

**A COMPARISON OF THE WECHSLER  
INTELLIGENCE SCALE FOR CHILDREN AND THE  
WECHSLER INTELLIGENCE SCALE FOR CHILDREN -  
REVISED WITH SECOND GRADE STUDENTS**

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A COMPARISON OF THE  
WECHSLER INTELLIGENCE SCALE FOR CHILDREN AND  
THE WECHSLER INTELLIGENCE SCALE FOR CHILDREN-REVISED  
WITH SECOND GRADE STUDENTS

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An Abstract  
Presented to  
the Graduate Council of  
Austin Peay State University

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In Partial Fulfillment  
of the Requirements for the Degree  
Master of Arts

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by  
Frances Forbes Wade

May, 1977

## ABSTRACT

The purpose of this study was to obtain comparative data on the Wechsler Intelligence Scale for Children and the Wechsler Intelligence Scale for Children-Revised, when both instruments were administered to the same subjects, at one age group. It was felt to be important to determine whether different age groups continue to follow the same pattern suggested in the previous research, in which children scored higher on the WISC than on the WISC-R.

The subjects were 26 children enrolled in the second grade at Morningside Elementary School in Christian County, Kentucky. The WISC and WISC-R were administered individually to each subject, with an interval of 30 to 41 days between the first and second tests. Half of the subjects were given the WISC first, and half of the subjects were given the WISC-R first.

Means and standard deviations were computed for Verbal, Performance, and Full Scale IQ scores, and for the 10 subtest scaled scores. The t-test for related measures was used to determine the presence of significant differences between the means. WISC Verbal and Full Scale IQ scores, and the scores on the Arithmetic,

Similarities, Picture Arrangement, Block Design, and Coding subtests were significantly higher than the corresponding scores on the WISC-R, at the .05 level of confidence. WISC-R scores on the Picture Completion subtest were significantly higher than on the WISC.

The results support the previous research, suggesting that second grade children tend to score higher on the WISC than on the WISC-R.



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A Thesis  
Presented to  
the Graduate Council

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In Partial Fulfillment  
of the Requirements for the Degree  
Master of Arts

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by  
Frances Forbes Wade

May, 1977

To the Graduate Council:

I am submitting herewith a Thesis written by Frances Forbes Wade entitled "A Comparison of the Wechsler Intelligence Scale for Children and the Wechsler Intelligence Scale for Children-Revised with Second Grade Students". I recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts, with a major in Psychology.

Elizabeth H. Stokes  
Major Professor

We have read this thesis and  
recommend its acceptance:

Linda Rudolph  
Minor Professor  
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Accepted for the  
Graduate Council:

Wayne E. Stander  
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## CHAPTER I

### INTRODUCTION TO THE PROBLEM

Since the development of the Wechsler Intelligence Scale for Children (WISC) by David Wechsler in 1949, it has become one of the most widely used individual intelligence tests for school-age children. Numerous research studies have been conducted concerning its use with different student populations, its validity and reliability, and its correlation with other instruments. Much of this research has been summarized by Zimmerman and Woo-Sam (1972).

A new version of the WISC, the Wechsler Intelligence Scale for Children-Revised (WISC-R), was published in 1974. It includes many items from the WISC, some of which were modified. A number of new items were added to strengthen the reliability of each subtest (Wechsler, 1974). The age range of the scale was changed from the five to fifteen year range of the WISC to a six to sixteen year range on the WISC-R. The order in which the subtests are administered was changed, such that Verbal and Performance subtests are given in alternating order. The directions for administration and scoring were also revised.



Wechsler (1974) correlated the WISC-R with the Wechsler Preschool and Primary Scale of Intelligence, the Wechsler Adult Intelligence Scale, and the Stanford-Binet Intelligence Scale (Form L-M, 1972 norms). He reported coefficients of correlation of .95 between Full Scale IQs on the WISC-R and WAIS. Correlation between WISC-R and WPPSI Full Scale IQs was .82. The WISC-R was compared to the Stanford-Binet at four age levels, with coefficients of correlation ranging from .63 to .82, with an average correlation of .73. Similar high correlations were reported for Verbal Scale IQs and Performance Scale IQs.

In an attempt to estimate the magnitude of the differences between scores obtained from the WISC-R and those from the WISC, Hamm, et al. (1976) studied 48 EMR students, divided into two age groups and matched for sex and race. The results indicated that the WISC-R yields significantly lower Verbal, Performance, and Full Scale IQ scores. The authors suggested that considerable care be exercised when assigning special class placement based largely upon WISC-R IQ scores, since more students will be classified as "Mentally Deficient" as a result of its administration.

Schwarting (1976), in a similar study, administered the WISC and WISC-R to 58 children, representing an age range from six to fifteen years, in grades one through eight. One-half of the sample was given each instrument first. Intervals between the two tests for each subject varied from 60 to 67 days. Significantly higher Verbal, Performance, and Full Scale IQ scores were reported on the WISC. Schwarting computed regression equations for predicting WISC-R scores from WISC results, based on the data obtained in the study.

Brooks (1977), in an attempt to determine the relationships among the WISC, WISC-R, Form L-M of the Stanford-Binet (S-B), and the Wide Range Achievement Test (WRAT), selected thirty children, ages 6 through 10, who had been referred for psychological evaluation. Half of the children were given the WISC-R, S-B, WISC, WRAT, and half of the children were given the WISC, S-B, WISC-R, and WRAT in those orders to balance the Wechsler scales for practice effect. Each child was given the total test battery in one to two days. Verbal, Performance, and Full Scale IQ scores on the WISC-R were found to be significantly lower than those obtained on the WISC. Brooks pointed out the importance of explaining these differences when reporting to both teachers

and parents following re-evaluation of a child previously tested on the WISC.

Hartlage and Steele (1977) compared WISC, WISC-R, and WRAT scores with cumulative school grades for a sample of 36 children, ages 7 to 9, with a mean Slosson IQ of 90. The children were tested on the WISC at the mid-second-grade level, and were retested on the WISC-R at least six months later. The WRAT was given at the time of the WISC-R evaluation. Data obtained indicated that WISC Full Scale, Verbal, and Performance IQ measures were two, one, and two points higher than respective WISC-R scores. Whether or not these differences were significant was not reported. Standard deviations for WISC-R scores averaged two points greater than those from the WISC.

Kaufman and Van Hagen (1977) administered the WISC-R to a group of 80 mentally retarded children, aged 6 to 16, primarily to assess the continuity of measurement between the WISC and WISC-R. Mean scaled scores were computed for each of the subtests. The 10 regular tests were ranked according to difficulty, then compared to the rankings on the WISC reported in two earlier studies. High correlation coefficients were reported among the rankings suggesting that the changes made in the WISC-R



did not alter the characteristic test profile for retarded children. Data concerning any significant differences between WISC and WISC-R scores were not reported.

Blackman, et al. (1977) administered the WISC and WISC-R to a sample of 48 children. The sample contained 16 white children, 16 black children, and 16 chicano children. An equal number of boys and girls, from two age groups, ages 7 and 10 were included in the sample. The data obtained were then analyzed for differences between ethnic groups, age groups, and sex groups. No significant differences in Verbal, Performance, and Full Scale IQ scores were found among ethnic groups, between males and females, or between age groups. Verbal IQ scores on the WISC were found to be significantly higher than the WISC-R for the total sample. No significant differences were found on Performance and Full Scale IQ scores for the total sample. The sample was then divided into three ability levels according to WISC-R Full Scale IQ scores. Above Average included those children scoring 110 and above; Average included those scoring 90 to 109; Below Average included those scoring below 90. The Below Average group had significantly larger differences between the two tests than did the other two groups, with the WISC scores being



significantly higher than the WISC-R scores. The Average group scored slightly higher on the WISC, though not significantly. The authors suggested two possible explanations for this occurrence. The standardization of the WISC-R suggests that all children have increased in abilities measured on the test over the 1949 WISC standardization, but perhaps average and above average children have increased more than below average children. It was also suggested that the content changes in the WISC-R presented more difficulty to below average children.

In a second study, Blackman, et al. (1977) selected a sample of twenty-two children, composed of 4 blacks, 11 whites, and 7 chicanos. Each child was administered the WISC and WISC-R. These data were then combined with that of the first study, forming a sample of 70 children, which included 20 blacks, 27 whites, and 23 chicanos. WISC Performance and Full Scale IQ scores were significantly higher than on the WISC-R. There was no significant difference between Verbal scores. In an analysis of subtest scores, it was found that the subjects scored significantly higher on the WISC on Similarities, Arithmetic, Block Design and Coding. There were no changes made in the Coding subtest from the WISC to the WISC-R. Therefore, it was concluded

that the difference obtained was due to the standardization alone. It was found that subjects scored significantly higher on the WISC-R Comprehension subtest. It was suggested that this difference might be due to the fact that the examiner is allowed to ask for a second reason on those items requiring two reasons in order to score two points. This was not allowed on the WISC. The authors concluded that there is a definite possibility that the lower functioning child is being underestimated with the WISC-R because of its standardization.

The primary purpose of this study was to obtain comparative data on the WISC and WISC-R, when both instruments have been administered to the same subjects, at one age level. The number of subjects at any one age level has been somewhat limited in previous research. In the author's opinion, it is important to determine if different age groups continue to follow the pattern suggested by the previous research data.

## CHAPTER II

### METHOD

#### The Sample

Permission was obtained from the Christian County School System, Christian County, Kentucky, and from the principal of Morningside Elementary School to conduct this study at Morningside Elementary School. A total of 95 children were enrolled in the three second grade classes at the school. A letter asking for the parent's permission and identifying data was sent home with each child. A copy of the letter is included in Appendix A. Fifty-five children volunteered to participate in the study with parental permission.

In Kentucky, a child must be six years of age on or before December 31 of the year in which he/she enters school. Therefore, the latest possible birthdate of a child enrolled in the second grade at the time of this study would have been December 31, 1969. An age range of eighteen months was selected for this study in order to include a sampling of children who might have been retained one year in school. From the number who volunteered, 50 had birthdates between July 1, 1968 and December 31, 1969. From this group, 13 boys and 13 girls

were randomly selected, for a total of 26 in the sample.

The subjects ranged in age from 7 years, 1 month to 8 years, 6 months, with a mean age of 7 years, 9 months, at the time of the first test. There were 21, or 80.8 percent, white subjects, and 5, or 19.2 percent, black subjects. This ratio of blacks to whites is similar to the ratio in the WISC-R standardization sample of 7½ year olds which contained 84.5 percent white and 15.5 percent non-white for the total sample (Wechsler, 1974). The 1974 standardization sample of 7½ year olds residing in the South included 70.3 percent white and 29.7 percent non-white. The ratio of white and non-white included in the sample for this study falls between the ratio for the total standardization sample of 7½ year olds and the sample of 7½ year olds residing in the South.

The subjects were randomly assigned to two groups, with one group being administered the WISC first, and the other group being administered the WISC-R first. Each child was then given the second test after an interval of from 30 to 41 days, with the mean number of days between testing being 33.3 days.

#### Apparatus

Permission form. A letter requesting parental



permission and identifying information was sent home with each child. The parents were given a choice of having their child's scores placed in the cumulative record. The parents were also given the opportunity to have some general information concerning their child's performance on the tests reported to them, if they so desired. A copy of this letter is included in Appendix A.

Description of the instruments. The WISC is an individual intelligence test designed for use with children aged five to fifteen years. The test consists of ten regular subtests, with two optional subtests. The test yields a Verbal IQ score from the five verbal subtests, a Performance IQ score from the five performance subtests, and a Full Scale IQ score from the ten subtests. The IQ scores obtained on this test are deviation IQ scores.

The WISC-R is the revised version of the WISC. It is intended for use with children six through sixteen years of age, a principle change from the WISC. All items from the WISC Digit Span, Mazes, and Coding subtests were retained. At least half of the items from all other subtests, except Picture Completion, were retained intact or with slight modification (Wechsler, 1974). The order in which the tests are administered was changed,

with Verbal and Performance subtests now being given in alternating order.

The nature of the changes made on the WISC-R are described in detail, with specific examples cited, in the WISC-R manual (Wechsler, 1974). A brief description of changes made in the specific subtests is presented in the following paragraphs.

On the Information subtest, a number of items that seemed relatively uncommon, unimportant, or culturally unfair were eliminated. New items involving everyday objects were added. Starting points for different age groups were changed.

On the Similarities subtest, the four analogy items from the WISC were eliminated. Some new items were added, increasing the total number of items from 16 to 17. Words felt to be unfamiliar to some groups of children were eliminated. The first four items are scored 1 or 0. If the child does not give 2-point responses to items 5 or 6, the examiner gives an example of a 2-point response.

New materials for the items that require counting were introduced in the Arithmetic subtest. The prices and wages cited in some items were changed to reflect current values. Other items were rewritten to be more

child-oriented. Starting points for some age groups were changed and the time limits for some problems were changed. The total number of items was increased from 16 to 18 items.

Almost half of the words on the WISC vocabulary subtest were eliminated, including those that were out of date, had common homonyms or slang meanings, were highly specific to a particular field, or were too difficult, even for bright adolescents. New items were added and several verbs and adjectives were included to make the list of words more varied in parts of speech. The number of words was reduced from 40 to 32 words. The starting points for different age groups were changed, and all items are scored on a 2, 1, or 0 basis.

Several items were eliminated from the Comprehension subtest, including some whose content had been questioned by test users and others that were considered to be too adult-oriented. A number of new items were added and the overall length was increased from 14 to 17 items. If the child only gives one idea on an item requiring two ideas for full credit, the examiner is instructed to ask him for a second response. On the WISC, the examiner was not instructed to do this. The child had to spontaneously give two ideas in order to receive full



credit. The discontinue rule was changed from 3 to 4 consecutive failures.

A few items were eliminated from the Picture Completion subtest and a number of new pictures added to improve the test's reliability and to include more items depicting female and black subjects. The total number of items was increased from 20 to 26 items. The time limit for exposing each card was increased from 15 to 20 seconds.

On the Picture Arrangement subtest, the items which required the child to assemble cut-up pieces of a picture were eliminated. Two of the items which required the child to arrange the pictures in an order that tells a sensible story were eliminated. Four of the items were shortened by one card and three of the items were redrawn. Several new items were added, increasing the total number of items from 11 to 12 items. The directions for administration were changed so as to insure that the child has an ample opportunity to understand the task. On the first two items, if the child fails on the first trial, he is shown the correct arrangement and told the story of the pictures before he attempts the second trial. On the third and fourth items, if the child fails on the first trial, he is shown the



card that belongs first in the sequence and asked to complete the story using the remaining three cards. Success on the second trial of these four items earns partial credit. For items which provide bonus points for quick perfect performance, the child is urged to work quickly and to tell the examiner when he is finished. The discontinue rule was changed from 2 to 3 consecutive failures. Three points rather than four for the correct arrangement is given for any item having time bonuses, and the maximum number of time bonus points was reduced from 3 to 2 points.

The two-color blocks from the WAIS were adopted for the Block Design subtest, rather than the four-color blocks from the WISC. A transitional item was inserted between the third and fourth designs of the WISC to show the child how two adjacent split-color blocks look before the black guidelines are removed. The child is required to pass the first trial of Design 3 in order to receive credit for the first two designs. On the WISC, success on either trial was sufficient. The time limit for the nine-block designs was reduced from 150 to 120 seconds. The rules for allotting time bonuses for quick perfect performance were changed.

On the Object Assembly subtest, the automobile

was redrawn to reflect more modern styling, and the manikin was replaced by a young girl. The back of each piece was colored gray to avoid confusion in case it is turned over. A sample item was introduced in order to enable the examiner to demonstrate the nature of the task. A layout shield has been added to facilitate laying out the pieces for each item. The scoring system is now based on the number of cuts correctly joined. The time limits of the horse and the car were reduced from 180 to 150 seconds, and the allotment of bonus points for quick perfect performance was altered.

Coding A and Coding B are now printed in two colors in a separate booklet which also includes the Mazes. The child is given a pencil with red lead instead of a regular pencil. The symbols remained the same.

The supplementary Mazes subtest has a new difficult item added at the end of the test. The stick figure or "X" at the center of each maze was replaced by a boy or a girl. The mazes are printed in two colors in a separate booklet. There is no penalty if a child lifts his pencil from the paper, nor is crossing a line penalized unless a significant portion of the maze is eliminated. Entrance into any blind alley is scored as an error. The maximum number of errors allowed for

each maze was changed.

The items on the optional Digit Span subtest were unchanged from the WISC. The examiner administers both trials of each item even if the child passes the first trial. Each item is scored 2, 1, or 0 points instead of the child's score consisting of the sum of his forward and backward spans. There are 7 items in the forward series and 7 items in the backward series on the WISC-R, with a maximum possible score of 28 points. The WISC had a maximum possible score of 17 points.

The standardization of the WISC-R was changed to include a proportional representation of non-whites. The standardization sample was stratified by age, race, geographic region, occupation of head of household, and urban-rural residence, in accordance with reports of the 1970 United States Census. A total of 2200 children, representing 11 age groups, were included in the sample.

#### Procedure

The WISC and WISC-R were administered individually to each subject by the author. Only the 10 subtests used computing the IQ scores were administered, which eliminated the Mazes and Digit Span subtests. The tests were administered at the school during the regular school

day. The testing times were arranged to avoid conflicts with special activities in order to facilitate obtaining the maximum performance from the children being tested. Each instrument was scored by the author according to the respective test manuals.



## CHAPTER III

### RESULTS

Means and standard deviations were computed for Verbal, Performance, and Full Scale IQ scores. These data are summarized in Table 1. It should be noted that two of the subjects had birthdays between the first and second tests. As a result, they were administered Coding A at the first testing, and Coding B at the second testing. It was felt that Coding A and Coding B could not be directly compared. The Performance scores for these two subjects were prorated in the computation of the IQ scores, and included in the comparison of the IQ scores. These two subjects, however, were not included in the comparison of the Coding subtest scaled scores.

The mean WISC Verbal IQ score was approximately seven points higher than the mean WISC-R Verbal IQ score. Verbal IQ scores ranged from 72 to 125 on the WISC, with a mean of 103.12, and from 78 to 122 on the WISC-R, with a mean of 96.46. The mean WISC Performance IQ score was approximately three points higher than the WISC-R mean Performance IQ score. Performance IQ scores ranged from 75 to 120 on the WISC, with a mean of 104.77, and from 78 to 126 on the WISC-R, with a mean of 101.62.

TABLE 1

Means and standard deviations of  
Verbal, Performance, and Full Scale IQ scores,  
and subtest scaled scores

	WISC mean	WISC SD	n	WISC-R mean	WISC-R SD
Information	9.35	3.47	26	9.92	2.61
Comprehension	9.46	2.52	26	9.35	2.56
Arithmetic	11.81	2.61	26	9.54	2.86
Similarities	12.12	2.60	26	9.00	2.87
Vocabulary	9.65	2.30	26	9.62	2.21
Picture Completion	9.08	2.19	26	9.81	1.96
Picture Arrangement	11.65	3.20	26	10.35	3.74
Block Design	10.65	2.06	26	9.54	2.66
Object Assembly	10.35	2.97	26	11.19	2.00
Coding	11.88	2.44	24	10.75	2.33
Verbal IQ	103.12	12.83	26	96.46	13.00
Performance IQ	104.77	12.33	26	101.62	11.03
Full Scale IQ	104.19	12.35	26	98.69	12.07

The mean WISC Full Scale IQ score was slightly more than five points higher than the mean WISC-R Full Scale IQ score. Full Scale IQ scores ranged from 77 to 125 on the WISC, with a mean of 104.19, and from 79 to 121 on the WISC-R, with a mean of 98.69. Standard deviations were larger for the WISC Performance and Full Scale scores, and larger for the WISC-R Verbal scores.

The means for the WISC Comprehension, Arithmetic, Similarities, Vocabulary, Picture Arrangement, Block Design, and Coding subtests were higher than the means of the corresponding WISC-R subtests. The means of the Information, Picture Completion, and Object Assembly subtests were higher for the WISC-R. Standard deviations of the WISC Information, Vocabulary, Picture Completion, Object Assembly, and Coding subtests were larger than those of the WISC-R. Standard deviations were larger for the WISC-R on Comprehension, Arithmetic, Similarities, Picture Arrangement, and Block Design.

The t-test for related measures was used to determine the presence of any significant differences between the WISC and WISC-R for Verbal, Performance, and Full Scale IQ scores, and for the 10 subtest scaled scores. This data is summarized in Table 2.

TABLE 2

t - Tests of WISC and WISC-R

Verbal, Performance, and Full Scale IQ scores,  
and subtest scaled scores

	<u>df</u>	<u>t</u>
Information	25	-1.55
Comprehension	25	.204
Arithmetic	25	4.77 **
Similarities	25	6.78 **
Vocabulary	25	.09
Picture Completion	25	-2.21 *
Picture Arrangement	25	2.20 *
Block Design	25	2.31 *
Object Assembly	25	-1.35
Coding	23	2.35 *
Verbal IQ	25	5.08 **
Performance IQ	25	1.59
Full Scale IQ	25	3.82 **

\*  $p < .05$ \*\*  $p < .001$



Results from the  $t$ -tests show WISC Verbal IQ scores to be significantly higher than WISC-R Verbal IQ scores,  $t(25) = 5.08$ ,  $p < .001$ . Full Scale IQ scores on the WISC were also significantly higher than the WISC-R Full Scale scores,  $t(25) = 3.82$ ,  $p < .001$ . The mean Performance score was slightly higher on the WISC, though not significantly.

In analysis of the subtests, it was found that WISC scores on the Arithmetic, Similarities, Picture Arrangement, Block Design, and Coding subtests were significantly higher than the corresponding WISC-R scores: Arithmetic,  $t(25) = 4.77$ ,  $p < .001$ ; Similarities,  $t(25) = 6.78$ ,  $p < .001$ ; Picture Arrangement,  $t(25) = 2.20$ ,  $p < .05$ ; Block Design,  $t(25) = 2.31$ ,  $p < .05$ ; Coding,  $t(23) = 2.35$ ,  $p < .05$ .

Mean scores on the Comprehension and Vocabulary subtests were slightly higher on the WISC, though not significantly.

The mean score on the Picture Completion subtest was significantly higher on the WISC-R,  $t(25) = -2.21$ ,  $p < .05$ . WISC-R scores on the Information and Object Assembly subtests were slightly higher than those on the WISC, though not significantly.

## CHAPTER IV

### DISCUSSION

This study compared the scores earned on the WISC and the WISC-R by second grade children. The results indicate that the WISC yields significantly higher Verbal and Full Scale IQ scores than the WISC-R. It was also found that scores on the Arithmetic, Similarities, Picture Arrangement, Block Design, and Coding subtests were significantly higher on the WISC than on the WISC-R.

The data show that scores on the WISC-R were significantly higher on the Picture Completion subtest.

No significant difference was found between Performance IQ scores, although the WISC mean Performance IQ score was slightly higher than that of the WISC-R.

No significant difference was found between WISC and WISC-R scores on the Information, Comprehension, Vocabulary, and Object Assembly subtests. Means for these subtests were slightly higher on the WISC for Comprehension and Vocabulary, and higher on the WISC-R for Information and Object Assembly.

These results support previous research, suggesting that children tend to score higher on the WISC than on the WISC-R. Hamm, et al. (1976) suggested that more children are likely to be classified as "Mentally Deficient"

on the basis of the WISC-R. There were no children in this study who scored in the "Mentally Deficient" range on either the WISC or the WISC-R. Brooks (1977) pointed out the importance of explaining these differences when reporting results of children re-evaluated on the WISC-R to teachers and parents.

In previous research studies, Hamm, et al. (1976), Brooks (1977), Schwarting (1976), and Blackman, et al. (1977) reported significantly higher Verbal and Full Scale IQ scores on the WISC, which is consistent with the findings of the present study. The same four studies also reported significantly higher Performance IQ scores on the WISC, a finding which was not supported by the present study.

Previous studies also reported significantly higher scores for the WISC on Arithmetic, Similarities, Picture Arrangement, Block Design, and Coding, which is consistent with the data obtained by this researcher. No significant differences were found between scores on the Information, Comprehension and Vocabulary subtests. Schwarting (1976) reported significantly higher scores on the WISC on Information and Vocabulary. Schwarting (1976) and Blackman, et al. (1977) reported significantly higher scores on the WISC-R Comprehension subtest. No



such difference was obtained in the present study.

Data obtained in this study indicated significantly higher scores on the WISC-R Picture Completion. This has not previously been found in similar studies. The time limit for exposure of the items was increased from 15 to 20 seconds on the WISC-R Picture Completion subtest. The increase in time might possibly account for more successes on this subtest on the WISC-R. A child is required to obtain more successes on the WISC-R than the WISC in order to receive the same scaled score, which would lead one to expect higher scores on the WISC, rather than on the WISC-R.

It is difficult to separate the effects of the standardization from the revisions made in the WISC-R on the reported differences in scores on the two tests. The elimination of some items from the WISC, modification of other items, and the increase in the number of items on seven of the subtests represent critical changes from the WISC. The extent to which these changes contribute to significant differences has not been determined. Blackman, et al. (1977) suggested that a restandardization of the WISC would be a method of determining this.

Terman and Merrill (1973), in the restandardization of the Stanford-Binet (Form L-M) in 1972, concluded that



the difference in cultural background of the 1930's and 1970's accounted for the higher scores earned by the 1972 standardization norm sample as compared to the 1937 standardization norm sample. The impact of television and radio, increases in literacy and education of parents, as well as other cultural changes were cited as reasons for the higher scores of the 1972 standardization group.

Blackman, et al (1977) concluded that the difference found on the Coding subtest was due to the standardization alone, since the Coding subtest was the only subtest which remained unchanged from the 1949 WISC.

Although the administration of the WISC and WISC-R in this study was counterbalanced in order to minimize practice effect, it cannot be assumed that the results reported were not influenced to some degree by this phenomenon. It has not been determined whether the effects of practice are equal when going from the WISC to the WISC-R and when going from the WISC-R to the WISC.

#### Recommendations for Further Research

Research with a larger sample of children in this same age range would yield much more reliable data. The data obtained in any further research should be statistically analyzed for any significant differences

between males and females. Samples consisting of equal numbers of black and white subjects, controlled for age, would yield valuable data concerning differences between the two ethnic groups. Differences among different ability groups, as was examined by Blackman, et al. (1977), should be examined further. Further study of other age groups will yield data determining whether the tendency to score higher on the WISC than on the WISC-R continues to be the pattern.

## CHAPTER V

### SUMMARY

The purpose of this study was to obtain comparative data on the WISC and WISC-R, when both instruments have been administered to the same subjects, at one age level. It was felt to be important to determine if different age groups continue to follow the pattern suggested by the previous research, in which children scored higher on the WISC than on the WISC-R.

It was found that Verbal and Full Scale IQ scores earned on the WISC were significantly higher than those earned on the WISC-R. Scores on the Arithmetic, Similarities, Picture Arrangement, Block Design, and Coding subtests were also significantly higher on the WISC than on the WISC-R. Scores on the Picture Completion subtest were significantly higher on the WISC-R than on the WISC.

These results support previous findings that children tend to score higher on the WISC than on the WISC-R. It is concluded that children enrolled in the second grade tend to follow the same pattern reported with other age groups and student populations previously studied.

## APPENDIX A

### Permission Form Sent to Parents



February 1, 1977

Dear Parents:

As a graduate student in the School Psychology Program at Austin Peay State University, I will be doing research in comparing the Wechsler Intelligence Scale for Children with the revised version of the same test. I will need approximately 26 volunteers who are in the second grade at the present time. If more than 26 children volunteer, names will be drawn to select the children needed.

The Wechsler test is an individual intelligence test which children usually enjoy taking. Since this is a research study, the scores earned by your child will be kept strictly confidential unless you request that it be released to the school. Each child would be administered two tests and the testing will take approximately one and one-half to two hours a session. The testing will take place at Morningside School, during school hours.

If you have any questions, you may contact me at home. My phone number is 886-7250.

Thank you for your cooperation.

Sincerely,

Frances F. Wade

To Be Returned to the Teacher. (Please sign and return  
this week.)

I am willing for my child \_\_\_\_\_ whose  
birthdate is \_\_\_\_\_ Child's Name  
Month Day Year to be tested with the  
Wechsler Intelligence Scale for Children and the revised  
version of the same test. The testing will take place  
at Morningside School, during school hours.

Signature of Parent or Guardian \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_

Telephone \_\_\_\_\_

\_\_\_\_\_ I want my child's scores placed in his/her school  
record.

\_\_\_\_\_ I do not want my child's scores placed in his/her  
school record.

I would \_\_\_\_\_ would not \_\_\_\_\_ like to be given some general  
knowledge of the test results obtained on my child.

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