

**A COMPARISON BETWEEN THE WISC AND THE
WISC - R AMONG THIRD GRADE STUDENTS**

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A Comparison Between the WISC and the
WISC-R Among Third Grade Students

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

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

by
Eileen Kellahe Tate

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Abstract

The purpose of this study was to gather comparative data on the scores earned on Wechsler Intelligence Scale for Children (WISC) and the newer version, the Wechsler Intelligence Scale for Children-Revised (WISC-R). Both instruments were administered to the same subjects of one age level to determine if this particular age group was following the pattern of scoring higher on the WISC which had been found with other groups.

The subjects were 24 children enrolled in third grade at Ringgold Elementary in Montgomery County, Tennessee. The subjects were given the WISC and the WISC-R individually, with an interval of 30 to 60 days between the two testing sessions. One-half of the sample population was given the WISC first and one-half was administered the WISC-R first.

The scores earned on the Verbal, Performance, Full Scale, and the ten subtests were evaluated to determine if the WISC scores were significantly higher than the corresponding WISC-R scores. WISC Performance, and Full Scale IQ scores, and scores on the Similarities, Block Design, Object Assembly and the Coding subtests were significantly higher than the respective scores on the

WISC-R, at the .05 level of confidence. The WISC-R scores on the Comprehension and the Picture Completion subtests were significantly higher than the WISC.

These results support previous research findings which conclude that children tend to score higher on the WISC Performance and Full Scale scores than on the WISC-R. However, the present study failed to support previous findings of the majority of the studies that children also score higher on the Verbal Scale.

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To the Graduate Council:

I am submitting herewith a Thesis written by Eileen Kellaher Tate entitled "A Comparison of the WISC and the WISC-R Among Third 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

Eileen Kellaher Tate
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CHAPTER I

INTRODUCTION TO THE PROBLEM

The Wechsler Intelligence Scale for Children (WISC), first released by David Wechsler in 1949, was developed as a downward extension of the Adult Wechsler-Bellevue Intelligence Scale. Since that time, the WISC has become one of the most popular instruments used for testing school-age children. Many research studies have been conducted with numerous and diverse student populations to examine the correlation of the WISC with other testing instruments.

In 1974, Wechsler developed a revised version of the WISC, the Wechsler Intelligence Scale for Children-Revised (WISC-R). Both of the instruments are individual intelligence tests which assess verbal and performance abilities. Much of the revision of the WISC had to do with more recent standardization, the use of a different classification system (in which "average" would replace "normal"), changes in the age range scale, and in the order of administration of the Verbal and Performance subtests (Wechsler, 1974). Old test items which were thought to be ambiguous, obsolete or culturally unfair were replaced by newer items. Additional questions or items were added to particular subtests to strengthen subtest reliability. Scoring and administrative directions were also revised.

Wechsler (1974) determined that the WISC-R correlated highly with other intelligence instruments such as the Wechsler Preschool and Primary Scale of Intelligence (WIPPSI), Wechsler Adult Intelligence Scale (WAIS) and the Stanford-Binet (SB) Form L-M, using the 1972 norms. The WISC-R Full Scale IQs correlated with the WIPPSI Full Scale IQs at .82 and with the WAIS Full Scale IQs at .95. As compared to the Stanford-Binet (four age levels) the WISC-R Full Scale correlation coefficients ranged from .63 to .82 with an average coefficient of .73. Similar correlations were found for the Verbal IQ scores, .64 to .77 with an average coefficient of .71; however, the Performance IQ scores coefficients were slightly less, ranging from .51 to .74 with an average of .60.

Also, it was noted that the mean IQ of the WPPSI was approximately two points higher than the corresponding mean IQ of the WISC-R. Similarly, the Full Scale WAIS mean IQ was six points higher than the WISC-R mean Full Scale IQ. The mean Stanford-Binet IQ was two points higher at 6, 9½ and 12½ while the WISC-R Full Scale IQ was about 2 points higher at age 16½.

Although Wechsler (1974) reported the comparisons of the WISC-R with the SB, WAIS, and the WPPSI, he did not report any data comparing the WISC and the WISC-R. Since the WISC-R is now replacing the WISC as a widely used instrument in assessing the intellectual ability of

children for placement in special classes, there is a need for research comparing the instruments. Many children who were placed in special classes on the basis of the WISC scores will likely be reassessed with the WISC-R. Although the correlation of the scores on the WISC and the WISC-R are essential, it is more important in a practical sense to determine if the IQ scores yielded by the two instruments are comparable. Studies have appeared in the literature over the past two years comparing these two instruments on special groups of children or children of different ages rather than one age group. The findings thus far have rather consistently shown the IQ scores earned on the WISC-R to be lower than those earned on the WISC.

Kaufman and VanHagen (1977) tested a group of 80 mentally retarded children, aged 6 to 16, in order to evaluate the continuity of measurements between the WISC and the WISC-R. The 10 subtests means and standard deviations were calculated, and each subtest was then arranged in descending order from easiest to hardest. The rankings were then compared to previous research studies reported on the subtests patterns for retarded groups. Kaufman and VanHagen reported high correlation coefficients between the ranking and concluded that the changes on the WISC-R did not substantially alter the typical test profiles for retarded groups.

Brooks (1977) selected 30 children, aged 6 to 10, who

had been referred for psychological evaluation to determine the relationship among several instruments: the WISC, WISC-R, S-B (Form L-M), and the WRAT. To eliminate the practice effects of the Wechsler scales, one-half of the children were administered the test in the order of WISC-R, S-B, WISC, WRAT; the other half of the children were administered the test in the order of WISC, S-B, WISC-R and WRAT. The total test batteries were administered to each child in one to two days. A significant difference surfaced on the Performance, Verbal, and Full Scale IQ scores between the WISC and the WISC-R with the WISC-R scores being lower. Consequently, Brooks indicated that it is essential to explain to parents and teachers alike that differences will exist between the WISC and the WISC-R when children are evaluated by both instruments.

Hamm, Wheeler, McCallum, Herrin, Hunter, and Catoe (1976) assessed the magnitude of difference between scores received on the WISC and those received on the WISC-R. Forty-eight educable mentally retarded (EMR) students were matched on sex and race and divided into two age groups, 10 and 13. The findings evidenced that examinees administered the WISC-R scored significantly lower than subjects administered the WISC on Performance, Verbal and Full Scale IQ scores. The study concluded that considerable caution should be exercised when assigning students to special class placement based solely upon WISC-R scores

because more children would be classified as "Mentally Deficient" using scores resulting from the WISC-R than would be so classified by the WISC.

Schwarting (1976) compared the results of the WISC and the WISC-R administered to 58 children, ages 6 to 15, in grades 1 through 8. Half of the sample population received the WISC first and the WISC-R second and the other half in reverse order. The time interval between the two testings for each subject ranged from 60 to 67 days. The results, as predicted, indicated that the Verbal, Performance, and Full Scale IQ scores on the WISC were significantly higher than the WISC-R. Schwarting also found that eight of the ten WISC subtests means were significantly higher than the corresponding WISC-R means. The Comprehension subtest mean was significantly higher on the WISC-R than on the WISC. There was no significant difference on the Vocabulary subtest between the WISC and the WISC-R.

Covin (1977) compared the results of the WISC and the WISC-R administered to thirty 8- and 9-year-old institutionalized Caucasian children. These children were from low socioeconomic status home environments which had been or were being disrupted due to crises such as desertion by parent(s), death of parent(s) and child abuse. The instruments were administered in counterbalanced order on consecutive days. The mean IQ scores for the children ranged

from 89.33 to 91.93 which would place them at the lower end of the average to the upper end of the low average range. No significant differences in IQ scores were found between the WISC and the WISC-R, however, the author emphasized that the group studied was atypical and these findings should not be generalized to other groups of children who are more typical.

Hartlage and Steele (1977) correlated the test results from the WISC, WISC-R and the WRAT with the cumulative school grades of 36 children. The children, ages 7 to 9, had a mean Slosson IQ of 90. The children were administered the WISC first, usually at the mid-second grade level, and were then retested at least six months later with the WISC-R. The WRAT was given during the second testing evaluation. The results indicated that the WISC Full Scale, Verbal, and Performance IQ scores were two points, one point and two points higher respectively than corresponding WISC-R scores. However, they did not report if the differences between the two tests were significant. The WISC subtests correlated somewhat more highly with specific school grades than the WISC-R subtests did. The author mentioned, however, that it would be premature to conclude that the findings support the thesis that WISC and WISC-R subtest results are equivalent.

Blackman, et al. (1977) selected and administered the WISC and WISC-R to a sample of 48 children. The sample

was stratified into sex, age, and ethnic groupings. There were 16 white children, 16 black children, and 16 chicano children who were divided into two age groups, 7 and 10, with an equal number of boys and girls in each group. The instruments were administered in a counterbalanced order with one-half of the sample given the WISC first while the other half were given the WISC-R first. The mean time interval between each test was 27 days. The results were assessed for differences on the three variables: sex, age, and ethnic group. No significant differences in Verbal, Performance, or Full Scale IQ scores were ascertained for these three variables. However, the WISC Verbal IQ scores were found to be significantly higher than the WISC-R Verbal IQ scores for the total sample. The Performance and Full Scale IQ scores showed no significant differences between the two instruments for the total sample. The sample was then separated into three ability levels according to the WISC-R Full Scale IQ scores. The children who scored 110 and above were in the Above Average category; the children who scored between 90 and 109 were in the Average category, and the children who scored below 90 were in the Below Average category. A significantly larger difference was found between the two tests for the Below Average group than for the other two groups with the WISC being significantly higher than the WISC-R scores. Even though the Average group scored slightly higher on the WISC, it was not

significantly higher. The authors offered two possible reasons for this occurrence. The standardization of the WISC-R infers that all children have increased in abilities as measured on the test over the 1949 WISC standardization. They contend that it might be a possibility that below average children have not increased as much as the above average and average children. Further, the possibility exists that content changes in the WISC-R present more difficulty to below average children.

In another study, Blackman, et al. (1977) selected a sample of twenty-two children that included 4 blacks, 11 whites and 7 chicanos. Each subject was administered the WISC and the WISC-R. The results were then combined with the findings of the first study described above, increasing their sample size to 70 children: 20 blacks, 27 whites and 23 chicanos. The Performance and Full Scale IQ scores for the WISC were significantly higher than the respective WISC-R scores, although no significant differences were found between the Verbal scores. The Block Design, Similarities, Arithmetic, and Coding subtests were significantly higher on the WISC than on the WISC-R. Since no changes were made in the Coding subtest from the WISC to the WISC-R, the authors concluded that the resulting differences between the two subtests were due to the standardization alone. It was also noted that subjects scored significantly higher on the WISC-R Comprehension subtests

and the author suggested that the difference might be due to the fact that the examiner is allowed on the WISC-R to ask for a second response on those items requiring two reasons in order to receive full credit, whereas this is not allowed on the WISC administration. The authors pointed out that there is a definite possibility that the WISC-R is underestimating the lower functioning child because of its standardization.

Wade (1977) administered the WISC and the WISC-R to 26 second-grade students. To counterbalance practice effect, she gave one-half of the sample the WISC first and the other half the WISC-R first. Her findings support previous research in which children tend to score higher on the WISC than on the WISC-R. There was a significant difference found on the Verbal and Full Scale mean IQs with the WISC being higher than the WISC-R. No significant difference was found between the Performance mean IQs. One difference noted by the author was that the scores on the Picture Completion subtest of the WISC-R were significantly higher than corresponding scores for the WISC, a finding which had not been reported previously. The author concluded that this may be due to the revision of the time limit for exposure of each item.

This study was designed to compare the differences in scores obtained on the WISC and the WISC-R when both instruments were administered to the same subjects of one

age level from a regular classroom setting. Analysis of previous research studies has indicated that the number of subjects at a given age level has been limited. Many of the reported studies have also been conducted on special groups of children. There is a need for more research to determine if the WISC-R scores are lower than the WISC scores for a heterogeneous group. Although most of the studies did report the WISC-R scores to be lower, two studies (Blackman, et al., 1977; Covin, 1977) showed no significant difference. Consequently, the purpose of this study is to broaden the data base and to support or contradict previous findings on the comparability and differences of IQ scores earned on the two instruments.

CHAPTER II

METHOD

Subjects

This study was conducted with students from four third-grade classes of Ringgold Elementary School, Clarksville, Tennessee. The school principal and the Coordinator of Instruction of the Clarksville-Montgomery County School System permitted the study to be conducted at the Ringgold School facility during regular school hours.

The sample population was obtained by mailing letters to one hundred parents, explaining the study and requesting permission for their children to participate. A copy of the letter is included in Appendix A.

Fifty-two parents volunteered their children to participate in the study. The sample population had birthdates between September, 1967 and September, 1968. From this group twenty-four children were randomly selected; ten or 42% boys and fourteen or 58% girls. The ages of the subjects ranged from 8 years, 6 months to nine years, five months with a mean age of 9 years. The sample population consisted of 14 or 58.33% white subjects and 11 or 41.66% non-white subjects. The non-white population consisted of six or 25% black subjects, three or 12.5% oriental subjects and one or 4.16% chicano subject.

This ratio of whites to non-whites is larger than the ratio found in the WISC-R standardization sample for all ages and for the total sample which contained 85% whites and 15% non-whites (Wechsler, 1974). The large ratio of non-whites in this study compared to Wechsler's 1974 standardization sample can be attributed to the fact that Ringgold Elementary School has many children of military families in attendance.

The subjects were randomly divided into two groups. One group was administered the WISC first; the other group, the WISC-R first. The instruments were administered in two different sittings. The subjects were administered the second instrument after an interval of 30 to 60 days, with the mean number of days between testing being 45.

Apparatus

Permission form. A letter explaining the purpose of the study and requesting parental permission was forwarded to 100 parents of third-grade students.

Parents whose children participated in the study were given the opportunity to have their children's test scores placed in the official cumulative school record and to receive, upon request, general information concerning their children's performances on both tests.

Description of the instruments. The WISC is an individual intelligence test which was constructed to test children aged five to fifteen years. The test consists of

10 regular subtests and two supplementary subtests. Six subtests measure verbal abilities and six measure performance abilities. Full Scale IQ scores are obtained from the ten regular subtests; five verbal and five performance. The IQ scores obtained from the test are deviation IQ scores with a mean of 100 and standard deviation of 15.

The revised version of the WISC was released in 1974. One of the purposes of revising the WISC was to include non-whites in the standardization sample. The standardization sample of the WISC-R, in accordance with the 1970 United States census, was stratified on several variables: age, race, geographic region, occupation of head of household, and urban-rural residence.

The 2200 children in the sample represented eleven age groups, ranging from 6-0 through 16-11. The change in the age group is one of the changes in the revised version. Another change is in the sequencing of the subtests. Verbal and Performance subtests are given in alternating order rather than sequentially as in the WISC. The WISC-R contains at least half of the original WISC items with slight modifications for all subtests except Picture Arrangement which was substantially modified (Wechsler, 1974).

On the Information subtest, items which seemed ambiguous, uncommon or culturally biased were eliminated. Items which pertained to everyday objects were added. Starting points for various age groups were changed.

On the Similarities subtest, the first four WISC analogy items were deleted. New items were added and other items were modified in order to reduce the chance of unfamiliarity with certain words. The total number of items was increased from 16 to 17. The first four items are scored 1 or 0. If the child does not give a two-point response on items 5 or 6, the examiner is allowed to give an example of a two-point response, which represents a change from the WISC administration.

In the Arithmetic subtest, new materials were introduced on items which required counting. Items were changed to reflect current values of prices and wages. Other items were rewritten in order to be more oriented toward children. Starting points for some age groups and the time limits for some problems were changed. The length of the subtest was increased by the addition of two items.

Approximately one-half the words from the WISC Vocabulary subtest were deleted, including those that were obsolete, had common homonyms or slang meanings, were highly specific to a particular field, or were too difficult, even for high-level functioning children. Several different parts of speech, such as adjectives and verbs, were introduced for variety of speech. The total length of this subtest was reduced from 40 to 32 items. Starting points were changed for the different age groups.

Particular items, which seemed more adult oriented,

were deleted from the Comprehension subtest. Many new items which pertained to young children were added and the length of the subtest was increased. The examiner is allowed to ask for one additional response on those items which require two ideas for full credit, if the child gives only one idea. This is a major change from the WISC where the child has to give two ideas on his own volition in order to receive full credit. There is a change in the discontinuance rule whereby the subtest is discontinued after four consecutive failures rather than three as in the WISC.

On the Picture Completion subtest some items were eliminated and a number of new pictures were added to improve the test's reliability. More items depicting female and black subjects were added. The length of the subtest was increased and the time limit for card exposure was increased from 15 to 20 seconds.

The items on the Picture Arrangement subtests which required the child to assemble cut-up pieces of a picture were deleted. Two items were deleted which required the child to arrange the pictures in the right order to tell a sensible story. Four items sequences were shortened by one card to reduce ambiguities. Three other items were redrawn. The length of the test was increased from 11 to 12 items. The direction for administration were changed to enhance the child's opportunity to understand the task. If the child fails the first trial on the first two items,

the examiner is instructed to show the correct arrangement and to tell the story of the pictures to the child before the second trial is administered. Bonus points are earned for quick, perfect performances for the remaining eight items so the child is encouraged to work quickly and to tell the examiner when he is finished. Scores for the correct arrangement of any items having time bonuses was reduced from four to three points and maximum number of time bonus points was reduced from three to two points. The subtest is discontinued after three consecutive failures instead of two.

On the Block Design subtest, two-color blocks from the WAIS were substituted for the four-color blocks on the WISC. There was a transitional item inserted between the third and fourth designs of the WISC in order for the child to see how two, adjacent, split-color blocks should look before the block guidelines were removed. The child must pass on the first trial on item three to receive full credit for the first two designs. On the WISC, this was not necessary; success on either trial was sufficient. Other modifications included reducing the time limit for the nine block designs and changes in the rules for allotting time bonuses for quick, perfect performances.

On the Object Assembly subtest, the changes reflected more modernization and redrawing of unfamiliar items. A demonstration item was included to help the child

understand the nature of the task. The scoring system was changed to depend on the number of cuts correctly joined. The time limits to assemble the horse and car were decreased and the allotment of bonus points for quick performance was modified.

A separate booklet contains Coding A, Coding B, and the Mazes. The child is given a red lead pencil without an eraser instead of a regular lead pencil as in the WISC. The symbols remain unchanged.

Another principal change was in the amount of raw points needed to obtain the same scaled scores on both instruments. A subject must have earned more raw points on the WISC-R to receive the equivalent scale score on all of the WISC subtests except for Similarities, Vocabulary, Picture Arrangement and Object Assembly.

Although there were also changes on the Digit Span and Mazes, these changes are not described since these two subtests were not administered in this investigation.

Procedure

The order of the instruments used for each subject was random, one-half received the WISC first and the other half received the WISC-R first in order to negate the influences of practice and maturation. Each instrument was administered individually to the subjects by the author. Only the ten subtests which are required to obtain IQ scores were utilized. The testing sessions

were held during regular school hours. Both the WISC and the WISC-R were scored by the author in accordance with the respective test manuals.

CHAPTER III

RESULTS

The means and standard deviations for the Verbal, Performance, and Full Scale IQ scores and for the 10 subtests are shown in Table 1. Because of examiner error, one subtest was omitted for two different subjects. One was a Comprehension subtest of the WISC, and the other was a Coding subtest of the WISC-R. The appropriate adjustment was made by prorating the remaining subtests to calculate the Full Scale, Performance and the Verbal IQ scores for these two subjects. Thus there is one less test in these two subtest comparisons.

The t-test for related samples was used to determine the significant differences between the WISC and the WISC-R for Verbal, Performance, and Full Scale IQ scores, and for the ten subtest scaled scores. The results are listed in Table 1. Since the prediction was that the WISC scores would be higher, the one-tailed test was used to evaluate the significance of the differences.

The mean WISC scores for Verbal, Performance and Full Scale IQ scores were higher than the respective IQ scores on the WISC-R. The range of the WISC Verbal IQ scores was from 79 to 125 with a mean score of 105.83. The WISC-R Verbal IQ scores varied from 82 to 123 with a mean score

Table 1

Single-Tailed t-Tests of the WISC and WISC-R
Mean Verbal, Performance, Full Scaled IQ
Scores and Mean Subtest Scaled Scores

Variable	WISC ^a Mean	WISC <u>SD</u>	WISC-R ^a Mean	WISC-R <u>SD</u>	t ^b
Information	10.42	2.93	10.54	2.52	- .211
Comprehension	9.48	2.66	11.04	2.01	-3.06**
Arithmetic	10.70	2.24	10.17	2.24	1.03
Similarities	12.83	3.00	11.04	2.35	2.98**
Vocabulary	11.04	2.01	11.38	1.97	- .991
Picture Completion	9.54	2.48	11.33	2.09	-3.84**
Picture Arrangement	11.13	2.44	11.21	2.84	- .118
Block Design	11.63	2.92	10.00	3.19	3.87**
Object Assembly	12.13	2.88	10.96	2.48	2.63**
Coding	14.91	3.20	13.22	2.94	2.41**
Verbal IQ	105.83	10.93	104.54	10.40	1.03
Performance IQ	113.00	12.55	109.54	13.08	1.78*
Full Scale IQ	110.20	10.96	107.25	11.17	1.92*

^a \underline{n} = 24 for each category except for Comprehension and Coding, which had 23.

^b \underline{df} = 23 for each category except for Comprehension and Coding which has 22

* \underline{p} < .05

** \underline{p} < .01

of 104.54. Results from the t -test demonstrate no significant difference between the WISC and the WISC-R Verbal IQ scores, $t(23) = 1.03$, $p > .05$.

The Performance WISC IQ scores varied from 87 to 136 with a mean score of 113. The Performance WISC-R IQ scores ranged from 91 to 132 with a mean score of 109.54, a 3.46 point differential. The mean WISC Performance IQ score was significantly higher than the WISC-R Performance mean IQ score, $t(23) = 1.78$, $p < .05$.

The Full Scale IQ scores on the WISC ranged from 88 to 129, with a mean score of 110.2; the WISC-R Full Scale IQ point spread was from 90 to 128 with a mean score of 107.25, a three point difference. This difference was significant with the WISC higher, $t(23) = 1.92$, $p < .05$.

The standard deviations for the WISC-R Performance and Full Scale IQ scores were larger. The standard deviations of the Verbal scores were greater on the WISC.

Further, it was found that Block Design, Object Assembly, Coding and the Similarities subtest scores of the WISC were significantly higher than their respective subtests of the WISC-R: Block Design, $t(23) = 3.87$, $p < .01$; Object Assembly, $t(23) = 2.63$, $p < .01$; Coding, $t(22) = 2.41$, $p < .05$; Similarities, $t(23) = 2.98$, $p < .01$.

The statistical analysis of Comprehension and Picture Completion subtests indicate a significant difference in favor of the WISC-R: Comprehension, $t(22) = -3.06$,

$p < .01$; Picture Completion, $t(23) = -3.84$, $p < .01$. No significant differences between the WISC and the WISC-R were found on the Information, Arithmetic, Vocabulary and Picture Arrangement subtests.

The WISC standard deviations for the Information, Comprehension, Similarities, Vocabulary, Picture Completion, Object Assembly and Coding are larger than the corresponding WISC-R subtests standard deviations; the Arithmetic standard deviations were the same.

CHAPTER IV

DISCUSSION

This study was a comparison of the WISC and the WISC-R IQ scores earned by third-grade students. The results of the data show that the WISC produces significantly higher Performance and Full Scale IQ scores than the WISC-R. No significant difference was found for the Verbal IQ scores between these instruments.

It was also found that mean scores on Block Design, Object Assembly, Coding and the Similarities subtests were significantly higher than on the WISC-R. The Comprehension and the Picture Completion subtests of the WISC-R, however, were significantly higher than on the WISC. No significant differences between the WISC and the WISC-R were found on the Information, Arithmetic, Vocabulary, and the Picture Arrangement subtests.

These findings are in agreement with data of most previous research studies in which WISC IQ scores were significantly higher than similar scores from the WISC-R. Studies conducted by Hamm, et al. (1976), Brooks (1977), Blackman, et al. (1977), and Schwarting (1976) reported that the WISC-R produces lower scores on Verbal, Performance, and Full Scale IQ scores than does the WISC. This suggests the possibility that children may be classified

as "Mentally Deficient" as a result of administration of the WISC-R when they would not have been classified as such had they been administered the WISC (Hamm, et al. 1976).

This study did not replicate previous findings in which significant differences between the WISC and WISC-R were found on Verbal IQ scores. However, Covin (1977) and Blackman, et al. (1977) in their second study also failed to find significant differences between Verbal IQ scores.

The lack of significant difference may be attributed to the fact that the present study involved only one age level and should not be generalized to heterogeneous age groups. Additionally, the majority of the children tested were from military families, and the constant relocation to various cities and countries might have provided them with more opportunity to learn unique words, compare and contrast, or to be more "worldly" in general than subjects of previous studies. Finally, the lack of significant difference in Verbal subtests scores might be a function of the fact that the mean Full Scale IQ scores of students of the present study were higher than the Full IQ scores of most of the previous studies.

Covin (1977) found no significant differences between the WISC and the WISC-R IQ scores. He stated, however, that the results should not be generalized since his sample was atypical as compared to the general population.

Significant differences were found in this study on

the Block Design, Object Assembly, Coding, and Similarities subtests in favor of the WISC which is somewhat consistent with previous research studies. Other studies found significant differences on Arithmetic and Picture Arrangement subtests and this study did not. There was no significant difference found on the Information and Vocabulary mean scores. Schwarting (1976) found eight of the ten WISC subtests to be significantly higher than the WISC-R, except for the Vocabulary subtest which was not significant and the WISC-R Comprehension subtest which was significantly higher than the corresponding WISC subtest.

This study supports the findings of Blackman, et al. (1977) and Schwarting (1976) in which the WISC-R Comprehension subtest scores were significantly higher than the Comprehension subtest scores of the WISC. This finding may be attributed to the fact that the examiner is allowed to ask for a second response for items requiring two non-related ideas for full credit.

The present study also found that the scores of the Picture Completion subtest of the WISC-R were significantly higher than the corresponding subtests scores of the WISC. These results support the findings of Wade (1977). One possible explanation is that the picture exposure was increased from 15 to 20 seconds.

This study tends to support other studies which

demonstrate that children earn higher IQ scores on the WISC than on the WISC-R. In analyzing the differences, it is difficult to estimate what effects the revisions and the restandardizations had on the possible outcomes. One possible alternative suggested by Blackman, et al. (1977) was to restandardize the WISC and to compare the results of the restandardized WISC and the WISC-R. A higher raw score is needed on six of the WISC-R subtests to earn the same scale score as on the corresponding WISC subtests; consequently, comparability of these two instruments is difficult.

In the second study by Blackman, et al. (1977) it was found that there was a significant difference between the Coding subtests on these two instruments with the WISC Coding subtest being higher. The authors concluded that was due to standardization alone since the Coding subtest was the only subtest essentially unchanged in the revision.

Since this study was conducted on children between the ages of 8-6 and 9-5, it could be that some of the differences between this study and previous studies is due to the age differential. It is possible that the differences could be affected by the age of the sample, with items harder for this specific age group on one version of the test than on the other.

CHAPTER V

SUMMARY AND RECOMMENDATIONS

The primary purpose of this study was to assess and evaluate the differences between scores earned on the WISC and the WISC-R when both instruments have been administered to the same subjects of one age level. The sample population consisted of 24 third-grade students in the Clarksville-Montgomery County School System.

It was found that the Performance and Full Scale IQ scores on the WISC were significantly higher than the corresponding WISC-R scores. Scores on Block Design, Object Assembly, Coding and the Similarities subtests of the WISC were also significantly higher, however, the Comprehension and the Picture Completion were significantly higher for the WISC-R. No significant differences were found on the Verbal IQ scores or on the Information, Vocabulary, and the Picture Arrangement subtests.

These findings support previous research studies which found that children tend to score higher on the WISC Performance and Full Scale scores than on the WISC-R. It does not support the majority of the studies which also found the WISC Verbal IQ score significantly higher than the WISC-R.

Although all the studies with the exception of Covin

(1977) show higher Full Scale IQ scores on the WISC, there is conflicting data on the significance of differences between Performance and Verbal scales. Further research of the differences between the WISC and the WISC-R is definitely needed on larger stratified sample populations with such variables as age, race, sex, and different ability groups being controlled. The recommended restandardization of the WISC as suggested by Blackman, et al. (1977) would be an invaluable source of information concerning the differences resulting from the comparisons of the WISC and the WISC-R. A study also needs to be conducted to determine whether the practice effects are equal when going from the WISC to the WISC-R as compared to the reverse order.

APPENDIX A

March 3, 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 third grade at the present time. Children from military families who volunteer for this study must be available for testing from 30 to 60 days after the first testing session. If more than 26 children volunteer, the names will be randomly selected to participate.

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 Ringgold Elementary School during school hours.

Participants in this study will receive four tickets to the Austin Peay State University football games. If you have any questions, you may contact me at home. My

phone number is 798-5741.

Thank you for your cooperation.

Sincerely,

Eileen Tate

To Be Returned to the Teacher

I am willing for my child _____
child's name

whose birthdate is _____ to be tested with
month day year

the Wechsler Intelligence Scale for Children and the
revised version of the same test. The testing will take
place at Ringgold Elementary 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 test results obtained on my child.

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