The Relationship of Hypothyroidism and Reading Retardation in Elementary School Children

Winifred Wilson

Follow this and additional works at: https://scholarsrepository.llu.edu/etd

Part of the Early Childhood Education Commons, and the Nursing Commons

Recommended Citation

This Thesis is brought to you for free and open access by TheScholarsRepository@LLU: Digital Archive of Research, Scholarship & Creative Works. It has been accepted for inclusion in Loma Linda University Electronic Theses, Dissertations & Projects by an authorized administrator of TheScholarsRepository@LLU: Digital Archive of Research, Scholarship & Creative Works. For more information, please contact scholarsrepository@llu.edu.
THE RELATIONSHIP OF HYPOTHYROIDISM AND READING RETARDATION IN ELEMENTARY SCHOOL CHILDREN

by

Winifred Wilson

A Thesis in Partial Fulfillment of the Requirements for the Degree Master of Science in the Field of Nursing

June, 1962
I certify that I have read this thesis and that in my opinion it is adequate, in scope and quality, as a thesis for the degree of Master of Science.

Betty Trubey, M.S.;
Associate Professor of Nursing

Winfred Edwards, M.A.;
Associate Professor of Nursing and Sociology

Willis King, Ph.D.;
Assistant Professor of Psychology
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. THE PURPOSE OF THE STUDY</td>
<td>1</td>
</tr>
<tr>
<td>Statement of the Purpose</td>
<td>2</td>
</tr>
<tr>
<td>Need for the Exploration of Reading Problems</td>
<td>3</td>
</tr>
<tr>
<td>Review of Related Literature</td>
<td>6</td>
</tr>
<tr>
<td>II. THE STUDY DESIGN</td>
<td>12</td>
</tr>
<tr>
<td>Statement of the Problem</td>
<td>13</td>
</tr>
<tr>
<td>Statement of the Hypothesis</td>
<td>13</td>
</tr>
<tr>
<td>Definition of Terms</td>
<td>13</td>
</tr>
<tr>
<td>Hypothyroidism</td>
<td>13</td>
</tr>
<tr>
<td>Reading retardation</td>
<td>13</td>
</tr>
<tr>
<td>Design for Collection of Data</td>
<td>14</td>
</tr>
<tr>
<td>Instruments for Collection of Data</td>
<td>14</td>
</tr>
<tr>
<td>Developmental histories</td>
<td>14</td>
</tr>
<tr>
<td>Physical examinations</td>
<td>15</td>
</tr>
<tr>
<td>Carpal roentgen films</td>
<td>15</td>
</tr>
<tr>
<td>Protein-bound iodine blood tests</td>
<td>15</td>
</tr>
<tr>
<td>Psychological and achievement test battery</td>
<td>16</td>
</tr>
<tr>
<td>Eye examinations</td>
<td>18</td>
</tr>
<tr>
<td>Assumptions</td>
<td>18</td>
</tr>
<tr>
<td>Limitations</td>
<td>20</td>
</tr>
<tr>
<td>III. COLLECTION OF DATA</td>
<td>21</td>
</tr>
<tr>
<td>Organization of the Research Team</td>
<td>21</td>
</tr>
<tr>
<td>CHAPTER</td>
<td>PAGE</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
</tr>
<tr>
<td>Selection of the Setting for the Study</td>
<td>22</td>
</tr>
<tr>
<td>Selection of the Subjects for Study</td>
<td>22</td>
</tr>
<tr>
<td>Enlisting parents' cooperation</td>
<td>24</td>
</tr>
<tr>
<td>Evaluation of the Subjects</td>
<td>25</td>
</tr>
<tr>
<td>Physical examinations and developmental histories</td>
<td>25</td>
</tr>
<tr>
<td>Laboratory evaluation</td>
<td>25</td>
</tr>
<tr>
<td>Psychometric evaluation</td>
<td>26</td>
</tr>
<tr>
<td>Eye examinations</td>
<td>26</td>
</tr>
<tr>
<td>Screening the subjects for hypothyroidism</td>
<td>26</td>
</tr>
<tr>
<td>Equating and Medicating the Subjects</td>
<td>31</td>
</tr>
<tr>
<td>Grouping the study sample</td>
<td>31</td>
</tr>
<tr>
<td>Procurement of the thyroid placebo and extract</td>
<td>35</td>
</tr>
<tr>
<td>Dispensing the medication</td>
<td>35</td>
</tr>
<tr>
<td>Assessment of the Subjects' Progress</td>
<td>37</td>
</tr>
</tbody>
</table>

**IV. ANALYSIS AND INTERPRETATION OF DATA** | 39 |
| Comparison of Reading Gains | 39 |
| Analysis of Statistical Significance | 40 |
| Interpretation of Findings | 46 |
| Differential diagnoses | 47 |
| Amounts of medication prescribed | 49 |
| Conclusions | 50 |

**V. SUMMARY AND IMPLICATIONS FOR FURTHER STUDY** | 52 |

**BIBLIOGRAPHY** | 56 |
<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPENDIX A. Sample Forms Used for the Collection of Data</td>
<td>60</td>
</tr>
<tr>
<td>APPENDIX B. Summaries of Subjects' Medical Evaluations</td>
<td>69</td>
</tr>
<tr>
<td>APPENDIX C. Summaries of Subjects' Psychometric Evaluations</td>
<td>134</td>
</tr>
<tr>
<td>FIGURE</td>
<td>PAGE</td>
</tr>
<tr>
<td>--------</td>
<td>------</td>
</tr>
<tr>
<td>1. A Comparison of Total Group Gains in Reading Achievement of Three Groups During a Three-Month Experimental Period</td>
<td>43</td>
</tr>
</tbody>
</table>
LIST OF TABLES

TABLE                        PAGE

I. A Comparison of Chronological Ages, Skeletal Ages, and Protein Bound Iodine Values Among Sixty-four Study Subjects . . . . . . . . 28, 29, 30

II. Chronological Ages and Intelligence Quotients of Fifty-four Study Subjects Comprising Groups I, II, and III . . . . . . . . . . . . . . . . . . . . . 32

III. Gains in Reading Achievement During the Experimental Period Among Fifty-four Subjects Comprising Groups I, II, and III . . . . . 42
CHAPTER I

THE PURPOSE OF THE STUDY

Rarely does the child of elementary school age fully appreciate his teachers' tireless efforts to teach him to read. He may often display an apathetic attitude toward the whole process of learning in school. Even more rarely does a teacher attribute such a child's "lack of motivation" to unsuspected hypothyroidism. Indeed, hers is not the role of a diagnostician! More often than not, a teacher is justified in assuming that a physical evaluation made by the pediatrician, the family doctor, or the school health personnel has ruled out the possibility that a child's apparent apathy may be due to this remedial physical abnormality.

Crooks has pointed out, however, that diseases of the thyroid gland are relatively common and may give rise to much ill-health which can rapidly be relieved by therapy if the cause is recognized. He has stated that frank hypothyroidism is sometimes overlooked and that this may happen even in a doctor's household.¹

Wheatly has agreed that hypothyroidism is "incredibly easy to miss, even after a full clinical examination." 

Wilkins emphatically stated:

Although thyroid deficiency is the commonest endocrine disorder of childhood and the characteristic picture has been recognized for many years, physicians still show a remarkable inaptitude in making the diagnosis correctly. The condition often remains unsuspected even in clearcut cases.

Like the teacher, the school nurse is not expected to diagnose medical problems. Rather, in the words of Swanson, she is expected to "identify possible problems, classify them, discover means, agencies, or individuals to deal with these problems, and finally, to secure action." 

Awareness and interest on the part of the school nurse, as well as the rest of the school health team, in endocrine disorders of childhood is perhaps too often overshadowed by a preoccupation with other health problems of the school child.

Statement of the Purpose

The purpose of this study is to contribute to the accumulated data regarding the medical aspects of dyslexia.

---


4 Marie Swanson, School Nursing in the Community Program, New York: Macmillan Company, 1958, p. 56.
in order to stimulate an awareness on the part of the school health personnel that unsuspected hypothyroidism may contribute to reading difficulties in school children. More specifically, the possible relationship between reading retardation and hypothyroidism will be explored.

**Need for the Exploration of Reading Problems**

Skill in reading has become a necessary tool for living in our society. Concurrently, developing this skill has become the major academic task of the elementary school child. As the statistics of success and failure in reading achievement are studied, however, it is evident that an appallingly large percentage of children fail to read at a level commensurate with their ability.

Ketchum has estimated that ten per cent of all school children are handicapped by disabilities in reading.\(^5\) Gutelius and Layman have reported that five to twenty per cent of school children are affected by some degree of reading disability—or dyslexia.\(^6\) No accurate statistics can be cited, because size of the retarded group depends entirely on where the line is drawn. But the public school, committed

---


as it is to providing opportunity for all American youth, cannot escape the responsibility of this group, whatever its magnitude in a given instance.

Frank has described the child who falls behind his grade level in reading as one who is overwhelmed by a feeling of inadequacy for the tasks before him. The longer this situation continues, the more hopeless he feels, and the repeated failure can rob him of the will to try. The fact that his parents are anxious or pressing may only deepen his despair. The 1956 Curriculum Guide compiled by the California State Department of Education has concurred with this view in the following statement:

Repeated failure in beginning reading skills may be so discouraging and emotionally disturbing to the child that he will refuse to make further effort. Later...the psychological block may persist to such an extent that clinical treatment will be needed. Institutions for emotionally disturbed children invariably report that many of the children whom they treat have reading problems.

Eisenberg has stated that it is difficult to imagine a more chilling indictment of a confused child, bewildered by his inability to learn to read despite his earnest efforts to do so. The same author has stressed that the syndrome of


reading disability, in itself merely a cluster of symptoms, may be the result of pathology in any one of the complex of determinants and that failure to recognize the key problem will have devastating results.9

Harrison has stated that if a child does not learn to read as expected, it is often assumed that he is either stupid, or lazy, or cannot see or hear.10 It is true that auditory and visual handicaps to reading must be carefully assessed, and much of the effort of the school health personnel has been directed toward that goal. Traditionally, the school nurse has been relied upon to refer suspected cases with auditory and visual problems to the otologist, the ophthalmologist, or the family health advisor. The appearance of "stupidity" or "laziness," however, cannot be regarded as an inherent cause of reading failure, unless the child is a retarded child as well as a retarded reader. As Thompson has stated, "Research has eliminated the premise that retarded readers are slow learners," suggesting that good physical health is first in importance among factors fostering reading success.11


Yet the health appraisal of school children has placed comparatively little emphasis upon the presence or absence of many physical handicaps (endocrine diseases among them) less obvious and perhaps less prevalent than visual and auditory handicaps. Nevertheless, the fact that any disease occurs more or less frequently among children should not lead the school health personnel to ignore it as a possible handicap to learning.

**Review of Related Literature**

Reference to the literature related to reading retardation in children reveals that the causes are complex problems about which there are numerous and sometimes conflicting points of view.

Reading disability, discernible only in a literate society, was not recognized until the advent of compulsory education and intelligence tests. Gutelius and Layman have observed that in this country, S. T. Orton, a neurologist, studied reading difficulty for many years beginning in 1925 and that since his time a rather exiguous medical literature on the subject has appeared in the United States and in Europe, with extensive educational literature dating from 1920. For the purposes of this study, attention will be focused primarily on publications devoted to medical aspects

---

12 Gutelius and Layman, *op. cit.*, p. 16.
of dyslexia and particularly on those aspects that deal with hypothyroidism.

A detailed discussion of hypothyroidism has been compiled by Wilkins in The Diagnosis and Treatment of Endocrine Disorders in Childhood and Adolescence. The terms cretinism or congenital hypothyroidism are applied when the disorder is believed to have been present at birth. When a previously normal child develops the deficiency he is said to have acquired or juvenile hypothyroidism. Signs and symptoms of hypothyroidism include retardation of growth and development and general physical and mental sluggishness. Wilkins has stressed that clinical manifestations of hypothyroidism vary according to the age of the patient when the thyroid deficiency begins and to the degree of the deficiency.13

Citing the endocrine glands as one important regulator of growth and function of the body, Olson has recognized reading as a developmental task closely related to children's total developmental patterns.14 If some basic immaturity or inadequacy such as hypothyroidism is present in the growing child, it would be in accord with Olson's theory to expect an exacerbation of symptoms when such a child is faced with the additional problems of adjustment involved in reading.

13 Wilkins, op. cit., pp. 88-134.

Eames has asserted that certain dysfunctions of the endocrine glands are known to affect concentration, drive, and intelligence. He stated that some investigators concerned with reading have "cautiously indicated endocrine difficulties as a probable cause of some cases of reading failure." In a study of twenty-four cases of reading failures with endocrine dysfunction, he found that the commonest endocrine disorder likely to be present among children who fail in reading is hypothyroidism. Such children are likely to exhibit emotional difficulties related to reading and are likely to be slow in completing assignments.\(^15\)

A relationship between low metabolic rate (often a manifestation of hypothyroidism) and low academic performance has been demonstrated by McCurdy.\(^16\)

Park stated that normal mentality and integrated personality depend a great deal on normal homeostasis, particularly of the nervous system, and to that end the endocrines, especially the thyroid, are important in children. In a study of reading failures in children, he found that


twenty-seven per cent of the children had hypothyroidism to a degree where therapeutic intervention was indicated. He stated:

*After the major difficulties that prevent proper reading are corrected and the hygiene of the mind and body as a whole is brought about, then and then only may one feel that the first prerequisites have been fulfilled for specifically attacking reading difficulty.¹⁷*

Tobias has advanced the thesis that behavior disorders and retardation in learning are part of a complex of disordered maturation in the child. In clinical case studies of forty-two children with severe reading handicaps, he found that thirty of them had a delay in skeletal maturity ascribed to a substrate factor common to hypothyroidism and retarded bone-age.¹⁸

According to Johnston, some degree of hypothyroidism is extremely common around puberty. Many girls who had just begun to menstruate were referred to him because their schoolwork was unsatisfactory. Their symptoms, those of hypothyroidism, were delay in growth and development, mental retardation, fatigue, and menstrual disorders. One of the


effects of therapy with thyroid extract was increased attention span following the elevation of metabolism to normal.  

Breckenridge and Vincent have pointed out that it would be wise to check the function of the thyroid gland in adolescents of the so-called lazy group.  

Hames stated that his experience in treating cases of hypothyroidism medically and clinically has led him to expect rather prompt and satisfactory educational responses to medication for thyroidal insufficiency except among cretins.  

Crooks claimed that symptoms disappear with thyroxine therapy and Brown advised the use of thyroid hormone as the principal natural metabolic stimulant.  

Although these authorities are in general agreement that there is a relationship between dyslexia and hypothyroidism and recommend treatment, no evidence is presented that shows the actual effect of treatment on the level of 

---


21Hames, op. cit., p. 264.

22Crooks, op. cit., p. 520.

reading achievement in an experimentally controlled investigation. Since the physiological time clock is moving forward while the substance is supplied for remediation, there is often an uncertainty as to whether it is the added maturity or the special therapy that has produced the results, as Olson has pointed out.24 If the relationship between hypothyroidism and reading retardation could be investigated through more objective criteria than the usual clinical case studies afford, it would perhaps serve to stimulate awareness among school health personnel that such a relationship might exist. The following chapter describes the plan of study designed to contribute to this purpose.

24 Olson, op. cit., p. 56.
CHAPTER II

THE STUDY DESIGN

A review of literature reporting the medical aspects of dyslexia has revealed that hypothyroidism is one condition not easily identified that should be suspected among children who have problems in learning to read. Hypothyroidism may be mild and frequently overlooked and yet result in the development of reading retardation and secondary psychological problems.

Further review of the literature and consultation with specialists in the field of endocrinology, education, and psychology has stimulated the plan for the present research project. No evidence was found to indicate that an experimentally controlled investigation of the relationship between hypothyroidism and reading retardation had been made. The need for such a study has been recommended by both writers and workers concerned with children. The present study was planned to stimulate an awareness among school health personnel that hypothyroidism, when identified, may be one remediable aspect of reading retardation.

The experimental method was chosen to observe the change in reading achievement following the administration of thyroid medication to a group of selected subjects and to compare it with comparable subjects receiving no medication.
Statement of the Problem

The problem undertaken for investigation in the present study was to measure the change in reading achievement of selected hypothyroid children receiving therapeutic amounts of thyroid medication.

Statement of the Hypothesis

The hypothesis was formulated to test the supposition that the level of reading achievement of hypothyroid children would be raised significantly by the administration of thyroid extract.

Definition of Terms

Hypothyroidism. As used in this study, the term "hypothyroidism" denoted any deficient action of the thyroid organ including several types or degrees of dysfunction: (1) subclinical or without previously diagnosed manifestations; (2) mild or borderline; (3) frank or mildly severe; and (4) primary or secondary to other endocrine anomalies.

Reading retardation. Throughout the report of this investigation, the term "reading retardation" served to indicate the inability of a child to read at a level commensurate with his general intelligence and educational opportunities.
Design for Collection of Data

The plan devised to carry out the research project included the following steps: (1) organization of the research team; (2) selection of the setting for the study; (3) selection of the subjects for study; (4) evaluation of the physical, psychological, and educational status of the subjects; (5) assignment of the subjects, matched according to chronological age and intelligence, to three groups— one experimental group and two control groups; (6) initiation of treatment with thyroid medication to the experimental groups and thyroid placebo to one of the control groups; (7) continuation of specified treatment for a three-month period of the school year; (8) assessment of the subjects' progress at the end of the study period; (9) analysis and interpretation of the data collected; and (10) provision for a clinical-case follow-up study of selected subjects.

Instruments for Collection of Data

Developmental histories. Information regarding each subject's developmental history from birth was supplied by the subjects' respective parents. The forms used to record these histories were furnished by the medical director of the study.

25 Appendix A.
Physical examination. Physical examinations by a physician, a specialist in endocrinology, were carried out to assess clinical manifestations of hypothyroidism among the subjects in the study. Each child was examined individually and the physician's evaluations noted. The forms used to record these evaluations\(^{26}\) were supplied by the physician.\(^{27}\)

Carpal roentgen films. An estimation of the skeletal maturation status of each child in the study as disclosed by an x-ray film of the hand and wrist was made by a roentgenologist.\(^{28}\) The bone-ages, or ages of the appearance of ossification centers and epiphyseal fusion, were determined according to the standards of Greulich and Pyle.\(^{29}\)

Protein-bound iodine blood tests. Blood samples taken in the morning before breakfast were used to determine the protein-bound iodine fraction of the blood serum. The

---

\(^{26}\) Appendix A.

\(^{27}\) Charles Posner, M.D., the medical director of the study, was the examining physician.

\(^{28}\) Walter Saul, M.D., interpreted the x-ray films and forwarded the reports to the research team.

Barker Modified Dry-Ash Method was used to determine the protein-bound iodine values of the samples collected.\textsuperscript{30,31}

**Psychological and achievement test battery.** The achievement and educational status of each subject was evaluated through individual tests administered by a Certified Psychologist. Forms used to summarize the data collected were designed and furnished by the psychologist.\textsuperscript{32}

It is beyond the scope of this study to present a detailed analysis of each of the instruments used. It is pertinent to note, however, that, according to the examining psychologist, the test battery used has much diagnostic value in identifying hypothyroidism among the subjects who show a test "hypothyroid pattern." The present description of the psychometric tests has been limited to those used to estimate two factors: (1) the individual's verbal facility translated


\textsuperscript{31} Bernard A. Marshall, Registered Medical Technologist of the Grand Avenue Medical Laboratory and X-Ray Clinic, Santa Ana, California, reported the protein-bound iodine determinations to the study research team.

\textsuperscript{32} Appendix A.
to an Intelligence Quotient, and (2) the individual's reading achievement level yielding a grade-placement score.

Each individual's Intelligence Quotient was derived from the Verbal Opposites Test for verbal facility. The Verbal Opposites Test is one of nineteen sub-tests from the Detroit Tests of Learning Aptitude series. The series was designed for testing individuals from ages three through adulthood. Data delineating the standardizing process and correlation with other tests lists the Stanford-Binet Intelligence Test correlation with the Verbal Opposites at .80.

Gray's Oral Reading Test is a test consisting of a series of standardized paragraphs arranged in order of increasing difficulty, to be read aloud by the child. There is but one form of the test and it may be used to test pupils in Grades One through Eight individually.

---


Eye examination. Four of the study subjects were examined for visual pathology by an ophthalmologist. Subjects selected were identified through the examining psychologist, who recommended that visual detrimentsto reading be ruled out in these particular subjects.

Assumptions

Innumerable writers have agreed that success in reading contributes to success in school. Reactive antisocial behavior may have one source in the repeated experience of frustration and failure that accompanies reading disability. Thompson has stated that, measured by today’s standards, a child is labeled a success in school if he can read:

> Since reading is considered to establish status in our society, the child who cannot read carries a stigma. This stigma often causes problems and trouble for the child.

The assumption that reading is a valid cultural demand has been accepted as basic to the problem explored in this study.

Relative to the ethics of experimenting with human subjects, a second assumption has been made that is essential to the use of the experimental method. Good has singled out one of the difficulties of classroom experimentation—the

---

36 Dr. William J. Calvy of Anaheim, California, conducted the examinations at his office in Anaheim.

37 Thompson, op. cit., p. 19.
fact that the subjects are children who must not be subjected to harmful conditions. Recognizing this principle, it has been necessary to assume that no permanent damage to the subjects in this study will result because (1) thyroid extract has been withheld for the duration of the experimental period from certain of the children who might benefit from the medication, and (2) thyroid extract as prescribed by the physician is in no way harmful to the recipient.

A third assumption essential to the investigation undertaken rests upon the validity of diagnoses of hypothyroidism among the subjects selected for treatment and/or observation. In making a differential diagnosis of hypothyroidism it has been argued by Wilkins that proof of diagnosis may depend upon the patient's response to treatment. Others have stated that, despite the use of several laboratory measures of thyroid activity, sound clinical judgment is "still the final arbiter in the diagnosis of thyroid disease." Because extensive laboratory tests and repetitive longitudinal observations available to the physician in

---


39 Wilkins, op. cit., p. 81.

private practice were beyond the scope of this study, much reliance has been placed upon the latter criteria (sound clinical judgment based on many years of experience in the field of endocrinology) in assuming the diagnoses of hypothyroidism to be accurate.

**Limitations**

The subjects selected for study were enrolled in one elementary school within one city school district. This limitation served as a measure of control over factors relating to teaching methods, exposure to curriculum content, and school administration routine. Total enrollment of the selected school was approximately 1100.

Children included in the study were below their expected achievement in reading and were enrolled in Grades Two through Five. One child who had been retained in Grade One for a second year was also included.

No children were accepted for study without the written consent of at least one parent.

Length of the experimental period was limited to a three-month period of the regular school year.

No attempt was made to alter the existing medical or educational regime of the subjects other than the introduction of the experimental variable. The method of introducing this variable is described in the ensuing chapter.
CHAPTER III

COLLECTION OF DATA

The experimental design planned to furnish appropriate data for analysis of the problem under investigation, the measurement of reading achievement of hypothyroid retarded readers before and after treatment with thyroid extract, has been outlined in Chapter II. The nature of the investigation undertaken required that a research team be organized to carry out the experiment and that a setting for the study be chosen prior to the selection and evaluation of the study subjects, the initiation of treatment, and a comparison of the subjects' measured progress at the termination of the experimental period.

Organization of the Research Team

A Certified Psychologist, Helen M. Thompson, who is a nationally known reading specialist, was consulted regarding the proposed plan for the study. The psychologist subsequently agreed to carry out the psychometric studies essential to the study design.

Charles Posner, M.D., formerly Director of the Endocrine Clinic, Pasadena Dispensary, and active in research concerning endocrine disorders among children in the Pasadena City Schools system, consented to provide medical direction for the project.
The study-maker served as a third member of the research team and provided nursing supervision during the investigation as it proceeded.

Selection of the Setting for the Study

The superintendent of instruction in a school district in Southern California representing twenty-eight public schools was consulted regarding an appropriate choice of the study setting. The superintendent arranged interviews with several school principals within the district to discuss the purpose and design of the research project. Final selection of one elementary school was made through conferences with the superintendent and the school principals.

Written permission to carry out the project was granted by the school superintendent. However, the record of this permission has not been included in this report, because the school officials requested that the school district be unidentified.

The school chosen for the study represented children who were of similar socioeconomic background, within the middle-income groups, and residents of the same geographic area.

Selection of the Subjects for Study

Sixty-seven children enrolled in one elementary school were selected for study. Criteria for selection specified that subjects be enrolled in Grades Two through Five and be
retarded in reading achievement at least one year as measured by group achievement tests and/or the judgment of the school personnel. Since achievement test scores used to identify candidates for study were not available at the first grade level, children enrolled in the first grades were not selected for study. However, one child who had been retained in first grade for a second year was included in the study sample. Sixth-grade children were not selected as candidates for study because of projected plans for a follow-up study. These children would be transferred to intermediate schools at the end of the school year, resulting in changes in curriculum and school environment inappropriate to the proposed follow-up study design.

One of the basic steps in the selection of retarded readers was to determine whether or not the present reading achievement of each subject was as great as might be expected in the light of his ability to learn. As an aid in this connection, Horn's Grade Placement Tables were used to approximate the differences between the actual grade placement reading levels and the expected grade placement reading levels among the study subjects. All of the subjects selected for study were under-achievers in reading, or reading at a level lower than that which would be expected in relation to their estimated intelligence.

41Alice Horn, Expected Achievement Grade Placement Tables, Los Angeles City School District. (Mimeographed.)
Enlisting parents' cooperation. A mimeographed letter signed by the school principal was mailed to the home of each of the children chosen as candidates for study. The letter described the general purpose of the research project and invited the parents to a group meeting for a more detailed explanation. The school principal, the study psychologist, and the study nursing director met with the parents' group at the school on January 25, 1961. Introductory talks by the research team members outlined the purpose, scope, and design of the study. A question and answer period followed. Opportunity for the parents to sign an agreement to participate in the project was provided. All of the parents attending the meeting except one signed the form granting permission to include their children in the study group. The parent who did not sign the agreement was advised to withhold his signature because his child was preparing for heart surgery during the study period. Twenty-nine permission forms were signed at the group meeting.

Cooperation of the study candidates' parents who could not attend the meeting was sought through visits to the homes of each of the selected children. Thirty-six home visits were made by the study nursing director and thirty-three

\[42^\text{Appendix A.}\]

\[43^\text{The written permission form was prepared by Ernest V. Barrett, attorney-at-law. Appendix A.}\]
permission forms were secured. Three candidates whose parents did not sign the participation agreement were eliminated from the study group.

Sixty-four candidates were thus selected for participation in the study.

**Evaluation of the Subjects**

Each child chosen for study was given a physical, laboratory, and psychometric examination. Schedules for each of the three phases of the evaluation were made through mimeographed forms sent to the subjects’ respective parents.44

**Physical examinations and developmental histories.** The physical examinations by the study medical director were conducted at the school on three days during the month of February, 1961. The school principal, three school nurses, one teacher, two parents, and the wife of the study medical director assisted the medical director and the study nursing director on various days in carrying out the physical examinations and recording the data furnished by the parents pertinent to their children’s developmental histories.

**Laboratory evaluation.** The laboratory blood examinations and x-rays were made at the Grand Avenue Medical

---

44 Appendix A.
Laboratory and X-ray Clinic, Santa Ana, California. Breakfast was withheld from each subject on the morning his blood specimen was collected. Results were interpreted, recorded, and forwarded to the research team.

Psychometric evaluation. The initial individual intelligence and achievement test batteries were conducted at the Thompson Reading Clinic, Chapman College, Orange, California, by the study psychologist on twenty-eight days during the month of February, 1961. Summarized copies of the results were furnished to the study nursing director.

Eye examinations. Four subjects who showed evidence of possible visual impairment during psychometric evaluation were examined by an opthalmologist. Verbal communication from the opthalmologist, William J. Calvy, to the study psychologist and the study nursing director indicated that no pathology requiring immediate correction was observed in the subjects examined.

Screening the subjects for hypothyroidism. The study research team members and the school principal held several group conferences to identify manifestations of hypothyroidism in the sixty-four study subjects. The presence or absence of hypothyroidism was diagnosed by the study medical director on the bases of each subject's developmental history.

---

45Bernard Marshall, Medical Technologist, determined the amounts of protein-bound iodine in the blood samples, and Walter Saul, M.D., a radiologist, interpreted the x-ray films.
physical examination, laboratory findings, and psychometric evaluation. A summary of each subject's evaluation was made and recorded on forms developed for this purpose. 46

Laboratory findings pertaining to each of the study subjects have been summarized and compiled in Table I. Table I shows a comparison of each study subject's chronological age with his skeletal age. The deviation of the skeletal age from the chronological age is shown under the columns titled Chronological and Skeletal Age Differences. A +12 indicates that a subject was advanced in skeletal age twelve months beyond his chronological age. A -12 indicates that a subject was delayed twelve months in skeletal age in comparison with his chronological age. The protein-bound iodine levels are expressed in micrograms per 100 cubic centimeters of blood.

The method of assigning identifying letters and numbers to the study subjects is described in the following paragraph.

**EQUATING AND MEDICATING THE SUBJECTS**

**GROUPING THE STUDY SAMPLE.** Fifty-seven of the subjects were matched according to actual chronological age
TABLE I
A COMPARISON OF CHRONOLOGICAL AGES, SKELETAL AGES, AND PROTEIN BOUND IODINE VALUES AMONG SIXTY-FOUR STUDY SUBJECTS

<table>
<thead>
<tr>
<th>Subject</th>
<th>Chronological Age</th>
<th>Skeletal Age</th>
<th>Chronological and Skeletal Age Differences</th>
<th>Protein Bound Iodine**</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>90 mos.</td>
<td>108 mos.</td>
<td>+ 18 mos.</td>
<td>4.74 Mcg.%</td>
</tr>
<tr>
<td>B1</td>
<td>97</td>
<td>84</td>
<td>- 13</td>
<td>8.75</td>
</tr>
<tr>
<td>C1</td>
<td>98</td>
<td>96</td>
<td>- 2</td>
<td>5.60</td>
</tr>
<tr>
<td>D1</td>
<td>95</td>
<td>96</td>
<td>+ 1</td>
<td>*</td>
</tr>
<tr>
<td>E1</td>
<td>105</td>
<td>108</td>
<td>+ 3</td>
<td>6.65</td>
</tr>
<tr>
<td>F1</td>
<td>97</td>
<td>72</td>
<td>- 15</td>
<td>4.11</td>
</tr>
<tr>
<td>G1</td>
<td>109</td>
<td>108</td>
<td>- 1</td>
<td>5.60</td>
</tr>
<tr>
<td>H1</td>
<td>109</td>
<td>120</td>
<td>+ 11</td>
<td>4.70</td>
</tr>
<tr>
<td>I1</td>
<td>120</td>
<td>96</td>
<td>- 14</td>
<td>5.66</td>
</tr>
<tr>
<td>J1</td>
<td>114</td>
<td>120</td>
<td>+ 6</td>
<td>6.32</td>
</tr>
<tr>
<td>K1</td>
<td>113</td>
<td>108</td>
<td>- 5</td>
<td>5.90</td>
</tr>
<tr>
<td>L1</td>
<td>135</td>
<td>132</td>
<td>- 3</td>
<td>6.58</td>
</tr>
<tr>
<td>M1</td>
<td>127</td>
<td>120</td>
<td>- 7</td>
<td>9.22</td>
</tr>
<tr>
<td>N1</td>
<td>125</td>
<td>120</td>
<td>- 5</td>
<td>8.84</td>
</tr>
<tr>
<td>O1</td>
<td>125</td>
<td>132</td>
<td>+ 7</td>
<td>5.05</td>
</tr>
<tr>
<td>P1</td>
<td>132</td>
<td>120</td>
<td>- 12</td>
<td>5.75</td>
</tr>
<tr>
<td>Q1</td>
<td>134</td>
<td>144</td>
<td>+ 10</td>
<td>6.20</td>
</tr>
<tr>
<td>R1</td>
<td>143</td>
<td>144</td>
<td>+ 1</td>
<td>5.77</td>
</tr>
</tbody>
</table>

*Reported as Out-of-Range by the Medical Technologist.
**Micrograms per 100 cubic centimeters of blood.
<table>
<thead>
<tr>
<th>Subject</th>
<th>Chronological Age</th>
<th>Skeletal Age</th>
<th>Chronological and Skeletal Age Differences</th>
<th>Protein Bound Iodine</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2</td>
<td>90 mos.</td>
<td>96 mos.</td>
<td>+ 6 mos.</td>
<td>6.00 Mcg.%</td>
</tr>
<tr>
<td>B2</td>
<td>98</td>
<td>82</td>
<td>- 6</td>
<td>5.32</td>
</tr>
<tr>
<td>C2</td>
<td>95</td>
<td>84</td>
<td>- 11</td>
<td>7.35</td>
</tr>
<tr>
<td>D2</td>
<td>103</td>
<td>84</td>
<td>- 19</td>
<td>6.16</td>
</tr>
<tr>
<td>E2</td>
<td>103</td>
<td>96</td>
<td>- 7</td>
<td>6.65</td>
</tr>
<tr>
<td>F2</td>
<td>95</td>
<td>84</td>
<td>- 11</td>
<td>5.25</td>
</tr>
<tr>
<td>G2</td>
<td>99</td>
<td>90</td>
<td>- 9</td>
<td>6.82</td>
</tr>
<tr>
<td>H2</td>
<td>100</td>
<td>90</td>
<td>- 10</td>
<td>6.60</td>
</tr>
<tr>
<td>J2</td>
<td>112</td>
<td>108</td>
<td>- 4</td>
<td>4.27</td>
</tr>
<tr>
<td>K2</td>
<td>116</td>
<td>120</td>
<td>+ 4</td>
<td>5.36</td>
</tr>
<tr>
<td>L2</td>
<td>117</td>
<td>120</td>
<td>+ 3</td>
<td>7.30</td>
</tr>
<tr>
<td>M2</td>
<td>113</td>
<td>72</td>
<td>- 41</td>
<td>7.35</td>
</tr>
<tr>
<td>N2</td>
<td>120</td>
<td>113</td>
<td>- 15</td>
<td>4.90</td>
</tr>
<tr>
<td>O2</td>
<td>122</td>
<td>108</td>
<td>- 14</td>
<td>6.89</td>
</tr>
<tr>
<td>P2</td>
<td>123</td>
<td>132</td>
<td>+ 9</td>
<td>5.75</td>
</tr>
<tr>
<td>Q2</td>
<td>130</td>
<td>120</td>
<td>- 10</td>
<td>5.53</td>
</tr>
<tr>
<td>R2</td>
<td>138</td>
<td>132</td>
<td>- 6</td>
<td>4.90</td>
</tr>
<tr>
<td></td>
<td>144</td>
<td>144</td>
<td>± 0</td>
<td>4.62</td>
</tr>
</tbody>
</table>
TABLE I (continued)

<table>
<thead>
<tr>
<th>Subject</th>
<th>Chronological Age</th>
<th>Skeletal Age</th>
<th>Chronological and Skeletal Age Differences</th>
<th>Protein Bound Iodine</th>
</tr>
</thead>
<tbody>
<tr>
<td>A3</td>
<td>87 mos.</td>
<td>84 mos.</td>
<td>- 3</td>
<td>4.90 Mcg. %</td>
</tr>
<tr>
<td>B3</td>
<td>90</td>
<td>84</td>
<td>- 6</td>
<td>7.70</td>
</tr>
<tr>
<td>C3</td>
<td>93</td>
<td>60</td>
<td>- 33</td>
<td>6.40</td>
</tr>
<tr>
<td>D3</td>
<td>98</td>
<td>60</td>
<td>- 38</td>
<td>7.70</td>
</tr>
<tr>
<td>E3</td>
<td>99</td>
<td>60</td>
<td>- 39</td>
<td>4.55</td>
</tr>
<tr>
<td>F3</td>
<td>102</td>
<td>72</td>
<td>- 30</td>
<td>6.32</td>
</tr>
<tr>
<td>G3</td>
<td>102</td>
<td>84</td>
<td>- 18</td>
<td>4.16</td>
</tr>
<tr>
<td>H3</td>
<td>105</td>
<td>72</td>
<td>- 33</td>
<td>6.32</td>
</tr>
<tr>
<td>L3</td>
<td>110</td>
<td>108</td>
<td>- 2</td>
<td>4.22</td>
</tr>
<tr>
<td>J3</td>
<td>111</td>
<td>102</td>
<td>- 9</td>
<td>5.32</td>
</tr>
<tr>
<td>K3</td>
<td>113</td>
<td>108</td>
<td>- 5</td>
<td>4.25</td>
</tr>
<tr>
<td>L3</td>
<td>115</td>
<td>72</td>
<td>- 43</td>
<td>6.62</td>
</tr>
<tr>
<td>M3</td>
<td>117</td>
<td>65</td>
<td>- 52</td>
<td>6.40</td>
</tr>
<tr>
<td>N3</td>
<td>119</td>
<td>96</td>
<td>- 18</td>
<td>5.00</td>
</tr>
<tr>
<td>O3</td>
<td>123</td>
<td>96</td>
<td>- 27</td>
<td>5.38</td>
</tr>
<tr>
<td>P3</td>
<td>125</td>
<td>96</td>
<td>- 29</td>
<td>5.37</td>
</tr>
<tr>
<td>Q3</td>
<td>135</td>
<td>132</td>
<td>- 3</td>
<td>2.07</td>
</tr>
<tr>
<td>R3</td>
<td>148</td>
<td>150</td>
<td>+ 2</td>
<td>3.16</td>
</tr>
<tr>
<td>X1</td>
<td>89</td>
<td>90</td>
<td>+ 1</td>
<td>6.65</td>
</tr>
<tr>
<td>X2</td>
<td>95</td>
<td>72</td>
<td>- 23</td>
<td>6.85</td>
</tr>
<tr>
<td>X3</td>
<td>99</td>
<td>72</td>
<td>- 27</td>
<td>4.65</td>
</tr>
<tr>
<td>X4</td>
<td>106</td>
<td>96</td>
<td>- 10</td>
<td>6.01</td>
</tr>
<tr>
<td>X5</td>
<td>123</td>
<td>108</td>
<td>- 15</td>
<td>4.90</td>
</tr>
<tr>
<td>X6</td>
<td>126</td>
<td>126</td>
<td>+ 0</td>
<td>5.80</td>
</tr>
<tr>
<td>X7</td>
<td>128</td>
<td>120</td>
<td>- 8</td>
<td>8.45</td>
</tr>
<tr>
<td>X8</td>
<td>132</td>
<td>144</td>
<td>+ 12</td>
<td>6.78</td>
</tr>
<tr>
<td>X9</td>
<td>135</td>
<td>132</td>
<td>- 3</td>
<td>4.25</td>
</tr>
<tr>
<td>X10</td>
<td>138</td>
<td>96</td>
<td>- 42</td>
<td>**</td>
</tr>
</tbody>
</table>

*Reported as Out-of-Range by the Medical Technologist.
and estimated mental ability and assigned to one of three groups. Group I was designated as a control group. Some of the subjects in Group I showed manifestations of hypothyroidism, but no medication was prescribed for the subjects in this group. Subjects in Group I were each assigned identifying letters and numbers: A1, B1, C1, etc. Group II served as a second control group. Some of the subjects in this group showed manifestations of hypothyroidism and some did not. A daily thyroid placebo was prescribed for each child in Group II. A2, B2, C2, etc., were used to identify the subjects in Group II. Group III served as the experimental group. All of the subjects in this group showed manifestations of hypothyroidism and thyroid extract was prescribed for each of them. Corresponding with matched subjects in Groups I and II, Group III was numbered A3, B3, C3, etc. Each sub-group could then be identified as A1, A2, A3, etc.; B1, B2, B3, etc.; C1, C2, C3, etc., and so on.

The data derived from the individual psychometric tests of intellectual ability, together with each subject's chronological age, have been compiled and presented in Table II. The comparison of each matched sub-group of three may be seen by reading across the Table. For example, Subject A1 in Group I has a chronological age of 90 months and an intelligence
TABLE II

CHRONOLOGICAL AGES AND INTELLIGENCE QUOTIENTS
OF FIFTY-FOUR SUBJECTS COMPRISING
GROUPS I, II, AND III

<table>
<thead>
<tr>
<th>Subject</th>
<th>C.A.*</th>
<th>I.Q.**</th>
<th>Subject</th>
<th>C.A.*</th>
<th>I.Q.**</th>
<th>Subject</th>
<th>C.A.*</th>
<th>I.Q.**</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>90 mos. 120</td>
<td></td>
<td>A2</td>
<td>90 mos. 127</td>
<td></td>
<td>A3</td>
<td>87 mos. 128</td>
<td></td>
</tr>
<tr>
<td>B1</td>
<td>97</td>
<td>104</td>
<td>B2</td>
<td>89</td>
<td>109</td>
<td>B3</td>
<td>90</td>
<td>110</td>
</tr>
<tr>
<td>C1</td>
<td>98</td>
<td>100</td>
<td>C2</td>
<td>95</td>
<td>104</td>
<td>C3</td>
<td>93</td>
<td>113</td>
</tr>
<tr>
<td>D1</td>
<td>95</td>
<td>123</td>
<td>D2</td>
<td>103</td>
<td>111</td>
<td>D3</td>
<td>98</td>
<td>113</td>
</tr>
<tr>
<td>E1</td>
<td>105</td>
<td>103</td>
<td>E2</td>
<td>103</td>
<td>99</td>
<td>E3</td>
<td>99</td>
<td>94</td>
</tr>
<tr>
<td>F1</td>
<td>97</td>
<td>83</td>
<td>F2</td>
<td>95</td>
<td>88</td>
<td>F3</td>
<td>102</td>
<td>88</td>
</tr>
<tr>
<td>G1</td>
<td>109</td>
<td>99</td>
<td>G2</td>
<td>99</td>
<td>97</td>
<td>G3</td>
<td>102</td>
<td>103</td>
</tr>
<tr>
<td>H1</td>
<td>109</td>
<td>124</td>
<td>H2</td>
<td>100</td>
<td>108</td>
<td>H3</td>
<td>105</td>
<td>114</td>
</tr>
<tr>
<td>I1</td>
<td>120</td>
<td>115</td>
<td>I2</td>
<td>112</td>
<td>113</td>
<td>I3</td>
<td>110</td>
<td>101</td>
</tr>
<tr>
<td>J1</td>
<td>114</td>
<td>95</td>
<td>J2</td>
<td>116</td>
<td>93</td>
<td>J3</td>
<td>111</td>
<td>95</td>
</tr>
<tr>
<td>K1</td>
<td>113</td>
<td>101</td>
<td>K2</td>
<td>117</td>
<td>105</td>
<td>K3</td>
<td>113</td>
<td>98</td>
</tr>
<tr>
<td>L1</td>
<td>135</td>
<td>113</td>
<td>L2</td>
<td>113</td>
<td>112</td>
<td>L3</td>
<td>115</td>
<td>105</td>
</tr>
<tr>
<td>M1</td>
<td>127</td>
<td>82</td>
<td>M2</td>
<td>128</td>
<td>89</td>
<td>M3</td>
<td>117</td>
<td>95</td>
</tr>
<tr>
<td>N1</td>
<td>125</td>
<td>115</td>
<td>N2</td>
<td>122</td>
<td>118</td>
<td>N3</td>
<td>119</td>
<td>131</td>
</tr>
<tr>
<td>O1</td>
<td>125</td>
<td>106</td>
<td>O2</td>
<td>123</td>
<td>98</td>
<td>O3</td>
<td>123</td>
<td>100</td>
</tr>
<tr>
<td>P1</td>
<td>132</td>
<td>109</td>
<td>P2</td>
<td>130</td>
<td>107</td>
<td>P3</td>
<td>125</td>
<td>99</td>
</tr>
<tr>
<td>Q1</td>
<td>134</td>
<td>94</td>
<td>Q2</td>
<td>138</td>
<td>87</td>
<td>Q3</td>
<td>135</td>
<td>82</td>
</tr>
<tr>
<td>R1</td>
<td>143</td>
<td>96</td>
<td>R2</td>
<td>144</td>
<td>94</td>
<td>R3</td>
<td>148</td>
<td>81</td>
</tr>
</tbody>
</table>

Means 114.88 104.5 112.00 103.2 110.67 102.7

*Chronological Age
**Intelligence Quotient
quotient of 120; Subject A2 in Group II has a chronological age of 90 months and an intelligence quotient of 127; Subject A3 in Group III has a chronological age of 87 months and an intelligence quotient of 128.

Table II also indicates the mean chronological age and the mean intelligence quotient of all subjects in Groups I, II, and III respectively. The mean chronological age for Group I expressed in months is 114.88; Group II, 112.00; and Group III, 110.67. The mean intelligence quotient for Group I is 104.55; Group II, 103.27; and Group III, 102.77.

Table II presents data regarding fifty-four subjects, those remaining in the group at the completion of the study period and included in the statistical analysis. Ten of the sixty-four children in the original group were dropped from the study for varying reasons. These subjects were assigned identifying letters X1, X2, X3, etc. One subject in Group II, the placebo control group, moved out of the school district during the study period, eliminating one matched sub-group of three. Four of the subjects could not be used because there were no subjects with comparable chronological ages and intelligence quotients. One subject of Group I, the non-medicated control group, moved during the study period, and was replaced with one of the four "reserve" subjects, leaving fifty-seven subjects remaining
in nineteen matched sub-groups. A second matched sub-group of three was deleted for purposes of statistical analysis because the testing psychologist viewed one test invalid due to testing conditions. The subject (X8) involved was a member of Group II.

No attempt was made to include sex as a matching criteria because of the limited size of the study sample and the preponderance of boys in the total group of sixty-four—a ratio of forty-eight boys to sixteen girls. It may be pertinent to note, however, that in the final group of fifty-four subjects, there were two girls in Group I, six in Group II, and two in Group III.

Children were matched without regard to their grade enrollment since their reading levels were not consistent with their grade placement levels and since grade placement is often an arbitrary one. If a subject was enrolled in Grade Four, but reading at Grade Two level, he would normally be placed in a reading group that was reading in accordance with his own approximate performance level regardless of his actual grade-placement. Therefore, a subject placed in Grade Four might be matched with a subject in Grade Three, but both might be reading a second-grade book.

The study psychologist, the involved teachers, and the parents of the study group were not aware of the group assignments. The school principal was given a list of each group
division together with a list of symptoms that might appear from the ingestion of excessive amounts of thyroid extract so that she might assess such symptoms should the need arise.

Procurement of the thyroid placebo and extract. Arrangements were made through a pharmaceutical house, Horton and Converse of Los Angeles, to furnish one-half and one grain tablets of thyroid extract and thyroid placebos for dispensation to selected study subjects. The placebo tablets, manufactured by Horton and Converse, matched the thyroid extract tablets in size, taste, color, and appearance. The thyroid extract tablets were furnished by the study medical director through the Horton and Converse Company.

Dispensing the medication. Ninety one-half grain thyroid extract or thyroid placebo tablets were placed in individual vials and labeled with each child’s name and the following directions: “Take one tablet each morning after breakfast.” Thirty-eight of these vials were dispensed to the appropriate subjects through home visits by the study nursing director.

Parents were requested to estimate the basal pulse rate of each child prior to the day the medication was to be started, March 19, 1961, by counting the radial pulse rate daily for one week before the child awoke in the morning. As a reminding device, to assure that the medication be given consistently, the parents were requested to record the time
the medication was taken by the subjects each morning on the appropriate date. A form was furnished for recording the basal pulse rate and the time the medication was given. Instructions and demonstrations were given to parents who needed assistance in learning to count the radial pulse rate. Parents were requested to record the pulse rate weekly on the same form used to record the time the medication was given. If the pulse rate was over ten points above the basal pulse rate or if other symptoms of excessive dosage of thyroid medication were noted, parents were asked to contact the study nursing director, who in turn could contact the study medical director.

No subjects developed toxic symptoms prior to May and the amount of medication prescribed was increased to one grain on that day. A second vial containing one-grain tablets of thyroid extract or thyroid placebo was dispensed to the parents of each subject through home visits by the study nursing director. A further increase to grains one and one-half was made in a similar manner on June 1, 1961. One subject whose pulse rate had raised a consistent ten points over his basal pulse rate remained on a daily dose of one grain of thyroid extract. One subject receiving a placebo developed symptoms described by the parents as excessive nervousness, which they attributed to the medication. These parents consulted their

47 Appendix A.
private physician who in turn consulted the school principal. The school principal assured the physician that the nervousness could not have resulted from the medication and the subject continued to take the prescribed placebo. The amount of dosage was decreased or discontinued during episodes of measles, unexplained fevers, and the like among subjects in both Group I and Group II.

Assessment of the Subjects' Progress

The experimental period continued until June 12, 1961, and covered a three-month period. At the end of this period, each child was retested individually by the study psychologist at the school. All of the sixty-two children who were still enrolled in the school and in the original group were subjected to the second test battery, since the psychologist was not aware of the study group divisions.

The summarized reports of all psychometric observations were sent to the study medical director, the study nursing director, and the school principal. Copies of these reports show measurements compiled in February prior to the experimental period in black type and measurements compiled in June at the termination of the experimental period in red type.48

The gains in reading achievement of the fifty-seven subjects in the nineteen matched sub-groups were then compared,

48Appendix C.
using the levels measured in June. Statistical analyses of the findings were computed and are summarized in the following chapter.

At the conclusion of the experiment, each child's parent or parents were interviewed by the school principal and the study director. Recommendations regarding the need for further treatment were made.

A follow-up clinical-case study of the children who continued or initiated treatment at the end of the experimental period was planned and second physical examinations of selected subjects were conducted by the study medical director. The study psychologist made future arrangements to retest the group of children included in this group. Not an integral part of the present experiment, this longitudinal clinical-case study will be described in a later report.
CHAPTER IV

ANALYSIS AND INTERPRETATION OF DATA

The method of gathering data to test the hypothesis that the level of reading achievement of hypothyroid children could be raised significantly by the administration of thyroid extract has been described in the preceding chapter. The problem undertaken for investigation was to measure the amount of reading achievement of selected hypothyroid children receiving therapeutic amounts of thyroid medication. One experimental group receiving thyroid medication was matched with two comparable control groups to measure the effect of the experimental variable. One control group received a thyroid placebo during the study period to measure the possible psychological effect of taking medication on the subjects' reading achievement. A second control group received no medication. The second control group was provided so that the amount of reading achievement expected during the three-month study period could be measured and compared with the amount of reading achievement gains among the children in the experimental group.

Comparison of Reading Gains

The reading levels of sixty-four retarded readers were measured during February of 1961. The reading levels of
sixty-two of the same retarded readers were measured again in June of 1961. The measures of fifty-four study subjects' reading gains made from February to June were extracted from the inclusive test battery data supplied by the study psychologist so that a comparison of these measures could be made.

Measured by Gray's Oral Reading Test, the amounts of gain in reading grade placement among the three study groups have been compiled and shown in Table III. The reading gains made by the fifty-four subjects included in the final study sample were calculated by subtracting the February measurements from the June scores. The differences are expressed in terms of academic years. That is, a reading gain of 1.3 means that the subject has progressed one year and three months; a gain of .1 equals a gain of one month or one-tenth of the school year.

The total group gains of each of the three groups have been shown in Table III and compared in Figure 1. Figure 1 illustrates the relative gains made by the non-medicated group, the placebo group, and the medicated group. The total gain of the non-medicated group was 15.0 years; the placebo group 14.3 years; and the medicated group, 19.3 years.

Analysis of Statistical Significance

The non-medicated control group served to measure the reading gains that would be expected among pupils who
participated in the teaching-learning process during the study period. Presumably, all students could be expected to improve their reading skills as a result of exposure to educational opportunities available to them at the time of the experiment. To ascertain whether or not the reading gains made by Group I were due to sampling error, the standard error of the group gain measurements ($S.E._X$) was calculated by dividing the standard deviation ($\sigma$) by the square root of the number of cases. A $t$ score could then be found by dividing the mean gain ($\bar{X}$) by the standard error of the measures ($S.E._X$):

$$\sigma = \sqrt{\frac{\sum x^2}{N-1}} = .56$$

$$S.E._X = \frac{\sigma}{\sqrt{n}} = .132$$

$$t_{17} = \frac{\bar{X}}{S.E._X} = .63$$

Interpreted on the basis of 17 degrees of freedom, the $t$ ratio of .63 showed that there is less than one chance in one-thousand that the observed improvement was due to sampling error.

Similar analysis of the gains of Group II and Group III, yielding $t$ ratios of 5.6 for both groups, showed that there is less chance than one in a thousand that the
### Table III

GAINS IN READING ACHIEVEMENT DURING THE EXPERIMENTAL PERIOD AMONG FIFTY-FOUR SUBJECTS COMPRISING GROUPS I, II, AND III

<table>
<thead>
<tr>
<th>Group I</th>
<th>Group II</th>
<th>Group III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-medicatd</td>
<td>Placebo</td>
<td>Thyroid</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subject</th>
<th>Reading Gains</th>
<th>Subject</th>
<th>Reading Gains</th>
<th>Subject</th>
<th>Reading Gains</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>.6 yrs.*</td>
<td>A2</td>
<td>1.8 yrs.*</td>
<td>A3</td>
<td>1.3 yrs.*</td>
</tr>
<tr>
<td>B1</td>
<td>2.0</td>
<td>B2</td>
<td>.0</td>
<td>B3</td>
<td>.8</td>
</tr>
<tr>
<td>C1</td>
<td>2.1</td>
<td>C2</td>
<td>.6</td>
<td>C3</td>
<td>1.4</td>
</tr>
<tr>
<td>D1</td>
<td>1.0</td>
<td>D2</td>
<td>1.2</td>
<td>D3</td>
<td>2.3</td>
</tr>
<tr>
<td>E1</td>
<td>1.6</td>
<td>E2</td>
<td>.4</td>
<td>E3</td>
<td>1.4</td>
</tr>
<tr>
<td>F1</td>
<td>.6</td>
<td>F2</td>
<td>.0</td>
<td>F3</td>
<td>.5</td>
</tr>
<tr>
<td>G1</td>
<td>.3</td>
<td>G2</td>
<td>1.4</td>
<td>G3</td>
<td>1.1</td>
</tr>
<tr>
<td>H1</td>
<td>.7</td>
<td>H2</td>
<td>1.5</td>
<td>H3</td>
<td>2.3</td>
</tr>
<tr>
<td>I1</td>
<td>.2</td>
<td>I2</td>
<td>.0</td>
<td>I3</td>
<td>.6</td>
</tr>
<tr>
<td>J1</td>
<td>.3</td>
<td>J2</td>
<td>.2</td>
<td>J3</td>
<td>.0</td>
</tr>
<tr>
<td>K1</td>
<td>.8</td>
<td>K2</td>
<td>.6</td>
<td>K3</td>
<td>1.6</td>
</tr>
<tr>
<td>L1</td>
<td>.6</td>
<td>L2</td>
<td>1.4</td>
<td>L3</td>
<td>.3</td>
</tr>
<tr>
<td>M1</td>
<td>1.0</td>
<td>M2</td>
<td>.4</td>
<td>M3</td>
<td>1.3</td>
</tr>
<tr>
<td>N1</td>
<td>.5</td>
<td>N2</td>
<td>1.2</td>
<td>N3</td>
<td>1.9</td>
</tr>
<tr>
<td>O1</td>
<td>.8</td>
<td>O2</td>
<td>.7</td>
<td>O3</td>
<td>.2</td>
</tr>
<tr>
<td>P1</td>
<td>.3</td>
<td>P2</td>
<td>1.0</td>
<td>P3</td>
<td>.7</td>
</tr>
<tr>
<td>Q1</td>
<td>1.1</td>
<td>Q2</td>
<td>.8</td>
<td>Q3</td>
<td>.8</td>
</tr>
<tr>
<td>R1</td>
<td>.5</td>
<td>R2</td>
<td>.5</td>
<td>R3</td>
<td>.8</td>
</tr>
</tbody>
</table>

Totals 15.0 14.3 19.3

*Academic years.
FIGURE 1

A COMPARISON OF TOTAL GROUP GAINS IN READING ACHIEVEMENT OF THREE GROUPS DURING A THREE-MONTH EXPERIMENTAL PERIOD
improvement was fortuitous. Inasmuch as all study subjects were enrolled in school during the study period, the measured significant improvement in reading could probably be attributed to this fact. The relative gains made by each group could then be compared to identify possible significant differences among the three groups.

A comparison of each group's reading gains was made to estimate the effectiveness of the medication in increasing the reading level of the study sample. The probability of chance or significance inherent in the comparison of the study sample data was estimated by dividing the differences of the mean gains (D) of Group I and Group II (\(\bar{X}_1\) and \(\bar{X}_2\)) and of Group II and Group III (\(\bar{X}_2\) and \(\bar{X}_3\)) by the standard error of the differences:

\[
D = \bar{X}_1 - \bar{X}_2 \text{ or } \bar{X}_1 - \bar{X}_3
\]

\[
S.E.\_D = \sqrt{(S.E.\_1)^2 + (S.E.\_2)^2}
\]

\[
S.E.\_D = \sqrt{(S.E.\_2)^2 + (S.E.\_3)^2}
\]

\[
t = \frac{D}{S.E.\_D}
\]

The non-medicated group gains were compared with the placebo group gains to assess the significance of the psychological effect of taking medication on the improvements made among the subjects. The fact that the placebo group gained
less than the non-medicated group would suggest the possibility that taking medication had a negative effect on the subject's efforts to improve their reading.

The average gain of Group I, .833, minus the average gain of Group II, .795, equaled D, .038, the differences in the two groups' mean gains. The standard error of the differences of these groups was .194. The derived $t$ ratio, interpreted on the basis of thirty-four or $n-2$ degrees of freedom was .2, showing that there are eighty chances in one hundred that the difference of the non-medicated group and the placebo group was accidental. In other words there is twenty per cent probability that the observed decrease was due to a psychological factor.

It can be concluded that the psychological effect of taking medication (thyroid extract or thyroid placebo) among the study subjects was not a positive influence and that any negative effect was due to chance at the eightieth per cent level of confidence. Since any chance negative effect could be expected to be present in both Group II, the placebo group, and Group III, the experimental group, the effectiveness of the thyroid medication in increasing the reading gains could then be estimated by comparing the reading gains of these two groups.

The average gain of Group III, 1.07 years, minus the average gain of Group II, .795 years, equaled D, .275 years.
The standard error of the differences of the two groups was .238 years, yielding a $t$ ratio of 1.16. Interpreted on the basis of thirty-four degrees of freedom, a $t$ ratio of 1.16 shows that there is approximately twenty-four per cent probability that the observed difference in improvement was due to chance in sampling and that there is seventy-six per cent probability that the difference in improvement was due to the thyroid medication.

The hypothesis that the level of reading achievement of hypothyroid children would be raised by the administration of thyroid extract was thus supported at the seventy-sixth per cent level of confidence.

Interpretation of Findings

The test for statistical significance of the study hypothesis, tenable at the seventy-sixth per cent level, indicates that the reading gains made by the study subjects could have been entirely due to sampling error in twenty-four per cent of the cases. This degree of significance could not be considered sufficiently high to establish a direct relationship between reading retardation and hypothyroidism. However, due to the small numbers of cases included in the experiment and the limited time allowed for treatment, the $t$ test for significance must be regarded as approximate and the results interpreted with caution. Among factors to be considered in addition to the limited sample size and the
limited length of the experimental period are (1) limitations of available diagnostic facilities, and (2) insufficient amounts or types of medication.

Differential diagnoses. As mentioned in Chapter I, children treated empirically with thyroid drugs may fail to respond to thyroid medication. This failure to respond may be accepted as proof that their clinical conditions are unrelated to hypothyroidism, according to Eames.\(^{49}\) Discussing hypothyroidism and delayed skeletal development, Mellman and his associates have stated:

> A number of clinical conditions unrelated to hypothyroidism can be responsible for similar (delayed skeletal development) findings among which are hypopituitarism, constitutional dwarfism, chronic disease and malnutrition. Such infants and children are often treated empirically with thyroid drugs, particularly when mental and motor retardation is coupled with growth failure and delayed bone-age. These patients generally have a normal concentration of protein-bound iodine and fail to respond to thyroid medication... The response to replacement therapy with thyroid can be utilized as a specific therapeutic test. Failure to demonstrate a prompt and decisive effect on growth and bone-age after six months of adequate therapy with thyroid should render the diagnosis of hypothyroidism dubious.\(^{50}\)

These observations suggest that "six months of adequate therapy" is necessary as a minimum therapeutic test period.

\(^{49}\)Eames, op. cit., p. 22.

\(^{50}\)William J. Mellman, Alfred M. Borgrovanni, and John W. Hope, "The Diagnostic Usefulness of Skeletal Maturation in an Endocrine Clinic," Pediatrics, 23:537-538, March, 1959.
for diagnosing some cases of hypothyroidism. Whether or not the same criteria is applicable to academic performance cannot be concluded from Mellman's statements, but the need for such a consideration is indicated. In making differential diagnoses among subjects in the present study, none could be confirmed through the use of a therapeutic trial period because of the nature of the experiment. Judgments of the academic gains made by these subjects should be made within the limitations inherent in the assumptions stated earlier—that each diagnosis was as accurate as possible on the basis of available criteria.

As the study medical director has noted, several of the study subjects showed signs of endocrinopathies other than simple hypothyroidism. No treatment for these disorders was initiated by the research team. It is doubtful that maximum benefit was derived from thyroid medication alone in subjects needing treatment for accompanying deficiencies.

Consideration of other constitutional disorders such as metabolic insufficiency might also be warranted. The term metabolic insufficiency, although less specific than hypothyroidism, has been used to describe a clinical condition closely resembling subclinical hypothyroidism. Fields has

51 Appendix B.
suggested that metabolic insufficiency is a disorder caused by inefficient utilization of thyroid products at the cellular level rather than by an inadequate supply of products from the thyroid gland. For this reason, children may be refractive to standard thyroid preparations. The Smith Kline and French Laboratories have published a film titled *The Metabolic Insufficiency Syndrome* which has suggested that increasing numbers of articles have been appearing in medical journals concerning this syndrome. It is possible that some of the subjects who received thyroid medication during the study period might be categorized under the broader term "metabolic insufficiency" and treated accordingly.

**Amounts of medication prescribed.** The amounts of thyroid medication prescribed for the study subjects were conservative. The study medical director favored the view that sound therapy required a gradual increase of minimal initial dosage of thyroid extract, because children low in thyroid are apt to be sensitive to the drug. It is probable that a number of the study subjects had not yet reached an optimal level of thyroid medication during the experimental


period in time to affect their level of reading achievement. Any attempt to avoid this possibility would have necessitated risking less appropriate therapy than that prescribed for the subjects in the experimental group.

Conclusions

The question of the possible relationship of reading retardation and hypothyroidism cannot be answered with finality on the basis of the findings of the present study. The results of the analysis of the data collected and reported here are applicable only to the group selected for study. The difference in reading achievement found to exist among the subjects receiving thyroid extract and the subjects receiving none was statistically significant at the seventy-sixth per cent level of confidence. A more conclusive investigation of the problem undertaken for study might be facilitated through an extension of the length of the study period. Because the therapeutic success in the treatment of any reading disability varies inversely with the duration of the reading problem, it would seem logical that the older (and larger) children in the study, who might require more generous amounts of thyroid medication to reach their optimal dose, might also require a longer extension of time to overcome the accumulation of problems accruing from earlier reading difficulties.

An increased number of study subjects and more extensive diagnostic facilities might also serve to augment the
exploration of the relationship of hypothyroidism and reading retardation.

A summary of the present report and recommendations for further study have been outlined in the concluding chapter.
CHAPTER V

SUMMARY AND IMPLICATIONS FOR FURTHER STUDY

The purpose of the study was to contribute to the accumulated data regarding medical aspects of reading retardation among elementary school children. The problem explored in the study was limited to the relationship of reading retardation and hypothyroidism, with the expectation that such an investigation would stimulate the interest of school personnel.

Sixty-four subjects enrolled in one elementary school were selected for study on the basis of their inability to read at a level commensurate with their general intelligence and educational opportunities. A diagnosis of hypothyroidism among the study subjects was made by the study medical director from clinical observations, protein-bound iodine blood tests, skeletal age estimates, and psychological evaluations.

The experimental method was used to measure the amount of reading achievement of selected hypothyroid children who received therapeutic amounts of thyroid medication as compared with two control groups. A three-month experimental period was planned, to extend from March to June of the 1961 school year.
The study subjects were divided into three groups--two control groups and one experimental group. The two control groups were matched with the subjects in the experimental group according to chronological age and intelligence quotient. All of the subjects in the experimental group showed manifestations of hypothyroidism and were given thyroid extract daily for a three-month period. One control group received no medication. The purpose of this group was to measure the change in reading achievement that could be expected among the subjects during the three-month study interval. A second control group received a placebo to measure the possible psychological effect of receiving medication during the same interval. Ten of the sixty-four subjects were eliminated from the final study sample. Several of the subjects moved from the school district prior to the termination of the study period and several of the subjects did not meet the criteria used to match the three study groups.

Gray's Oral Reading Test was used to measure the reading achievement at the beginning of the study period and at the termination of the study period. A Certified Psychologist administered these individual tests. Since the psychologist was unaware of the group assignments of the study subjects, all of the original study subjects who were still enrolled in the school at the end of the study period were retested.

To estimate the statistical significance of the changes in reading levels among the study subjects, gains in reading
achievement of the fifty-four subjects in the three study groups were compared. Although the total reading gains of the experimental group exceeded that of the two control groups by over four academic years at the end of the experimental period, the results of the statistical analysis showed that these gains could have been due to chance in twenty-four per cent of the cases studied. The hypothesis that the level of reading achievement of hypothyroid children would be raised significantly by the administration of thyroid extract was tenable at the seventh-sixth per cent level of confidence. The conclusion was drawn that the relationship between retarded reading and hypothyroidism should be investigated using a larger study sample, a longer study period, and more extensive diagnostic technics.

As was indicated in Chapter III, a follow-up study of the present investigation was planned by the research team. Because the close of the school year negated the possibility of continuing the use of the more objective experimental method, a clinical-case, longitudinal study was tentatively planned.

The high incidence of delay in bone-age among the retarded readers identified in the present experiment was of considerable interest to the research team. It was noted that a high correlation between delay in epiphyseal maturation and retarded reading seemed to exist among the subjects studied.
A study of the skeletal age of academically accelerated students might support evidence that such a correlation does indeed exist. Further investigation of this possible relationship might also contribute to the major purpose of the present study—investigation and early identification of remediable medical determinants which underlie the syndrome of reading disability and resulting insidious academic retardation.
BIBLIOGRAPHY
BIBLIOGRAPHY

A. BOOKS


B. FILM


C. PAMPHLETS


D. PERIODICALS


APPENDIX A
Dear______________________________

Your cooperation is sought in a research project that is being undertaken to assist intelligent children who have demonstrated some difficulty in learning to read. It is hoped that you and your child, __________________________, will be able to participate in the project.

The purpose of the study is to investigate some of the possible medical causes and remedial measures that may be taken to help alleviate existing reading problems.

In order to carry out this study, we are fortunate to have the assistance of Charles Posner, M.D., an endocrinologist; Helen M. Thompson, Certified Psychologist, Director of the Thompson Reading Clinic, and Assistant Professor of Education at Chapman College; and Winifred Wilson, Registered Nurse, who is sponsored by a United States Department of Health, Education, and Welfare Grant through Loma Linda University.

There will be a small group meeting at the __________________________ School on January 25th at 7:15 p.m. The study project will then be explained in greater detail, and all questions you may have will be answered at that time.

It is an honor to have been selected for this study. I'm sure you will feel the same after having heard all the details.

Sincerely,

Principal

Please detach and return to school:

I will (or will not) be able to attend this meeting on Wednesday, January 25, at 7:15 p.m. __________________________ Signature
We understand that a controlled study of the relationship between reading and thyroid deficiency is to be conducted under the direction of Charles Posner, M.D., Helen M. Thompson, Certified Psychologist, and Winifred Wilson, Registered Nurse.

We agree that our child, ___________________________________ may have a physical examination at the ______________________ School under the supervision of Dr. Posner. We agree to cooperate in this study by transporting our child, or permitting him to be transported to the Grand Avenue Clinical Laboratory at 1508 Grand Avenue, Santa Ana, California, to have an x-ray examination and blood test to determine if a thyroid deficiency exists, and to the Thompson Reading Clinic at 335 North Grand Avenue, Orange, California for individual intelligence and reading tests.

We also understand that if a thyroid deficiency is discovered in our child, medication will be prescribed and furnished and that the medications furnished to one group will contain thyroid extract and the medications furnished to another group will contain neither thyroid extract nor drugs. We agree to administer and record the medications taken by our child.

We further understand that the above tests and medications will be furnished without cost to us and that our consent may be withdrawn at any time whether or not the tests have been completed. We agree, however, to notify ______________________, principal of ____________ _____________ School, if we withdraw our consent.

Signature of Parent or Guardian
Dear Parents:

The appointment for ____________________________ is checked below.
Since the time for Dr. Posner and Helen Thompson is limited please be prompt. If for any reason you cannot keep your appointment after having returned the slip below, please phone Ki 5-7111 or Ki 5-3301.

<table>
<thead>
<tr>
<th>WHERE</th>
<th>DAY</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Examination</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Office</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological and Achievement Tests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thompson Reading Clinic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>335 N. Grand Avenue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orange, California</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Laboratory Tests

<table>
<thead>
<tr>
<th>WHERE</th>
<th>DAY</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grand Ave, Clinical Lab.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1508 Grand Avenue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Santa Ana, California</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: For lab test only -- nothing to eat or drink after midnight until after the lab. tests are made on the morning indicated.

---

Detach here

Please sign and return to the school.

__________________________________________  Room No.

Student

Check one: I will _____________

I will not _____________ keep the appointment on ____________

at ____________ at the school ____________ lab. ____________ Reading ____________

A parent is requested to be present during the examinations.
CHARLES POSNER, M. D.

Name____________________________________Date____________________________

Father____________________________________Age________________________________

Address___________________________________Birthdate________________________

Telephone_________________________________School Grade____________________

Business Address____________________________Referred by_______________________

Business Telephone__________________________

C. C.____________________________________G. I. ____________________________

P. I.____________________________________

Past History:

Delivery

Labor

Birthweight

Sat Alone

First Tooth

Exfoliation

Walked at:

Talked at:

Feeding first year:

Breast, duration

Bottle, what age

Cup, what age

What formula

Orange juice

Vitamins

Vitamins age started

Condition end of first year:

Family History:

Age

Father

Mother

Brothers, 1.

d.

Sisters, 1.

d.

Childhood diseases:

Scarlet fever

Measles

Whooping cough

Chicken pox

Resp. infections

Mumps

Anomalies of size

Mother

Father

Maternal grandparents

Paternal grandparents

Endocrinopathies

Injuries

Operations: T. and A.

Others

Other Pertinent Information in Past History:
### Physical Examination

<table>
<thead>
<tr>
<th>General Appearance</th>
<th>Pulse</th>
<th>Blood Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constitution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height</td>
<td>Weight</td>
<td></td>
</tr>
<tr>
<td>Skin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hair</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nails</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Head:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eyes</td>
<td></td>
<td>Abdomen:</td>
</tr>
<tr>
<td>Fundi</td>
<td></td>
<td>Genital:</td>
</tr>
<tr>
<td>Exothalmus</td>
<td></td>
<td>Pubic Hair</td>
</tr>
<tr>
<td>Von Graef sign</td>
<td></td>
<td>Uterus</td>
</tr>
<tr>
<td>Ears</td>
<td></td>
<td>Cervix</td>
</tr>
<tr>
<td>Nose</td>
<td></td>
<td>Adnexae</td>
</tr>
<tr>
<td>Sinuses</td>
<td></td>
<td>Penis</td>
</tr>
<tr>
<td>Throat</td>
<td></td>
<td>Testes: left</td>
</tr>
<tr>
<td>Teeth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tongue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reflexes:</td>
<td></td>
<td>Rectal:</td>
</tr>
<tr>
<td>Cervical</td>
<td>Babinski</td>
<td>Triceps</td>
</tr>
<tr>
<td>Thyroid</td>
<td>Patellar</td>
<td>Romberg</td>
</tr>
<tr>
<td></td>
<td>Biceps</td>
<td>Chvostecck</td>
</tr>
</tbody>
</table>

**Impression:**
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name________________________

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Protein Bound Iodine_________ Height_________ Weight_________

Skeletal Age:

________________________________________________________________________

________________________________________________________________________

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

________________________________________________________________________

________________________________________________________________________
PSYCHOMETRIC REPORT FORM

THE THOMPSON READING CLINIC

WILSON RESEARCH

CHAPMAN COLLEGE

Name_________________________ Elementary School Grade_________________________
Age_________________________ Date of Birth_________________________ Date of Testing_________________________

Prediction for Learning: FORM BOARD = _______ M.A. = _______ I.Q.
Verbal Facility: VERBAL OPPOSITES = _______ M.A. = _______ I.Q.
Reproductive Learning: BLOCK DESIGN = _______ I.Q. (Top Level______)

Hypothyroid Pattern:

W I S C

Coding = _______ I.Q.
Mazes = _______ I.Q.
Arithmetic = _______ I.Q.
Memory = _______ I.Q.

General Comments_____________________________________________________

MATURITY FACTORS

Drawing Age = _______ M.A.
Writing and Drawing Age= _______ M.A.
Inversion Test

General Comments_____________________________________________________

READING LEVELS

Wide Range = _______ Basal Grade Level
Gray's Oral = _______ Frustration Grade Level
Gray's Oral = _______ Grade Level

OTHER TESTS ADMINISTERED: _____________________________________________

DIAGNOSIS: _____________________________________________________________

___________________________________________________________

Submitted: ___________________________ Helen M. Thompson
Certified Psychologist
and
Reading Specialist
# MEDICATION RECORD

## NAME

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
</tr>
<tr>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td>31</td>
<td></td>
</tr>
</tbody>
</table>

## MARCH

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## APRIL

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
</tr>
<tr>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## MAY

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
</tr>
<tr>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
</tr>
<tr>
<td>28</td>
<td>29</td>
<td>30</td>
<td>31</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## JUNE

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
</tr>
</tbody>
</table>
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

MEDICAL EVALUATION—2/61

Summary of Doctor's Impression:

Hypothyroidism with shortness.

Protein Bound Iodine 4.74 Height 51" Weight 55

Skeletal Age:

Nine years. (Advanced 18 months)

TREATMENT DURING STUDY PERIOD—3/19/61 to 6/15/61

No medication prescribed.

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD—6/18/61

To initiate treatment with Thyroid Extract 7/20/61 as prescribed by Dr. Posner.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name  Subject Bl  Age  97 months

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

- Hypothyroidism.
- Severe malocclusion.

Protein Bound Iodine 8.75  Height 5 ft 1/2"  Weight 66

Skeletal Age:
- Carpal age--8 years.
- Ulnar age--6 years. (Delayed 13 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

No medication prescribed.

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name  Subject  C1  

Age  98 months

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

No evidence of hypothyroidism.

Protein Bound Iodine  5.60  Height  54"  Weight  64

Skeletal Age:

Eight years. (Delayed 2 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

No medication prescribed.

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name Subject D1

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Hypothyroidism.

Protein Bound Iodine Out-of-range

Skeletal Age:

The distal epiphysis of the ulna is not present which brings the bone-age down to below six years at this point. However, the remainder of the bone development is approximately that of a ten-year old boy. (Advanced one month).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

No medication prescribed.

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name __________ Subject El __________

ELEME NTARY SCHOOL

Age __________ 105 months __________

MEDICAL EVALUATION -- 2/61

Summary of Doctor's Impression:

No evidence of hypothyroidism.

Protein Bound Iodine 6.65 Height 53" Weight 55 1/2

Skeletal Age:

Nine years. (Advanced 3 months).

TREATMENT DURING STUDY PERIOD -- 3/19/61 to 6/15/61

No medication prescribed.

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD -- 6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name __________ Subject Fl

Age __________

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Suggestion of hypothyroidism.

Protein Bound Iodine __________ Height __________ Weight __________

Skeletal Age:

The over-all bone age is that of a female of four and one-half years. Only the distal epiphysis of the ulna indicates that the child has in this region a bone age of about six years. (Delayed 15 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

No medication prescribed.

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

To initiate treatment with Thyroid Extract 7/20/61 as prescribed by Dr. Posner.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name  Subject 01

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Poor nutrition with secondary anemia (?).

Hypothyroidism.

Protein Bound Iodine  5.6  Height  53 1/2"  Weight  64

Skeletal Age:

Nine years. (Delayed 1 month).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

No medication prescribed.

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name  Subject HI

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Vitamin A deficiency; hypothyroidism to be ruled out by laboratory.

Protein Bound Iodine 4.7  Height 5ft 1/4"  Weight 61

Skeletal Age:

Ten years. (Advanced 11 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

No medication prescribed.

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

<table>
<thead>
<tr>
<th>Name</th>
<th>Subject II</th>
</tr>
</thead>
</table>

ELEMENRTARY SCHOOL

| Age | 120 months |

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

- Hypothyroidism "to be ruled out by laboratory".

Protein Bound Iodine 5.66 Height ? Weight ?

Skeletal Age:

- Eight years. (Delayed 14 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

- No medication prescribed.

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

- Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name  Subject J1

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Hypothyroidism ruled out by laboratory.

Protein Bound Iodine 6.32  Height 64 1/2"  Weight 73

Skeletal Age:

Ten years. (Advanced 6 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

No medication prescribed.

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name ____________________________ Subject KJ ______________________

MEDICAL EVALUATION--2/61

Summary of Doctor’s Impression:

Hypothyroidism to be ruled out by laboratory.

Hypogonadism.

Protein Bound Iodine 5.9 Height 54 1/2” Weight 65

Skeletal Age:

Nine years (Delayed 5 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

No medication prescribed.

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name  Subject Ll  Age  135 months

MEDICAL EVALUATION—2/61

Summary of Doctor's Impression:

Hypothyroidism ruled out by laboratory.

Protein Bound Iodine  6.58  Height  60 1/4"  Weight  84

Skeletal Age:

Eleven years. (Delayed 3 months).

TREATMENT DURING STUDY PERIOD—3/19/61 to 6/15/61

No medication prescribed.

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD—6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name   Subject MI

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Hypothyroidism ruled out by laboratory.

Protein Bound Iodine 9.22
Height 55 1/4" Weight 74

Skeletal Age:

Ten years. (Delayed 7 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

No medication prescribed.

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name  Subject N1

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Possible mild hypothyroidism.

Protein Bound Iodine 8.84  Height 58 3/4"  Weight 88

Skeletal Age:

Ten years. (Delayed 5 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

No medication prescribed.

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name Subject 01

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

No definite evidence of hypothyroidism.

Protein Bound Iodine 5.05 Height 59 3/4" Weight 90 1/4

Skeletal Age:

Eleven years. (Advanced 7 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

No medication prescribed.

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name: Sub.ject Pl

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Hypothyroidism with shortness

Protein Bound Iodine 5.75  Height 54"  Weight 73

Skeletal Age:

Ten years. (Delayed 12 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

No medication prescribed.

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

To initiate treatment with Thyroid Extract 7/20/61 as prescribed

by Dr. Posner.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name  Subject Q1

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Suggestion of hypothyroidism.

Vitamin A deficiency.

Protein Bound Iodine  6.2  Height 55 1/2"  Weight 90

Skeletal Age:

Twelve years. (Advanced 10 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

No medication prescribed.

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name Subject R1

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Hypothyroidism to be ruled out by laboratory.

Protein Bound Iodine 5.77  Height 59"  Weight 88

Skeletal Age:

Twelve years. (Advanced 1 month).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

No medication prescribed.

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name Subject A2

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Urticaria.

Suggestion of hypothyroidism.

Protein Bound Iodine 6.00 Height 50 1/2" Weight 55

Skeletal Age:

Eight years. (Advanced 6 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Placebo Gr. ss each day before breakfast (3/19 to 5/1)

Thyroid Placebo Gr. i each day before breakfast (5/1 to 6/1)

Thyroid Placebo Gr. iss each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private doctor; moving out of school district.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name: Subject B2

MEDICAL EVALUATION—2/61

Summary of Doctor's Impression:

Slight suggestion of hypothyroidism.

Possible early rickets in early childhood.

Protein Bound Iodine 5.32 Height 4'7 3/4" Weight 49

Skeletal Age:

Six years and ten months. (Delayed 6 months).

TREATMENT DURING STUDY PERIOD—3/19/61 to 6/15/61

Thyroid Placebo Gr. 6 each day before breakfast (3/19 to 5/1)

Thyroid Placebo Gr. 1 each day before breakfast (5/1 to 6/1)

Thyroid Placebo Gr. 1 each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD—6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name__Subject C2__

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Froehlich's Syndrome with gynecomastia and hypothyroidism.

Vitamin A deficiency.

Protein Bound Iodine 7.35  Height 54 3/4"  Weight 104

Skeletal Age:

Seven years. (Delayed 11 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Placebo Gr. as each day before breakfast (3/19 to 5/1)

Thyroid Placebo Gr. 1 each day before breakfast (5/1 to 6/1)

Thyroid Placebo Gr. 1ss each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name  Subject D2

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Suggestion of mild hypothyroidism.

Protein Bound Iodine  6.16  Height  50"  Weight  50 1/2

Skeletal Age:

Seven years.  (Delayed 19 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Placebo Gr. ss each day before breakfast (3/19 to 5/1)

Thyroid Placebo Gr. 1 each day before breakfast  (5/1 to 6/1)

Thyroid Placebo Gr.1ss each day before breakfast  (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name   Subject E2

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

May be mild, borderline hypothyroidism.

To be ruled out by laboratory.

Protein Bound Iodine 6.65 Height 53 3/4" Weight 77

Skeletal Age:

Eight years. (Delayed 7 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Placebo Gr. ss each day before breakfast (3/19 to 5/1)

Thyroid Placebo Gr. 1 each day before breakfast (5/1 to 6/1)

Thyroid Placebo Gr. ss each day before breakfast (6/1 to 6/12)

Pulse rate fluctuated "from medication." Dosage reduced @ times.

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name Subject F2

Age 95 months

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Mild hypothyroidism.

Protein Bound Iodine 5.25 Height 52 1/2" Weight 66

Skeletal Age:

Seven years. (Delayed 11 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Placebo Gr. ss each day before breakfast (3/19 to 5/1)

Thyroid Placebo Gr. i each day before breakfast (5/1 to 6/1)

Thyroid Placebo Gr.iss each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

To initiate treatment with Thyroid Extract 7/20/61 as prescribed

by Dr. Posner; to be included in follow-up study.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name Subject G2

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

History indicative of hypothyroidism.

To be ruled out by laboratory.

Protein Bound Iodine 6.82 Height 47" Weight 44

Skeletal Age:

Seven and a half years. (Delayed 9 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Placebo Gr. as each day before breakfast (3/19 to 5/1)

Thyroid Placebo Gr. 1 each day before breakfast (5/1 to 6/1)

Thyroid Placebo Gr.iss each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

---

No evidence of hypothyroidism on physical examination.

History and psychological examination suggest hypothyroidism.

---

Protein Bound Iodine 6.60 Height 53 1/2" Weight 69 1/2

Skeletal Age:

Seven years and one-half. (Delayed 10 months).

---

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Placebo Gr. ss each day before breakfast (3/19 to 5/1)

Thyroid Placebo Gr. 1 each day before breakfast (5/1 to 6/1)

Thyroid Placebo Gr. iss each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name  Subject I2

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Mild hypothyroidism.

Protein Bound Iodine  4.27  Height  57"  Weight  80 1/2

Skeletal Age:

Nine years + (the triquetrum is somewhat advanced in its
development, and reaches almost the size of an 11 year old boy).
(Delayed 4 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Placebo Gr. ss each day before breakfast (3/19 to 5/1)

Thyroid Placebo Gr. 1 each day before breakfast (5/1 to 6/1)

Thyroid Placebo Gr. 1ss each day before breakfast (6/1 to 6/12)

Complained of shortness of breath from taking medication.

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name  Subject J2

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Suggestion of hypothyroidism.

Findings negative from eye examination by ophthalmologist.

Protein Bound Iodine  5.36  Height  56"  Weight  82 1/2

Skeletal Age:

Ten years. (Advanced 4 years).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Placebo Gr. ss each day before breakfast (3/19 to 5/1)

Thyroid Placebo Gr. i each day before breakfast (5/1 to 6/1)

Thyroid Placebo Gr.iss each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician; moving out of school district.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name Subject K2

ELEMENTARY SCHOOL

Age 117 months

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Hypothyroidism ruled out by laboratory.

Protein Bound Iodine 7.3 Height 53 1/2" Weight 73

Skeletal Age:

Ten years. (Advanced 3 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Placebo Gr. ss each day before breakfast (3/19 to 5/1)

Thyroid Placebo Gr. i each day before breakfast (5/1 to 6/1)

Thyroid Placebo Gr. iis each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name  Subject L2

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Hypothyroidism.

Protein Bound Iodine  7.35  Height  55"  Weight  67

Skeletal Age:

Six years. (Delayed 41 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Placebo Gr. ss each day before breakfast  (3/19 to 5/1)

Thyroid Placebo Gr.  i each day before breakfast  (5/1 to 6/1)

Thyroid Placebo Gr.iss each day before breakfast  (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

To initiate treatment with Thyroid Extract 7/20/61 as prescribed

by Dr. Posner; to be included in follow-up study.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name: Subject M2
Age: 128 months

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

- Hypopituitarism.
- Some evidence of hypothyroidism.
- Delayed sexual development--four year level.

Protein Bound Iodine 4.9  Height 57"  Weight 80 1/2

Skeletal Age:
Nine years and five months. (Delayed 15 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Placebo Gr. ss each day before breakfast (3/19 to 5/1)
Thyroid Placebo Gr. i each day before breakfast (5/1 to 6/1)
Thyroid Placebo Gr. iis each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

To initiate treatment with Thyroid Extract 7/20/61 as prescribed
by Dr. Posner; to be included in follow-up study.
WILSON RESEARCH PROJECT

Name: Subject N2

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Hypogonadism (one year level).

Hypothyroidism.

Protein Bound Iodine 6.89  Height 55 1/2"  Weight 91

Skeletal Age:

Nine years. (Delayed 14 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Placebo Gr. 3s each day before breakfast (3/19 to 5/1)

Thyroid Placebo Gr. 1 each day before breakfast (5/1 to 6/1)

Thyroid Placebo Gr.1ss each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

To initiate treatment with Thyroid Extract 7/20/61 as prescribed by Dr. Posner; to be included in follow-up study.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name  Subject 02  Age 123 months

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Slight obesity; malocclusion.

Hypothyroidism to be ruled out by laboratory.

Protein Bound Iodine  5.75  Height  61"  Weight  116

Skeletal Age:

Eleven years. (Advanced 9 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Placebo Gr. ss each day before breakfast  (3/19 to 5/1)

Thyroid Placebo Gr. 1 each day before breakfast  (5/1 to 6/1)

Thyroid Placebo Gr. i ss each day before breakfast  (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name Subject P2

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Does not appear to be hypothyroid.

Protein Bound Iodine 5.53 Height 55 1/4" Weight 76

Skeletal Age:

General bone-age of ten years. However, the pisiform is already present which makes the bone-age slightly advanced, at this point. (Delayed 10 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Placebo Gr. ss each day before breakfast (3/19 to 5/1)

Thyroid Placebo Gr. i each day before breakfast (5/1 to 6/1)

Thyroid Placebo Gr. iis each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name Subject Q2

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

History and physical negative.

No evidence of hypothyroidism.

Severe malocclusion; obesity.

Protein Bound Iodine 4.9 Height 56 1/2" Weight 91

Skeletal Age:

Eleven years, somewhat small. (Delayed 6 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Placebo Gr. ss each day before breakfast (3/19 to 5/1)

Thyroid Placebo Gr. i each day before breakfast (5/1 to 6/1)

Thyroid Placebo Gr.iss each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

NAME ____________________________  SUBJECT R2

MEDICAL EVALUATION—2/61

Summary of Doctor's Impression:

Possible hypothyroidism to be ruled out by laboratory.

Protein Bound Iodine 4.62  Height 62 1/2"  Weight 100

Skeletal Age:

Twelve years. (No deviation from normal).

TREATMENT DURING STUDY PERIOD—3/19/61 to 6/15/61

Thyroid Placebo Gr. ss each day before breakfast (3/19 to 5/1)

Thyroid Placebo Gr. 1 each day before breakfast (5/1 to 6/1)

Thyroid Placebo Gr.1ss each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD—6/18/61

Referred to private physician.
<table>
<thead>
<tr>
<th>Subject</th>
<th>Name: Subject A3</th>
<th>Age: 87 months</th>
</tr>
</thead>
</table>

**MEDICAL EVALUATION--2/61**

Summary of Doctor's Impression:

- Suggestion of hypothyroidism.

<table>
<thead>
<tr>
<th>Protein Bound Iodine</th>
<th>4.9</th>
<th>Height</th>
<th>50 1/2&quot;</th>
<th>Weight</th>
<th>62</th>
</tr>
</thead>
</table>

**Skeletal Age:**

- Seven years. (Delayed 3 months).

**TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61**

<table>
<thead>
<tr>
<th>Medicine</th>
<th>Dosage</th>
<th>Administration</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thyroid Extract</td>
<td>1/2 gr.</td>
<td>each day before breakfast</td>
<td>3/19 to 5/1</td>
</tr>
<tr>
<td>Thyroid Extract</td>
<td>1 gr.</td>
<td>each day before breakfast</td>
<td>5/1 to 6/1</td>
</tr>
<tr>
<td>Thyroid Extract</td>
<td>1/2 gr.</td>
<td>each day before breakfast</td>
<td>6/1 to 6/12</td>
</tr>
</tbody>
</table>

**RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61**

- Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name: Subject B3
Age: 90 months

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

- Suggestion of hypopituitarism.
- Hypogonadism. (penis, testes, 2 yr. level; scrotum normal).
- Suggestion of hypothyroidism.
- Asthma background.

Protein Bound Iodine: 7.7
Height: 49"
Weight: 53

Skeletal Age:
Seven years. (Delayed 6 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

- Thyroid Extract Gr. ss each day before breakfast (3/19 to 5/1)
- Thyroid Extract Gr. 1 each day before breakfast (5/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name: Subject C3

ELEMENARY SCHOOL

Age: 93 months

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Suggestion of hypothyroidism.

Protein Bound Iodine 6.4 Height 47" Weight 44

Skeletal Age:

Five years. (Delayed 33 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Extract Gr. ss each day before breakfast (3/19 to 5/1)

Thyroid Extract Gr. 1 each day before breakfast (5/1 to 6/1)

Thyroid Extract Gr. 1ss each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

To continue taking thyroid medication as prescribed by Dr. Posner

and private physician; to be included in follow-up study.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT
Name Subject D3

ELEMENARY SCHOOL
Age 98 months

MEDICAL EVALUATION—2/61
Summary of Doctor's Impression:

Mild hypothyroidism.


Protein Bound Iodine 7.7 Height 52 1/2" Weight 64
Skeletal Age:
Five years. (Delayed 38 months).

TREATMENT DURING STUDY PERIOD—3/19/61 to 6/15/61
Thyroid Extract G. as each day before breakfast (3/19 to 5/1)
Thyroid Extract Gr. 1 each day before breakfast (5/1 to 6/1)
Thyroid Extract Gr.1ss each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD—6/18/61
To continue taking thyroid medication as prescribed by Dr. Posner;
to be included in follow-up study.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name    Subject E3    

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Hypothyroidism with shortness.

Protein Bound Iodine  4.55  Height  ?  Weight  ?

Skeletal Age:

Five years. (Delayed 39 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

   Thyroid Extract Gr. ss each day before breakfast (3/19 to 5/1)
   Thyroid Extract Gr. i each day before breakfast (5/1 to 6/1)
   Thyroid Extract Gr. iss each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

   Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Suggestion of hypothyroidism.

Protein Bound Iodine  6.32  Height  52 1/2"  Weight  60

Skeletal Age:

Carpal--4-5 years; ulna--6 years. (Delayed 30 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Extract Gr. ss each day before breakfast (3/19 to 5/1)

Thyroid Extract Gr. 1 each day before breakfast (5/1 to 6/1)

Thyroid Extract Gr. iss each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

To continue taking thyroid medication as prescribed by Dr. Posner;

to be included in follow-up study.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name: Subject G3

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

- Hypopituitarism with shortness.
- Probable hypothyroidism.
- History of malnutrition at age of one year in South America.

Protein Bound Iodine 4.16 Height 44" Weight 45

Skeletal Age:

- Seven years. (Delayed 18 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

- Thyroid Extract Gr. ss each day before breakfast (3/19 to 5/1)
- Thyroid Extract Gr. 1 each day before breakfast (5/1 to 6/1)
- Thyroid Extract Gr. 1ss each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

To continue taking thyroid medication as prescribed by Dr. Posner;

to be included in follow-up study.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name ____________________________  Subject H3

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

- Hypopituitarism.
- Hypogonadism.
- Hypothyroidism.
- Dwarfism.

Protein Bound Iodine 6.32  Height 49"  Weight 50 1/2

Skeletal Age:
- Six years. (Delayed 33 months)

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

- Thyroid Extract Gr. ss each day before breakfast (3/19 to 5/1)
- Thyroid Extract Gr. i each day before breakfast (5/1 to 6/1)
- Thyroid Extract Gr. iss each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

To continue taking thyroid medication as prescribed by Dr. Posner:
- to be included in follow-up study.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name  Subject I3

ELEMENARY SCHOOL

Age  110 months

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Hypothyroidism.

Hypogonadism (one-year level).

Hypopituitarism (?).

Protein Bound Iodine  4.22  Height  52"  Weight  77

Skeletal Age:

Nine years. (Delayed 2 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Extract Gr. ss each day before breakfast (3/19 to 5/1)

Thyroid Extract Gr. 1 each day before breakfast (5/1 to 6/1)

Thyroid Extract Gr.iss each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT  ELEMENTARY SCHOOL

Name  Subject J3  Age  111 months

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Mild hypothyroidism.

Vitamin A deficiency.

Protein Bound Iodine 5.32  Height 52"  Weight 70

Skeletal Age:

Eight years and six months. (Delayed 9 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Extract Gr. ss each day before breakfast (3/19 to 5/1)

Thyroid Extract Gr. 1 each day before breakfast (5/1 to 6/1)

Thyroid Extract Gr.1ss each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name   Subject K3

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Mild hypothyroidism.

Suggestion of Mongoloid fold in eyes.

Protein Bound Iodine 4.25 Height 57" Weight 91

Skeletal Age:

Nine years. (Delayed 5 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Extract Gr. ss each day before breakfast (3/19 to 5/1)

Thyroid Extract Gr. i each day before breakfast (5/1 to 6/1)

Thyroid Extract Gr. iis each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name: Subject L3

MEDICAL EVALUATION -- 2/61

Summary of Doctor's Impression:

- Hypopituitarism.
- Hypogonadism.
- Hypothyroidism.

Protein Bound Iodine 4.62 Height 51 1/2" Weight 56

Skeletal Age:

Six years. (Delayed 43 months).

TREATMENT DURING STUDY PERIOD -- 3/19/61 to 6/15/61

- Thyroid Extract Gr. ss each day before breakfast (3/19 to 5/1)
- Thyroid Extract Gr. 1 each day before breakfast (5/1 to 6/1)
- Thyroid Extract Gr. iss each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD -- 6/18/61

To continue taking thyroid medication as prescribed by Dr. Posner:

to be included in follow-up study.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name: Subject M3
Age: 117 months

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Suggestion of hypothyroidism.

Protein Bound Iodine 6.4 Height 51 1/2" Weight 59

Skeletal Age:
Five years and five months. (Delayed 52 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Extract Gr. ss each day before breakfast (3/19 to 5/1)

Thyroid Extract Gr. 1 each day before breakfast (5/1 to 6/1)

Thyroid Extract Gr.iss each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

To continue taking thyroid medication as prescribed by Dr. Posner;
to be included in follow-up study.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name__ Subject N3__

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Hypothyroidism.

Vitamin A deficiency.

Protein Bound Iodine 5.00 Height 51" Weight 61

Skeletal Age:

Bone age of 8 years generally speaking. However, the distal epiphysis of the ulna has not yet appeared which brings at this point the bone age down to below 6 years. (Delayed 18 months)

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Extract Gr. as each day before breakfast (3/19 to 5/1)

Thyroid Extract Gr. 1 each day before breakfast (5/1 to 6/1)

Thyroid Extract Gr.1ss each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

No referral made. Moved to San Diego 6/18.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name ____________________________ Subject 03

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Mild hypothyroidism.

Protein Bound Iodine 5.38 Height 5'4" Weight 65

Skeletal Age:

Eight years. (Delayed 27 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Extract Gr. ss each day before breakfast (3/19 to 5/1)
Thyroid Extract Gr. 1 each day before breakfast (5/1 to 6/1)
Thyroid Extract Gr. iss each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

To continue taking thyroid medication as prescribed by Dr. Posner;
to be included in follow-up study.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name Subject P3

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Hypothyroidism with shortness.

Protein Bound Iodine 5.37 Height 53" Weight 64

Skeletal Age:

Eight years. (Delayed 29 months).

Note: Pseudoepiphysis near the base of the second metacarpal.

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Extract Gr. ss each day before breakfast (3/19 to 5/1)

Thyroid Extract Gr. 1 each day before breakfast (5/1 to 6/1)

Thyroid Extract Gr. 1ss each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

To continue taking thyroid medication as prescribed by Dr. Posner;

to be included in follow-up study.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name: Subject 93

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Hypopituitarism with hypothyroidism and hypogonadism.

Protein Bound Iodine 2.07 Height 58 1/2" Weight 78

Skeletal Age:

Eleven years. (Delayed 3 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Extract Gr. ss each day before breakfast (3/19 to 5/1)
Thyroid Extract Gr. 1 each day before breakfast (5/1 to 6/1)
Thyroid Extract Gr. iss each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

To continue taking thyroid medication as prescribed by Dr. Posner;

to be included in follow-up study.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name  Subject R3

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

- Hypopituitarism.
- Hypothyroidism.
- Hypogonadism (about nine year level).

Protein Bound Iodine 3.16  Height 57"  Weight 94

Skeletal Age:

Twelve years and six months. (Advanced 2 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Extract Gr. ss each day before breakfast (3/19 to 5/1)
Thyroid Extract Gr. i each day before breakfast (5/1 to 6/1)
Thyroid Extract Gr. iss each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician. Moving out of school district.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name  Subject XI

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Hypothyroidism.

Protein Bound Iodine 6.65  Height 49 3/4"  Weight 60

Skeletal Age:

Seven and one-half years. Note, however, the dwarfing of the middle phalanges of the little finger. (Advanced 1 month).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Extract Gr. ss each day before breakfast (3/19 to 5/1)

Thyroid Extract Gr. 1 each day before breakfast (5/1 to 6/1)

Thyroid Extract Gr.iss each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

To continue taking thyroid medication as prescribed by Dr. Posner.

Deleted from study group; may be in follow-up group. (Matched subject deleted).
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name Subject X2

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Froehlich's Syndrome with hypothyroidism.

Protein Bound Iodine 6.85 Height 54" Weight 7.0

Skeletal Age:

The distal epiphysis of the ulna shows a development of 6 years while the rest of the bone development is adequate for eight years, which gives us a rough estimation of 7 years as actual bone age. (Delayed 23 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

No treatment. Moved out of school district prior to beginning of experimental period.

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

None made.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name  Subject X3  Age 99 months

ELEMEENTARY SCHOOL

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Suggestion of hypothyroidism.

History of nephrectomy (right).

Underdeveloped.

Eyes examined by ophthalmologist. Findings negative.

Protein Bound Iodine  4.05  Height  51"  Weight  58

Skeletal Age:

Six years. (Delayed 27 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Extract Gr. ss each day before breakfast (3/19 to 5/1)

Thyroid Extract Gr. i each day before breakfast (5/1 to 6/1)

Thyroid Extract Gr.iss each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician. Deleted from study group; may be

included in follow-up study group. (No match).
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name Subject X4

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Hypothyroidism.

Protein Bound Iodine 6.01 Height 54 3/4" Weight 60

Skeletal Age:

Eight years. (Delayed 10 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

No medication prescribed.

Deleted from study group. (No match).

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name: Subject X5

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

- Vitamin A deficiency; poor nutrition.
- Possible hypopituitarism.
- Hypothyroidism to be ruled out by laboratory.

Protein Bound Iodine 4.9

Skeletal Age:

Nine years. (Delayed 15 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

No treatment. Moved during experimental period.

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

None made.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name: Subject X6

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

No evidence of hypothyroidism.

Protein Bound Iodine 5.8

Skeletal Age:

Ten years, six months. The bone-age is generally normal. The
\textit{muscular development} is already well-developed, which is perhaps slightly
precocious. (No marked deviation from normal).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

No medication prescribed. Deleted from study group. (No match).

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name  Subject X7
Age  128 months

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

No evidence of hypothyroidism.

Protein Bound Iodine  8.45  Height 57 1/2"  Weight  76

Skeletal Age:

Ten years. (Delayed 8 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

No medication prescribed. Deleted from study group. (Matched
subject deleted).

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT  ELEMNETARY SCHOOL

Name  Subject XB  Age  132 months

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Vitamin A deficiency.

Hypothyroidism to be ruled out by laboratory.

Protein Bound Iodine 6.78  Height  ?  Weight  ?

Skeletal Age:

Twelve years. (Advanced 12 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Placebo Gr. ss each day before breakfast (3/19 to 5/1)

Thyroid Placebo Gr. i each day before breakfast (5/1 to 6/1)

Thyroid Placebo Gr.iss each day before breakfast (6/1 to 6/12)

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician. Deleted from study group.

(Validity of psychometric re-check questioned by psychologist.)
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name: Subject X9

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Possible hypothyroidism.

Eye examination by ophthalmologist revealed presence of slight astigmatism. No correction recommended at present.

Protein Bound Iodine 4.25 Height 58" Weight 82

Skeletal Age:

Eleven years. (Delayed 3 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

No medication prescribed. Deleted from study group. (No match).

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician.
MEDICAL REPORT FORM

WILSON RESEARCH PROJECT

Name: Subject X10

MEDICAL EVALUATION--2/61

Summary of Doctor's Impression:

Pituitary dwarfism.

Hypogonadism.

Asthmatic.

Eye examination by ophthalmologist. No correction recommended.

Protein Bound Iodine Out-of-range: Height 50 Weight 51

Skeletal Age:

Seven years. (Bone-age of 6 years as far as the distal end of the ulna is concerned. Otherwise about 8 years.) (Delayed 22 months).

TREATMENT DURING STUDY PERIOD--3/19/61 to 6/15/61

Thyroid Extract Gr. ss each day before breakfast (3/19 to 5/1)

Thyroid Extract Gr. i each day before breakfast (5/1 to 6/1)

Thyroid Extract Gr.iss each day before breakfast (6/1 to 6/12)

Deleted from study group. (Matched subject was deleted).

RECOMMENDATIONS AT TERMINATION OF STUDY PERIOD--6/18/61

Referred to private physician and Dr. Posner. To continue taking thyroid medication. To be included in follow-up study.
# PSYCHOMETRIC REPORT FORM

**Name** Subject Al  
**Age** 7-6  
**Date of Birth** 8-10-53  
**Date of Testing** 2-11-61  

**Prediction for Learning:**  
**FORM BOARD** = 9.6  
**M.A.** = 126  
**I.Q.** = 86  

**Verbal Facility:**  
**VERBAL OPPOSITES** = 9.0  
**M.A.** = 120  
**I.Q.** = 86  

**Reproductive Learning:**  
**BLOCK DESIGN** = 86  
**Same I.Q.** (Top Level 11.3)  
Amazing voc. for family background. Marine St. sergeant  

### WISC

<table>
<thead>
<tr>
<th>Subtest</th>
<th>I.Q.</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coding</td>
<td>86</td>
<td>63</td>
</tr>
<tr>
<td>Mazes</td>
<td>72</td>
<td>Same</td>
</tr>
<tr>
<td>Arithmetic</td>
<td>81</td>
<td>80</td>
</tr>
<tr>
<td>Memory</td>
<td>81</td>
<td>80</td>
</tr>
</tbody>
</table>

### General Comments

**Maturity Factors**

- **Drawing Age** = 4.0  
  - 5.6 (Barely)  
  - Still no fingers and no nose  

<table>
<thead>
<tr>
<th>Subtest</th>
<th>I.Q.</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Writing &amp; Drawing</td>
<td>6.6</td>
<td>M.A. Same</td>
</tr>
<tr>
<td>Inversion Test</td>
<td>Same</td>
<td>Size OK</td>
</tr>
</tbody>
</table>

### Reading Levels

- **Wide Range** = 1.1  
  - 3.2 Basal Grade Level  
  - 2.3 3.2 Frustration Grade Level  

**Gray's Oral** = 2.4  
3.0 Grade Level Sounded every word! and used the sound of each letter--poor method  

### Other Tests Administered:

- **Thought** verbal opposites was fun!  

### Diagnosis:

- Tried hard - but simply couldn't produce under pressure  

### Submitted:

- 2-25-61  

### Red--Recheck:

- 6-12-61  

**Certified Psychologist**  
**Reading Specialist**
PSYCHOMETRIC REPORT FORM
WILSON RESEARCH
THE THOMPSON READING CLINIC
CHAPMAN COLLEGE

Name Subject Cl Elementary School Grade 3
Age 8-2 Date of Birth 11-21-52 Date of Testing 2-20-61

Verbal Facility: VERBAL OPPOSITES = 8-2 M.A. = 100 I.Q.
Reproductive Learning: BLOCK DESIGN = 121 I.Q. (Top Level 13.6)

Hypothyroid Pattern:

WISC

Coding = 72 I.Q. 107 Poorly executed - errors
Mazes = 93 I.Q. Same But talked - talked - talked!
Arithmetic = 81 I.Q. 92 Was afraid! (Counted on fingers!
Memory = 119 I.Q. Same (All seconds on backward)

General Comments Talked all the time on every test! Was much more
mature and orderly.

MATURITY FACTORS

6.9 Drawing Age = 4.7 M.A. Most immature!! No feet
7.0 Writing and Drawing Age Barely 6.0 M.A. Poor - erased - redid - erased
Inversion Test Barely Some seen at all levels None seen etc.

General Comments Is immature in many ways. Immaturity only
seen in drawing, now.

READING LEVELS

2.8 Wide Range = 2.4 Basal Grade Level
3.7 2.8 Frustration Grade Level
3.7 Gray's Oral = 1.6 Grade Level

OTHER TESTS ADMINISTERED:

DIAGNOSIS: Bitten nails (while testing). Anxiety. Is insecure, afraid
to go ahead on his own. "I'm not good enough at...."
*Home may contribute to this immaturity - see note on history. SLEEPS
WITH PARENTS.

Submitted: 2-25-61

Note: Excellent balance
Red--Recheck 6-12-61

Helen M. Thompson
Certified Psychologist
and
Reading Specialist
Name: Subject El
Elementary School Grade: 2
Age: 6-1
Date of Birth: 1-22-53
Date of Testing: 2-13-61
LH RE

Prediction for Learning: FORM BOARD = 8.6 M.A. = 104 I.Q.
Verbal Facility: VERBAL OPPOSITES = 8.6 M.A. = 104 I.Q.
Reproductive Learning: BLOCK DESIGN = 93 I.Q. (Top Level 10-3)

Hypothyroid Pattern:

WISC
Coding = 72 I.Q. 72 2 errors and extreme slowness
Mazes = 72 I.Q. 80 Confusion: Some improvement
Arithmetic = 69 I.Q. 75 (All for the handicapped child) Can't re-
Memory = 69 I.Q. 90 Second trials, reversals
General Comments: Has worn glasses since age 3
tables

MATURITY FACTORS
Drawing Age = 6.1 M.A. Barely (slanted ) Very little change
Writing and Drawing Age = 6 M.A. Barely; couldn't follow direction
Inversion Test: Size and errors show eye involvement Some improve-
ment - not marked
General Comments: SHORT attention span When interested, improved.
Very little self-discipline.

READING LEVELS
Wide Range = 1.4 Basal Grade Level
Gray's Oral = F.P. Grade Level

OTHER TESTS ADMINISTERED:

DIAGNOSIS: Restless, short attention span - hand dominance not estab-
lished. Hearing? (Loss 1%)? Still restless

Submitted: 2-25-61
Red--Recheck 6-13-61

Helen M. Thompson
Certified Psychologist
and
Reading Specialist
PSYCHOMETRIC REPORT FORM

THE THOMPSON READING CLINIC

WILSON RESEARCH

CHAPMAN COLLEGE

Name  Subject  D1  Elementary School Grade  2
Age  7-11  Date of Birth  3-5-53  Date of Testing  2-1-61

Prediction for Learning:  FORM BOARD = 9-6  M.A. = 120  I.Q.

Verbal Facility:  VERBAL OPPOSITES = 9-9  M.A. = 123  I.Q.

Reproductive Learning:  BLOCK DESIGN = 121  I.Q. (Top Level 11.0)

Hypothyroid Pattern:

W I S C

<table>
<thead>
<tr>
<th>Test</th>
<th>Score</th>
<th>I.Q.</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coding</td>
<td>93</td>
<td>90</td>
<td>Slow!</td>
</tr>
<tr>
<td>Mazes</td>
<td>126</td>
<td></td>
<td>Really planned!</td>
</tr>
<tr>
<td>Arithmetic</td>
<td>100</td>
<td>I.Q.</td>
<td>Much sharper than this indicates</td>
</tr>
<tr>
<td>Memory</td>
<td>125</td>
<td>I.Q.</td>
<td>No hesitation - (4 RWD)</td>
</tr>
</tbody>
</table>

General Comments  Fine organization ability - superior synthesis

MATURITY FACTORS

6.0 Drawing Age  =  5.0  M.A.  Improved

Same Writing and Drawing Age  6 +  M.A.  Barely - immature eyes:

Inversion Test  Some - size indicates eye involvement!  Same

General Comments  If the blood tests + X-Ray don't show immaturity, The eyes must have a thorough check!

READING LEVELS

2.7 Wide Range  =  2.3  Basal Grade Level

3.2  Frustration Grade Level

Gray's Oral  =  1.6  Grade Level

OTHER TESTS ADMINISTERED:

DIAGNOSIS:  If this boy could function, he'd really produce. Has a total facility of approximately 130 I.Q. Frustrated, immature, insecure.

Submitted:  2-25-61

Red--Recheck  6-12-61

Helen M. Thompson
Certified Psychologist
and
Reading Specialist
PSYCHOMETRIC REPORT FORM
THE THOMPSON READING CLINIC
WILSON RESEARCH
CHAPMAN COLLEGE

Name  Subject El  Elementary School Grade  3
Age  8-9  Date of Birth 5-17-52  Date of Testing 2-13-61

Prediction for Learning:  FORM BOARD = 12.6  M.A. = 143  I.Q.
Verbal Facility:  VERBAL OPPOSITES = 9.0  M.A. = 103  I.Q.
Reproductive Learning:  BLOCK DESIGN = 100  I.Q. (Top Level 10.9)

Hypothyroid Pattern:

WISC

Coding  = 86  I.Q.  94  Errors  No errors
Mazes  = 79  I.Q.  81  False starts and regressions
Arithmetic  = 87  I.Q.  91  Repeated every problem - stalling
Memory  = 121  I.Q.  Same  7 Fwd. - 3 Bwd.

General Comments  Stalled on every test:  Improved

MATURITY FACTORS

7.1 Drawing Age  = 5.1  M.A.  Extremely immature!
7.0 Writing and Drawing Age  = 7  M.A.  Pressure of pencil: Anxiety:
(Strong)  Inversion Test  Barely Very little - but pressure of pencil evidenced

General Comments  Subject is immature:  Improved

READING LEVELS

3.4 Wide Range  = 1.4  Basal Grade Level
3.8 Gray's Oral  = 2.7  Frustration Grade Level
3.7 Gray's Oral  = 2.1  Grade Level

OTHER TESTS ADMINISTERED:

DIAGNOSIS:  This boy is being pressured to achieve. He uses a marker under everything! "I'm not very good at this!" If this child isn't "in" (and memory I.Q. might rule him out) some tall talking should be done with these parents - this boy needs to learn to relax!

Submitted:  2-25-61  
Helen M. Thompson
Certified Psychologist
and
Reading Specialist

Note:  This is good improvement.
Red--Recheck 6-12-61
Name: Subject Kl
Date of Birth: 1-26-53
Date of Testing: 2-5-61

Prediction for Learning: FORM BOARD = 9-6 M.A. = 110 I.Q.

Verbal Facility: VERBAL OPPOSITES = 6-9 M.A. = 83 I.Q. 

Reproductive Learning: BLOCK DESIGN = Same I.Q. (Top Level 3.9)

Hypothyroid Pattern: LANGUAGE undeveloped! Home?

WISC

Coding = 100 I.Q. Erasers = 2 errors Same
Mazes = 100 I.Q. Poor coordination Same
Arithmetic = 81 I.Q. Same Counted on fingers No improvement
Memory = 85 I.Q. Same Second trials No improvement

General Comments

Maturity Factors

Some improvement in perspective

6.0 Drawing Age = 4.5 M.A. Just a little girl! No hands-no
6.5 Writing and Drawing Age = 4.5 M.A. Immaturity! No feet-no neck-No improvement

Inversion Test: Much - eyes very immature Same improvement

General Comments: Extreme immaturity - eyes not ready!

Reading Levels

1.8 Wide Range = 1.4 Basal Grade Level
2.6 Grey's Oral = 1.4 Frustration Grade Level

2.0 Grey's Oral = 1.4 Grade Level

Other Tests Administered:

Diagnosis: Probably - six children: nutritional factors, immaturity and meager language factors influence subject's records:

Submitted: 2-25-61

*Could be brain damage.

Red--Recheck 6-12-61

Helen M. Thompson
Certified Psychologist
Reading Specialist
### Name: **Wilson**

**Elementary School Grade:** 3

**Age:** 9-1

**Date of Birth:** 1-3-52

**Date of Testing:** 2-20-61

**LH RE**

### Prediction for Learning:

**FORM BOARD** = 10.6 M.A. = 116 I.Q.

### Verbal Facility:

**VERBAL OPPOSITES** = 9.0 M.A. = 99 I.Q.

### Reproductive Learning:

**BLOCK DESIGN** = 107 I.Q. (Top Level 11.3)

### Hypothyroid Pattern:

#### WISC

<table>
<thead>
<tr>
<th>Test</th>
<th>I.Q.</th>
<th>Errors</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coding</td>
<td>51</td>
<td>48</td>
<td>Errors Many</td>
</tr>
<tr>
<td>Mazes</td>
<td>72</td>
<td>Same</td>
<td>Errors</td>
</tr>
<tr>
<td>Arithmetic</td>
<td>94</td>
<td>Same</td>
<td>Tapped table to count!</td>
</tr>
<tr>
<td>Memory</td>
<td>87</td>
<td>Same</td>
<td>4 Fwd; 4 Fwd. All second trials</td>
</tr>
</tbody>
</table>

**General Comments:** Feet and legs moved constantly, Motor tests low.

### MATURITY FACTORS

- **6.1 Drawing Age:** 5.6 M.A. Very immature
- **7.0 Writing and Drawing Age:** 7.0 M.A. Extremely immature for size!
- **Inversion Test:** Barely MUCH is supposed to wear glasses!

**General Comments:** Didn't bring glasses. Says they don't do anything for him.

### READING LEVELS

- **2.8 Wide Range = 2.6 Basal Grade Level**
  - Tried to sound each word!
- **3.4 2.8 Frustration Grade Level**
- **3.2 Gray's Oral = 2.9 Grade Level**
  - Kicked table while reading. "Shall I read it out loud?" -After all directions were given!

### OTHER TESTS ADMINISTERED:

- Dominance isn't established. Inconsistencies in testing would indicate low functioning! Restlessness may be nutrition - low calcium?

### DIAGNOSIS:

- **Note:** Not a great deal of improvement.
- **Red--Recheck 6-12-61**

**Submitted:** 2-25-61

**Certified Psychologist and Reading Specialist:**

Helen M. Thompson
PSYCHOMETRIC REPORT FORM
THE THOMPSON READING CLINIC
WILSON RESEARCH
CHAPMAN COLLEGE

Name: Subject IQ: Elementary School Grade: 3
Age: 9-1 Date of Birth: 1-2-52 Date of Testing: 2-10-61
RH: Independent sight in each eye

Prediction for Learning:
FORM BOARD = 9.0 M.A. = 99 I.Q.

Verbal Facility:
VERBAL OPPOSITES = 11.3 M.A. = 124 I.Q.

Reproductive Learning:
BLOCK DESIGN = 128 I.Q.(Top Level 13.6)

Hypothyroid Pattern:

W I S C
Coding = 100 I.Q. Same This is fine for a boy who has mo-
Mazes = 107 I.Q. Same Good organization; monocular vision.
Arithmetic = 94 I.Q. Same Good time!
Memory = 100 I.Q. Same 6 Pvd.; 3 Pvd. All second trials

General Comments: Very normal patterning!

Maturity Factors
7.9 Drawing Age = 7.5 M.A. Very good form!
Same Writing and Drawing Age = 7 M.A. Good reproductive powers
Inversion Test Strong 7 M.A. Good reproductive powers Some, but not too important.

General Comments: Very little immaturity seen.

Reading Levels
2.9 Wide Range = 2.7 Basal Grade Level
3.5 2.8 Frustration Grade Level
3.1 Gray's Oral = 2.4 Grade Level Needs praise!

Other Tests Administered:

Diagnosis: This subject is small - showed some fatigue, but this was
the only sign of low functioning. Should not be included in the
study.

Submitted: 2-25-61
Helen M. Thompson
Certified Psychologist
and
Reading Specialist

Note: This is meager improvement.
Red--Recheck 6-12-61
PSYCHOMETRIC REPORT FORM
WILSON RESEARCH
THE THOMPSON READING CLINIC
CHAFFMAN COLLEGE

Name__ Subject Il__ Elementary School Grade _ 6 _
Age _ 10.0 Date of Birth__ 2-9-52 Date of Testing _ 2-1-61_

Prediction for Learning: FORM BOARD = 11.0 M.A. = 110 I.Q.
Verbal Facility: VERBAL OPPOSITES = 11.6 M.A. = 115 I.Q.
** Reproductive Learning: BLOCK DESIGN = 86 Same I.Q. (Top Level 13.0)

Hypothyroid Pattern:

W I S C

Coding = 72 I.Q. 93 Slow: Greatly improved
Mazes = 86 I.Q. Same Errors:
Arithmetic = 58 I.Q. 69 Frustration - asked to use pencil
Memory = 94 Same I.Q. 6 Fwd.; 3 Bwd. Second trials, and paper.

General Comments: Dominance not established - patterns inconsistent.
No use of colors.

MATURITY FACTORS

7.0 Drawing Age = ? Inc. M.A.
Same Writing and Drawing Age = 7.0 M.A. Size a factor
Inversion Test Much and size and distortion show eye immaturity
or eye involvement.

General Comments:

READING LEVELS

2.9 Wide Range _ 2.9 Basal Grade Level Over-dependence on phonics.
3.4 Frustration Grade Level Sounded every word: 2.9 or
2.8 Gray's Oral = 2.6 Grade Level " " " " 3.4 "

OTHER TESTS ADMINISTERED: Hooper for Brain Damage--Questionable

Still

DIAGNOSIS: Much fatigue, conflicting scores within areas and frustration
with much tension. Could indicate nutrition lack; low metabolic func-
tioning; or eyes, or a combination. Eyes MUST be checked.

Submitted: 2-25-61

Helen M. Thompson

** Should be given test for color blindness - some overall improvement, but not
and marked.

Reading Specialist

Red--Recheck 6-12-61
PSYCHOMETRIC REPORT FORM

THE THOMPSON READING CLINIC

WILSON RESEARCH

CHAPMAN COLLEGE

Name    Subject J
Age 9-6

Elementary School Grade 4

Date of Birth 7-12-50

Date of Testing 2-8-61

Prediction for Learning: FORM BOARD = 11.6 M.A. = 121 I.Q.

Verbal Facility: VERBAL OPPOSITES = 9.0 M.A. = 95 I.Q.

Reproductive Learning: BLOCK DESIGN = 93 I.Q. (Top Level 11.6)

Reversals

Hypothyroid Pattern:

WISC

Coding = 79 I.Q. 107
Mazes = 93 I.Q. Same
Arithmetic = 81 I.Q. Same
Memory = 69 I.Q. 75

Errors! Steady—three errors
"I got him out in a hurry, didn’t I?"

Just within time limits:

3 Fwd. 4 3 Bwd. 3 All seconds.

General Comments: This is a good case—results would show!

MATURITY FACTORS

3.6 Drawing Age = 3.5 M.A. Extremely immature

7.0 Writing and Drawing Age = 6.0 M.A. Size a factor, too

Inversion Test Barely

General Comments: Much immaturity.

READING LEVELS

2.3 Wide Range = 1.4 Basal Grade Level

2.6 Frustration Grade Level

1.9 Gray’s Oral = 1.6 Grade Level

OTHER TESTS ADMINISTERED:

DIAGNOSIS: There is much to indicate that subject is a good case for the

study—immaturity is marked. Eyes must be checked if he isn’t taken.

Suspect eyes are just immaturity.

Submitted: 2-25-61

Note: The irregularity of this pattern

is baffling. Improvement is not marked.

Red—Recheck 6-12-61

Helen M. Thompson
Certified Psychologist
and
Reading Specialist
PSYCHOMETRIC REPORT FORM
THE THOMPSON READING CLINIC
WILSON RESEARCH
CHAPMAN COLLEGE

Name: Subject K1
Elementary School Grade: 3
Age: 9-5
Date of Birth: 9-1-51
Date of Testing: 2-15-61

Prediction for Learning: FORM BOARD = 12.0  M.A. = 127 I.Q.
Verbal Facility: VERBAL OPPOSITES = 9.6  M.A. = 101 I.Q.
Reproductive Learning: BLOCK DESIGN = 107 I.Q. (Top Level 11.3)

Hypothyroid Pattern:

WISC
Coding = 93 I.Q. Same
Mazes = 72 I.Q. Same Errors? False starts?
Arithmetic = 81 I.Q. Same Counted out loud (fingers)
Memory = 87 I.Q. 100 65 Frg. 33 Bwd. - second trials Fatigue

General Comments: Inconsistencies - questioned - metabolic functioning?

MATURITY FACTORS

Same Drawing Age = 7.0  M.A. Immature: No fingers (Childish)
Same Writing and Drawing Age = 7  M.A. Much immaturity! Over-drawing
Inversion Test Rarely Much and some immaturity in size.

General Comments: A few reversals - much immaturity!

READING LEVELS

3.6 Wide Range = 1.3 Basal Grade Level Methods of word attack?
3.8 2.4 Frustration Grade Level Reversals? Configuration:
3.2 Gray's Oral = 2.4 Grade Level saw was, etc. Fatigue

OTHER TESTS ADMINISTERED: __________________________

DIAGNOSIS: This subject has mixed emotions and inconsistencies in records.
Much immaturity and spurts of stability. Fatigue was marked in memory
and test and mazes. Good case!

Submitted: 2-25-61
Note: Fatigue is a factor.
Red--Recheck 6-12-61

Helen M. Thompson
Certified Psychologist
and
Reading Specialist
Prediction for Learning: FORM BOARD = ______ M. A. = ______ I. Q. SLOW.

Verbal Facility: VERBAL OPPOSITES = ______ M. A. = ______ I. Q.

Reproductive Learning: BLOCK DESIGN = ______ I. Q. (Top Level)

Hypothyroid Pattern:

WISC

Coding = ______ I. Q. 72 Slow: Still slow
Mazes = ______ I. Q. 78 False starts: Improved
Arithmetic = ______ I. Q. 80 Couldn't remember problems
Memory = ______ I. Q. 95

General Comments: Low functioning within all areas: Improved functioning

MATURITY FACTORS

7.9 Drawing Age = 6.5 M. A. Much immaturity;inger, set, proportion
(prolonged) = 7.0 M. A. Much immaturity

(Stong) General Comments: General immaturity seen throughout: Immaturity greatly improved

READING LEVELS

2.5 Wide Range = 2.0 Basal Grade Level
3.1 2.0 Frustration Grade Level
2.4 Gray's Oral = 1.8 Grade Level

OTHER TESTS ADMINISTERED:

DIAGNOSIS: Tall, thin subject, tapered fingers, dry hair, rough skin. Low functioning; extreme fatigue, much inattention and withdrawal reactions throughout testing. A good case. If this isn't hypothyroidism, there needs to be a complete study made.

Submitted: 2-25-61

Note: Definitely improved boy. But functioning is still not satisfactory.
Red--Recheck 6-13-61

Helen M. Thompson
Certified Psychologist
and
Reading Specialist
PSYCHOMETRIC REPORT FORM
THE THOMPSON READING CLINIC
WILSON RESEARCH
CHAFFMAN COLLEGE

Name: Subject Ml
Age: 10-7
Date of Birth: 7-29-50
Date of Testing: 2-21-61

Prediction for Learning: FORM BOARD = 11.0  M.A. = 104  I.Q.
Verbal Facility: VERBAL OPPOSITES = 8.9  9.6  M.A. = 86  I.Q.
Reproductive Learning: BLOCK DESIGN = 107  I.Q. (Top Level 10.3)
Hypothryroid Pattern: Language under grade level!

WISC

Coding = 65  I.Q. 75  (Slow and many errors)
Mazes = 72  I.Q. 74  (Slow)
Arithmetic = 94  I.Q. 96  (Good thinking)
Memory = 87  I.Q. 98  5 Fwd.; 3 Bwd.  Improved

General Comments: Perhaps fatigue is directly responsible for this functioning.

MATURITY FACTORS

6.9 Drawing Age = 6.8  M.A.  Infantile body and men's head
7.0 Writing and Drawing Age = 7.0  M.A.  Distortion away from pattern
Inversion Test  Very little - but this subject is a VERY SLOW worker.

General Comments: Quite immature signs!

READING LEVELS

4.4 Wide Range = 4.1  Basal Grade Level
4.6 Frustration Grade Level
4.9 Gray's Oral = 3.9  Grade Level  (Slow to function)

OTHER TESTS ADMINISTERED:

DIAGNOSIS: Insecurity may influence language. Subject is afraid to answer: Moves slowly - may be result of heart trouble. Question having this boy in the study + (eyes must be checked)

Submitted: 2-25-61
Helen M. Thompson
Certified Psychologist

Note: This boy's eyes should be checked. Could account for some of his slowness.
Red--Recheck 6-13-61
Reading Specialist
PSYCHOMETRIC REPORT FORM
WILSON RESEARCH

THE THOMPSON READING CLINIC
CHAPMAN COLLEGE

Name: Subject NL 
Elementary School Grade: 5
Age: 10-5 
Date of Birth: 8-29-50 
Date of Testing: 2-9-61

Prediction for Learning: FORM BOARD = 11.6 M.A. = 110 I.Q.
Verbal Facility: VERBAL OPPOSITES = 12.0 M.A. = 115 I.Q.
Reproductive Learning: BLOCK DESIGN = 72.93 I.Q. (Top Level 15.0)

Hypothyroid Pattern:

WISC
* Coding = 58 I.Q. 65 
Mazes = 72 I.Q. Same 
Arithmetic = 94 I.Q. Same 
* Memory = 87 I.Q. Same 

No speed and errors
Simply couldn't function—rubbed eyes.
Careless errors: Counted on fingers aloud.
5 Fwd., 4 Bwd. Second trials.

General Comments: Could be emotional block.

MATUREITY FACTORS
7.4 Drawing Age = 6.5 M.A. With many immaturities embellished 
7.0 Writing and Drawing Age = 7.0 M.A. Very immature eyes! 
Inversion Test = Much and many reversals. Size?

General Comments: Good example of readiness variation!

READING LEVELS
3.0 Wide Range = 2.7 Basal Grade Level
5.1 Frustration Grade Level
3.6 Gray's Oral = 3.1 Grade Level Stuttered-

OTHER TESTS ADMINISTERED:

DIAGNOSIS: This is an emotional case! Ruled out on recheck—was able
*Was frustrated—rubbed eyes and sighed "Oh" when he knew he'd made
an error. Pouted—just pulled into a "shell". Surely needs success.

Submitted: 2-25-61
*This is low functioning.
Red—Recheck 6-13-61

Helen M. Thompson
Certified Psychologist
and
Reading Specialist
THE THOMPSON READING CLINIC
CHAPMAN COLLEGE

PSYCHOMETRIC REPORT FORM

Name: Wilson Research

Elementary School Grade: 4

Age: 10-5

Date of Birth: 9-9-50

Date of Testing: 2-22-61

Prediction for Learning:

FORM BOARD = 12.6 M.A. = 120 I.Q.

VERBAL OPPOSITES = 11.0 M.A. = 106 I.Q.

BLOCK DESIGN = 100 I.Q. (Top Level 14.6)

(Reversal, though)

Hypothyroid Pattern:

WISC

Coding = 79 I.Q. 94
Mazes = 58 I.Q. 87
Arithmetic = 94 I.Q. Same
Memory = 106 I.Q. Same

Few errors Coding was last test in the series
"I can't figure this out.
"I like arithmetic!" and he did well.

6 Fwd.; 4 Bwd. All second trials

General Comments

MATURITY FACTORS

Drawing Age = 5.6 M.A. Extremely immature

Writing and Drawing Age = 7.0 M.A. Eyes very immature Improved

Inversion Test Barely Some, but also reversals were seen. None seen

General Comments Size is a real factor to be considered in this case.

READING LEVELS

3.6 Wide Range = 2.0 Basal Grade Level

3.7 Grey's Oral = 3.4 Frustration Grade Level Needs methods of word attack.

3.6 Grade Level Configuration -

OTHER TESTS ADMINISTERED:

DIAGNOSIS: Subject reacts as a child whose spirit has been broken.

He is so immature! Just did as he was told and saw no more to do.

Submitted: 2-25-61

Fatigue and immaturity seen!

Note: There is good growth here.

Red--Recheck 6-12-61

Helen M. Thompson
Certified Psychologist
and
Reading Specialist
Name: Subject Pl.  
Elementary School Grade:  
Age: 11-0  
Date of Birth: 1-20-49  
Date of Testing: 2-3-61  

Prediction for Learning:  
FORM BOARD = 12.6  
M.A. = 114  
I.Q.  

Verbal Facility:  
VERBAL OPPOSITES = 12.0  
M.A. = 109  
I.Q.  

Reproductive Learning:  
BLOCK DESIGN = 65  
I.. (Top Level 14.9)  

Hypothyroid Pattern:  
Eyes or brain damage or immaturity:  

WISC  
Coding = 58  
I.Q. 62  
Errors galore  

Mazes = 52  
I.Q. Same  
Much random drawing  

Arithmetic = 65  
I.Q. 71  
Counted on fingers  

Memory = 81  
I.Q. 94  
5 Fwd.; 3 Bwd. All second trial  

General Comments: Restlessness, talkative, complaining, and poor performances.  

MATURITY FACTORS  
6.5 Drawing Age = 6.0  
M.A. Much immaturity!  
Proportion  

6.7 Writing and Drawing Age = 5.5  
M.A. Much, much immaturity!  
Eyes still not mature  

Inversion Test Some size is a factor Still a factor  

General Comments: A great deal of immaturity.  

READING LEVELS  
2.7 Wide Range = 1.4  
Basal Grade Level  

2.7  
Frustration Grade Level  

2.4 Gray's Oral = 2.1  
Grade Level  

OTHER TESTS ADMINISTERED:  

DIAGNOSIS:  
Was sullen, sour on the world; nails bitten; Picked his nose and ate it; scratched his buttocks; If this subject isn't taken for the study a COMPLETE case study should be made. A better attitude.  

Submitted: 2-25-61  

Note: Spotty improvement  
Red--Recheck 6-12-61  

Helen M. Thompson  
Certified Psychologist  

and  

Reading Specialist
Name: Subject 93
Elementary School Grade: 5
Age: 11-2
Date of Birth: 12-6-49
Date of Testing: 2-19-61

Verbal Facility: VERBAL OPPOSITES = 10.6 M.A. = 94 I.Q.
Reproductive Learning: BLOCK DESIGN = 100 I.Q. (Top Level 11.6)

Hypothyroid Pattern:

WISC

Coding = 86 I.Q. 91
Mazes = 72 I.Q. 85
Arithmetic = 62 I.Q. 71
Memory = 81 I.Q. 85

Good shapes reproduced.
Stopped to bite nails. "I always do."
"I can't do math."
5 Red.; 3 Red All second trials.

General Comments: WTSC are borderline emotional "I can't."

MATURITY FACTORS

9.1 Drawing Age = 8.0 M.A. Some mature factors intermingled.
Same Writing and Drawing age = 7.0 M.A. Glasses are well fitted.
Inversion Test = Used Some in all tests - twisted paper to draw.

General Comments: Odd shapes. Immaturity not as low as WISC sign.

READING LEVELS

3.5 Wide Range = 2.9 Basal Grade Level
3.7 3.2 Frustration Grade Level Configuration.
3.7 Gray's Oral = 2.6 Grade Level Word for word reading.

OTHER TESTS ADMINISTERED:


Submitted: 2-25-61

Note: This is normal improvement for a semester's growth. Subject is still underachieving.
Red--Recheck 6-13-61

Helen M. Thompson
Certified Psychologist and
Reading Specialist
Name: Subject KJ
Age: 11-11

Elementary School Grade: 5
Date of Birth: 3-26-46
Date of Testing: 2-24-61

Prediction for Learning: FORM BOARD = 8.6 M.A. = 72 I.Q.
Verbal Facility: VERBAL OPPOSITES = 12.6 M.A. = 96 I.Q.
Reproductive Learning: BLOCK DESIGN = 86 Same I.Q. (Top Level 15.)

Hypothyroid Pattern:

WISC

Coding = 79 I.Q. 80 Hesitant and fearful:
Mazes = 76 I.Q. 79 "I didn't do too well!"
Arithmetic = 79 I.Q. Same "I can't do that, can I?"
Memory = 69 I.Q. 87 2 Fwd.; 4 Fwd; All seconds

General Comments Tendency to reverse seen in block design.

MATURITY FACTORS

5.9 Drawing Age = 6.8 M.A. Immaturity!
Same Writing and Drawing Age = 7.6 M.A. Not strong lines or proportion!
Inversion Test Much Size? Eyes? Immaturity-

General Comments Exhausted after testing:

READING LEVELS

2.9 Wide Range = 1.7 Basal Grade Level block black
3.0 Gray's Oral = 2.6 Frustration Grade Level weather water was saw
2.1 Grade Level spell sleep

OTHER TESTS ADMINISTERED:

DIAGNOSIS: Round shoulders - fatigue - pulls material toward him - eyes? Insecurity - frustration; clammy hands; inattention - asked for repeat in all tests.

Submitted: 2-25-61
Appears to be low normal I.Q.
Red--Recheck 6-13-61

Helen M. Thompson
Certified Psychologist
and
Reading Specialist
Name: Subject A2
Age: 7-6
Elementary School Grade: 2
Date of Birth: 8-14-53
Date of Testing: 2-18-61

Prediction for Learning: FORM BOARD = 9.6 M.A. = 127 I.Q.
Verbal Facility: VERBAL OPPOSITES = 9.6 M.A. = 127 I.Q.
Reproductive Learning: BLOCK DESIGN = 128 I.Q. (Top Level 10-9)

Hypothyroid Pattern:

WISC

Coding = 100 I.Q. Same Fairly good form
Mazes = 86 I.Q. Same Uneven lines
Arithmetic = 94 I.Q. Same Was prompt to reply
Memory = 87 I.Q. 90 4 Fwd., 3 Bwd., Second trials

General Comments

MATURITY FACTORS

5.5 Drawing Age = 5.1 M.A. (Immature) No hands, no feet, etc.
7.0 Writing and Drawing Age = 7 M.A. Irregularity in sizes throughout Regularity seen.

General Comments General immaturity.

* READING LEVELS

2.4 Wide Range = 1.7 Basal Grade Level
2.7 Gray's Oral = 2.1 Frustration Grade Level was saw deep sleep
2.3 Primer Grade Level Improved - but extremely slow

OTHER TESTS ADMINISTERED: ________________________________

DIAGNOSIS: There is so much question in this pattern, that the whole study should be considered.

Submitted: 2-25-61

*Potential is not being used.
Red--Recheck 6-12-61

Helen M. Thompson
Certified Psychologist and
Reading Specialist
PSYCHOMETRIC REPORT FORM
WILSON RESEARCH

THE THOMPSON READING CLINIC
CHAPEL COLLEGE

Name: Elementary School Grade: 2
Age: 7-4 Date of Birth: 10-1-53 Date of Testing: 2-25-61

Prediction for Learning: FORM BOARD = 6.0 M.A. = 82 I.Q.

Verbal Facility: VERBAL OPPOSITES = 8.0 M.A. = 109 I.Q.

Reproductive Learning: BLOCK DESIGN = 100 I.Q. (Top Level 10.3)

Hypothyroid Pattern:

WISC

Coding = 72 I.Q. 100
Mazes = 79 I.Q. Same
Arithmetic = 81 I.Q. Same
Memory = 87 I.Q. 86

General Comments: A frustrated child; no attention span.

MATUREITY FACTORS

Barely (not strong, but improved) Hands still a factor in immaturity.
7.0 Drawing Age = 6.0 M.A. Many immature factors—head, fingers,
(Not strong) Writing and Drawing Age = 6.6 M.A. Much immaturity—size, legs, immaturity.
Inversion Test Barely (Much reversal), too. Twisted paper to do odds.
(Slightly improved.

General Comments: Certainly fearful of errors. "Can't do", and giving up!

READING LEVELS

2.1 Wide Range = 1.4 Basal Grade Level
2.3 Primer Gray's Oral = 2.3 Frustration Grade Level
Severe frustration.

OTHER TESTS ADMINISTERED:

DIAGNOSIS: Subject couldn't muster energy enough to do the trials:
She was ready to quit before we started: Still shows fatigue.

Submitted: 2-25-61

Note: Not a great deal of improvement.
Red--Recheck 6-12-61

Helen M. Thompson
Certified Psychologist and
Reading Specialist
PSYCHOMETRIC REPORT FORM
WILSON RESEARCH
THE THOMPSON READING CLINIC
CHAPMAN COLLEGE

Name: Subject C2 Elementary School Grade: 2
Age: 7-11 Date of Birth: 3-11-53 Date of Testing: 2-14-61

Prediction for Learning: FORM BOARD = 7.6 M.A. = 95 I.Q.
Verbal Facility: VERBAL OPPOSITES = 8.3 M.A. = 104 I.Q.
Reproductive Learning: BLOCK DESIGN = 93 I.Q. (Top Level 10.0)

Hypothyroid Pattern:

WISC

<table>
<thead>
<tr>
<th>Coding</th>
<th>I.Q.</th>
<th>Reproductive Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>72</td>
<td>93</td>
<td>Careless - errors</td>
</tr>
<tr>
<td>Mazes</td>
<td>86</td>
<td>7.0 M.A. Same</td>
</tr>
<tr>
<td>Arithmetic</td>
<td>75</td>
<td>Same - Fatigue, But gave up</td>
</tr>
<tr>
<td>Memory</td>
<td>125</td>
<td>7 Fwd.; 3 Bwd. Second trials</td>
</tr>
</tbody>
</table>

General Comments

Maturity Factors

5.2 Drawing Age = 5.0 M.A. Inferiority shown - laid head on table
5.2 Writing and Drawing Age = 7.0 M.A. Overlapped edges

General Comments: Slow - extreme fatigue - completely exhausted. Whee! at intervals.

Reading Levels

2.7 Wide Range = 1.8 Basal Grade Level Slow laborious task
3.7 Gray's Oral = 2.7 Frustration Grade Level Sounded all words
2.9 Grade Level kept place with finger - said every word under breath before saying it out loud

Wrecked the test form!

Other Tests Administered: Short attention span, fatigue - if subject doesn't need thyroid, surely needs something!

Submitted: 2-25-61

Note: No marked improvement beyond that normally expected.
Red--Recheck 6-12-61

Helen M. Thompson
Certified Psychologist and
Reading Specialist
PSYCHOMETRIC REPORT FORM
WILSON RESEARCH

THE THOMPSON READING CLINIC
CHAPMAN COLLEGE

Name  Subject D2  Elementary School Grade  3
Age  8-7  Date of Birth 6-25-52  Date of Testing 2-8-61

Prediction for Learning:  FORM BOARD = 9-6  M.A. = 111  I.Q.
Verbal Facility:  VERBAL OPPOSITES = 9-6  M.A. = 111  I.Q.
Reproductive Learning:  BLOCK DESIGN = 8 Same I.Q. (Top Level 11.9)

Hypothyroid Pattern:

W I S C

Coding  = 93  I.Q. Same  Errors
Mazes  = 79  I.Q. Same  Errors
Arithmetic  = 65  I.Q. Same  Counted aloud! Frustration
Memory  = 94  I.Q. Same  Second trials 5 Fwd; 3 Fwd

General Comments  Inconsistency in scores and inability to do Block Design would indicate*

MATURITY FACTORS

6.0 Drawing Age  = 5.1  M.A.  Distortion: Eyes?
Same  Writing and Drawing Age  = 7  M.A.  Immaturity all areas or eyes?
Inversion Test  Barely Much!!  And reversal, too! Some improvement.

General Comments  Signs of immaturity - are strong.

READING LEVELS

3.0  Wide Range = 1.9  Basal Grade Level
3.2  Gray's Oral = 2.7  Frustration Grade Level
2.6  Grade Level

OTHER TESTS ADMINISTERED:  Hooper for Brain Damage.

*DIAGNOSIS:  Nutritional factors questionable; probable brain damage as seen on Block Design and Hooper. Inversions are indicative of organiza-
tional disturbance - but this COULD be eyes! Start with eye check!
Even if basal is low:

Submitted:  2-25-61

Note: This is a case to follow. There is little improvement in areas related to organization.
Red -- Recheck 6-12-61
Name: Wilson
Subject: E2
Elementary School Grade: 3
Age: 8-7
Date of Birth: 7-4-52
Date of Testing: 2-5-61

Prediction for Learning:
- FORM BOARD = 10.0 M.A. = 117 I.Q.
- VERBAL OPPOSITES = 8.6 M.A. = 89 I.Q.
- BLOCK DESIGN = 114 I.Q. (Top Level: 1)
- Analogies = 121 I.Q.

Hypothyroid Pattern:
- Verbal Facility: slow starter
- Reproductive Learning: sharp subject!

WISC

| Coding | 86 | I.Q. 88 | Slow starter |
| Mazes  | 86 | I.Q. Same | Erased: |
| Arithmetic | 114 | I.Q. Same | Sharp subject! |
| Memory | 81 | I.Q. Same | 4 Fwd., 3 Bwd. |

General Comments: Inconsistency may mean borderline low thyroid.

Maturity Factors

| 6.4 Drawing Age | 6.0 M.A. | No hands. Immature |
| 7.0 Writing and Drawing Age | 7.0 M.A. | Not strong |
| Inversion Test | Very little. "Buzzed" pencil lead be pressed so hard! |

General Comments: With maturity and discipline applied by himself, this subject would do well!

Reading Levels

| Wide Range | Basal Grade Level | Other Tests Administered: |
| 2.5 | Still |
| 3.5 | Frustration Grade Level | Needs methods of work attack |
| 3.6 | Grade Level |

Other Tests Administered:

Diagnosis: Hair dry - stubby fingers - slow to start - language development slow. Language is far behind concept areas. (Why? Family background? (I'd enjoy this case.)

Submitted: 2-25-61

*Verbal facility still weak.
Red--Recheck 6-12-61

Helen M. Thompson
Certified Psychologist and Reading Specialist
Name: Subject F2  
Secondary School Grade: 2  
Date: 3-25-53  
Date of Testing: 2-15-61  

Prediction for Learning:  
FORM BOARD = 10.0  
M.A. = 126  
I.Q.  

Verbal Facility:  
VERBAL OPPOSITES = 7.0  
M.A. = 88  
I.Q.  

Reproductive Learning:  
BLOCK DESIGN = 128  
I.Q. (Top Level 10.0)  
With "If she isn't pretty, what is she?"

Hypothyroid Pattern:  
Improved, but much overlay
Extremely slow - a laborious task
Pencil pressures

WISC  
Coding = 65  I.Q. 90  
Mazes = 86  I.Q.  
Arithmetic = 87  I.Q. Same  
Memory = 100  I.Q.  

General Comments: Not ready for second grade work!

MATURITY FACTORS  
Approximately the same  
Writing and Drawing = 6.0  
M.A.  
Mature  
Inversion Test = 6.9  
M.A.  
All crossed (her immaturity)  

Lack of success in pencil work significant  

READING LEVELS  
1.4 Wide Range = 1.3  
Basal Grade Level  
2.1  
Pre-Gray's Oral = 1.7  
Frustration Grade Level  
Pre-Primer  
Grade Level  
Primer  

OTHER TESTS ADMINISTERED:  
DIAGNOSIS:  
Can't carry concepts - could rhyme fairly well. Pigeon toed; slow speech; hearing questionable - asked for seconds on verbal; doesn't know b-d, p etc. Appears to be a GOOD case.

Submitted: 2-25-61  
Note: Very, very little improvement.  
Red--Recheck 6-12-61  

Helen M. Thompson  
Certified Psychologist  
and  
Reading Specialist
Name: Subject 62
Elementary School Grade
Age: 9-3
Date of Birth: 11-7-52
Date of Testing: 2-8-61


Verbal Facility: VERBAL OPPOSITES = 3 M.A. = 97 I.Q.

Reproductive Learning: BLOCK DESIGN = 107 I.Q. (Top Level 9.6)

Hypothyroid Pattern:

W I S C

Coding = 135 I.Q. Same Even with errors!
Mazes = 65 I.Q. 71 False starts + errors
Arithmetic = 94 I.Q. Same Counted on fingers
Memory = 81 I.Q. Same 4 Pwd.; 3 Pwd. Second trials

General Comments: The inconsistencies in the above pattern indicates poor functioning.

MATURITY FACTORS

7.1 Drawing Age = 6.0 M.A. In immature bodies
7.0 Writing and Drawing Age = 7 M.A. Eyes are very immature. Branches
Inversion Test = Same - size OK on the reversals seen. Size, etc.

General Comments: Immaturity is evident.

READING LEVELS

2.3 Wide Range = 2.1 Basal Grade Level
3.4 Gray's Oral = 2.8 Frustration Grade Level Configuration
3.2 Gray's Oral = 1.8 Grade Level Pointed to each word Slow

OTHER TESTS ADMINISTERED:

DIAGNOSIS: Bitten nails; asked many questions; wanted reassurance; much chatter. This child might gain from books what she doesn't receive from home environment - but she can't use language without practice. Functioning level is low.

Submitted: 2-25-61
Red--Recheck 6-12-61

Helen M. Thompson
Certified Psychologist and Reading Specialist
Name: Subject H2
Elementary School Grade: 3
Age: 8-4
Date of Birth: 9-20-52
Date of Testing: 2-12-61

Prediction for Learning:
FORM BOARD = 8-6
M.A. = 102
I.Q.

Verbal Facility:
VERBAL OPPOSITES = 9.0
M.A. = 106
I.Q.

Reproductive Learning:
BLOCK DESIGN = 131
I.Q.
(Top Level 10.9)

Hypothyroid Pattern:

WISC
Coding = 114
I.Q.
Same
2 errors
No errors

Mazes = 86
I.Q.
88
Was fatigued - had given her all:

Arithmetic = 100
I.Q.
Same
"I'm not good at take-away!"

Memory = 119
I.Q.
Same
6 Fwd.; 4 Bwd.

General Comments

MATURITY FACTORS

6.9
Drawing Age = 5.5
M.A.
Extremely immature
Improved

Same
Writing and Drawing Age = 7.0
M.A.
Smaller away from pattern

Inversion Test
None
Some: but reversals were noticeable

General Comments
Definitely immature

* READING LEVELS

3.9
Wide Range = 2.7
Basal Grade Level

4.0
Frustration Grade Level

3.9
Gray's Oral = 2.4
Grade Level
Very slow

OTHER TESTS ADMINISTERED:

DIAGNOSIS: Question hearing? Has no methods of word attack; is extremely immature in writing and reading but has good use of mental facility.

Submitted: 2-25-61
Helen M. Thompson
Certified Psychologist

*Reading Improved - uses memory only.
Red--Rerecheck 6-12-61
Reading Specialist
Name: Subject 12  Elementary School Grade: 3
Age: 9-4  Date of Birth: 10-21-51 Date of Testing: 2-10-61

Prediction for Learning: FORM BOARD = 9.6  M.A. = 102  I.Q.
Verbal Facility: VERBAL OPPOSITES = 10.6  M.A. = 113  I.Q.
Reproductive Learning: BLOCK DESIGN = 114  I.Q. (Top Level 13.0)

Hypothyroid Pattern:

W I S C
Coding = 79  I.Q. 80 "There's a lot wrong, I know." (And there were.)
Mazes = 72  I.Q. Same "That's wrong!" - chatter! chatter!
Arithmetic = 75  I.Q. Same Counted aloud.
Memory = 37  I.Q. Same 5 Fwd; 2 Bwd. All second trials.

General Comments: WISC signs are strong for hypothyroidism.

MATURITY FACTORS
5.9 Drawing Age = 5.8 M.A. Most immature. Little boy drawing!
7.9 (Barely) Writing and Drawing Age = 7.0 M.A. Much immaturity!
Inversion Test Barely Some, with a few reversals.

General Comments: Much immaturity - but more insecurity!

READING LEVELS
1.8 Wide Range = 1.8 Basal Grade Level
2.4 Same 2.0 Frustration Grade Level
Gray's Oral = Primer Grade Level Pointed to each word

OTHER TESTS ADMINISTERED: a bit more quiet

DIAGNOSIS: General appearance good - handsome subject - but wilder than a "March Hare"! Chattered all the time. Climbed the table; tapped foot all the time. Low functioning the picture!

Submitted: 2-25-61

Note: Not a great deal of improvement.
Red--Recheck 6-12-61

Helen M. Thompson
Certified Psychologist and
Reading Specialist
PSYCHOMETRIC REPORT FORM
WILSON RESEARCH
THE THOMPSON READING CLINIC
CHAPMAN COLLEGE

Name: Subject J2  Elementary School Grade: 4
Age: 9-8  Date of Birth: 6-5-51  Date of Testing: 2-17-61

Prediction for Learning: FORM BOARD = 9-6  M.A. = 96  I.Q.

Verbal Facility: VERBAL OPPOSITES = 9-0  M.A. = 93  I.Q.

Reproductive Learning: BLOCK DESIGN = 72  I.Q. (Top Level: 10-0)

Hypothyroid Pattern: Same

W I S C

Coding = 93  I.Q. Same  Errors!! Eyes.
*Mazes = 65  I.Q.  71  Gave directions twice, still could not stay away from lines!
Arithmetic = 75  I.Q.  Same  Counted aloud!
Memory = 100  I.Q.  Same  Fwd.; 1 Bed., second trial.

General Comments: Kept up a constant chatter to himself.

MATURITY FACTORS

6.8 Drawing Age = 5.8  M.A.  Most immature.  Proportion? Hands?
Same

Writing and Drawing Age = 7.0  M.A.  Slant! Eyes? Immaturity? or eyes?

Inversion Test  Much  Muchly improved = very little.

General Comments: Twisted pictures on Hooper test and turned paper on inversion test. Eyes!

READING LEVELS

2.5 Wide Range = 2.1  Basal Grade Level
3.0  2.5  Frustration Grade Level  No methods of word attack.
2.6  Gray's Oral = 2.4  Grade Level  Configuration.

Swings head while reading. Swings foot, 

OTHER TESTS ADMINISTERED: Hooper - for Brain Damage - appears too.

DIAGNOSIS: Subject is fearful of making mistakes, needed constant reassurance.

Is a mouth breather and had a strong kidney odor. Has little orientation with space factors. Eyes should be checked. All areas immature! Check total I.Q. if not eyes. (Brain damage?)

Submitted: 2-25-61
Note: There is little improvement here.
* "I can't find the way out."
Red—Recheck 6-12-61

Helen M. Thompson
Certified Psychologist
Reading Specialist
Name: Subject K2
Elementary School Grade: 4
Age: 9-9
Date of Birth: 4-20-51
Date of Testing: 2-12-61

Prediction for Learning: FORM BOARD = 9.6 M.A. = 97 I.Q.
Verbal Facility: VERBAL OPPOSITES = 10.3 M.A. = 105 I.Q.
Reproductive Learning: BLOCK DESIGN = 107 I.Q. (Top Level 11.9)

Hypothyroid Pattern:

WISC

Coding = 79 I.Q. 85
Mazes = 75 I.Q. 81
Arithmetic = 75 I.Q. 79
Memory = 75 I.Q. 87

General Comments

Maturity Factors

Drawing Age = 5.8 M.A. Immature: No hands - proportion!
Writing and Drawing Age = 7.0 M.A. Eyes involved?
Inversion Test = Much!

General Comments: Immaturity is evident - may be eyes and/or!

Reading Levels

3.2 Wide Range = 1.3 Basal Grade Level
3.3 = 2.7 Frustration Grade Level All configuration!
2.4 Gray's Oral = 1.8 Grade Level Eyes skipped whole lines!

Other Tests Administered:

Diagnosis: Subject is playing his mother against his father (divorced).
There is much inferiority, short attention span and insecurity. Could
do! Emotional help if there is no low thyroid!

Submitted: 2-25-61
Note: Some balanced gains.
Red--Recheck 6-12-61

Helen M. Thompson
Certified Psychologist
and
Reading Specialist
PSYCHOMETRIC REPORT FORM
WILSON RESEARCH
THE THOMPSON READING CLINIC
CHAPMAN COLLEGE

Name Subject L2 Elementary School Grade 4
Age 9-5 Date of Birth 9-14-51 Date of Testing 2-23-61

Prediction for Learning: FORM BOARD = 12.0 M.A. = 127 I.Q.
Verbal Facility: VERBAL OPPOSITES = 10.6 M.A. = 112 I.Q.
Reproductive Learning: BLOCK DESIGN = 93 I.Q. (Top Level 13.6)

Hypothyroid Pattern:

W I S C

Coding = 72 I.Q. 87 Errors
Mazes = 72 I.Q. 81 Bolted, didn’t look back
Arithmetic = 31 I.Q. Same Counted on fingers
Memory = 100 I.Q. Same 6 Fwd.; 3 Bwd.

General Comments Stiff hair Slow starter Reversals seen

MATURITY FACTORS

7.1 Drawing Age = 6.5 M.A. Immature - no hands! No feet
Same Writing and Drawing Age = 7.0 M.A. Immature - eyes?
Inversion Test Barely Some and with reversals Few

General Comments Immaturity warrants consideration. This is a boy who wants to remain young.

READING LEVELS

3.0 Wide Range = 2.7 Basel Grade Level
3.5 Frustration Grade Level
2.4 Gray’s Oral = Primer Grade Level

h o w , n o w, c l i f f , c h i e f, etc.
how, now, cliff, chief, etc.
Repeats, regresses, reads slow
word for word, needs skills

OTHER TESTS ADMINISTERED:

DIAGNOSIS: This subject has many good signs - but he is immature and he is slow to accomplish. Reversals on many tests.

Submitted: 2-25-61 Helen M. Thompson
Note: All scores below potential. Certified Psychologist
Red--Recheck 6-12-61 and Reading Specialist
PSYCHOMETRIC REPORT FORM
WILSON RESEARCH
THE THOMPSON READING CLINIC
CHAPMAN COLLEGE

Name: Elementary School Grade: 4
Age: Date of Birth: July 12, 1950 Date of Testing: February 13, 1961

Prediction for Learning:
- FORM BOARD = 11.0 M.A. = 103 I.Q.
- VERBAL OPPOSITES = 9.6 M.A. = 89 I.Q.
- BLOCK DESIGN = 121 I.Q. (Top Level 11.6)

Hypothyroid Pattern:

WISC
- Coding = 79 I.Q. 84
- Mazes = 38 I.Q. 71
- Arithmetic = 69 I.Q. 70
- Memory = 72 I.Q. 94

General Comments: There is improvement in attention span.

*MATURITY FACTORS

5.6 Drawing Age = 5.6 M.A. Tiny figure - immature
7.0 Writing and Drawing Age = 7 M.A. Erasures! Distortion away from pattern

Inversion Test: Barely

Some, most important, though, he twisted paper to do!

General Comments: Many immature signs - all WISC signs good!

READING LEVELS

2.7 Wide Range = 2.5 Basal Grade Level
2.9 2.6 Frustration Grade Level Configuration
2.4 Gray's Oral = 1.9 Grade Level

OTHER TESTS ADMINISTERED:

DIAGNOSIS: Speech defect? Hearing problem? Repeated each word on verbal opposites and asked for repeats on directions. Language is a problem

Suspect hearing? Definitely a good case.

Submitted: 2-25-61

*Maturity factors are still weak.
Red--Recheck 6-12-61

Helen M. Thompson
Certified Psychologist
and
Reading Specialist
PSYCHOMETRIC REPORT FORM

WILSON RESEARCH

THE THOMPSON READING CLINIC

CHAPMAN COLLEGE

Name: Subject No.
Elementary School Grade: 5
Age: 10-2
Date of Birth: 12-1-50
Date of Testing: 2-10-61

Prediction for Learning: FORM BOARD = 11.6 M.A. = 113 I.Q.

Verbal Facility: VERBAL OPPOSITES = 12.0 M.A. = 118 I.Q.

Reproductive Learning: BLOCK DESIGN = 107 I.Q. (Top Level 15.3)

Hypothroid Pattern:

WISC

Coding
Mazes
Arithmetic
Memory

= 86 I.Q. Same
= 72 I.Q. Slow
= 81 I.Q. Counted aloud and on fingers
= 94 I.Q. Same

General Comments: All through these there appears eye problems:

MATURITY FACTORS

7.1 Drawing Age = 6.8 M.A. Imaturity hands, feel, contour.
7.0 Writing and Drawing Age = 7.0 M.A. Twisted paper to do. Retraced often. Inversion Test Slow and much inversion. Some reversals.

General Comments: Extremely slow. And much immaturity.

READING LEVELS

4.4 Wide Range = 3.9 Basal Grade Level
4.7 Frustration Grade Level
4.9 Gray's Oral = 3.7 Grade Level

OTHER TESTS ADMINISTERED:

DIAGNOSIS: Subject is emotional and insecure. Nutrition may account for obesity. Question the inconsistencies in this pattern—much immaturity—but?

Submitted: 2-25-61
Note: Undersachieving for potential.
Red—Recheck 6-13-61

Helen M. Thompson
Certified Psychologist
and
Reading Specialist
PSYCHOMETRIC REPORT FORM
WILSON RESEARCH
THE THOMPSON READING CLINIC
CHAPMAN COLLEGE

Name Subject O2 Elementary School Grade 4
Age 10-3 Date of Birth 11-2-50 Date of Testing 2-14-51

Prediction for Learning: FORM BOARD = 12-6 M.A. = 126 I.Q.

Verbal Facility: VERBAL OPPOSITES = 10-0 M.A. = 98 I.Q.

Reproductive Learning: BLOCK DESIGN = 72-80 I.Q. (Top Level 73)

Hypothyroid Pattern:

WISC
Coding = 86 I.Q. 90 Errors: No errors
Mazes = 72 I.Q. 81 False starts
Arithmetic = 87 I.Q. Same Counted on fingers
Memory = 87 I.Q. 94 6.5 94:3 Ex2. all second trials

General Comments All low - either eyes or low thyroid

MATURITY FACTORS

6.5 Drawing Age = 6.5 M.A. Tiny figure (no neck) ("A six year old
7.0 Writing and Drawing Age = 5.0 M.A. Immaturity. Improved girl, happy")

Inversion Test = Not ready Some size still small

General Comments Much immaturity; Restlessness

READING LEVELS

3.2 Wide Range = 2.5 Basal Grade Level
3.7 Gray's Oral = 2.7 Frustration Grade Level awake, walk size, side, size, side
3.1 Grade Level

OTHER TESTS ADMINISTERED:

DIAGNOSIS: Chewed nails all during testing; was restless, tapped table,

waved hands and arms around - even exercised by sitting on the table

at times. Short attention span (Flock on noisy) Verbal opposites.

Submitted: 2-25-61

Helen M. Thompson
Certified Psychologist

Note: Some balanced gains.
Red—Recheck 6-12-61

and Reading Specialist
PSYCHOMETRIC REPORT FORM
WILSON RESEARCH

THE THOMPSON READING CLINIC
CHAPMAN COLLEGE

Name: Subject P2  
Age: 10-10  
Elementary School Grade: 5  
Date of Birth: 4-25-50  
Date of Testing: 2-2-61

Prediction for Learning: FORM BOARD = 12.0  M.A. = 110  I.Q.  
Verbal Facility: VERBAL OPPOSITES = 11.9  M.A. = 107  I.Q.  
Reproductive Learning: BLOCK DESIGN = 107  I.Q. (Top Level 15.3)

Hypothyroid Pattern:

W I S C
Coding = 86  I.Q. 93  "When I can't hurry:"
Mazes = 72  I.Q. 80  "Why didn't I think first?"
Arithmetic = 75  I.Q.  Same  Counted on fingers
Memory = 97  I.Q.  90  All second trials

General Comments: Was exhausted after this series.

MATURITY FACTORS

6.0 Drawing Age = 4.5  M.A.  Extremely immature
7.0 Writing and Drawing Age = 7  M.A.  Less success away from pattern
Inversion Test = Barely  Much - and very slow  Improved

General Comments: Maturity factors far below C.A.

READING LEVELS

4.7 Wide Range = 4.7  Basal Grade Level  Still sounds each letter
5.3  Frustration Grade Level  Sounded all words, but un-
*5.5 Gray's Oral = 4.5  Grade Level  Successfully  Pulled hair in eyebrows all during the test.

OTHER TESTS ADMINISTERED:

DIAGNOSIS: Family said subject was not subject to fatigue but there were
signs of extreme fatigue and even exhaustion when timed tests were present.
Subject's last comment "Back to school, ugh!"

Submitted: 2-25-61  

*This is normal growth. But isn't enough for her capacity. Needs skills badly.
Red--Recheck 6-13-61

Helen M. Thompson  
Certified Psychologist

and

Reading Specialist
PSYCHOMETRIC REPORT FORM
WILSON RESEARCH

THE THOMPSON READING CLINIC
CHAPMAN COLLEGE

Name: Subject 92
Age: 11-6
Elementary School Grade: 
Date of Birth: 3-2-49
Date of Testing: 2-12-61

Forecast for Learning: FORM BOARD = 12.6 M.A. = I.Q.
Verbal Facility: VERBAL OPPOSITES = 10.0 M.A. = I.Q.
Reproductive Learning: BLOCK DESIGN = I.Q. (Top Level 11.6)

Hypothyroid Pattern:

* W I S C

Coding = 93 I.Q. Same
Mazes = 65 I.Q. 70
Arithmetic = 81 I.Q. Same
Memory = 69 I.Q. Same

General Comments: Repeated every question or stimulus word!

Maturity Factors

Same Drawing Age = 7.0 M.A. "Old" head! Evening dress!
Same Writing and Drawing Age = 7.0 M.A. Poor replica - eyes extremely immature

Inversion Test = Very little but slow.

General Comments: Is an "eraser"

Reading Levels

3.9 Wide Range = 3.7 Basal Grade Level
4.2 Frustration Grade Level = 3.7 same = small there = they
3.7 Gray's Oral = 2.9 Grade Level huge = hug tray = toy cliff = chip

Other Tests Administered:

Diagnosis: Meager vocabulary? Background?

*Conflicting scores offset each other. This is an unusual record. All signs point to low thyroid.

Submitted: 2-25-61
Helen M. Thompson
Certified Psychologist
Reading Specialist

Note: Verbal factors are an influence. Needs voc. dev. and training in listening.
Red--Recheck 6-12-61
Name: Subject  R2  Elementary School Grade:  5  
Age: 12.9  Date of Birth: 4-40  Date of Testing: 2-16-61

Prediction for Learning:  FORM BOARD = 9.0  M.A. = 75  I.Q.
Verbal Facility:  VERBAL OPPOSITES = 11.3  M.A. = 94  I.Q.
Reproductive Learning:  BLOCK DESIGN = 79 Same I.Q. (Top Level 15.0)
Hypothyroid Pattern:  

WISC

Coding  = 69  I.Q.  Same  
Mazes  = 58  I.Q.  Same  
Arithmetic  = 62  I.Q.  Same  
Memory  = 69  I.Q.  Same

General Comments: Low areas are consistent.

Maturity Factors

Stereotyped - another cowboy

Some Drawing Age  = 8.0  M.A.  And some use of 3 D (cowboy TV influence)
Inversion Test  = Not much but his anxieties practically pressed through the paper.

General Comments: Conflict in levels - indicate the low efficiency level.

Reading Levels

3.1 Wide Range  = 2.3  Basal Grade Level
3.5 Gray's Oral  = 1.6  Frustration Grade Level
3.2 Frustration Grade Level  then- them tray-trap, etc.

Other Tests Administered:

Diagnosis: Inferiority feelings! Much inattention! Form board indicated eye involvement as did block design - writes with his nose! All areas related to immaturity are low!

Submitted:  2-25-61

Note: This boy should first have eyes checked by a Doctor. If there is no eye involvement, the answer is I.Q. approx. 82.
Red-Recheck 6-13-61
Name: Subject A3
Elementary School Grade: 2
Age: 7-3
Date of Birth: 10-29-53
Date of Testing: 2-9-61

Prediction for Learning:
- FORM BOARD: 9-6 M.A.: 131 I.Q.
- Reproductive Learning: BLOCK DESIGN: 128 I.Q. (Top Level 11.3)

Hypothyroid Pattern:

WISC

Coding = * I.Q. 100
Mazes = 8 I.Q. 90
Arithmetic = 113 I.Q.
Memory = 119 I.Q.

Carelessness - errors
" "
Stalled!
Seconds on all combinations

General Comments: Short attention span!

*MATURITY FACTORS

Greatly improved
- Drawing Age: 5.5 M.A.
- Writing and Drawing Age: 6.0 M.A.
- Inversion Test: Little Much - and reversals

General Comments: Much, much immaturity and certainly in speech Still immature.

READING LEVELS

2.4 Wide Range = 1.4 Basal Grade Level
2.6 2.0 Frustration Grade Level
1.8 Gray's Oral = Primer Grade Level Second trial 1.3 Grade Level Slow

OTHER TESTS ADMINISTERED:

DIAGNOSIS: Speech "twuck".

Took 1 hr. 15 min. to get this much. If other tests show some signs I'll call subject back for coding and mazes!

Submitted: 2-25-61

Note: This is only fair growth-Speed is a vital factor. Both fatigue and speed are improved but not a marked growth.

*Maturity factors show real growth.

Red--Recheck 6-12-61

Helen M. Thompson
Certified Psychologist
and
Reading Specialist
PSYCHOMETRIC REPORT FORM

THE THOMPSON READING CLINIC

WILSON RESEARCH

CHAPMAN COLLEGE

Name Subject B3 Elementary School Grade 1
Age 7-6 Date of Birth 8-7-51 Date of Testing 2-5-61

Prediction for Learning: FORM BOARD = 8-6 M.A. = 113 I.Q.

Verbal Facility: VERBAL OPPOSITES = 8.3 M.A. = 110 I.Q.

Reproductive Learning: BLOCK DESIGN = 90 I.Q. (Top Level 9.6+) 7 months

Hypothyroid Pattern:

WISC

Coding = 79 I.Q. Same Three reversed
Mazes = 79 I.Q. Same Lifted pencil - talked
Arithmetic = 94 I.Q. Same Step 5 on the test
Memory = 100 I.Q. 104 All second trials

General Comments

MATURITY FACTORS

Drawing Age = 3.2 M.A. Typically childish: Improved
Writing and Drawing Age = 6.0 M.A. Immaturity Immaturing still seen
Inversion Test Extremes and much immaturity Improved

General Comments Anxiety and talkativeness... Much more calm.

READING LEVELS

1.2 Wide Range = 1.1 Basal Grade Level
2.8 1.7 Frustration Grade Level tree-three cat-can
1.3 Gray's Oral Primer Grade Level block-blade

OTHER TESTS ADMINISTERED: Improved

DIAGNOSIS: Restless, short attention span, can't listen; can't follow directions; extreme immaturity; dry skin, moist hands; cowlick, dry hair;
"baby" characteristics, even leaning on mother; asked approval constantly.

Submitted: 2-25-61 Helen M. Thompson

Note: There is maturity growth. Certified Psychologist
Red—Recheck 6-13-61 and

Reading Specialist
PSYCHOMETRIC REPORT FORM
THE THOMPSON READING CLINIC
WILSON RESEARCH
CHAPMAN COLLEGE

Name ___________________________ Subject C3 ___________________________

Age _______ 7-9 ________ Date of Birth _______ 5-14-54 ________ Date of Testing _______ 2-21-61

Prediction for Learning: FORM BOARD = 8.6 M.A. = 110 I.Q.

Verbal Facility: VERBAL OPPOSITES = 8.9 M.A. = 113 I.Q.

Reproductive Learning: BLOCK DESIGN = 114 I.Q. (Top Level 100)

Hypothyroid Pattern: Steady - with one error - success
with 41 symbols. Only had 18 symbols
Heavily tried to hurry - unsuccessfully 2-21-61
Steady working

WISC

<table>
<thead>
<tr>
<th>Test</th>
<th>I.Q.</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coding</td>
<td>58</td>
<td>142</td>
</tr>
<tr>
<td>Mazes</td>
<td>79</td>
<td>90</td>
</tr>
<tr>
<td>Arithmetic</td>
<td>75</td>
<td>80</td>
</tr>
<tr>
<td>Memory</td>
<td>100</td>
<td>105</td>
</tr>
</tbody>
</table>

General Comments: Short attention span - restless - tapped foot not as noticeable

Maturity Factors

5.9 Drawing Age = 4.7 M.A. Very immature: (Likes girls).

7.0 Strong writing and drawing age = 7.0 M.A. Tendency to use hand.

Inversion Test: Very little now

General Comments: Such a "little" boy - (spoiled) Much improvement
(Attitude and behavior more mature)

Reading Levels

2.2 Wide Range = 1.2 Basal Grade Level
2.6 = 1.6 Frustration Grade Level
1.9 Gray's Oral = Primer = 1.0 Grade Level

Other Tests Administered:

Diagnosis: Family spoil him and try to keep him a baby. He is a "cute" boy and fun to work with - but immaturity keeps him from using his good mind!

Submitted: 2-25-61

Note: This is very good growth.
Red - Recheck 6-12-61

Helen M. Thompson
Certified Psychologist
and
Reading Specialist
PSYCHOMETRIC REPORT FORM
WILSON RESEARCH

THE THOMPSON READING CLINIC
CHAPMAN COLLEGE

Name Subject D3 Elementary School Grade 2
Age 8-2 Date of Birth 11-18-52 Date of Testing 2-3-61

Prediction for Learning: FORM BOARD = 11.6 M.A. = 141 I.Q.
Verbal Facility: VERBAL OPPOSITES = 9.3 M.A. = 113 I.Q.
Reproductive Learning: BLOCK DESIGN = 128 I.Q. (Top Level 11.3)
Hypothryoid Pattern:

WISC
Coding = 100 I.Q. 128 Poor coordination: Greatly improved
Mazes = 86 I.Q. 115 Excuses: Steady planning
Arithmetic = 81 I.Q. 98 Counted on fingers
Memory = 94 I.Q. 110 All second trials

General Comments: Fatigue and frustration present. Still some fatigue
but no apparent frustration.

*MATURITY FACTORS
4.0 and 5.0 Much growth seen
6.1 Drawing Age = 5.0 M.A. Very immature-babyish (nd Pd)
7.0 Writing and Drawing Age = 6.0 M.A. Ran along familiar busy bee pattern
Strong Inversion Test Barely Size is significant - with some reversals

General Comments: Emotional problems may play a part.

READING LEVELS
1.8 Wide Range = -8 mo Basal Grade Level
2.4 1.1 Frustration Grade Level
2.3 Gray's Oral = Pre-Primer Grade Level

OTHER TESTS ADMINISTERED: Hooper and WISC Object Assembly

DIAGNOSIS: Eyes must be tested - no brain damage indications. Prediction
for learning - is best indicator for case study.

Submitted: 2-25-61

*Maturity is very marked.
Red--Recheck 6-12-61

Helen M. Thompson
Certified Psychologist
Reading Specialist
PSYCHOMETRIC REPORT FORM

WILSON RESEARCH

THE THOMPSON READING CLINIC

CHAPMAN COLLEGE

Name: Subject E3
Elementary School Grade: 2
Age: 8.3
Date of Birth: 11-22-52
Date of Testing: 2-20-61

Prediction for Learning:
FORM BOARD = 9.0
M.A. = 109
I.Q.

Verbal Facility:
VERBAL OPPOSITES = 7.9
M.A. = 94
I.Q.

Reproductive Learning:
BLOCK DESIGN = 86
I.Q. (Top Level 93)

Hypothyroid Pattern:

WISC

Coding = 93
M.A. = 86
I.Q. Same

Mazes = 86
M.A. = 92
I.Q. Same

Arithmetic = 75
I.Q. = 81

General Comments: Can't follow directions! Short attention span.

MATURITY FACTORS

6.9 Drawing Age
7.0 Writing and Drawing Age

Proportion Hands-Shapes

Extremely immature

Poor coordination

General Comments: His own name writing is poor! Immaturity! Inattention - poor performance level!

READING LEVELS

3.7 Wide Range = 2.7
Basal Grade Level

3.7 = 2.8
Frustration Grade Level

3.7 Gray's Oral = 2.3
Grade Level

OTHER TESTS ADMINISTERED:

DIAGNOSIS: A great deal of emotional tension present. Feet always busy
Hit the table, tapped the floor; chewed the pencil, ate the eraser, and
ruined the Gray's oral leaflet! If subject isn't in the study, there should
be a total case study made.

Submitted: 2-25-61
Note: Fair growth - Ex. Reading Growth.
Red—Recheck 6-12-61

Helen M. Thompson
Certified Psychologist

Reading Specialist
PSYCHOMETRIC REPORT FORM
WILSON RESEARCH
THE THOMPSON READING CLINIC
CHAPMAN COLLEGE

Name: Subject F3
Elementary School Grade: 2
Age: 8-6
Date of Birth: 9-5-52
Date of Testing: 2-19-61

Prediction for Learning:
FORM BOARD = 9.0 M.A. = 106 I.Q.

Verbal Facility:
VERBAL OPPOSITES = 7.6 M.A. = 88 I.Q.

Reproductive Learning:
BLOCK DESIGN = 72 I.Q. (Top Level 8.9)

Hypothyroid Pattern:

WISC
Coding = 69 I.Q. 93 (Firm and without error)
Mazes = 79 I.Q. 82 (Really labored)
Arithmetic = 69 I.Q. 74 (Fearful he was wrong)
Memory = 81 I.Q. 89 (Not seen 6-12-61

General Comments:
Slow - fearful - shy - barely audible

MATURITY FACTORS

*5.0 Drawing Age = 6.0 M.A. ”Chiffon” dress - drew body and let it
Same Writing and Drawing Age = 6+ M.A. ”And over extended corners. ”
Inversion Test = 6+ M.A. ”Twisted the paper to do - much!”

General Comments:
Still twists paper - Improved, though.

READING LEVELS

1.1 Wide Range = 1.1 Basal Grade Level
1.9 Frustration Grade Level
Primer Gray’s Oral = Pre-Primer Grade Level

OTHER TESTS ADMINISTERED:

DIAGNOSIS:
Immaturity is extreme in many areas - perhaps rejection by the
father and friction in the home may contribute to the problem of function.
Mother says, “Much friction.” She has 3 children - one each year - with
friction!

Submitted: 2-25-61

*Only area without improvement.
Red—Recheck 6-12-61

Helen M. Thompson
Certified Psychologist
and
Reading Specialist
Name Subject G3  Elementary School Grade 3
Age 8-6 Date of Birth 8-20-52 Date of Testing 2-17-61

Prediction for Learning: FORM BOARD = 8.0 M.A. = 97 I.Q.
Verbal Facility: VERBAL OPPOSITES = 8.9 M.A. = 103 I.Q.
Reproductive Learning: BLOCK DESIGN = *79 Same I.Q. (Top Level 10-9)
Hypothyroid Pattern: No ability to use colors. Reversed all designs.

WISC
Coding = 100 I.Q. Same Three errors.
Mazes = 79 I.Q. Same All wavy lines.
Arithmetic = 79 I.Q. Same Counted on her toes and fingers.
Memory = 94 I.Q. Same (all seconds) 5 Bwd.; Tapped feet.

General Comments Twisted paper to do practically everything. Slow.

Maturity Factors
6.1 Drawing Age = 5.1 M.A. Inferiority: Added eyes and hair later.
7.0 Writing and Drawing Age = 6.0 M.A. Immature: Short lines - sketchy
   Inversion Test Much and many reversals: Improved

General Comments Can't listen and follow directions. Slow worker.

Reading Levels
2.7 Wide Range = 1.4 Basal Grade Level
3.8 Gray's Oral = 3.0 Frustration Grade Level
2.9

* Other Tests Administered: Hooper for Brain Injury - No apparent problem

Diagnosis: Mother was resentful of suggestions - child can't work with her
   hair in her eyes; thumb folds over pencil and subject is under great stress
   while writing. Mother wants to help her do everything. This child is
   extremely immature and needs help.

Submitted: 2-25-61
Note: Some maturity improvement
Red--Recheck 6-12-61

Helen M. Thompson
Certified Psychologist
and
Reading Specialist

*Mother said subject was the best writer in her room!
Name: Subject H3  Elementary School Grade: 2
Age: 9  Date of Birth: 1-25-52  Date of Testing: 2-12-61

Prediction for Learning: FORM BOARD = 8.0  M.A. = 92  I.Q.
Verbal Facility: VERBAL OPPOSITES = 10.0  M.A. = 114  I.Q.
Reproductive Learning: BLOCK DESIGN = 107  I.Q. (Top Level 110)

Hypothyroid Pattern:

WISC
Coding = 92  I.Q.  Same  Covered eyes - laid head on table
Mazes = 72  I.Q.  Same  Much indecision  Still present
Arithmetic = 80  I.Q.  75  Resistant  Some improvement
Memory = 60  I.Q.  90  All second trials

General Comments: Shy, could barely be heard - afraid to move.

MATURITY FACTORS

Drawing Age = 7.1  M.A.  Wants to be somebody - oversized drawing sent
Inversion Test = 6.6  M.A.  Much immaturity  Strong

General Comments: Fearful  Insecure  Fatigue

READING LEVELS

Wide Range = 1.8  Basal Grade Level
Gray's Oral = P.P.  Frustration Grade Level  tree  three  was  saw

OTHER TESTS ADMINISTERED:

DIAGNOSIS: Father is an alcoholic; father is ashamed of this "little" boy.
Wishes the boy liked boy activities.  I went out to the car to talk to the
father.  Mother said, "He insisted he wouldn't let (subject) participate."

Submitted:  2-25-61  Helen M. Thompson
Red--Recheck  6-12-61  Certified Psychologist
and  Reading Specialist
Name: Subject 13  
Elementary School Grade: 3  
Age: 9-2  
Date of Birth: 12-3-51  
Date of Testing: 2-11-61  
KH LE

Prediction for Learning: FORM BOARD = 12.3  
M.A. = 133 I.Q.  
Verbal Facility: VERBAL OPPOSITES = 9.3  
M.A. = 101 I.Q.  
Reproductive Learning: BLOCK DESIGN = 121 I.Q. (Top Level 11.6)  
Reversals seen!

WISC
Coding = 121 I.Q. Same  
Heavy hand - pressed!
Mazes = 72 I.Q. 81  
Much frustration.
Arithmetic = 69 I.Q. 76  
Counted on his fingers while biting nails
Memory = 75 I.Q. 87  
65 Fwd. 22 Bwd. Frustration!

General Comments: Not as much frustration as 2-11-61 - But heavy pencil print indicates there is still much.

Maturity Factors

Drawing Age = 5.1 M.A. Very immature (Big head!)
Writing and Drawing Age = 6.0 M.A. Lines unclosed.
Inversion Test: Some mostly poor form and pressure of pencil

General Comments: Immaturity is marked. Still shows immaturities.

Reading Levels

2.5 Wide Range = 2.1 Basal Grade Level
3.3 Gray's Oral = 2.6 Frustration Grade Level

Other Tests Administered:

Diagnosis: Bitten nails - under pressure to achieve - but body won't permit. Reading is family problem.

Submitted: 2-25-61
Red--Recheck 6-12-61
PSYCHOMETRIC REPORT FORM
WILSON RESEARCH
THE THOMPSON READING CLINIC
CHAPMAN COLLEGE

Name  Subject J3  Elementary School Grade  3
Age  9-3  Date of Birth  9-28-51  Date of Testing  2-10-61

Prediction for Learning: FORM BOARD = 10.6  M.A. = 114  I.Q.
Verbal Facility: VERBAL OPPOSITES = 8.9  M.A. = 95  I.Q.
Reproductive Learning: BLOCK DESIGN = 100  I.Q. (Top Level 10.0)

Hypothyroid Pattern:

W I S C

Coding  = 86  I.Q. 93  Error too!
Mazes  = 72  I.Q. Same  Little ability to plan!
Arithmetic  = 62  I.Q. Same  "Is that right?"
Memory  = 69  I.Q. Same  4 Fwd.: 2 Bkd. No memory!

General Comments

MATURITY FACTORS

Improved
6.9 Drawing Age  = 4.7  M.A. Boy being punished by standing in corner (no hands!)
7.0 Strong
Writing and Drawing Age  = 7.0  M.A. Extremely immature
Inversion Test  = Barely
Much! Subject erased and erased. Improved

General Comments Much immaturity seen in those areas! Improved

READING LEVELS

1.1 Wide Range  =  1.0 Basal Grade Level
1.7 Frustration Grade Level
Same Gray's Oral  = Pre-Primer Grade Level  Little improvement

OTHER TESTS ADMINISTERED:

DIAGNOSIS: Badly bitten nails, chewed while he worked. Wrote part of the time with LEFT hand but did everything else with the RIGHT. Nutrition may influence this case.

Submitted:  2-25-61
Note: Maturity is the only area of improvement.
Red--Recheck 6-12-61

Helen M. Thompson
Certified Psychologist
Reading Specialist
PSYCHOMETRIC REPORT FORM
THE THOMPSON READING CLINIC
WILSON RESEARCH
CHAPMAN COLLEGE

Name: Subject K3
Elementary School Grade: 3
Age: 9-5
Date of Birth: 9-24-51
Date of Testing: 2-16-61

Prediction for Learning: FORM BOARD = 9.0 M.A. = 96 I.Q.
Verbal Facility: VERBAL OPPOSITES = 9.3 M.A. = 98 I.Q.
Reproductive Learning: BLOCK DESIGN = 100 I.Q. (Top Level 9.9)

Hypothyroid Pattern:

WISC
Coding = 100 I.Q. Same
Mazes = 65 I.Q. 76 No ability to solve the problems Improved
Arithmetic = 69 I.Q. 75 Counted on fingers
Memory = 100 I.Q. Same All second trials

General Comments: Reversals seen even in block design

MATURITY FACTORS
6. Drawing Age = 5.8 M.A. Size important - tiny
7. Writing and Drawing Age = 6.0 M.A. No semblance of 7.0 - Not strong
   Inversion Test Barely Much and inability to reproduce figures

General Comments: Eyes may play a big part in this area; IMMATURE

READING LEVELS
2.7 Wide Range = 1.3 Basal Grade Level
2.9
2.1 Gray's Oral = Primer Grade Level

OTHER TESTS ADMINISTERED:

DIAGNOSIS: (Fatigue plays a big part in this case) Subject put his head on the table while working. Sighed a great deal - window and air did not seem to help.

Submitted: 2-25-61
Note: Not strong improvement.
Red---Recheck 6-12-61

Helen M. Thompson
Certified Psychologist
and
Reading Specialist
Name: Subject L3  Elementary School Grade: 4
Age: 9-7  Date of Birth: 7-5-51  Date of Testing: 2-3-61

Prediction for Learning: FORM BOARD = 11.0  M.A. = 115  I.Q.
Verbal Facility: VERBAL OPPOSITES = 10.1  M.A. = 105  I.Q.
Reproductive Learning: BLOCK DESIGN = 93  I.Q. (Top Level: 12.0)

Hypothyroid Pattern:

WISC

Coding = 93  I.Q.  Same  A few false starts!
Mazes = 93  I.Q.  Same  Kept right on going after "time".
Arithmetic = 100  I.Q.  Same  Worked well
Memory = 113  I.Q.  Same  6 F rd.; 4 F rd. (Second trials)

General Comments: Restlessness, carelessness, short attention span, flighty!

Maturity Factors

Same Drawing Age = 7.9  M.A.  Carelessness marked
Same Writing and Drawing Age = 7  M.A.  Hurried, careless
Inversion Test = Barely  7  M.A.  Much  Still much

General Comments: Immaturity marked. Almost the same

Reading Levels

3.4 Wide Range = 3.5  Basal Grade Level
3.4 Frustration Grade Level
3.4 Gray's Oral = 3.1  Grade Level

Other Tests Administered:

Diagnosis: This subject has all the indications of the low thyroid pattern. His good mind is not being used.

Submitted: 2-25-61

Note: A standstill pattern. Red--Recheck 6-12-61

Helen M. Thompson
Certified Psychologist
and
Reading Specialist
PSYCHOMETRIC REPORT FORM
WILSON RESEARCH

Name: Subject M3 Elementary School Grade 3
Age: 9-9 Date of Birth 5-29-51 Date of Testing 2-20-61

Prediction for Learning: FORM BOARD = 9.6 M.A. = 97 I.Q.

Verbal Facility: VERBAL OPPOSITES = 9.3 M.A. = 95 I.Q.

Reproductive Learning: BLOCK DESIGN = 121 I.Q. (Top Level 11.3)

Hypothyroid Pattern:

WISC
Coding = 72 I.Q. Same
Mazes = 65 I.Q. Same
Arithmetic = 75 I.Q. Same
Memory = 100 I.Q. 105

General Comments: Inconsistent memory compared with other scores.

MATURITY FACTORS

Drawing Age = 6.1 M.A. Head mature, body immature.
Writing and Drawing Age = 7.0 M.A. Satisfactory except override.
Inversion Test = Just satisfactory except override.

Profile

General Comments

READING LEVELS

1.4 Wide Range = 1.4 Basal Grade Level
3.1 2.4 Frustration Grade Level
3.2 Gray's Oral = 1.9 Grade Level Pointed to each word!

OTHER TESTS ADMINISTERED:

DIAGNOSIS: Restless and "high" all through the testing. Put feet up on
chair, sat on table; walked around, etc. Short attention span = seconds
on nearly all directions.

Talled for time on verbal tests. Asked for repeat on each one.

Submitted: 2-25-61
Note: Just normal improvement.
Red--Recheck 6-12-61

Helen M. Thompson
Certified Psychologist
and
Reading Specialist
PSYCHOMETRIC REPORT FORM
WILSON RESEARCH
THE THOMPSON READING CLINIC
CHAPMAN COLLEGE

Name: Subject No. 3
Elementary School Grade: 3
Age: 9-11
Date of Birth: 2-25-51
Date of Testing: 2-5-61

Prediction for Learning: FORM BOARD = 9.0 M.A. = 89 I.Q.

Verbal Facility: VERBAL OPPOSITES = 13.0 M.A. = 131 I.Q.

Reproductive Learning: BLOCK DESIGN = 93 I.Q. (Top Level 17.0)

Hypothyroid Pattern: But eyes were responsible - he must have them checked!

WISC
Coding = 79 I.Q. Some Errors!
Mazes = 79 I.Q. 87 Many errors
Arithmetic = 87 I.Q. 92 Highly frustrated
Memory = 87 I.Q. 94 All second trials - frustrated!

General Comments: Erased!! Hurried without success - no help for it!

MATURITY FACTORS
6.9 Drawing Age = 5.5 M.A. Eyes (Drawing is distorted)
7.0 Writing and Drawing Age = 7.0 M.A. Eyes involvement seen here, also.

General Comments: Much immaturity seen throughout this area.

There is still immaturity.

READING LEVELS
2.8 Wide Range = 1.7 Basal Grade Level
3.1 2.0 Frustration Grade Level
2.9 Gray's Oral = 1.0 Grade Level

OTHER TESTS ADMINISTERED:

DIAGNOSIS: Subject is one of the brightest children tested but immaturity factors and eyes are keeping him from achieving.

Submitted: 2-25-61
Note: Some balance seen.
Red--Recheck 6-12-61

Helen M. Thompson
Certified Psychologist
and
Reading Specialist
PSYCHOMETRIC REPORT FORM

WILSON RESEARCH

THE THOMPSON READING CLINIC

CHAPMAN COLLEGE

Name Subject 03 Elementary School Grade 5
Age 10-3 Date of Birth 11-13-50 Date of Testing 2-6-61

Prediction for Learning: FORM BOARD = 11.0 M.A. = 107 I.Q.
Verbal Facility: VERBAL OPPOSITES = 10.3 M.A. = 100 I.Q.
Reproductive Learning: BLOCK DESIGN = 107 I.Q. (Top Level 13.0)

Hypothyroid Pattern:

W I S C

Coding = 93 I.Q. Same Memory and coding score correlate!
Mazes = 72 I.Q. 89 Buried! [Errors]
Arithmetic = 75 I.Q. 87 Counted on fingers?
Memory = 106 I.Q. Same 6 Frd.; 4 Frd. All second trials.

General Comments Much inattention - "flitted" 3 second trials

MATURITY FACTORS

Profile - very much improved

7.9 Drawing Age = 5.8 M.A. Proportion (Mature Ideas)
7.0 Writing and Drawing Age = 7.0 M.A. Lines overridden (E-)

No reservation

Inversion Noted: Much - (But with instruction improved)

General Comments

READING LEVELS

4.0 Wide Range = 2.7 Basal Grade Level
4.0 Frustration Grade Level spell-shell chin-chop
3.6 Gray's Oral = 3.4 Grade Level huge-hug

Few No word attack methods.

OTHER TESTS ADMINISTERED: Would definitely benefit from concentrated word attack skills.

DIAGNOSIS: This is a borderline case. Subject would certainly be helped by thyroid stimulation since all areas are not consistently low.

Submitted: 2-25-61
Note: The consistency in the recheck pattern.
Red—Recheck 6-13-61

Helen M. Thompson
Certified Psychologist
and
Reading Specialist
Name: Subject P3  
Age: 10-5  
Date of Birth: 8-28-50  
Date of Testing: 2-11-61

Prediction for Learning:  
- FORM BOARD = 12.6  M.A. = 120  I.Q.  
- Verbal Facility: VERBAL OPPOSITES = 9.6  M.A. = 99  I.Q.  
- Reproductive Learning: BLOCK DESIGN = 107  I.Q. (Top Level 13.0)

Hypothyroid Pattern:

WISC

- Coding = 79  I.Q. 86  
- Mazes = 65  I.Q. 70  
- Arithmetic = 62  I.Q. 69  
- Memory = 87  I.Q. 94  

General Comments: All extremely immature in execution.

MATURITY FACTORS

- Drawing Age = 5.6  M.A.  
- Writing and Drawing Age = 6  M.A.  

Inversion Test: Much and reversals! Improved - some instability still present.

General Comments: Indicative of low thyroid.

READING LEVELS

- 2.2 Wide Range = 1.3  Basal Grade Level
- 2.4  Frustration Grade Level
- 2.3 Gray's Oral = 1.6  Grade Level

OTHER TESTS ADMINISTERED:

- Voice improved.

DIAGNOSIS:
- High pitched voice - walks on tiptoes - speech - I's
- Restlessness - extreme: had to be "pinned" to complete testing!
- Behavior that of a third grader!

Submitted: 2-25-61  
Note: Testing was easier and Ronnie was interested.  
Red - Recheck 6-13-61 (I hope his teacher has had this same pleasure.)
Name: Subject Q3  
Elementary School Grade: 5  
Age: 11-3  
Date of Birth: 11-26-49  
Date of Testing: 2-19-61  
RH RE  

Prediction for Learning:  
FORM BOARD = 10.0  
M.A. = 89  
I.Q.  

Verbal Facility:  
VERBAL OPPOSITES = 9.3  
M.A. = 82  
93  
I.Q.  
Slow to respond.  
glasses 2 yrs.  
4th and 5th grades  

Reproductive Learning:  
BLOCK DESIGN = 86 same I.Q. (Top Level 13.3)  

Hypothyroid Pattern:  

W I S C  
Coding = 65  
I.Q. 93  
Speedy  

Mazes = 52  
I.Q. 72  
Slow and Errors!  

Arithmetic = 69  
I.Q. 75  
Errors - much chatter!  

Memory = 100  
I.Q. 106  
Counted on fingers!  
Still  

General Comments: Low functioning.  

MATURITY FACTORS  

7.9 Drawing Age = 5.8  
M.A. Very immature!  
Poor proportion!  

7.0 Writing and Drawing Age = 7.0  
M.A. Immaturity marked  
Improved.  

Inversion Test:  
Satisfactory.  
Reversals as well as inversions seen  
Still seen  

General Comments:  
Glasses do not seem adequate.  

READING LEVELS  

3.0 Wide Range = 1.7  
Basal Grade Level  

3.7  
Frustration Grade Level  

3.7 Gray's Oral = 2.9  
Grade Level  

OTHER TESTS ADMINISTERED:  

DIAGNOSIS:  
This subject's records indicate disturbed maturity and functioning.  
Study should include him.  Eyes should be checked by M.D.  
Recheck needed.  

Submitted: 2-25-61  
Note: Definite improvement.  Eyes still  
handicap subject.  
Red -- recheck 6-13-61  

Helen M. Thompson  
Certified Psychologist  
and  
Reading Specialist
Name: Subject R3  
Elementary School Grade: 5
Age: 12-4  
Date of Birth: 9-22-48  
Date of Testing: 2-6-61

Prediction for Learning: FORM BOARD = 15.0  
M.A. = 122  
I.Q. = 122
Verbal Facility: VERBAL OPPOSITES = 10.0  
M.A. = 81  
I.Q. = 81
Reproductive Learning: BLOCK DESIGN = 86  
I.Q. (Top Level 13.0)

Hypothyroid Pattern:  
 wasn't time for recheck - wouldn't have anything (to speak of) to do with the hypothyroid symptoms - but would be improved by thyroid.

WISC
Coding = 72  
I.Q. = 100  
Just slow: Much improvement
Mazes = 58  
I.Q. = 70  
Errors? Couldn't keep pencil on paper
Arithmetic = 81  
I.Q. = 86  
Counted and talked out loud
Memory = 81  
I.Q. = 91  
Frustration over inability to recall

General Comments: Tried to hurry. Can't listen to directions.

MATURITY FACTORS

6. Drawing Age = 4.7  
M.A. = 5.0  
Just a baby drawing
7. Writing and Drawing Age = 5.0  
M.A. = 5.0  
(And paper was turned on side to do
Inversion Test

Barely

Much twisting of the sheet and much talking! Some improvement.

General Comments: Subject turns his paper for accommodation (eyes?)

READING LEVELS

2.8 Wide Range = 2.5  
Basal Grade Level
3.6 Frustration Grade Level
3.4 Gray's Oral = 2.6  
Grade Level
Better time factor.

OTHER TESTS ADMINISTERED:

DIAGNOSIS: This subject is extremely insecure. He tries to hurry, becomes frustrated. Shakes his head and bounces up and down on his chair, but to no avail! Language development is limited. Frustration resulted from lack of recall. This boy needs help.

Submitted: 2-25-61

Note: There is definite improvement seen.
Red--Recheck 6-13-61

Helen M. Thompson
Certified Psychologist
and
Reading Specialist
PSYCHOMETRIC REPORT FORM
THE THOMPSON READING CLINIC
WILSON RESEARCH
CHAPMAN COLLEGE

Name \[X1\] Subject \[Elementary School Grade \[2\]
Age \[7-5\] Date of Birth \[9-11-53\] Date of Testing \[2-22-61\]

Prediction for Learning: FORM BOARD = \[10\] M.A. = \[135\] I.Q.
Verbal Facility: VERBAL OPPOSITES = \[8.3\] M.A. = \[111\] I.Q.
Reproductive Learning: BLOCK DESIGN = \[79\] I.Q. (Top Level \[11.3\])

Hypothyroid Pattern:

WISC

| Coding | I.Q. | 79 | I.Q. | 80 |
| Mazes | I.Q. | 65 | I.Q. | 70 |
| Arithmetic | I.Q. | 100 | I.Q. | 80 |

General Comments: Such a short attention span! Still a short attention span.

MATURITY FACTORS

5.6 Drawing Age = \[4.5\] M.A. No arms, no face; proportion Improved
Writing and Drawing Age = \[6\] M.A. Just an immature child! No improvement
Inversion Test Rarely = \[6\] M.A. Much inversion and much writing over

General Comments: Immaturity: Still much immaturity.

READING LEVELS

2.6 Wide Range = \[2.1\] Basal Grade Level
3.1 2.6 Frustration Grade Level
2.3 Gray's Oral = \[1.8\] Grade Level

OTHER TESTS ADMINISTERED:

DIAGNOSIS: No attention span; insecurity; afraid of mistakes; wants to be "first"! (Family pressure?) (Full scale) Available since WISC was administered.

Submitted: 2-25-61
Red--Recheck 6-13-61
Helen M. Thompson
Certified Psychologist
and
Reading Specialist
PSYCHOMETRIC REPORT FORM
WILSON RESEARCH
THE THOMPSON READING CLINIC
CHAPMAN COLLEGE

Name Subject X3  Elementary School Grade  2
Age 8-3  Date of Birth 11-14-52  Date of Testing 2-16-61

Prediction for Learning:  FORM BOARD = 7  M.A. = 85  I.Q.  
Verbal Facility:  VERBAL OPPOSITES = 6.3  M.A. = 76  I.Q.  
Reproductive Learning:  BLOCK DESIGN = 79  I.Q. (Top Level 7.0)

Hypothyroid Pattern:

W I S C
Coding = 79  I.Q.  81  Slight improvement
Mazes = 79  I.Q.  Same  Pressure - held pencil tight
Arithmetic = 75  I.Q.  Same  Lost!
Memory = 82  I.Q.  84  Second trial

General Comments

MATURITY FACTORS

Same Drawing Age = 6.1  M.A.  Inferiority and wishful thinking
6.0 Writing and Drawing Age = 5  M.A.  Overly
Inversion Test  Barely  Some improvement
   Many - and reproductions small  Eyes

General Comments  Much anxiety - emotional pressure

READING LEVELS

9 mo Wide Range = P.P.  Basal Grade Level
1.6  Same  P.P.  Frustration Grade Level
   Gray's Oral = P.P.  Grade Level

OTHER TESTS ADMINISTERED:
Improved physical condition - Appeared more alert.

DIAGNOSIS:  Mother said, "Hair was combed before they started - wind
blew it."  Matted hair; kidney odor; unkempt; pitiful child; Nutrition
could very well be responsible for this case.  Question eyes.  Mouth
breather.

Submitted:  2-25-61
Red--Recheck 6-12-61

Helen M. Thompson
Certified Psychologist
and
Reading Specialist
PSYCHOMETRIC REPORT FORM
WILSON RESEARCH
THE THOMPSON READING CLINIC
CHAPMAN COLLEGE

Name Subject X4 Elementary School Grade 3
Age 8-10 Date of Birth 5-12-52 Date of Testing 2-15-61

Verbal Facility: VERBAL OPPOSITES = 6.6 M.A. = 74 I.Q.
Reproductive Learning: BLOCK DESIGN = 72 I.Q. (Top Level 8.9) (Saved samples)
Hypothyroid Pattern:

W I S C

Coding = 86 I.Q. 92 Missed squares 3 errors
Mazes = 79 I.Q. Same Retraced?
Arithmetic = 75 I.Q. Same Could hardly hear answers
Memory = 75 I.Q. 81 All second trials 3 second trials

General Comments

MATURITY FACTORS

4.9 Drawing Age = 4.5 M.A. Tan immature baby (Mother)
6.5 Writing and Drawing Age = 6.0 M.A. Infant - sizes and shapes small

Inversion Test

Barely

Barely

Much

Much

General Comments Subject's mother wanted to stay in room to help her!

READING LEVELS

2.9 Wide Range = 2.3 Basal Grade Level
3.0 Gray's Oral = 2.6 Frustration Grade Level
3.2 Grade Level (Pointed to each word)

OTHER TESTS ADMINISTERED:

DIAGNOSIS: Mother babies this child - does EVERYTHING for her. Indicated
"She's my baby." Subject carried on no conversation on any subject;
Lacks initiative is dependent. Wants to be told what move to make;
waits for direction. (tall for her age)

Submitted: 2-25-61
Red--Recheck 6-12-61

Helen M. Thompson
Certified Psychologist
and
Reading Specialist
Name  Subject X6  Elementary School Grade  5  
Age  10-6  Date of Birth  8-14-50  Date of Testing  2-11-61  
Prediction for Learning:  FORM BOARD = 9.6  M.A. = 83  I.Q.  
Verbal Facility:  VERBAL OPPOSITES = 7.0  M.A. = 67  I.Q.  
Reproductive Learning:  BLOCK DESIGN = 72  I.Q. (Top Level 8.9)  

W I S C  
Coding  = 93  I.Q. Same  This record doesn't fit in the pattern.  
Mazes  = 72  I.Q. 80  Frustration!  
Arithmetic  = 62  I.Q. 70  Worked and talked and used fngers.  
Memory  = 87  I.Q. Same  

General Comments  Conflicting records could be low thyroid (strong signs)  

MATURITY FACTORS  
7.0 Drawing Age  = 5.8  M.A.  Extremely immature (no hands).  
7.0 Writing and Drawing Age  = 6.0  M.A.  Extremely immature eyes. Too small-eyes?  

General Comments  Sweet child - sad eyes. Wiped eyes!  

READING LEVELS  
3.5 Wide Range  = 1.8  Basal Grade Level  
3.9 3.5  Frustration Grade Level  
3.7 Gray's Oral  = 2.9  Grade Level  

OTHER TESTS ADMINISTERED:  

DIAGNOSIS:  Bitten nails: Neglect - emotionally alone - a sad case.  
This child is alone in the world! Nutrition? Still think she should have eyes rechecked.  

Submitted:  2-25-61  
*Background? Verbal lack.  
Red--Recheck 6-12-61  

Helen M. Thompson  
Certified Psychologist  
and  
Reading Specialist
Name: Subject X7  Elementary School Grade: 5  
Age: 10-8  Date of Birth: 6-5-50  Date of Testing: 2-9-61

Verbal Facility: VERBAL OPPOSITES = 12.0  M.A. = 113  I.Q.  
Reproductive Learning: BLOCK DESIGN = 121  I.Q. (Top Level 15.0)

Hypothyroid Pattern:  
W I S C
Coding = 72  I.Q. = 86  Too much speed.  (Errors)
Mazes = 86  I.Q. = Same  "I get so nervous!"
Arithmetic = 87  I.Q. = Same  "I don't do very well, do I?"
Memory = 106  I.Q. = Same  7 Frd.; 3 Bwd.  (Without seconds)

General Comments:  Insecurity - most likely responsible.

MATURITY FACTORS
7.9 Drawing Age: Barely = 6.8  M.A. = Better  
7.0 Writing and Drawing Age: 7.0  M.A. = Careless worker says "I'm nervous!"

Inversion Test: Meticulous and very slow compared to careless; hurrying on other tests. Not much indication of inversion.

General Comments: Intermingling of mature and immature factors.

READING LEVELS
3.2 Wide Range = 3.2  Basal Grade Level  
4.2 3.7  Frustration Grade Level  Configuration - needs word attack methods.

3.3 Gray's Oral = 3.2  Grade Level

OTHER TESTS ADMINISTERED:  

DIAGNOSIS: This subject is struggling with a broken home problem: Sister brought him - said the mother neglected all her children. She paid no attention to subject, nor had she helped any of the others. This is probably a nutritional and emotional case. Doubt if low thyroid is too much involved.

Submitted: 2-25-61  
Note: This is normal improvement, but low for his verbal facility.
Red---Recheck 6-13-61  

Helen M. Thompson  Certified Psychologist
and  Reading Specialist
Name  Subject X8  Elementary School Grade  5
Age  11.0  Date of Birth 2-24-50  Date of Testing 2-17-61
Prediction for Learning:  FORM BOARD = 9.6  M.A. = 86  I.Q.
Verbal Facility:  VERBAL OPPOSITES = 10.6  M.A. = 95  I.Q.
Reproductive Learning:  BLOCK DESIGN = 79 83  I.Q. (Top Level 13.6)
Hypothyroid Pattern:

W I S C
Coding  = 65  I.Q.  89
Mazes  = 58  I.Q.  68
Arithmetic  = 94  I.Q. Same
Memory  = 62  I.Q. Same

General Comments  Arithmetic struggle and success would indicate ability.

MATURITY FACTORS
7.1 Drawing Age  = 6.5  M.A.  A girl in overalls
7.0 Writing and Drawing Age 6.5 7.0  M.A.  Barely 7+ - immature! Improved

General Comments  Functioning limited by immaturity.

READING LEVELS
3.7 Wide Range  = 2.5  Basal Grade Level
3.7  3.1 Frustration Grade Level how now tray try
4.4  Grade Level block black
Gray's Oral  = 2.4

OTHER TESTS ADMINISTERED:

DIAGNOSIS:  Question hearing? and eyes? This subject is so fearful of
errors - short attention span; little or no memory. If records do not
show low thyroid, this child should have a case study. Nutrition?
Home? etc.

Subscribed:  2-25-61
Helen M. Thompson
Certified Psychologist
and
Reading Specialist

Note: Question whether Gray's Oral was
valid. She said the V.P. uses it when
--he helped her.
Red--Recheck 6-13-61
PSYCHOMETRIC REPORT FORM
WILSON RESEARCH

THE THOMPSON READING CLINIC
CHAPMAN COLLEGE

Name: Subject X9 Elementary School Grade: 5
Age: 11-3 Date of Birth: 16-49 Date of Testing: 2-14-61

Prediction for Learning: FORM BOARD = 11.6 M.A. = 102 I.Q.
Verbal Facility: VERBAL OPPOSITES = 11-3 M.A. = 100 I.Q.

*Reproductive Learning: BLOCK DESIGN = 79 Same I.Q. (Top Level 12-0)

Hypothyroid Pattern:

W I S C

Coding = 93 I.Q. Same Exhausted when finished
Mazes = 65 I.Q. 79 Errors!
Arithmetic = 75 I.Q. Same Counted all on fingers
Memory = 113 I.Q. 105 6 Fvd.; 5 Fvd. (All seconds)

General Comments: Was disturbed by the noise of shuffling blocks.

MATURITY FACTORS

6.3 Drawing Age = 6.1 M.A. Only poorer proportion
Same Writing and Drawing Age = 7 M.A. Same
Inversion Test = Barely turned page to do. OVER RIDES turned page
General Comments: Much inattention and daydreaming.

READING LEVELS

*4.1 Wide Range = 1.5 Basal Grade Level
4.1 3.8 Frustration Grade Level
3.9 Gray's Oral = 2.9 Grade Level

OTHER TESTS ADMINISTERED:

DIAGNOSIS: Eyes must be checked - but if lab records show low thyroid, the
indications of immaturity are correct and confirmed.

*Turned blocks on top of each other.

Submitted: 2-25-61 Helen M. Thompson
*Basal level improved. Can't believe this and
child shouldn't have some stimulus.

Reading Specialist

Red--Recheck 6-13-61

Helen M. Thompson
Certified Psychologist

Reading Specialist
PSYCHOMETRIC REPORT FORM
WILSON RESEARCH

THE THOMPSON READING CLINIC
CHAPMAN COLLEGE

Name  Subject X10  Elementary School Grade  5  
Age  11-6  Date of Birth  5-49  Date of Testing  2-7-61  
RH RE

Prediction for Learning:  FORM BOARD  =  12.0  M.A.  =  104  I.Q.  
Verbal Facility:  VERBAL OPPOSITES  =  11.6  M.A.  =  87  96  I.Q.  
Reproductive Learning:  BLOCK DESIGN  =  69  94  I.Q.  (Top Level 12.0)  
Hypothyroid Pattern:  Reversals galore! Blocks on edges. Eyes?  But no blocks on edge.

W I S C  
Coding  =  65  I.Q.  94  
Mazes  =  65  I.Q.  81  
Arithmetic  =  81  I.Q.  87  
Memory  =  81  I.Q.  87  

General Comments  Steady - only three errors  
Known right on going after time was kept right on going after time was 
called.  (False started.)  

Maturity Factors  
7.5 Drawing Age  =  4.5  M.A.  Extremely immature  
Same Writing and Drawing Age  =  7.0  M.A.  Writing over - angle eyes  
Inversion Test  Immature and many reversals - inversion (may be)  

General Comments  Eyes! All immaturity signs involve eyes!  

Reading Levels  
4.1 Wide Range  =  4.6  Basal Grade Level  
4.9 Gray's Oral  =  4.6  Frustration Grade Level  
4.9 Grade Level  

Other Tests Administered:  

Diagnosis:  Asthmatic wheezes - afraid to make an error - much concern on verbal opposites: "Am I dumb?" Subject is a word-reader - doesn't know what he has read. *Family and I don't agree on subject's reaction to things. This boy must have help if he isn't in the study!

Submitted:  2-25-61  
*Note: This boy has made some very good improvement, but he still needs help.  
Red--Recheck 6-13-61  

Helen M. Thompson  
Certified Psychologist and Reading Specialist
THE RELATIONSHIP OF HYPOTHYROIDISM AND READING RETARDATION IN ELEMENTARY SCHOOL CHILDREN

by

Winifred Wilson

An Abstract of a Thesis in Partial Fulfillment of the Requirements for the Degree Master of Science in the Field of Nursing

June, 1962
ABSTRACT

The relationship between hypothyroidism and reading retardation was investigated among selected elementary school children for the purpose of contributing to data regarding the medical aspects of dyslexia in order to stimulate the interest of school health personnel. The experimental method was used to explore the hypothesis that a significant relationship exists between reading retardation and hypothyroidism.

Sixty-four underachievers in reading enrolled in one elementary school were selected for study. Physical examinations, laboratory tests, and individual psychometric measures were used to evaluate the physical and academic status of each of the study subjects. A diagnosis of hypothyroidism was made among the study subjects by an endocrinologist.

Matched according to intelligence and chronological age, fifty-seven subjects were divided into two control groups and one experimental group. Individual measures of reading grade placement were made at the beginning of the study period and repeated at the end of a three-month interval.

Children in one control group were given no special treatment or medication during the study period so that the change in reading achievement that would be expected among
all study subjects could be observed. Children in a second control group were given a thyroid placebo during the same three-month interval to estimate the possible psychological effect of taking medication on the subjects' reading achievement. Hypothyroidism was present among the nineteen children in the experimental group. These children were medicated with thyroid extract for the duration of the study period to observe the effect of the medication on the reading achievement of these subjects.

The gains in reading achievement of fifty-four subjects were compared to analyze the significance of the reading gains in the medicated group. The findings indicated that a relationship between hypothyroidism and reading retardation existed among the subjects studied at the seventy-sixth percent level of confidence. Recommendations were made to explore this trend further, using a larger study sample and a longer study period.

A correlation between bone-age delay and academic retardation seemed apparent among the children studied. Confirmation of this premise would serve to augment the purpose of the present study—to contribute to medical data concerning reading disability in elementary school children.