

AN INVESTIGATION OF THE COMPARATIVE EFFECTIVENESS OF THE  
MUSICAL APTITUDE PROFILE, THE INTERMEDIATE MEASURES OF  
MUSIC AUDIATION, AND THE PRIMARY MEASURES OF MUSIC AUDIATION  
WITH FOURTH GRADE STUDENTS

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TABLE OF CONTENTS

LIST OF TABLES . . . . . iii

ACKNOWLEDGEMENTS . . . . . iv

Chapter

    One    PURPOSE OF THE STUDY. . . . . 1

            Introduction . . . . . 1

            Problems of the Study. . . . . 5

    Two    RELATED STUDIES . . . . . 6

            Introduction . . . . . 6

            The Musical Aptitude Profile . . . . . 7

            The Intermediate Measures of  
                Music Audiation . . . . . 9

            The Primary Measures of Music Audiation. 11

    Three    DESIGN OF THE STUDY . . . . . 15

            Description of the Tests . . . . . 15

            Procedure. . . . . 17

            Analysis . . . . . 18

    Four    RESULTS AND INTERPRETATIONS . . . . . 20

            Means and Standard Deviations. . . . . 20

            Reliability. . . . . 22

            Validity . . . . . 24

            Intercorrelations. . . . . 26

            Correlations . . . . . 27

    Five    SUMMARY AND CONCLUSIONS . . . . . 30

            Problems of the Study. . . . . 30

            Design and Analysis. . . . . 30

            Results. . . . . 31

            Conclusions. . . . . 32

BIBLIOGRAPHY . . . . . 33

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MUSICAL APTITUDE PROFILE, THE INTERMEDIATE MEASURES OF MUSIC  
AUDIATION, AND THE PRIMARY MEASURES OF MUSIC AUDIATION WITH  
FOURTH GRADE STUDENTS

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The subtests of the Musical Aptitude Profile are designed for students in grades 4 through 12; they measure stabilized music aptitude. The subtests of the Intermediate Measures of Music Audiation are designed for students in grades 1 through 4; they measure developmental music aptitude. The subtests of the Primary Measures of Music Audiation are designed for students in kindergarten through 3; they also measure developmental music aptitude.

The research problems of the study were to compare the reliabilities and criterion-related validities of the Musical Aptitude Profile, the Intermediate Measures of Music Audiation, and the Primary Measures of Music Audiation when used with fourth grade students. Intercorrelations among the tests within each battery and correlations among the tests among the three batteries were examined.

One-hundred-ten students enrolled in the five fourth-grade classes in the three elementary schools in the Annville-Cleona School District in Annville, Pennsylvania, participated in the study. The students were administered the three batteries during one semester. Without knowledge of the test results, two music specialists evaluated on a five-point rating scale the overall musicianship of the students. The ratings served as criteria in the validity analysis.

It was concluded that both the Musical Aptitude Profile and the Intermediate Measures of Music Audiation are valid for identifying fourth grade students who possess high stabilized music aptitude. It was confirmed that the Primary Measures of Music Audiation should be used for identifying students only in the third grade and below who possess high developmental music aptitude.

## CHAPTER ONE

### PURPOSE OF THE STUDY

#### Introduction

The first edition of the Seashore Measures of Musical Talent was published in 1919.<sup>1</sup> That group standardized music aptitude test battery was designed for students nine years of age and older. The majority of music aptitude tests which were published in the ensuing years also included norms for students in the fourth grade and above.<sup>2</sup> The only two exceptions are tests by Wing and Bentley.<sup>3</sup> The Wing test includes norms for students seven years of age, and the Bentley test includes norms for students six years of age. The type of

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<sup>1</sup>Carl E. Seashore, Seashore Measures of Musical Talent (New York: Columbia Phonograph Company, 1919).

<sup>2</sup>For example, see Jacob Kwalwasser and Peter W. Dykema, Kwalwasser-Dykema Music Tests (New York: Carl Fischer, 1930); Lowell M. Tilson, Tilson-Gretsch Musical Aptitude Test (Chicago: The Fred Gretsch Manufacturing Co., 1941); E. Thayer Gaston, Test of Musicality (Lawrence, Kansas: Odell's Instrumental Service, 1942); Jacob Kwalwasser, Kwalwasser Music Talent Test (New York: Mills Music, 1953) and Raleigh M. Drake, Drake Musical Aptitude Tests (Chicago: Science Research Associates, 1954).

<sup>3</sup>Herbert D. Wing, Standardised Tests of Musical Intelligence (Buckinghamshire, England: National Foundation of Educational Research, 1939) and Arnold Bentley, Measures of Musical Ability (New York: October House, 1966).

questions and the music content of the Wing and Bentley tests, however, are the same for younger and older students. In both cases, the reliability of those tests when used with young students is considerably lower than when used with students nine years of age and older.

The Musical Aptitude Profile was published in 1965.<sup>4</sup> The battery was standardized using students in grades four through twelve. In 1967, Harrington adapted the Musical Aptitude Profile for use with children in grades two and three.<sup>5</sup> He shortened the test, simplified the directions, and used a color-coded answer sheet. Nonetheless, he found that the altered version of the Musical Aptitude Profile lacked sufficient reliability. Harrington, like Wing and Bentley, believed that the same type of questions and music content could be used for both younger and older students.

It was not until 1979 that Gordon developed the Primary Measures of Music Audiation, and music aptitude test designed specifically for use with kindergarten, first, second, and third grade students.<sup>6</sup> In 1982, the Intermediate Measures of Music Audiation were published for use

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<sup>4</sup>Edwin Gordon, Musical Aptitude Profile (Boston: Houghton Mifflin Co., 1965).

<sup>5</sup>Charles J. Harrington, "An Investigation of the Experimental Primary Version Level Musical Aptitude Profile for use with Second and Third Grade Students" (Ph.D. dissertation, University of Iowa, 1967).

<sup>6</sup>Edwin E. Gordon, Primary Measures of Music Audiation (Chicago: G. I. A. Publication, 1979).

with students in the first through fourth grades.<sup>7</sup> Both of those music aptitude test batteries, which demonstrate impressive validity, include music content significantly different from that found in music aptitude tests designed for use with older students. The manner in which the test questions are asked, however, remains consistent for the subtests in both test batteries.

The Musical Aptitude Profile, the Intermediate Measures of Music Audiation, and the Primary Measures of Music Audiation are used extensively throughout the United States as well as in foreign countries. Because both the Musical Aptitude Profile and the Intermediate Measures of Music Audiation include norms for fourth grade students, music educators are unsure which of the two batteries is most appropriate for use with nine-year-old students. Moreover, some music educators believe that, although it is not designed for use with students as old as nine years of age, the Primary Measures of Music Audiation may also be appropriate for use in the fourth grade.

The Musical Aptitude Profile is an extensive diagnostic test, and, as a result, it is much longer than either the Primary Measures of Music Audiation or the Intermediate Measures of Music Audiation. Thus it is becoming common

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<sup>7</sup>Edwin E. Gordon, Intermediate Measures of Music Audiation (Chicago: G. I. A. Publications, 1982).

practice to use the Intermediate Measures of Music Audiation in addition to the Musical Aptitude Profile with students in the fourth grade. The reasoning is that students in the fourth grade with high music aptitude can be identified by the Intermediate Measures of Music Audiation. Then they can be encouraged to take advantage of special music instruction. Once they are in a special music program, the Musical Aptitude Profile can be administered for diagnostic purposes. In that way, a teacher's professional integrity is not jeopardized, because in time, instruction can be adapted to students' individual musical differences through the diagnostic use of the eleven subtest scores of the Musical Aptitude Profile. The purpose of this study was to investigate the comparative validities of the Musical Aptitude Profile, the Intermediate Measures of Music Audiation, and the Primary Measures of Music Audiation when used with fourth grade students.



Problems of the Study

The specific problems of the study were:

1. to compare the reliabilities of the Musical Aptitude Profile, the Intermediate Measures of Music Audiation, and the Primary Measures of Music Audiation when used with fourth grade students.

2. to compare the criterion-related validities of the Musical Aptitude Profile, the Intermediate Measures of Music Audiation, and the Primary Measures of Music Audiation when used with fourth grade students.

3. to investigate the intercorrelations and correlations among the subtests of the Musical Aptitude Profile, the Intermediate Measures of Music Audiation, and the Primary Measures of Music Audiation.

## CHAPTER TWO

### RELATED STUDIES

#### Introduction

The relationship between music aptitude tests and music achievement tests has been investigated.<sup>1</sup> The relationship among music aptitude tests also has been investigated.<sup>2</sup> Because there are no studies, however, in which the Musical Aptitude Profile, the Intermediate Measures of Music Audiation, and the Primary Measures of Music Audiation specifically are compared to one another, the four longitudinal predictive validity studies associated with the three batteries are considered to be most related to the present study. Longitudinal predictive studies yield the most important type of test validity. With the exception of Stanton's three-year study of the Seashore Measures of

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<sup>1</sup>William T. Young, "A Longitudinal Comparison of Four Music Achievement and Music Aptitude Tests," Journal of Research in Music Education 24 (1976), 97-109.

<sup>2</sup>For example, see Richard A. Bentley, "A Critical Comparison of Certain Music Aptitude Tests" (Ph.D. dissertation, University of Southern California, 1956); Paul R. Farnsworth, "A Historical, Critical, and Experimental Study of the Seashore and Kwalwasser Test Batteries," Genetic Psychology Monograph 9 (1931), 291-293; and William T. Young, "A Statistical Comparison of Two Recent Musical Aptitude Tests," Psychology in the Schools 19 (1972), 165-169.

Musical Talent at the Eastman School of Music, there have been no longitudinal predictive studies for any other music aptitude tests.<sup>3</sup>

#### The Musical Aptitude Profile

The Musical Aptitude Profile was developed at the University of Iowa over a period of eight years. During the last part of the developmental period, a three-year longitudinal study of the validity of the Musical Aptitude Profile as a predictor of student achievement in instrumental music was begun.<sup>4</sup>

The three-year longitudinal predictive validity study, which took place from 1963 to 1966, was unique in the following respects. All enrolled students in selected fourth (N=30) and fifth (N=211) grade elementary schools in Cedar Falls, Davenport, and Iowa City, Iowa; and Racine, Wisconsin; were given a minimum of one group instrumental lesson each week as a curricular activity over the three-year period. The students who participated in the study

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<sup>3</sup>Hazel M. Stanton, "Measurement of Musical Talent - The Eastman Experiment," Studies in the Psychology of Music, Vol. 2 (Iowa City, Iowa: University of Iowa Press, 1935).

<sup>4</sup>Edwin Gordon, "A Three-Year Longitudinal Predictive Validity Study of the Musical Aptitude Profile," Studies in the Psychology of Music, Vol. 5 (Iowa City, Iowa: University of Iowa Press, 1967).

were unselected. They were a heterogeneous group with respect to music aptitude. Also, the students had no previous formal training in music, except that which they received in an elementary general music program, and in very few cases, from private instruction outside of school.

The Musical Aptitude Profile was administered to all of the students before they received their first year of instrumental music instruction. At the end of the first year, the students' music progress was evaluated by judges who rated the melodic, rhythmic, and expressive aspects of short tape recorded etudes which the students (1) prepared in advance with teacher help, (2) prepared in advance without teacher help, and (3) sightread. Teachers' ratings of the students' music progress and their scores on an objective music achievement test were included in the evaluation.

The procedures for evaluating the students' progress at the end of the second and third years of formal instruction were the same as those employed for the first year. The students performed more advanced etudes, however, and they were given more complex achievement tests. The predictive validity coefficients for all criteria combined were .61 for the first year, .72 for the second year, and .77 for the third year.

It was concluded that the Musical Aptitude Profile functions as a valid objective aid in identifying those students who can profit most from and contribute most to

school music activities. Gordon also suggested that the individual subtest scores might prove to be useful in evaluating students' specific musical strengths and weaknesses for the purpose of adapting instruction to their individual musical needs.

#### The Intermediate Measures of Music Audiation

All fourth grade students in the Chestnut Hill Academy, a private school for boys in the northwest section of Philadelphia, Pennsylvania, participated in the study.<sup>5</sup> They were required to study violin for one semester and recorder the other semester. Group instruction took place during two forty-minute periods each week throughout the semester. During the first semester, half of the class studied violin with one teacher while the other half studied recorder with another teacher. At the beginning of the second semester, the boys changed instruments and teachers. There were 33 boys enrolled in the fourth grade for the academic year 1982-83. During the first semester, 16 boys studied violin and 17 studied recorder. The numbers were reversed the second semester. At the beginning of each group lesson on both instruments, the boys echoed tonal or rhythm syllable patterns for about ten minutes.

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<sup>5</sup>Edwin E. Gordon, "A Longitudinal Predictive Study of the Intermediate Measures of Music Audiation," Council for Research in Music Education 78 (1984) 1-23.

In September 1982, the Intermediate Measures of Music Audiation were administered to all of the boys. At the end of the first semester, in January 1983, and at the end of the second semester, in May 1983, each boy privately performed two songs on the violin or the recorder. Each boy also sang two songs, either with text, on a neutral syllable, or with movable "do" syllables, according to his choosing. Both the instrumental and vocal performances were tape-recorded. After all songs were recorded, the Intermediate Measures of Music Audiation were re-administered.

The instrumental and vocal performances of each song were evaluated independently by Gordon and another professor of music education at Temple University. Four performances were evaluated for each boy by each judge for each semester; an instrumental and vocal performance for the first song and an instrumental and vocal performance for the second song. The judges used the same three five-point rating scales each semester to evaluate the melodic accuracy, the rhythmic accuracy, and the musical expression of each of the performances.

The Intermediate Measures of Music Audiation predictive validity coefficients ranged from .39 to .97 for individual songs, the majority being from .55 to .70. Contrary to the findings of other validity studies in which the Tonal subtest predicted tonal achievement better than the Rhythm subtest predicted rhythmic achievement, in this