9. Which one of the five things below is most like these three: a violin, a radio, a harp?
   - music (1) a chair (2) a stove (3) a piano (4) a bow (5)

10. An elbow is to an arm as a knee is to what?
    - an ankle (1) a leg (2) trousers (3) a bone (4) a man (5)

11. What word means the opposite of comfort?
    - discomfort (1) hard (2) sickness (3) discomfort (4) painful (5)

12. If you are sure you are right, you have —
    - pride (1) doubt (2) safety (3) confusion (4) confidence (5)

13. Which answer tells best just what a gate is?
    - a hole in a fence (1) something to swing on (2) It has hinges (3)
      a door in a fence (4) It opens and shuts (5)

14. A parasol is to sunshine as an umbrella is to what?
    - the sun (1) rain (2) night (3) winter (4) black (5)

15. At 6 cents each, how many pencils can be bought for 48 cents?
    - 48 (1) 54 (2) 42 (3) 8 (4) 288 (5)

16. Three of the four designs at the right are alike. Which one is not like the other three?

17. Which one of the five things below is most like these three: an apple, a peach, and a pear?
    - a seed (1) a tree (2) a plum (3) a bud (4) a peel (5)

18. Feathers are to a bird as fur is to what?
    - a coat (1) a rabbit (2) a swan (3) a glove (4) an ostrich (5)

19. If the words below were rearranged to make a good sentence, with what letter would the last word of the sentence begin?
    - nuts from squirrels trees the gather

20. Which one of the five words below means the opposite of easy?
    - simple (1) difficult (2) tough (3) slow (4) baffling (5)

21. If a person walking in a quiet place suddenly hears a loud sound, he is likely to be —
    - stopped (1) struck (2) made deaf (3) startled (4) angered (5)

22. One number is wrong in the following series: 6 1 6 2 6 3 6 4 6 5 6 7
    - What should that number be? 11 8 12 6 15 13 4 13 5 (6)

23. Which one of the five things below is most like these three: a snake, a cow, and a sparrow?
    - a tree (1) a doll (2) a feather (3) a pig (4) a skin (5)

24. Steam is to a locomotive as what is to a sailboat?
    - the ocean (1) a whistle (2) a rudder (3) the wind (4) a mast (5)
25. Which one of the words below would come first in the dictionary?

- march
- ocean
- horse
- elbow
- paint

26. An automobile is to a wagon as a motorcycle is to what?

- a bicycle
- a horse
- a buggy
- a train
- walking

27. Which tells best just what a horse is?

- a large, four-legged animal
- It has a tail.
- a thing that works and eats
- a live thing
- something to pull a wagon

28. Which of these series contains a wrong number?

- 3-6-9-12-15
- 2-5-8-11-14
- 1-3-5-7-8
- 2-4-6-8-10
- 1-4-7-10-13

29. Which one of the five things below is most like these three: a skate, a baseball, and a jump rope?

- a shoe
- a club
- a scooter
- a string
- a hammer

30. Three of the four designs at the right are alike. Which one is not like the other three?

31. If the words below were rearranged to make a good sentence, the first word of the sentence would begin with what letter?

- heavier
- lead
- cork
- is
- than

32. A hospital is to the sick as what is to criminals?

- a doctor
- an asylum
- a judge
- a prison
- criminals

33. If George is older than Frank and Frank is older than James, then George is (?) James.

- younger than
- older than
- just as old as
- (cannot say which)

34. Count each 6 below that has a 9 next after it. Tell how many 6's you count.

9 6 4 6 9 3 4 9 6 7 9 9 3 6 9 4 5 9 9 6 3 1 9 6 9 0 4 9 3 6 2 9 1 7 6 9

35. An event which might happen is said to be—

- doubtful
- possible
- certain
- probable
- unreasonable

36. The daughter of my mother's brother is my—

- niece
- aunt
- cousin
- stepsister
- granddaughter

37. Better is to good as worse is to what?

- very good
- bad
- medium
- much worse
- best

38. A government in which there are graft and bribery is said to be—

- anarchistic
- corrupt
- autocratic
- inefficient
- disorganized

39. Which one of the words below would come first in the dictionary?

- bully
- button
- broad
- brass
- breakable

40. If Harry is shorter than William and Harry is taller than Charles, then Charles is (?) William.

- shorter than
- taller than
- just as tall as
- (cannot say which)

41. Which tells best what a wheel is?

- something that turns
- It goes round.
- a circular rim and hub connected by spokes
- a round thing to put on an automobile
- A bicycle always has two of them

42. Which one of the five things below is most like these three: a king, a general, and a dictator?

- a war
- a servant
- a command
- a president
- a monarchy

43. What is the most important reason that glass is used in windows?

- It is cheaper than wood.
- It permits light to pass through the window.
- It keeps out the rain and snow.
- It does not collect dust and germs.
- The people inside can watch their friends go by outside.

44. Which one of the words below would come first in the dictionary?

- bulky
- button
- broad
- brass
- breakable

(Go right on to the next page.)
45. A library is to books as (?) is to money.
   1) a store  2) a school  3) knowledge  4) a bank  5) gold

46. There is a saying, "All's well that ends well." This means that —
   1) All comes out well in the end.
   2) The success of anything is judged by the final result.
   3) Stick to a job until it is finished.
   4) Don't worry about how things will turn out.

47. If the following words were arranged in order, which word would be in the middle?
   1) foot  2) inch  3) mile  4) yard  5) rod

48. If Harry is older than William and William is just as old as Charles, then Charles is (?) Harry.
   1) older than  2) just as old as  3) cannot say which

49. A pitcher is to milk as (?) is to flowers.
   1) a stem  2) a leaf  3) a vase  4) water  5) a root

50. Three of the four designs at the right are alike. Which one is not like the other three?

51. The feeling of a father for his children is usually —
   1) contempt  2) affection  3) joy  4) pity  5) reverence

52. Which tells best just what a lie is?
   1) a mistake  2) an exaggeration  3) an accidental false statement
   4) a malicious false statement  5) a wrong answer

53. Wood is to a table as (?) is to a knife.
   1) cutting  2) a chair  3) a fork  4) a handle  5) steel

54. If the words below were rearranged to make a good sentence, the third word of the sentence would begin with what letter?
   cook chocolate the a cake made layer
   1) t  2) c  3) I  4) m  5) a

55. Which word means the opposite of guilty?
   1) tarnished  2) brave  3) unselfish  4) cordial  5) innocent

56. If a man has walked east from his home 8 blocks and then walked west 3 blocks, how many blocks is he from home?
   1) 11  2) 8  3) 3  4) 4  5) 5

57. If an act conforms to recognized principles or standards, it is said to be —
   1) legislative  2) wicked  3) legitimate  4) harmonious  5) wrong

58. A captain is to a ship as a mayor is to what?
   1) a state  2) a city  3) a council  4) a boss  5) a lawyer

59. There is a saying, "People who live in glass houses should not throw stones." This means that —
   1) The stones thrown are likely to break the glass in the houses.
   2) People should not live in glass houses.
   3) Those who have faults should not criticize others.
   4) People who live in glass houses need all the stones they have.

60. Which of the five words below is most like these three: large, red, good?
   1) very  2) size  3) color  4) apple  5) heavy

61. A revolver is to a man as what is to a bee?
   1) a wing  2) honey  3) flying  4) a sting  5) wax

62. There is a saying, "Birds of a feather flock together." This means that —
   1) Birds fly in large flocks.
   2) People associate with others like themselves.
   3) Birds in a flock have the same color.
   4) People settle in cities to be near others.

63. Three of the four designs at the right are alike. Which one is not like the other three?
64. If the following words were arranged in order, which word would be in the middle?
   Youth  Infancy  Manhood  Childhood  Birth

65. Which tells best just what a foot is?
   to wear a shoe and stocking on  Both feet are the same size.
   It has five toes and a heel  the part of the body on which an animal stands
   Men have larger feet than women

66. A statement which expresses just the opposite of that which another statement expresses is said to be a —
   lie  contradiction  falsehood  correction  explanation

67. Which one of the words below would come last in the dictionary?
   graft  leader  lively  gallop  know

68. What is the letter that precedes the letter that comes just before O in the alphabet?
   O  N  M  P  Q

69. One number is wrong in this series. 1 2 4 8 16 32 64 What should that number be?
   1 6 12 13 15 20 24

70. If I have a large box with 3 small boxes in it and 4 very small boxes in each of the small boxes, how many boxes are there in all?
   8 12 13 15 16

71. There is a saying, “All is not gold that glitters.” This means that —
   Some gold has a dull finish  Appearances are sometimes deceptive.
   Diamonds sparkle more than gold  Don’t wear cheap jewelry.
   Some people like to make a show of wealth

72. Three of the four designs at the right are alike. Which one is not like the other three?
   
73. If a photograph that is 4 in. long and 3 in. wide is enlarged to be 20 in. long, how many inches wide will it be?
   19 18 15 6 5 5

74. One number is wrong in this series.
   4 5 8 9 12 13 16 18 20 21
   What should that number be?
   6 7 10 17 14

75. When the time by a clock was 2 minutes past 4, the hands were interchanged. The clock then said about
   4 minutes past 2 2 minutes past 4 20 minutes past 12
   2 minutes of 4 20 minutes of 12

76. A car owner uses a mixture in his radiator containing 1 quart of alcohol to every 2 quarts of water. How many quarts of alcohol are needed for 21 quarts of the mixture?
   11 1 42 20 14 7

77. What letter in the following series appears a third time nearest the beginning?
   A C E B A D D C E F B E D A C C B D

78. In a foreign language para misa tela means very hard ground, para fola means soft ground, and misa roga means very many. What word means hard?
   para  misa  tela  fola  roga

79. Which one of the five words below does not belong with the others?
   efficiency  authority  accuracy  utility  durability

80. A boy is now three times as old as his sister. In 5 years he will be only twice as old. How many years old is he now?
   9 6 3 15 12
THE Mooney PROBLEM CHECK LISTS

FORMS
C—College
H—High School
J—Junior High School

ROSS L. MOONEY
LEONARD V. GORDON
Ohio State University
The Mooney Problem Check Lists

TABLE OF CONTENTS

| Purposes of the Problem Check Lists | 3 |
| Design of the Problem Check Lists   | 4 |
| Administration of the Problem Check Lists | 5 |
| Counseling with the Problem Check Lists | 5 |
| The Screening Function of the Problem Check Lists | 7 |
| Validity                             | 7 |
| Reliability                          | 9 |
| Norms — Survey Methods — Research Analysis | 9 |
| Development of the Problem Check Lists | 11 |
| Bibliography                         | 13 |

This manual is for the three educational forms — C, H, and J. There is a separate manual for the Adult form.

Instructions for Use of IBM 805 Answer Sheets, and Directions for Machine Scoring of IBM 805 Answer Sheets, for Forms CM, HM, and JM may be obtained by writing to the publisher.
Modern educational practice is based on the philosophy that the school is concerned with the “whole person.” This idea has led to changes both in the curriculum and in the varieties of personnel services which a school or college provides its students. At the center of this emphasis on the mental hygiene and pupil personnel points of view is the idea that to understand students better the school should employ methods of systematically discovering what problems are bothering them. Knowing these problems—those of each individual and those characteristic of the group itself—the school can mobilize its counseling services and adapt its curricular offerings to meet these needs. The Problem Check Lists can contribute to this process of fact-finding which undergirds intelligent plans for action.

Mooney’s Problem Check Lists were developed during the early 1940’s to help students express their personal problems. The procedure is simple. Students read through the appropriate Problem Check List—Junior High School, High School or College form—underline the problems which are of concern to them, circle the ones of most concern, and write a summary in their own words.

There is nothing mysterious about the check-list method of observing student problems. A competent counselor can elicit an expression of a counselee’s problems over a period of interviews. Observant teachers and principals infer problems from the run-of-the-day behavior of the student and from his conversations on ordinary matters. By means of the Problem Check List both of these slower methods of analyzing the student’s problems can be accelerated, and previously overlooked areas needing attention can be brought to light.

The Problem Check List is not a test. It does not measure the scope or intensity of student problems in such a way as to yield a test score. There is a temptation to treat the number of items checked as a score, but such counts must be regarded only as a “census count” of each student’s problems—limited by his awareness of his problems and his willingness to reveal them. The sections on interpretation and on research methods will outline the proper uses of these counts.

The usefulness of the Problem Check List approach lies in its economy for appraising the major concerns of a group and for bringing into the open the problems of each student in the group. The reasons for which the

Problem Check List is administered fall into five broad classes.

I. To facilitate counseling interviews
   1. To prepare students for an interview by giving them an opportunity to review and summarize their own problems and to see the full range of personal matters they might discuss with their counselor or teachers.
   2. To save time for the interviewer by providing him with a quick review of the variety of problems which are the expressed concern of the student.

II. To make group surveys leading to plans for individualized action
   1. To find out what problems young people are concerned with in their personal lives.
   2. To help locate students who want and need counseling or other personal help with problems relating to health, school, home, social relationships, personality, or other personal problems.
   3. To help locate the most prevalent problems expressed within a student body as a basis for new developments and revisions in the curricular, extracurricular, and guidance programs of a school.

III. As a basis for homeroom, group guidance and orientation programs
   1. To stimulate each student to quicker recognition and analysis of his needs.
   2. To indicate discussion topics and group activities which are related to the personal interests and needs of the students in any given group.

IV. To increase teacher understanding in regular classroom teaching
   1. To suggest approaches by which a teacher can establish a more personalized relationship with each of his students.
   2. To enable special analysis of students who are hard to “reach” or understand.

V. To conduct research on the problems of youth
   1. To show changes and differences in problems in relation to age, sex, social background, school ability, interest patterns, and the like.
   2. To discover clusters of associated problems.
   3. To measure changes brought about by a planned problem-reduction program.

---

3 Acknowledgment is due Dr. Mary Alice Price, Research Associate, Bureau of Educational Research, Ohio State University, for extensive work in the preparation of the manuals published in 1948, from which much of the material in the present manual is taken.
DESIGN OF THE PROBLEM CHECK LISTS

Each of the three forms in the educational series is printed on a six-page folder in a way that provides for ease of marking by the student and ease of summarizing by the counselor or research analyst. The present format has proved itself practical with hundreds of thousands of cases.

When the student is through checking the items, the summarizing process results in a count of checks made in the following problem areas.

COLLEGE AND HIGH SCHOOL FORMS

330 items, 30 in each area

I. Health and Physical Development (HPD)
II. Finances, Living Conditions, and Employment (FLE)
III. Social and Recreational Activities (SRA)
IV. Social-Psychological Relations (SPR)
V. Personal-Psychological Relations (PPR)
VI. Courtship, Sex, and Marriage (CSM)
VII. Home and Family (HF)
VIII. Morals and Religion (MR)
IX. Adjustment to College (School) Work (ACW) (ASW)
X. The Future: Vocational and Educational (FVE)
XI. Curriculum and Teaching Procedure (CTP)

JUNIOR HIGH SCHOOL FORM

210 items, 30 in each area

I. Health and Physical Development (HPD)
II. School (S)
III. Home and Family (HF)
IV. Money, Work, the Future (MWF)
V. Boy and Girl Relations (BG)
VI. Relations to People in General (PG)
VII. Self-centered Concerns (SC)

THE 1950 EDITIONS

The 1950 revisions of the three forms have resulted from a series of studies and analyses made over a decade. A technical and historical review of the development of the several editions appears later in this manual.

The earlier editions of each form were printed and distributed for several years by the Ohio State University Press. When The Psychological Corporation undertook the publication, the authors were ready to make changes in some of the items of the various forms, none of which alter the character or substance of the forms in any important way. The present editions, however, are described as the “1950 Revisions” to distinguish them from their immediate predecessors.

CRITERIA FOR CLASSIFYING ITEMS INTO AREAS

While developing and selecting items for the various editions of the forms, categories for the items were also developed. The criteria for the classification schemes were that the categories should:

1. Cover the range of problems collected;
2. Allow for a relatively equal number of problems in each area;
3. Be few enough in number for convenience in summarization;
4. Be pragmatic in pointing the data as much as possible in directions which would suggest programs of action related to the kinds of services which tend to be available in schools (see sections on interpretation);
5. Present a homogeneity of problem content that would facilitate meaningful interpretation by the counselor or teacher.

In each of the eleven categories in the current College and High School forms and the seven categories in the Junior High School form, 30 items are listed. After experimentation on the trial forms, 30 seemed the number best suited to cover the range of problems in each area without stretching some areas too far and compressing others too much. Although some items are apparently related to two or more classifications, each of these is listed only under the one area to which it has been found to be most relevant.

3 Users of earlier editions will find no difficulty in changing to the current forms as far as counseling students is concerned. If a school has been keeping a count of checked problems for local research purposes, the research analyst should observe that (1) several items have had minor changes in wording, (2) several items have been replaced, and (3) the order of some items has been changed.

In undertaking the present revision, the goal was to increase the utility of the instrument, to increase its reliability, and to attain a greater homogeneity within areas. This was based on the analysis of thousands of check lists filled in by young people in schools in many parts of the country. Published studies are listed in the Bibliography. Item counts were used to eliminate those problems which were of little concern to most young people, unless such items were diagnostic of particularly serious problems. For the College form, the test-retest method was used to determine the stability of the items. Items which were unstable were eliminated. A cluster analysis of the items led to the reallocation of some items to other areas, resulting in a greater homogeneity within areas and greater independence between areas. Finally, new items were obtained and rewording was suggested by the write-in statements on the back of the check lists. New items were obtained for the College form through the administration of a preliminary edition of the Adult form (9) to a college population. Items were moved from one educational form to another when studies of age trends with respect to particular items recommended such a change. In summary, the 1950 revisions are the result of extensive research based on large surveys, coupled with expert judgment and long experience with these instruments.
ADMINISTRATION OF THE PROBLEM CHECK LISTS

GENERAL

The Problem Check Lists are self-administering. All the directions needed are on the cover page. College students sometimes mark the lists outside of class. Junior high school and high school students usually mark them during a class period. When the lists are marked in class, it is convenient to read the directions out loud while the group listens. After work begins, it is well to have supervision to protect each student from interference by others. In supervising the group, however, the teacher should take care not to give the impression to the students that he may be curious about the problems they are marking. The students are making a personal report and will do best under conditions in which their private relationship to the task is carefully respected.

TIME

Experience indicates that about two-thirds of a group will finish the checking in 35 minutes and practically all of the group in 50 minutes. Individuals who are much slower should be given an opportunity to complete the check list; these persons might be just the ones most deeply involved in their problems.

ANONYMITY

For many survey and research purposes, it may be desirable to secure responses without requiring the student to reveal his identity. Class, age, sex, or other educational and social variables often are all that are needed. Where clerks and teachers, in general, are to count the problems, such anonymity may be greatly desired and in these instances the students should be so informed at the time the purpose of the study is explained to them.

If the student is filling out the Problem Check List for a particular counselor (dean, teacher, principal, or other adviser), he will, of course, need to provide his identity. This causes no difficulty in situations where rapport is such that the student trusts the promise of confidential treatment of his problems.

An intermediate situation arises in which the whole student group is to be studied for survey or research purposes and those persons whose “problem-levels” are high are to be screened out for prompt counseling. It is suggested that the counseling office prepare a set of cards bearing code numbers beginning with, say, 1001. A card is passed out with each check list. The student writes his name on the card and his number on the check list. The students should be told that only the counseling office will have access to the code, and that teachers and clerks who “score” the papers will not know the identity of any paper.

COUNTING PROBLEMS

The checked problems are summarized very easily because of the format of the check lists and the arrangement of items. Open the sheet so the three center pages are visible. The six blocks of five items each across the top are the items for the first problem area which is coded in the box at the right-hand edge of page 4. Count the circled items and enter the number in the box. Then count the items which are only underlined, add this count to the number circled, and enter the sum in the total box. (In the Junior High School form items are only underlined.) Do this for each of the problem areas, i.e., for each set of six blocks of five items each. Then total the counts for all the areas and record at the bottom. If desired, these values can be transferred to the spaces on the front cover.

4 As a matter of fact, it is probably highly desirable to provide for anonymity, or a semblance of it, wherever possible in group situations. In a recent study (7) with the Problem Check List, Fischer indicated that “the use of signatures on personal questionnaires (particularly in the case of highly personal items or serious problems)” appears to have “a relative inhibitory effect on the honesty and frankness of the people responding to them.” The same results were found by Gordon in an unpublished study.

COUNSELING WITH THE PROBLEM CHECK LISTS

When using the Problem Check List to understand an individual case, the aim is to analyze the student's problems in relation to his total life situation and to develop some plan of action, where necessary, for the guidance of the individual or for the improvement of his situation. The significance of the items which the student marks on the check list becomes apparent only when they are considered in relation to the whole case record of the student. The process of interpretation is similar to that required in the use of data from a free interview or free writing.

At all times the counselor must keep in mind that the Problem Check List is not a test. It does not yield scores on traits or permit any direct statements about the adjustment status of the person who made the responses (see below). Rather, the Problem Check List is a form of simple communication between the counselee and counselor designed to accelerate the process of understanding the student and his real problems.
Ordinarily, the counselor will want to study the counselee's responses prior to the counseling interview in which these problems may become the focus of the discussion. A useful procedure in preparing to interpret the Problem Check List data in relation to other available data is as follows.

1. Examine the identifying data on the first page.
2. On the three pages of problems count and record the number of items marked in each area and the total number of marked items.
3. Note the areas having the greater concentration of problems marked, and those with the lesser.
4. Examine the items marked, one area at a time, noting in particular the circled items.
5. Read the answers to the summarizing questions to secure a better understanding of the student's attitudes and conception of himself.
6. Examine the relationship between the summarizing statements and the items marked.
7. Examine any additional data that may be available, such as age, grade, family background, academic record, aptitude and achievement test scores, extracurricular activities, interests, etc.
8. Interrelate all this material and set up some hypothesis as to the direction that the counseling situation may most profitably take. Formulate some tentative plans for helping the student to meet his difficulties more adequately.

The use of the Problem Check List does not assume any single counseling technique. The data from the check lists are useful in counseling which must be short and necessarily limited, in counseling which is deeper and more therapeutic, and in counseling with directive or nondirective orientation.

The Problem Check List facilitates understanding of the case by the counselor. Furthermore, the counselor has, in the problems marked, a "green light" for discussion. He has a reasonable certainty that little resistance will be encountered in bringing up these problems in the counseling situation.

For the counselee, the process of "sorting out" his problems often may be immediately helpful to him in understanding himself. In fact, in the summarizing statements many students have spontaneously attested to the value of merely filling out the check list. Students characteristically remark—"Just seeing what my problems are, on paper, has been a big help," and "I have obtained a much better understanding of my problems through filling out the check list." Equally often, the students express relief in realizing how few problems they really have.

When the Problem Check List is used as an aid in understanding the individual, or as a basis for counseling, a number of points should be kept in mind.

1. The items marked by the individual should be considered as symbols of the experiences and situations which comprise his problem world. The items or problems checked should not be mistaken for the problem world itself.
2. Two students may mark the same problem or an identical pattern of problems, and yet the problem world of the two would not be identical because the orientation of each is in terms of his unique experience.
3. Some problems may be marked with only vague notions as to their specific meaning in concrete situations, while others may be marked with very clear reference to specifics.
4. Problems marked are not of equal significance; one item may prove to be more indicative of a substantial blockage in the life of an individual than a dozen others which he may also have marked.
5. The fact that a student has a problem is not in itself "bad." Whether a problem is to be taken as "bad" or "good" or "neutral" in an individual case depends on whether it signifies a point in progression toward growth or signifies a point of imbalance toward excessive frustration. The same item in one case may be "bad" and in another case "good."
6. Students who cannot recognize their problems or who fear to express them may well be in a worse situation than those who are free in their recognition and expression.
7. An outside observer may see that a given problem exists for a student, though the student himself may not recognize that such a problem exists for him.
8. Students will check only those problems which they are willing to acknowledge under the specific circumstances in which the Problem Check List is given. If they are afraid the data will not be treated fairly, if they become confused by some extraneous circumstances at the time of administration, or if they generally misunderstand what they are to do with the check list or the purposes for which the data are to be used, they will limit their responses.

In the light of such points, it is clearly necessary to evaluate the problems marked by the individual in terms of his particular environmental and psychological situation and in terms of the particular circumstances under which the Problem Check List was given. Only then can interpretation result in a realistic appreciation of the individual's problem world and, subsequently, in guidance that is appropriate in concrete situations. Merely counting problems is not enough for these purposes.
THE SCREENING FUNCTION OF THE PROBLEM CHECK LISTS

The number of problems checked is of value when the Problem Check List is used as a screening device to discover students for whom personal counseling seems desirable or necessary. Four cues are available for selecting students for counseling, depending on the purposes of screening and the training and availability of counselors. Students may be located by these indications.

1. By their responses to the last question. This question asks whether they wish to confer with someone on the checked problems or any other problems. Students who say they want to talk to someone about their problems are logical choices for counseling, since they are presumably more ready to receive help. If they know the particular person with whom they wish to talk, opportunity can be afforded them to see this person. Otherwise, an assigned counselor can conduct the interviews, with the check list at hand as a good starting point for the consultation.

2. By the number of problems marked on the check list. Students whose total number of problems is in the upper 25 per cent of the local distribution may be likely candidates for counseling. These students have shown themselves to be expressive about many problems and are likely to be appreciative of the opportunity for further exploration through conferences. Gordon (9) found that a direct relationship exists between the number of problems marked and the desire for counseling; all of those students in the upper 10 per cent in number of problems marked desired counseling and the large majority of those in the upper 25 per cent desired it.

3. By the number of problems marked in a particular area. Students who mark unusually large numbers of problems in any particular area may also be helped by counseling, especially in situations where there are counselors who are equipped to deal with the specific types of problems appearing in special areas. For example, students who lack motivation for academic work because they do not have a definite vocational goal may be referred to the vocational counselor for information and for help in formulating more definite plans.

4. By responses to particular items. Some items are clear-cut in their implication that aid may be given by the school or community to any student marking them. For example, a student who marks “needing to decide on an occupation” may, on this basis alone, be screened out for referral to a vocational counselor. Students marking “poor teeth” may be selected for initial referral to the school’s dentist. Other items are similarly useful in selecting particular cases for referral to special services which may be available.

VALIDITY

If the Problem Check Lists were personality tests designed to predict definite patterns of behavior, the process of validation would be simply that of determining the extent to which the predicted behavior patterns corresponded with actual behavior as judged by other criteria. The check lists, however, are not built as tests. They are used for a variety of purposes and are so constructed that the obtained data must be considered in the light of many other factors. Several general uses for the check lists are suggested earlier in this manual, and for each of these the data must be studied in terms of particular people in specific situations. A single over-all index of the validity of the check lists would be therefore quite meaningless.

Experience with the Problem Check Lists enables us, however, to evaluate certain aspects of their usefulness in terms of the assumptions on which they were built and the purposes for which they were intended. When the check lists were devised, it was assumed that:

1. The great majority of students would be responsive to the items;
2. They would accept the task with a constructive attitude;
3. They would find that the check lists covered reasonably well the range of personal problems with which they were concerned;
4. School administrators, teachers and counselors would find the results usable;
5. Research workers would find the check lists useful in various lines of inquiry.

Certain studies concerning these assumptions are digested below. The annotated bibliography mentions other relevant studies. Although these studies were all based on the pre-1950 editions, they apply in general terms to the current forms.

1. Responsiveness. Students check a wide range of number of items. For example, among 553 boys and girls who marked the High School form, the median number of items checked was 23; the fifth and ninety-fifth percentile numbers were 3 and 72 problems. Among 1,689 Michigan ninth graders using this same High School form (15), the mean number of items for the eleven separate problem areas ranged from 1.5 to 4.0 items. The mean number of items checked on the entire list was about 25. In the 1950 revisions many of the items
which drew relatively few responses have been rewritten or replaced. The power of an item to elicit responses will naturally vary somewhat with communities.

2. Constructive attitude. In the pre-1950 editions, there appeared questions of this kind: “Have you enjoyed filling out the list?”; “Would you like to have more chances in school to write out, think about, and discuss matters of personal concern to you?”; “If you had the chance, would you like to talk to someone about some of the problems you have marked on the list?”

For various groups, usually over 85 per cent of those responding have said “Yes” to the first question and over 70 per cent of those responding have said “Yes” to each of the last two questions. These responses indicate that if the opportunity is given to students to express their problems and to be helped with them, it would be constructively appreciated by the great majority.

The second question invites the student to request counseling services. It is typical, in the various groups which have been analyzed, to find an affirmative answer from about half of the students. This indicates that if the opportunity were given to the students to express their problems and to be helped with them, it would be constructively appreciated by the majority of those who responded to this question. Those students who say “No” to the questions above give such reasons as: “I think my personal problems should be solved by me”; “I feel I should discuss these problems at home”; “I would not like to discuss personal matters except with certain teachers”; “No—not unless there is something done about it. In my opinion there is nothing but a waste of paper if you put these things out and do nothing.” These reasons are not so much evidence of reaction against the check list, per se, as they are evidence that the students doubt the ability of the school staff to concern itself with the personal problems of students. This should provide a healthy caution. Mere use of the check lists is not enough — both intention and ability of the school staff to follow through are essential.

3. Coverage of problems. One kind of evidence is in terms of responses to the first summarizing question of the pre-1950 editions of the check lists: “Do you feel that the items you have marked on the list give a well-rounded picture of your problems?” In an unpublished study of college students, 92 per cent of those who responded to the question felt that the items they had marked gave a fairly complete picture of their problems. This conclusion has been supported by the results of other studies at the college, high school and junior high school levels.

Another approach is to ask whether the responses of selected groups, known by other criteria to have specific problems, show evidence that their problems are reflected by the check list data. For example, Stogdill and Denton compared a remedial study skills class with a mental hygiene class, each composed of 35 undergraduates matched with respect to age, sex, Ohio State Psychological Examination percentile rank, veteran status, college, and class year. Analysis of the data indicated that a significantly greater proportion of the remedial study group than the mental hygiene group marked such items as “don’t know how to study effectively,” “fearing failure in college,” “not doing anything well,” “daydreaming,” “teachers lack interest in students,” “needing to know vocational abilities,” “unable to concentrate well,” “slow in reading,” and the like. The mental hygiene class, on the other hand, marked a significantly greater proportion of such items as, “going into debt for college,” “feeling inferior,” “confused in my religious belief,” “parents expecting too much of me,” “not enough time to myself,” and “wanting courses I am not allowed to take.” The trends shown by this study indicate that problems one would expect to be characteristic of these two volunteer remedial groups are reflected by the Problem Check List.

Problems can change, even over a few days or weeks. A worthwhile method of research is to determine the degree to which the Problem Check List reflects statements of problem changes from one administration to a later one, the problem changes being determined by an independent measure. Using this method with college students, Gordon administered the check list twice to a group of 70 men and 46 women with a nine-day interval. After the second administration, the students were asked to indicate on a special mimeographed form whether any of their problems had been solved, or whether new problems had arisen during the previous nine-day period, and if so, what these problems were. The check list reflected about 83 per cent of the changes reported on the mimeographed form.

8 By Leonard V. Gordon, Ohio State University.

8 An unpublished study by Emily L. Stogdill and Jack E. Denton, entitled “Differences in Responses of Selected College Groups to Items on the Mooney Problem Check Lists,” Department of Psychology, Ohio State University, 1947.
4. Acceptance by educators and counselors. Validity by popularity is of dubious scientific merit, but it is sometimes relevant. Without any promotional effort, over a half million of the various pre-1950 Problem Check Lists have been used in a great variety of schools and colleges throughout the nation. The simple, straightforward check-list technique seems to fill a need in the area of personal evaluation.

5. Usefulness in researches. The Bibliography at the end of the manual presents brief descriptions of a few of the numerous theses and studies in which the Problem Check Lists have been among the principal research tools used for collecting data of sociological, psychological and educational import to school administrators, student counselors, psychologists, and others.

RELIABILITY

The problems of reliability of an instrument like the Problem Check List are not quite the same as those of a test for which scores are obtained.

The check list is designed to reflect the problems which a student senses and is willing to express at a given time. Since the problem world of any individual is a dynamic interrelation of changing situations and experiences, one would expect the number of items and the specific items checked to be somewhat different at each administration of the check list— if the instrument does what it has been designed to do. The well-known methods of estimating reliability, such as the test-retest, split-half and Kuder-Richardson formulas, assume that scores on the whole test or on the half-tests are meaningful measures which reflect the standing or the competence of the individual in the area measured. It is quite clear that a Problem Check List count determined by the number of checks does not necessarily reflect the various intensities of the problems marked by the student; it is not a score in the usual sense of the term. Furthermore, it is obvious that two items like "too tall" and "too short" (which appear consecutively in the Health and Physical Development area) cannot reasonably be placed into halves for a split-half reliability study.

If the data are to be used to implement understanding of the individual case, they must be capable of reflecting changes in the circumstances surrounding the individual or changes in his feeling toward these circumstances. Shifts in item responses which reflect these changes do not invalidate the data, and may well facilitate the purpose for which the check list is given. If, however, the data are to be used for survey purposes, there must be some assurance that they reflect concerns of the group which remain reasonably stable over a period of time. Evidence on this point comes from two sources. The first is an unpublished study by Gordon in which the College form of the pre-1950 revision of the Problem Check List was administered twice to 116 college students. The frequency with which each of the items was marked on the first administration was correlated with the frequency with which each of the same items was marked on the second administration. A correlation coefficient of .93 was found.

The second source is a study of four educational groups in which the Problem Check List was repeated from one to ten weeks after a first administration. The rank order of the eleven problem areas, arranged by size of mean number of problems checked in the area, remained virtually the same from one administration to the other for each of the groups. The rank order correlation coefficients varied from .90 to .98.

It can therefore be concluded that, while the Problem Check Lists must be, and are, so designed as to reflect changing situations and experiences in the individual case, they nevertheless exhibit sufficient stability to warrant general program planning on the basis of survey results.

Frequently, the process of giving expression to problems results in a different orientation and better organization of thinking so that the number of problems is reduced on a second administration of the check list. For example, when a student uses the check list for the first time he may mark three items: "poor teeth," "needing money for better health care," and "needing a part-time job now." On readministration of the check list he may mark only one problem, 'needing a part-time job now," because he feels that a part-time job is the solution to the other two.

NORMS—SURVEY METHODS—RESEARCH ANALYSIS

The Problem Check Lists yield a count for each person for each of the areas, and for the total list of items. However, it should be remembered that this count is not a real score; it is not a sum of points on a trait scale or a total of "maladjusted" choices on some trait key. It is simply a count of the problems which the student has identified as matters of concern to him.

The user quite naturally will look for a table of norms to permit comparison of a student's number of checks with a distribution of other students who may be thought of as a normative group. No such table is presented. It is believed that for such purposes local norms are the most valuable. In the earlier manual of the Problem Check Lists there were percentile tables and tables giving the means of groups. These were presented only to illustrate the way in which a school system or research
investigator might organize the data secured from mass administration of a check list to a population of students. In this edition of the manual, not even illustrative norms are presented because not enough is known yet of the drawing power of some of the new and revised items to permit an assumption that the older tables are still applicable.

Counselors should be continuously aware that the importance of the number of checks made by a single person cannot be known except from the total counseling situation. A person with many checked problems is likely to have more real problems for which counseling might be helpful, although this is not necessarily so.

Similarly the importance of the mean number of checks made by a group and the frequency distribution thereof resides, not in the magnitude of these statistics, but to a considerable extent in the purposes for which the survey of student problems was instituted. National norms based on many communities could be useful in telling a given community whether its own group seems to have more or fewer problems in each of the Problem Check List areas. Such comparisons, however, are not nearly as important as the discovery of relatively numerous or few problems in each area in relation to what the school and community may be able or willing to do about the problems.

Analyzing the Checked Problems for a Group

Suppose that a school has decided to survey the problems of its eleventh grade students with the Problem Check List. The purpose is a very broad and multiple one; namely, to identify those students most in need of help and to find the major topics of student concern so that some intelligent thinking may be devoted to what the school might do to improve its services. In earlier editions of the manuals and in various published articles there are numerous examples of such analyses of the data collected from members of groups. Space prohibits their reproduction here. A competent research analyst should be able to plan work sheets for properly bringing together in concentrated form the numerous checks made by individual pupils. Because local clerical and analytical facilities differ, no very detailed plan is given here. In stead a few major suggestions will be made.\(^{11}\)

The steps outlined below are the clerical-statistical phases of a rather complete survey. The counselor and survey administrator will want to consider the entire process before deciding which of these steps (or others) to include. Also, it is assumed that they will want to decide when it will be most valuable to review the emerging summary data for possible immediate use. For example, before turning the lists over to the analysis clerks, they may wish to go over the questions on the back page to discover those students whose responses indicate the need for immediate counseling. Similarly, as soon as the distribution of total checks is made (steps 2 and 3 which follow), they may wish to identify those students in the upper quarter in terms of number of problems checked in order to assign them to counselors.

If the data are primarily part of a comprehensive survey, step 7 may well become the first step. If responses by individual students can be punched into IBM cards, enriched analyses can be made economically — provided careful planning is done in advance of punching.

Suggested Steps

1. For each student the number of items checked in each problem area and the total for all areas should be computed and prepared in roster form. These are the raw data for most of the analyses which follow.

2. From 1 construct a distribution of the number of checks for each area and for the total.

3. From 2 compute, for each area and for the total, the median and quartile points.

4. From 2 compute the mean and such measures of variability as may be desired for each area and for the total.

5. All the foregoing should be done separately for boys and girls since the evidence is that they show different concentrations of problems. Similarly, since student problems vary with grade and age, the analyses should be either by age or grade as well.

6. The above analyses can also be made along any other relevant splits of the population, depending on the purposes of the research survey. One might want to separate college preparatory, commercial and general course students. One might wish to study the differences in problems of those who are succeeding well (e.g., above the class median) and those doing less well. There are many socio-economic divisions of the population which may be of local importance.

7. A most laborious but very fruitful type of analysis involves the tabulation of the frequency with which each of the items has been checked. Then a summary is made ranking the items in order of frequency of mention. Those problems marked by more than 30, 20 or 10 per cent of the students (whatever per cent the school decides on) may be considered for immediate solution, or at least evaluation and careful description in terms of causes and effects.

8. If the school administrator suspects that there are serious morale differences between schools or sections of the school system, the Problem Check Lists can provide objective data both for appraising the over-all level of problems and for more precise spotting of the

---

\(^{11}\) If 1,000 or more cases are to be studied and an IBM test scoring machine is available, the use of a separate IBM answer sheet and the graphic item counter may prove practicable. The publishers will be glad to advise on this subject.
more serious problems, many of which will be directly related to the morale situation.

Other kinds of statistical analyses will suggest themselves to the investigator who has a clearly thought-out purpose for making a problem survey. It is obvious that in any survey—not only with the Problem Check Lists but with achievement tests and any other evaluative measure—a design for the study is imperative if the study is to yield significant data with a minimum of administrative and clerical cost.

As a Screen

The Problem Check Lists are justified as a screening procedure even though no formal analytical research is to be carried out. On the basis of a simple distribution of the number of checks in an area and for the total list, the counseling staff can identify and assign for counseling those students who seem to have the most problems. (See page 7.)

As a Check on the Effectiveness of a Program

If a school has evidence of a serious concentration of student concern in a particular area, it may wish to test the effectiveness of its remedial processes by giving the Problem Check List before and after the application of the remedial program.

An ironic fact arises in this connection, however. A remedial program in some areas of student problems may result in a more generally “permissive” atmosphere. On the second marking of the check list the students may be more emotionally free to express their problems, with the result that there is an apparent increase in problems! Even in an anonymous situation, the students may be inhibited in expressing problems in some or all areas. The specific corrective measure may actually reduce the real problems but the changed atmosphere may lead to an increase in expressed problems.

This situation is not peculiar to the Problem Check List but is inherent in any check list, personality inventory or attitude scale. It illustrates forcefully the dangers in any “nose-counting” type of statistical analysis of data without a critical understanding of the psycho-social forces in a situation. For example, School A may have an average of 24 problems per pupil, School B an average of 32. It is not certain that School B students actually have more problems; it is only certain that its students checked more problems. Awareness of this qualifying fact should help the school staff avoid jumping too quickly to conclusions about the conditions in the school.

DEVELOPMENT OF THE PROBLEM CHECK LISTS

The Problem Check Lists originated in the desire of the senior author to systematize his methods of discovering the problems of young people. In connection with his work as an administrator and educational and psychological counselor, he felt a need for more efficient group methods of identifying problems. The possibilities of a check list approach in surveys of students in school and young people in communities were explored.

In 1941 and 1942 the first published editions of the three educational forms were ready. Two other forms—for “Students in Schools of Nursing” and for “Rural Youth”—were published in 1945 and 1946.12

The Bibliography partially reflects the great range of studies which have involved the Problem Check Lists. Some of these studies have been aimed at refinement of the check lists, others report actual surveys. Numerous other schools and colleges are known to have used the appropriate check lists in local studies, but since these have not been published or are not known to be available generally, they cannot be listed. Data from several such surveys have been shared with the author for his development of the revised forms.

SOURCE OF ITEMS

The items for the pre-1950 editions of the various forms were selected and developed from a master list of over 5,000 items from the following sources.

1. Experiences of the author as counselor and administrator.
2. Analysis of case records and counseling interviews with school and college students.
3. Review of the literature on student problems.
4. Analysis of paragraphs written by 4,000 high school students describing their personal problems.
5. Intensive analyses of expressed problems of 250 students in grades 7 through 12.
6. Review of 5,000 cards itemizing the “personal-educational” needs expressed by 950 students in grades 6, 9 and 12.
7. Other miscellaneous sources.

For the 1950 revisions the senior author and his collaborators had, in addition, frequency counts of checked problems from various samplings of grades 5 through college, write-in statements from completed check lists, and data on responses to a preliminary edition of the Adult form.

CRITERIA FOR SELECTION OF ITEMS

Selection and phrasing of the particular items used in the Problem Check Lists were based on the following criteria. The items were to be:

1. In the language of the students;
2. Short enough for rapid reading;
3. Self-sufficient as individual phrases;

---

12 These forms are available from the Ohio State University Press.
4. Common enough to be checked frequently in large groups of students, or serious enough to be important in an individual case;

5. Graduated in seriousness from relatively minor difficulties to major concerns;

6. Vague enough in "touchy" spots to enable the student to check the item and still feel that he can hide his specific problems in later conferences if he chooses to do so;

7. Centered within the student's own personal orientation rather than in general social orientation.

An additional aim was to select items which would secure a naive, rapid "feeling" response from the student. Spontaneous rather than deliberate reaction was sought.

A Brief Description of the Earlier Forms

Using the criteria for the selection of items noted above, judges assisted in the selection of items for the first edition of the College Form, which contained 370 items. This edition was administered and an analysis was made of the results obtained from 200 students of a small college, and a second edition of 320 items was prepared. This edition was then administered to students in remedial study classes and in mental hygiene courses at Ohio State University and to selected groups of students in other colleges. On the basis of an analysis of these results, a third edition containing 330 items was prepared and published in 1941 by the Ohio State University Press.

A similar procedure was used in developing the High School Form. Three hundred seventy items were tried out on about 200 students, and on the basis of the results the number was reduced to 320 items in a second edition. This edition was then administered to 110 students in a rural school and to 237 students in a city school. On the basis of these results a third edition of 330 items was prepared and published in 1941 by the Ohio State University Press.

For the Junior High School Form, 225 items were first tried out on 684 pupils in four junior high schools in a large Ohio city. Of these students, 337 were girls, and 347 were boys; 302 were in the seventh grade, 203 were in the eighth grade, and 179 were in the ninth grade. In addition, a modified form of 124 items was tried out with 650 fifth and sixth grade pupils in three school systems (24).

On the basis of these studies a third edition of 210 items was prepared, and after conferences with teachers and use in a school, more revisions were made so that a fourth edition was finally printed and published in 1942 by the Ohio State University Press. The use of the forms at the fifth and sixth grade levels was practicable in the sense that the students could read and understand the items, but their attitude toward their problems was found to be so different from that of junior high school students that it is generally advisable not to use the lists below the seventh grade.

Studies which Guided the 1950 Revisions

College Form. In addition to data from the preliminary editions, information was available from the following sources.

1. 168 men and 112 women in Ohio State University courses in 1948, reported in the 1948 manual (34).

2. Entwistle's study (6) of veterans in 1948, including 95 married and 100 single men.

3. Mooney's study (22) of 171 freshman women in 1941.

4. An unpublished study by Bruce Bennett of 300 men in a hygiene course at Ohio State University in 1950.

5. 97 men and 150 women from Gordon's research in connection with developing the Adult Form.

6. A study in 1950 by Ryder of 153 men and 126 women at Purdue University (27).


In all, detailed analyses of responses by about 1,200 college students, mostly freshmen, were considered in the 1950 revisions. The data from the upper grade levels on the High School Form, particularly age-trend data (16), were also considered relevant to guide the author and collaborators in revising the items.

High School Form. The 1950 revision of this form was based on the original 1941 data and on the following studies.

1. The Illinois study of Lovelass (16), including the following sample, with items analyzed for sex and grade of the students: eighth grade, 6 schools, 393 cases; ninth grade, 9 schools, 1,067 cases; tenth grade, 3 schools, 264 cases; twelfth grade, 57 schools, 6,719 cases. The grand total was 8,443 cases—4,082 boys and 4,361 girls. The High School Form was used in the junior high school grades.

2. Cowan's study (5) of Asheville, North Carolina students included 196 eighth grade, 155 ninth grade, 152 tenth grade, and 100 eleventh grade pupils in a negro school. Of the 603 cases, 230 were boys and 373 were girls. The High School Form was used in the junior high school grades.

3. Chun's study (2) of Honolulu, Hawaii students—1,182 boys and 1,316 girls, a total of 2,498—in the tenth (893), eleventh (830), and twelfth (775) grades.

4. A Louisiana study by Jameson (14) and Mooney (20) including 202 boys and 223 girls, a total of 425 cases, in the eleventh grade in five communities.

5. From the 1948 manual (37) 553 cases representing nine rural and small-town communities: 205 were in grade ten, 203 in grade eleven, and 145 in grade twelve; 236 were boys and 317 were girls.

The authors had available to them the frequencies with which items were checked by these 12,522 students (5,932 boys and 6,590 girls) in grades eight through twelve, in 75 schools.

Junior High School Form. For this form, the original data from 1942 were supplemented by these studies.

1. The Illinois study noted above.

2. The Cowan study noted above.

3. Young's study (30) of Pittsburgh, Pennsylvania school children. There were 1,085 cases (546 boys and 539 girls) from 8 schools in grades seven and eight.
Educ. many too response from a large of Educ. Psychol. 1946, 30, 220-225. 1950, 29, 209-215, freedom was drawn on overcomes the sed difficulties university coeds and wives of veterans. The problems of two university ... of the Problem Check Lists since, in instruments where the groupings are obvious, students and counselors report a tendency for the individual to skip entire areas that appear inappropriate to them without bothering to read the items. In such cases there is also a tendency to avoid marking too many items in areas that they feel have lower social acceptability, such as the sex or personality areas. The format of the Problem Check Lists overcomes these difficulties while presenting groupings of problems which are convenient for the counselor and survey analyst.

BIBLIOGRAPHY

1. ARNOLD, D. L., and MOONEY, R. L. A students' problem check list for junior high school. Educ. Res. Bull., 1943, 12, 42-48. Describes the development of a preliminary form of the Check List for use at junior high school level. Results were obtained on 286 students in Grades 7 to 9 from three junior high schools.

2. CHUN, D. H. A study of the personal problems of McKinley High School students in Honolulu, Hawaii, with implications for curriculum reorganization. PhD. dissertation, Ohio State University, 1947. The Problem Check List used as a basis for curriculum planning; shows differences for class, sex, “ability,” and ethnic groups, both for problem areas and for items marked; includes 2,496 cases in Grades 10, 11 and 12 divided among six ethnic groups.

3. COMBS, A. W. The problems of high school students in a typical American community: A survey of major problems, trends and sex differences. Master's thesis, Ohio State University, 1941. Includes findings on 1,565 cases drawn from Grades 9 through 12 in Alliance, Ohio; discusses findings in terms of the 50 leading items, the 25 trailing items, trends in the responses of the four classes, and sex differences; introduces new categories and interprets area and item findings in mental hygiene terms.

4. CONGDON, N. A. The perplexities of college freshmen. Educ. Psychol. Meas., 1943, 3, 367-375. Reports on results with 190 freshmen, taking the Check List before and after a three months' orientation course; compares results between the Check List and the Bell Adjustment Inventory; reports on correlations between numbers of problems in the area of “Adjustment to College Work,” grades and scores on the American Council Psychological Examination.

5. COWAN, V. D. Identifying pupil needs, concerns and problems as a basis for curriculum revision in Stephens-Lee High School, Asheville, North Carolina. Master's thesis, Ohio State University, 1942. Approaches the problem of curriculum revision from a study of educational principles, sociological conditions in Asheville, and results on the Problem Check List given to 603 students in the high school.

6. ENTWISTLE, H. G. Problems of male, white veterans of River Road Dormitories (G.I. Village). Master's thesis, Ohio State University, 1948. A random sample of white veterans was drawn from a large population of 975; 100 single and 95 married. It was found that (1) problems of veterans were not substantially different from those of college students in general, (2) that married students tend to have more problems than single men, (3) that married students mark more problems related to finances than the single men whereas the single men mark more problems of an academic nature, and (4) that the problems of this veteran group tend to fall into areas that are helpful for classificatory purposes.


Reports rank order of problem areas and most frequently marked items for nearly 7,000 twelfth grade students in an Illinois survey.


A study of the clinical significance of items marked on the Check List by 110 juniors and 94 seniors at the Illinois State Normal University. Underlined problems tend to reflect minor problems whereas the circled items tend to be diagnostic of major conflicts. The authors did not find a "typical pattern" for serious cases of maladjustment.


Uses made of Problem Check List results on 404 entering freshmen by a faculty interested in improving the program of their college for meeting the problems of students.


Part of the mental hygiene section of the Louisiana Educational Survey; reports results by items on 425 eleventh graders in schools from five selected communities as a sampling of the state; includes quotations from students; point to implications for mental hygiene.


Summary of data on 3,716 high school students in schools of various sizes.


Item data, by sex and grade, from 57 schools in Illinois.


A study of 370 college women at Stephens College during 1938-1940, using an experimental mimeographed form of the Problem Check List. The category of “personal problems” received the largest proportion of the checks; “academic problems” and “social problems,” next.


An illustration of how factor analysis may be used to clarify the clinical syndromes. Using the 10 items marked most frequently by 205 upper-class college students, two syndromes appeared which the authors believe are “typical of the usual college counseling cases.”


Survey of 603 students, illustrating the kind of results obtained and some of the uses to which the data can be put in counseling and curriculum building.


Presents results from 425 eleventh grade students in five communities in a southern state showing the differences in the patterns of response among the communities and indicating the potential usefulness of the Problem Check List as a means of studying the effect of community conditions on the personal problems of youth. See also Jameson (14).


Briefly describes the Check List, outlines its major uses, and lists 14 basic research problems which are opened for investigation.


A survey of 171 freshman girls in dormitories; illustrates kind of results obtained; shows implications for the organization of a personnel program.


Quotes from the writing of 275 seniors in a large city high school, who, after filling out the Problem Check List, wrote about personal problems which had been created by the war.


Reports an experiment with an adaptation of the Junior High School Check List for use with Grades 5 and 6; the form contains 124 items, arranged in eight categories; includes area and item results on 650 students in Grades 5 and 6 from three communities.


This is a study to determine: the relationship between the number of problems marked on the Check List and the degree of adjustment indicated by the California Test of Personality; the relationship between the parts and total of each instrument; the extent to which these instruments supplement each other for guidance uses; the areas in which students show need for counseling; and the areas in which students have relatively few problems. Fifty boys and 78 girls in grade 8A from two Detroit city schools were used as subjects.


Follows through case treatment of an individual student, showing initial problems on the Check List and how problems shifted under the influence of activities taking place in home economics classes, extracurricular activities, living arrangements and individual conferences. Presented as an illustration of a way in which the total resources of a school may be used by a teacher in an educational program related to the problems of individual students.

27. RYDER, E. R. Mooney Problem Check List results. For the Committee on Student Guidance and Selection, Purdue University. Mimeographed report, June 10, 1950.

Uses the College form to survey problems of 279 students in educational psychology classes at Purdue.

Uses the Check List and other data to study the differences between students dropping out of high school (26 cases) and those remaining in school (approximately 425 cases).

29. WILLIS, J. E. A survey of the personal adjustment problems of one hundred homemaking students and the contribution of the school to their solution. Master's thesis, the University of Texas, 1945.

An abbreviated check list was prepared, with opportunities provided the students to show problems of concern to them and whether they sought help, source in the school from which they sought help, type and value of help given, reasons for not seeking help when help was not sought. The items were taken from the 89 marked by ten per cent or more of students in Asheville, North Carolina school, added to by local suggestions, revised and submitted as a list of 107 items classified in eleven areas similar to but not identical with those used on the High School form. The subjects were 100 girls in homemaking classes in Huntsville, Texas. It is an exploration in the development of an instrument which relates students' problems to means within the school for doing something about them.


A study of the responses of 1,220 seventh and eighth graders from eight elementary schools picked to represent different communities in Pittsburgh. The findings are grouped to show differences according to community, normal age versus overage, level of intelligence and ethnic background. Recommendations are made with relation to procedure in curriculum building and with relation to the management of schools to take the problems of youth more effectively into account in the educational program.

References to Various Forms and Editions of the Mooney Problem Check List

Adult Form


College Form


High School Form


Junior High School Form


Rural Youth Form


To be used with rural youth, ages 16 to 30; opens with about 50 items on socio-economic status; lists 300 problems, 30 in each of 10 areas; at the end, space is provided so that the student has opportunity for free response, summary and evaluation. Adapted from Problem Check Lists developed by Ross L. Mooney.


Schools of Nursing Form


To be used with students in schools of nursing; contains 364 items, 28 in each of 13 areas. Adapted from Problem Check Lists developed by Ross L. Mooney.

MOONEY PROBLEM CHECK LIST

ROSS L. MOONEY
Bureau of Educational Research
Ohio State University

1950
REVISON

JUNIOR
HIGH
SCHOOL
FORM

Age................ Date of birth......................................................... Boy........... Girl...........

Grade in school................................................................. Name of school.................................................................

Name of the person to whom you are to turn in this paper.................................................................

Your name ........................................ Date..........................

DIRECTIONS

This is a list of some of the problems of boys and girls. You are to pick out the problems which are troubling you.

Read the list slowly, and as you come to a problem which is troubling you, draw a line under it. For example, if you are often bothered by headaches, you would draw a line under the first item, like this, "1. Often have headaches."

When you have finished reading through the whole list and marking the problems which are troubling you, please answer the questions on Page 5.
DIRECTIONS: Read the list slowly, and as you come to a problem which troubles you, draw a line under it.

| 1. Often have headaches       | 36. Too short for my age       |
| 2. Don’t get enough sleep  | 37. Too tall for my age       |
| 3. Have trouble with my teeth | 38. Having poor posture       |
| 4. Not as healthy as I should be | 39. Poor complexion or skin trouble |
| 5. Not getting outdoors enough | 40. Not good-looking       |
| 6. Getting low grades in school | 41. Afraid of failing in school work |
| 7. Afraid of tests          | 42. Trouble with arithmetic |
| 8. Being a grade behind in school | 43. Trouble with spelling or grammar |
| 9. Don’t like to study     | 44. Slow in reading           |
| 10. Not interested in books | 45. Trouble with writing      |
| 11. Being an only child    | 46. Sickness at home          |
| 12. Not living with my parents | 47. Death in the family      |
| 13. Worried about someone in the family | 48. Mother or father not living |
| 14. Parents working too hard | 49. Parents separated or divorced |
| 15. Never having any fun with mother or dad | 50. Parents not understanding me |
| 16. Spending money foolishly | 51. Too few nice clothes      |
| 17. Having to ask parents for money | 52. Wanting to earn some of my own money |
| 18. Having no regular allowance | 53. Wanting to buy more of my own things |
| 19. Family worried about money | 54. Not knowing how to buy things wisely |
| 20. Having no car in the family | 55. Too little spending money |
| 21. Not allowed to use the family car | 56. Girls don’t seem to like me |
| 22. Not allowed to run around with the kids I like | 57. Boys don’t seem to like me |
| 23. Too little chance to go to parties | 58. Going out with the opposite sex |
| 24. Not enough chance for play and fun | 59. Dating |
| 25. Too little chance to do what I want to do | 60. Not knowing how to make a date |
| 26. Slow in making friends | 61. Being teased               |
| 27. Bashful                  | 62. Being talked about        |
| 28. Being left out of things | 63. Feelings too easily hurt  |
| 29. Never chosen as a leader | 64. Too easily led by other people |
| 30. Wishing people liked me better | 65. Picking the wrong kind of friends |
| 31. Being nervous            | 66. Getting into trouble      |
| 32. Taking things too seriously | 67. Trying to stop a bad habit |
| 33. Getting too excited     | 68. Sometimes not being as honest as I should |
| 34. Being afraid of making mistakes | 69. Giving in to temptations |
| 35. Failing in so many things I try to do | 70. Lacking self-control      |
71. Not eating the right food
72. Often not hungry for my meals
73. Overweight
74. Underweight
75. Missing too much school because of illness

76. Not spending enough time in study
77. Too much school work to do at home
78. Can't keep my mind on my studies
79. Worried about grades
80. Not smart enough

81. Being treated like a small child at home
82. Parents favoring a brother or sister
83. Parents making too many decisions for me
84. Parents expecting too much of me
85. Wanting things my parents won't give me

86. Restless to get out of school and into a job
87. Not knowing how to look for a job
88. Needing to find a part-time job now
89. Having less money than my friends have
90. Having to work too hard for the money I get

91. Nothing interesting to do in my spare time
92. So often not allowed to go out at night
93. Not allowed to have dates
94. Wanting to know more about girls
95. Wanting to know more about boys

96. Wanting a more pleasing personality
97. Being made fun of
98. Being picked on
99. Being treated like an outsider
100. People finding fault with me

101. Not having as much fun as other kids have
102. Worrying
103. Having bad dreams
104. Lacking self-confidence
105. Sometimes wishing I'd never been born

106. Often have a sore throat
107. Catch a good many colds
108. Often get sick
109. Often have pains in my stomach
110. Afraid I may need an operation

111. Don't like school
112. School is too strict
113. So often feel restless in classes
114. Not getting along with a teacher
115. Teachers not practicing what they preach

116. Being criticized by my parents
117. Parents not liking my friends
118. Parents not trusting me
119. Parents old-fashioned in their ideas
120. Unable to discuss certain problems at home

121. Choosing best subjects to take next term
122. Deciding what to take in high school
123. Wanting advice on what to do after high school
124. Wanting to know more about college
125. Wanting to know more about trades

126. No place to entertain friends
127. Ill at ease at social affairs
128. Trouble in keeping a conversation going
129. Not sure of my social etiquette
130. Not sure about proper sex behavior

131. Awkward in meeting people
132. Wanting to be more like other people
133. Feeling nobody understands me
134. Missing someone very much
135. Feeling nobody likes me

136. Being careless
137. Daydreaming
138. Forgetting things
139. Being lazy
140. Not taking some things seriously enough
| 141. Can’t hear well                          | 176. Nose or sinus trouble                      |
| 142. Can’t talk plainly                      | 177. Trouble with my feet                      |
| 143. Trouble with my eyes                   | 178. Not being as strong as some other kids    |
| 144. Smoking                                 | 179. Too clumsy and awkward                    |
| 145. Getting tired easily                   | 180. Bothered by a physical handicap           |
| 146. Textbooks hard to understand           | 181. Dull classes                              |
| 147. Trouble with oral reports              | 182. Too little freedom in classes             |
| 148. Trouble with written reports           | 183. Not enough discussion in classes          |
| 149. Poor memory                            | 184. Not interested in certain subjects        |
| 150. Afraid to speak up in class             | 185. Made to take subjects I don’t like        |
| 151. Family quarrels                        | 186. Clash of opinions between me and my parents |
| 152. Not getting along with a brother or sister | 187. Talking back to my parents              |
| 153. Not telling parents everything         | 188. Mother                                    |
| 154. Wanting more freedom at home           | 189. Father                                    |
| 155. Wanting to live in a different neighborhood | 190. Wanting to run away from home           |
| 156. Needing a job during vacations         | 191. Afraid of the future                      |
| 157. Needing to know my vocational abilities | 192. Not knowing what I really want           |
| 158. Needing to decide on an occupation     | 193. Concerned about military service          |
| 159. Needing to know more about occupations | 194. Wondering if I’ll ever get married        |
| 160. Wondering if I’ve chosen the right vocation | 195. Wondering what becomes of people when they die |
| 161. Not knowing what to do on a date       | 196. Learning how to dance                     |
| 162. Girl friend                            | 197. Keeping myself neat and looking nice      |
| 163. Boy friend                             | 198. Thinking too much about the opposite sex  |
| 164. Deciding whether I’m in love           | 199. Wanting more information about sex matters |
| 165. Deciding whether to go steady          | 200. Embarrassed by talk about sex            |
| 166. Getting into arguments                | 201. Being jealous                             |
| 167. Getting into fights                    | 202. Disliking someone                         |
| 168. Losing my temper                       | 203. Being disliked by someone                |
| 169. Being stubborn                         | 204. Keeping away from kids I don’t like       |
| 170. Hurting people’s feelings              | 205. No one to tell my troubles to             |
| 171. Feeling ashamed of something I’ve done  | 206. Sometimes lying without meaning to        |
| 172. Being punished for something I didn’t do| 207. Can’t forget some mistakes I’ve made      |
| 173. Swearing, dirty stories                | 208. Can’t make up my mind about things        |
| 174. Thinking about heaven and hell         | 209. Afraid to try new things by myself        |
| 175. Afraid God is going to punish me       | 210. Finding it hard to talk about my troubles |

**DIRECTIONS:** When you have finished marking the problems which are troubling you, answer the questions on page 5.
QUESTIONS

1. What problems are troubling you most? Write about two or three of these if you care to.

2. Would you like to spend more time in school in trying to do something about some of your problems?

3. Would you like to talk to someone about some of your problems?