# A COMPARISON OF THE BENDER VISUAL MOTOR GESTALT TEST AND THE REVISED DEVELOPMENTAL TEST OF VISUAL MOTOR INTEGRATION

APRIL CLARISSA FUSSELL

# A COMPARISON OF THE BENDER VISUAL MOTOR GESTALT TEST AND THE REVISED DEVELOPMENTAL TEST OF VISUAL MOTOR INTEGRATION

---

An Abstract

Presented to the

Graduate and Research Council of

Austin Peay State University

---

In Partial Fulfillment

of the Requirements of the Degree

Master of Arts

---

by

April Clarissa Fussell

May 1986

# ABSTRACT

The purpose of this study was to compare the Bender Visual Motor Gestalt Test and the Revised Developmental Test of Visual Motor Integration across two age groups of subjects. The subjects were 129 second grade and kindergarten children placed in regular education classes in a rural Middle Tennessee county. Testing administration occurred in the subjects' classrooms during a two week period to minimize practice effects. Second grade students were tested with the Bender Gestalt while kindergarten students were administered the VMI-R. Two weeks later each student was administered the alternate test.

The results were analyzed using a two-tailed t-test. A significant difference was found among the age groups when considering the mean errors. A difference was found between the VMI-R and the Bender Gestalt scores for second grade boys but not for kindergarten boys or girls, or second grade girls.

# A COMPARISON OF THE BENDER VISUAL MOTOR GESTALT TEST AND THE REVISED DEVELOPMENTAL TEST OF VISUAL MOTOR INTEGRATION

---

A Thesis

Presented to the

Graduate and Research Council of

Austin Peay State University

---

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

---

by

April Clarissa Fussell

May 1986

To the Graduate and Research Council:

I am submitting herewith a Thesis written by April C. Fussell entitled "A Comparison of the Bender Visual Motor Gestalt Test and the Revised Developmental Test of Visual Motor Integration." I have examined the final copy of this paper for form and content, and I recommend that it be accepted in partial fulfillment of the requirements for the Master of Arts, with a major in psychology.

Major Professor

We have read this thesis
and recommend its
acceptance:

Second Committee Member

Third Committee Member

Accepted for the Graduate and
Research Council:

Dean of the Graduate School

ACKNOWLEDGMENTS

My sincere appreciation is extended for all the aid and contributions of the Graduate Committee and the teachers and students of Dickson County who volunteered. I wish to thank Dr. Susan Kupisch and my family for their constant assistance, encouragement, and patience.

TABLE OF CONTENTS

LIST OF TABLES

TABLE PAGE

# CHAPTER 1

## Introduction

The Bender Visual Motor Gestalt Test (Bender Gestalt) is currently the fifth most frequently recommended instrument in clinical assessment (Dana, Field, & Bolton, 1983). Its popularity is probably due to its administration and scoring ease along with its low cost, time efficiency, and reliability correlations which range from .88 to .96. The test originally emerged from an interest in the gestalt function, the tendency of an organism to respond to stimuli as a whole (Dana, et al., 1983), and from the need to measure visual motor coordination.

Although the Bender Gestalt was originally designed to measure visual motor coordination, it has been used for a number of different purposes including both projective and objective applications. Some researchers have suggested that there is not enough supporting evidence to legitimately use the test for other uses than that for which it was intended. Thus, the various uses must be evaluated in terms of their usefulness and validity. A recent study by Dana et al. (1983) found that most authors agree on the instrument's ability to diagnose organic brain pathology or neurological impairment. They also found nine of twelve clinicians favored the test as a measure of intelligence.

Emotional indicators may be found by examining the individual's general approach to the task and behavioral tendencies. Despite little supporting evidence of the Bender Gestalt's ability to infer personality traits, Dana et al. (1983) found that six of twelve professionals would use the test for psychopathological descriptions and seven would use the test as a projective description of personality. Holmes, Dungan and Medlin (1984) interpret

edging and closure difficulty on Bender Gestalt performance as signs of anxiety, interpersonal difficulty, and security concerns. However, the researchers cautioned against using the drawing styles as a basis for personality trait inferences. Gordon (1982) found that central placement of the first Bender Gestalt figure may be a sign of emotional disturbance as central placement was significantly higher among clinic referred children. He concluded that further research is needed in this area for better discriminative abilities.

As a test to detect brain dysfunction, it has given rise to criticisms, especially among neuropsychologists (Lacks, 1982). The practice of a single test administration implies a unitary view of brain functioning and neuropsychologists see this view as naive with little recognition of the neurological complexities involved.

Other variations of the Bender Gestalt include administration and stimulus material differences. Despite manual development over thirty years ago, there is still no single standard administration procedure. The instructions typically include the use of a medium soft lead pencil, unlined $8\frac{1}{2}$ by 11 inch paper, and a smooth writing surface but there is no uniformity of these instructions. Minor variations of the stimulus cards have also been found which include modifications of designs, depending upon the publisher (Dana et al., 1983).

The scoring system itself has been subject to variations. At least eight different scoring techiniques have been developed in the Bender Gestalt's history with initial focus upon the development of a scoring system which could discriminate between diagnostic groups (Mermelstein, 1983). Although the test is fairly successful in discriminating between brain-injured and non brain-injured patients and psychotic from non-psychotic clients, attempts

to distinguish severe functional disorders from brain damage remained somewhat unsuccessful (Mermelstein, 1983).

Billinslea, Hain, Hutt, Koppitz (Field, Bolton, & Dana, 1982) have all developed scoring systems for the Bender Gestalt which are limited to the specifics of the design, form, and purposes of the originator. They claim to measure a variety of clinically relevant constructs such as organic learning disability, ego strength, and various types of psychopathology (Field, et al., 1982) with little consistency.

The various scoring systems can be beneficial for comparisons but they obstruct communication. For example, when a scoring system demands a standard where no standard exists, conflicting research can be expected as a result. Some clinicians prefer an intuitive and global scoring approach while others prefer one of the many developed scoring systems. When each researcher has a unique system of interpretation and scoring, it is difficult to gain from the research studies and apply findings to actual practice.

Koppitz (1975) reports test-retest correlations ranging from .81 to .90 over two week intervals for children in the primary school grades. Research studies cited by Koppitz indicate that both the developmental scores and test performances are stable and reliable over time. In addition, it was noted that the scores improve at an expected rate for normal children with an error range of 12.1 to 15.9 for kindergarten students and 4.7 to 5.8 for second grade students.

Several researchers have compared the Bender Gestalt test scores of boys and girls and noted insignificant differences between the two groups (Koppitz, 1975). Any sex differences that were noted tend to disappear as the child matures (Koppitz, 1975) most notably after second grade.

The Revised Developmental Test of Visual Motor Integration (VMI-R)

is a second widely used instrument for the assessment of visual motor abilities (Wright and Demers, 1982). The test consists of twenty-four geometric forms, arranged in progressive order of difficulty, that are to be copied. It can be used for all ages, however, it was primarily designed for preschoolers and early school age children.

The Developmental Test of Visual Motor Integration (VMI) was originally designed to serve as a screening instrument to quickly detect early learning or behavior disorders. Test norms were obtained in 1967 with an update in 1981. Because the VMI is newer, there is limited research available. The VMI manual remains a main source of information concerning the VMI.

When an instrument undergoes revision and restandardization it is important to examine the changes. The VMI recently underwent such a revision and differs from the earlier version in many respects. Although the geometric designs remain the same, a number of improvements were made in the VMI. First, the standardization was based upon a sample population of 3090 children rather than 1039 children of the earlier version (Breen and Siewert, 1983). The new standardization resulted in a second change, the age equivalent scores were reduced from 2-10 through 15-11 to 2-11 through 14-6 (Breen and Siewert, 1983). Thirdly, factors that were taken into account in the first edition, including gender, socio-economic status, ethnic background were not divided into separate factors in the latest revision. These factors were used for population stratification. Finally, the VMI-R now reports standard scores ($\bar{X}$=10, SD=3) and percentile ranks which should be useful for statistical comparisons (Breen and Siewert, 1983).

The VMI-R manual reports a median scorer reliability of .93 with concurrent validity reports correlating visual motor integration with handwriting. Beery reported that visual motor integration measures were rated significantly

higher than measures of general intelligence, finger dexterity and visual perception for handwriting abilities.

The VMI-R may be considered a valuable predictor when used in combination with other measures. It is especially beneficial when used with auditory vocal association measures for predicting school achievement, as reported by the manual. Beery also states it is particularly sensitive in predicting high risk boys in kindergarten who later showed reading problems. The predictive ability tends to decline as children grow older.

There is little information available concerning emotional indicators, variations of scoring and other clinical uses of the VMI-R. This limitation is probably due to its youth in the field. There is a great need for further investigation of the VMI-R and its applications in everyday practice.

## Literature Review

Two of the most widely used standardized instruments for the assessment of visual-motor abilities are the Bender Gestalt and the VMI-R (Wright and Demers, 1982). Both tests require the reproduction of a geometric design from a model and give age equivalent scores, standard scores and percentiles. They also claim to measure the child's ability to coordinate visual perception with a motor response. In turn, the coordinated response is assumed to be related to the learning of special academic skills, such as reading and math (Wright and Demers, 1982). Some school psychologists use either the Koppitz or Beery scoring systems for the Bender Gestalt despite indications that the measures are not equivalent.

Although the tests purport to measure the same entity, scoring and score interpretation may not be interchangeable. The Bender Gestalt measures children's abilities ages five through eleven and the VMI measures ages two to fifteen. Armstrong and Knopf (1982) compared performance

on the Bender Gestalt and VMI and reported age level discrepencies. They also noted that normal children made fewer errors on the Bender, which has a lower ceiling and more lenient scoring systems.

Comparisons of the VMI, VMI-R, and the Bender Gestalt by Breen and Siewert (1983) report adminstration and scoring differences. The Bender includes the copy of nine designs without boundary limitations and the scoring is based upon rotation, integration, and distortion of shape errors. All nine designs are scored. The VMI and VMI-R includes twenty-four designs but testing is discontinued after three consecutive failures. Each design is copied within a specific boundary which has long been a distinguishing feature of the VMI. Professionals often believe that younger children and those with learning problems will benefit from the structure boundaries provide. It would seem likely that subjects would perform better on the VMI, but research has not supported this position. Breen and Siewert (1983) reported that indiscriminate selection of the VMI, VMI-R, and the Bender Gestalt is inappropriate. The tests offer differing results that could have an effect upon certain identification procedures. They also reported that the VMI-R appears to be a superior tool to the original VMI or even the Bender Gestalt (Breen and Siewert, 1983).

An area of concern regards gender differences and performance on tests of visual motor coordination. Most studies have not found significant differences between the scores of boys and girls in the first through fifth grades (Karr, 1982). Because learning problems are typically more prevalent among boys than girls, any screening instrument should be evaluated in terms of gender discriminative abilities. Because learning difficulties that can be detected early are important for future educational implications, gender differences prior to the first grade is an area in need of future

Purpose

Any assessment tool that is used as a contributor to educational decisions should be evaluated in terms of effectiveness. This is especially true when two similar tools exist and are often used interchangeably. The Bender Gestalt and the VMI-R both claim to measure visual motor coordination but utilize different approaches. The tests are often used as equal instruments which implies equality in norms, scoring criteria and age equivalent results. Such an indication may not be justified. The purpose of this study is to compare performance on the Bender Gestalt and The Revised Developmental Test of Visual Motor Integration across gender and age. Since earlier research has focused upon handicapped populations, it is important to organize comparisons for the non-educationally handicapped student. Therefore, the study is unique in the population that is to be considered. Earlier research focused upon special populations, such as learning disabled students, whereas the current study considers students placed in regular self-contained classes.

Based upon prior supportive findings, it is hypothesized that the Bender Gestalt performance, using the Koppitz scoring system, will be significantly higher than that of the VMI-R. It is further suggested that there will be significant performance differences between gender and age groups when considering the mean number of errors. Considering the developmental differences of boys and girls at these particular ages, it is further suggested that girls will earn significantly higher scores at the younger ages. In addition, it is suggested that boys narrow the gap in fine motor skills by age seven.

# CHAPTER 2

## Methodology

### Subjects

The Bender Gestalt and The Revised Developmental Test of Visual Motor Integration were administered to 129 second grade and kindergarten students. The groups were divided as follows: second grade girls (n=36, $\bar{X}$ age=7.9); kindergarten girls (n=40, $\bar{X}$ age=5.6); second grade boys (n=31, $\bar{X}$ age=7.7); and kindergarten boys (n=22, $\bar{X}$ age=5.6).

The 129 subjects were selected from regular education second grade and kindergarten classes pending parental permission. All subjects were enrolled in regular education classes in a rural county of Middle Tennessee. The subjects were predominately white and of lower to middle socio-economic status. Children who were developmentally delayed were not included in the sample. None of the students suffered visual, hearing or other physical impairments which could alter performances.

The mean performance of the present sample is consistent with the means reported by Koppitz for the age groups. The present sample may then be considered a normally distributed sample of subjects.

### Instrumentation

The Bender Gestalt is primarily used to assess the visual motor abilities of children aged five to twelve. The test is used for a number of different purposes including intelligence, neurological and emotional measures and reports reliability factors ranging from .88 to .96. Administration instructions usually include the use of soft lead pencil, unlined $8\frac{1}{2}$ by 11 inch paper, and a smooth writing surface. The Bender Gestalt requires the reproduction of nine geometric figures by the subject. There are no boundary, time

or erasure restrictions.

All of the Bender Gestalt test protocols were scored by the examiner using the Koppitz scoring criteria. Scoring is based primarily upon rotations, distortion of shape, and perseveration. Koppitz's error score system has a maximum of twelve errors on the test and the raw scores indicate the errors committed. The scoring system assumes that the lower the raw score the higher visual motor abilities. The raw scores are converted to standard scores ($\bar{X}$=100, SD=15), percentile rank, and age equivalency measures.

The Revised Developmental Test of Visual Motor Integration (VMI-R) is another widely used assessment tool for visual motor capabilities of children aged 3 to 15. The test was originally designed as a screening instrument of early learning disorders.

It was restandardized in 1981, but the contents of the test remained unchanged. Test administration includes the presentation of 24 geometric forms in progressive difficulty in a test booklet. The subject is required to copy the form directly underneath the original in a prescribed area.

The VMI-R manual rates each response according to line definitions, shape, and spatial orientations. Every correct response is credited with one point up to three consecutive failures, at which time testing is discontinued. Therefore, the higher the VMI-R raw score, higher visual motor abilities are indicated. This is in direct contrast to Koppitz's scoring criteria of the Bender Gestalt and must always be considered when comparing the two instruments. Raw scores can be converted into standard scores, ($\bar{X}$=10, SD=3), percentiles, and age equivalencies.

In addition to the scoring differences, there are two other major differences between the Bender Gestalt and the VMI-R. First, the Bender Gestalt allows the subject to erase during administration and the VMI-R

instructions forbid erasing. The scoring criteria of the Bender Gestalt goes as far as to note erasures as clinically significant emotional indicators.

The second difference between the two tests is the standard scores produced by each instrument. The Bender Gestalt reports a mean of 100 and standard deviation of 15 while the VMI-R reports a mean of 10 with a standard deviation of 3. In an effort to equalize the scores for comparisons, the following formula was utilized ($z=\bar{X}-X/SD$) to change the VMI-R raw scores to z-scores. Using this method, the z-scores were then converted to standard scores with a mean of 100 and standard deviation of 15 and may be used in statistical comparisons.

Procedure

Both tests were administered to all the subjects during a two week period. The VMI-R was administered to kindergarten students (n=62) and after a two week period the Bender Gestalt was administered to the same group. Conversely, the Bender Gestalt was administered to all second grade students (n=67) followed by the VMI-R after a two week period. The time lapse served to minimize practice effects and other intervening variables that could affect performance.

All test administration took place in the student's regular classroom where they were allowed to feel comfortable and at ease. All of the test protocols were scored by the examiner according to the Koppitz scoring criteria or the VMI-R manual described earlier in this paper.

# CHAPTER 3

## Results

A series of two tailed t-tests were used to analyze the data comparing the Bender Gestalt and Revised Developmental Test of Visual Motor Integration. The two tests were compared against age groups in an attempt to compare the use of the Bender Gestalt and the VMI-R and the interchangeability of these instruments in given situations.

A summary of the subject results is included in Table 1 which denotes the average performances of each group. In an effort to summarize the group performances, Table 1 includes the mean ages, raw and standard scores for each instrument of each group. Further statistical results are included in Tables 2 through 4.

Table 2 utilizes the raw scores for age group comparisons for each group. The group, t score and significance level are included in this table. There appears to be a significant difference between the age groups, as expected.

Table 3 utilizes the standard scores of the VMI-R and the Bender Gestalt for inter-test comparisons among the age groups. There does not appear to be strong differences between the instruments in most situations.

In an effort to compare the gender performance of the subjects, a series of t-tests, using the standardized scores, were used to analyze the data of the different subject groups. The results are shown in Table 4 and as expected there was a significant difference between the kindergarten and second grade students. All subject groups improved significantly over the two year developmental period. In addition, there is a significant inter-test difference between the VMI-R and the Bender Gestalt for second grade

boys with $t=1.964$ ($p<.05$). There are no other notable significant differences between the groups.

# CHAPTER 4

## Discussion

The results indicate, as expected, a statistically significant difference between the age groups on each test. For example, all second grade children performed significantly higher than kindergarten children on the same test. There do not appear to be notable differences between the genders on either test at either age. The present findings support the hypothesis that there is a difference between the age groups. However, the hypothesis that there will be a difference between genders was not supported. There was not a significant difference at the kindergarten level , therefore, equality is suggested at the second grade level.

A second question examined in the study addressed the interchangeability of the Bender Gestalt and the VMI-R. The hypothesis that the Bender Gestalt performance would be higher is partially supported by the study results. It was suggested that there will be a statistical difference between the VMI-R and the Bender Gestalt, with the latter yielding higher scores. There is a statistical difference between the standard scores of second grade boys. Higher Bender Gestalt scores of this study are consistent with the results of Breen and Siewert (1983) and Wright and Demers (1982).

The results of this study hold several implications for the school psychologist in practical use. Foremost, it appears that the interchangeable use of the two tests of visual motor coordination may not be warranted in given situations. The results of this study indicate the two instruments should not be used equally for boys, especially at the second grade level. The standard scores from each test may be inconsistent and interpreted

differently.

Secondly, there does not appear to be a difference between the genders as measured by either test. Both groups perform approximately equal in visual motor abilities. Therefore, there does not appear to be a difference in the fine motor and visual skills of children, even at the younger levels as suggested by some researchers.

Finally, there is a great need for further research examining the differences between the two instruments measuring visual motor coordination. Since it appears the test may offer differing results, which may influence educational placements, indiscriminate usage appears inappropriate. Additional research is warranted and as a precaution, school psychologists may wish to consider the findings of this and other research when considering a visual motor assessment tool.

# CHAPTER 5

## Summary

The Bender Visual Motor Gestalt Test (Bender Gestalt) is currently the fifth most frequently recommended instrument in clinical assessment (Dana, et al, 1983). It is a convenient assessment tool in terms of time and effort invested. The test purports to measure the visual motor abilities of children aged five to twelve. It has been used for a variety of different purposes including intelligence and emotional indicators. Administration and scoring is relatively easy and time efficient. The administration time is typically five to ten minutes. The subject is required to copy nine geometric forms on 8½ by 11 inch unlined paper. There are no time, boundary or erasure constrictions.

The VMI-R is a second popular visual coordination assessment tool in use today. The test consists of twenty-four geometric forms that are copied until discontinuation criteria is met. All of the forms are arranged in progressive order of difficulty and must be reproduced within a prescribed area. The administration procedure does not allow erasing so that subjects must respond correctly initially.

The VMI-R underwent a drastic restandardization in 1981. Although no changes were made in the geometric forms, several internal changes were noted. The revised VMI changed the standardization group size, age equivalency scores and population stratification. A major result of the restandardization is that now the VMI-R reports standard scores. Since the VMI-R is newer there is little available data on its applications and research comparisons. A call for further study is noted by several researchers cited earlier.

The purpose of the present study was to compare the Bender Gestalt and VMI-R performance of second grade and kindergarten children. Both tests were administered to subjects selected from a rural Middle Tennessee county after obtaining parental permission. The subjects were enrolled in regular education classes where the testing occurred. The subjects were divided into groups of two, kindergarten and second grade, and separated as male or female for statistical analysis. A significant difference was found among the age groups when considering the mean errors. A difference was found between the VMI-R and Bender Gestalt scores for second grade boys but not for kindergarten boys or girls, or second grade girls.

# REFERENCES

Armstrong, B., & Knopf, K. (1982). Comparison of the Bender Gestalt and the Revised Developmental Test of Visual Motor Integration. Perceptual and Motor Skills, 55, 164-166.

Beery, K. (1982). Revised administration, scoring and teaching manual for Developmental Test of Visual Motor Integration. Cleveland: Modern Curriculum Press.

Breen, M., & Siewert, J. (1983). The Revised Test of Visual Motor Integration: its relation to the Test of Visual Motor Integration and Bender Visual Motor Gestalt Test for regular education students. Psychology in the Schools, 20, 304-306.

Dana, R., Field, K., & Bolton, B. (1983). Variations of the Bender Gestalt Test: Implications for training and practice. Journal of Personality Assessment, 47 (1), 76-83.

Field, K., Bolton, B., & Dana, R. (1982). An evaluation of three Bender Gestalt scoring systems as indicators of psychopathology. Journal of Clinical Psychology, 38 (4), 838-842.

Gordon, A. (1982). Central placement of Bender Figure A by clinic referred children and non-referred children. Perceptual and Motor Skills, 54, 1231-1242.

Holmes, C., Duncan, D., & Medlin, W. (1984). Reassessment of inferring personality traits from Bender Gestalt drawing syles. Journal of Clinical Psychology, 40 (5), 1241-1243.

Karr, S. (1982). Bender Gestalt performance of Sierra Leone West African children from four subcultures. Perceptual and Motor Skills, 55,

Koppitz, E. (1975). The Bender Gestalt Test for Young Children, Volume II. New York: Grune & Stratton.

Lacks, P. (1982). Continued clinical popularity of the Bender Gestalt Test: Response to Bigler and Ehrfurth. Professional Psychology, 13, 677-680.

Mermelstein, J. (1983). A process approach to the Bender Gestalt Test and its use in differentiation of schizophrenic, brain damaged, and medical patients. Journal of Clinical Psychology, 39 (2). 173-181.

Wright, D., & Demers, S. (1982). Comparison of the relationship between two measures of visual motor integration and academic achievement. Psychology in the Schools, 19, 473-477.

# TABLES

Table 1

Summarization of the Bender Gestalt and the VMI-R Raw Scores and the Standard Scores for Gender and Age Groups

| Mean | K Girls | 2nd Girls | K Boys | 2nd Boys |
|---|---|---|---|---|
| $\bar{X}$ Age | 5.19 | 8.85 | 5.60 | 7.74 |
| $\bar{X}$ Bender Gestalt S.S. | 104.05 | 95.97 | 106.27 | 98.25 |
| $\bar{X}$ VMI-R S.S. | 94.50 | 95.69 | 95.90 | 92.90 |
| $\bar{X}$ Bender Gestalt Raw | 8.85 | 5.47 | 8.72 | 4.87 |
| $\bar{X}$ VMI-R | 9.65 | 14.38 | 9.81 | 13.80 |
| n= | 40.00 | 36.00 | 22.00 | 31.00 |

N=129

Table 2

Raw Score Comparisons of the Bender Gestalt and the VMI-R, Respectively for Age Groups

| Instrument | Age Group | t |
|---|---|---|
| VMI-R | Boys (2nd & K) | 6.104 * |
| VMI-R Raw | Girls (2nd & K) | 14.310 * |
| VMI-R Raw | All Subjects | 2.256 |
| Bender Gestalt Raw | Boys (2nd & K) | 4.406 * |
| Bender Gestalt Raw | Girls (2nd & K) | 4.729 * |
| Bender Gestalt Raw | All Subjects | .799 |

* $p<.01$

Table 3

Comparison of the Bender Gestalt and the VMI-R Standard Scores for Gender and Age Groups

| Instrument | Age Group | t |
|---|---|---|
| VMI-R & Bender Gestalt | K Girls | .7301 |
| VMI-R & Bender Gestalt | 2nd Girls | .0529 |
| VMI-R & Bender Gestalt | K Boys | 2.3950 |
| VMI-R & Bender Gestalt | 2nd Boys | 1.9640 * |

* $p<.05$

Table 4

Raw Score Comparisons by Gender of the Bender Gestalt and the VMI-R, Respectively

| Instrument | Age Group | t |
|---|---|---|
| Bender Gestalt | 2nd Grade males & females | .3778 |
| Bender Gestalt | K males & females | .5060 |
| VMI-R | 2nd Grade males & females | .4696 |
| VMI-R | K males & females | .9904 |

# APPENDIX

# PARENT PERMISSION FORM

Dear Parent:

As partial fulfillment of the requirements of the Master's Degree at Austin Peay State University, I am conducting a research project within the Dickson County Schools. The procedure will include the group administration of two tests of visual motor coordination. The purpose of the tests is to measure visual perception and fine motor abilities. The tests require the child to copy geometric figures on paper. The tests will be administered in group settings on two separate occasions. Not all the children who volunteer will be tested. Two weeks after the first test has been completed, the second test will be administered.

The only information that will be required by each student is birthdate, sex, year in school, and preschool experience.

As an effort to protect confidentiality and personal respect, names will be eliminated on all forms and there will not be personal interpretations. The test results will not be made available to school personnel nor will they be placed in the child's records.

Although individual results are not available, the study results will be available at your child's school.

I would greatly appreciate your help in this work. If you need additional information or have any questions, please feel free to contact me at 446-4781.

Thank you,

April C. Fussell
Graduate Student
Austin Peay State University

I give permission for April C. Fussell to administer the Bender Visual Motor Gestalt Test and the Developmental Test of Visual Motor Integration to my child,_____.

I understand the tests are paper and pencil tests that will require approximately 20 minutes for each test. I also understand that I will not receive any personal interpretations and explanations other than the purpose of the tests. I also will not be held liable for financial obligations of the test.

_____
Parent or Guardian

AGE: _____
SEX: _____
BIRTHDATE: _____
YEAR IN SCHOOL: _____
PRE-SCHOOL EXPERIENCES: _____