

**CORRELATES OF THE SLOSSON INTELLIGENCE TEST  
WITH THE CALIFORNIA SHORT-FORM TEST OF  
MENTAL MATURITY, THE QUICK WORD TEST, THE  
WIDE RANGE VOCABULARY TEST, AND THE  
SHIPLEY-INSTITUTE OF LIVING SCALE**

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**DOROTHY MILLER VICKERS**

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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**

---

**by**  
**Dorothy Miller Vickers**

**May 1970**

## ABSTRACT

The purposes of this study were: to determine the validity of the Slosson Intelligence Test when compared with group tests which purport to measure mental ability; and to determine if the SIT can be used effectively in a population of college students.

The subjects were 50 undergraduate students currently enrolled in lower division psychology courses. The SIT was administered individually to each subject, and the other tests were administered in group settings over a three month period.

Pearson product-moment correlations were computed for the SIT and each of the four tests used as the criteria. The correlations ranged from .69 to .73 and were significant beyond the .01 level.

The results of this study indicate that the SIT is a valid measure of intelligence and may be used effectively in a college testing program.



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State University Library

To the Graduate Council:

I am submitting herewith a Thesis written by Dorothy Miller Vickers entitled "Correlates of the Slosson Intelligence Test With the California Short-Form Test of Mental Maturity, the Quick Word Test, the Wide Range Vocabulary Test, and the Shipley-Institute of Living Scale." I recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts, with a major in Psychology.

John L. Martin  
Major Professor

We have read this thesis and  
recommend its acceptance:

Garland E. Blais  
Minor Professor  
or  
Second Committee Member

Elizabeth H. Stokes  
Third Committee Member

Accepted for the Council:

Wayne E. Stamp  
Dean of the Graduate School

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## CHAPTER I

### INTRODUCTION TO THE PROBLEM

In 1963, R. L. Slosson published a new individual test of intelligence known as the Slosson Intelligence Test (SIT). He contended that the test could be administered by "teachers, principals, psychometrists, psychologists, guidance counselors, social workers, school nurses and other responsible persons who, in their professional work often need to evaluate an individual's mental ability." He also stated that the test could be given in 10 to 20 minutes and would serve as an effective screening device for both children and adults.

In the standardization of the test Slosson conducted a comparative study of the SIT and the Stanford-Binet, Form LM. One hundred thirty-nine (139) subjects ranging in age from four years to fifty years from both rural and urban communities in New York state were included in the study. All ranges of mental ability were included as were all races. Only non-English speaking persons were excluded from the study. He reported a reliability coefficient of .97 in a test-retest interval of two months.

Comparison with the Binet yield validity coefficients of .90 and above across all age levels. Slosson administered a large number of the tests alternately. To avoid bias toward his own instrument, a group of

subjects were tested independently by Slosson with the Binet and another individual using the SIT.

Slosson's encouraging findings have led to wide usage of the SIT in public schools. A review of the literature revealed a number of studies concerning the validity and reliability of the SIT.

In a study involving 30 slow learners, Poissnat (1967) found that the SIT correlated .89 with the Stanford-Binet, Form LM. She concluded that the SIT may be a valuable instrument in retesting children enrolled in Special Education Programs.

DeLapa (1968) found that the Slosson correlated highly with the Stanford-Binet and Achievement Indices. Two independent groups were used in his study. He administered the tests to 57 elementary students in four special education classes for the educable and to a group of 60 students in regular classes. The coefficients were .60 and .90 respectively. He concluded that the SIT seems to be measuring the same factors as the Binet.

In an attempt to furnish more meaningful information to the counselor in the rehabilitation setting, Kaufman and Ivanoff (1969) conducted a validity study of the SIT using the Wechsler Adult Intelligence Scale as a criterion. Forty-five subjects admitted to the rehabilitation program in Milwaukee, Wisconsin were included in the study. Each subject was first tested with the WAIS and one day later the SIT was administered. Correlations were



computed between the SIT IQ score and the fourteen variables yielded by the WAIS. All coefficients were significant beyond the .01 level with the exception of the digit symbol subtest of the WAIS, which was significant at the .05 level. A correlation of .89 was obtained between the SIT IQ score and the WAIS full scale IQ score. The investigators concluded that the two tests seem to be measuring the same type of intellectual functioning and that the SIT can be a valuable instrument in a rehabilitation setting.

Hammill (1969) investigated the validity and the reliability of the SIT when administered by teachers of special education who had no testing experience or obtained instruction. The SIT was administered to 98 boys and 57 girls from 40 different schools in the greater Philadelphia area. Intellectually the subjects were distributed normally and ranged in age from 4 to 16 years. The examiners were 33 special education teachers who were given the manual and fifteen minutes instruction and then encouraged to administer the test to children in their classes. No demonstrations or supervised practice was provided. The subjects were tested by the researcher in the presence of the 33 special education teachers who scored the tests independently. Teachers who scored a mental age of plus or minus two months of the mode for the group were considered to be in agreement, as two months represented an actual difference of only one test item.

Forty-seven of the subjects were later retested. The test-retest reliability coefficient was .97. In the validity study, he obtained coefficients between the SIT and fourteen intellectual and cognitive variables of from .70 to .80. He also found no significant differences between the means of the SIT, the Peabody Picture Vocabulary Test and the Lorge-Thorndike. The findings in this study support Slosson's contention that the test can be administered by untrained personnel. He concluded that the SIT is both a reliable and valid measure of intellectual functioning.

In contrast to these studies are the findings of Jongeward (1969). In a validity study of the Slosson for use with educable mentally retarded students, he obtained correlations of .761 between the SIT IQ and the Binet IQ scores and .806 between the SIT MA and the Binet MA. The difference between the means of the SIT and the Binet was significant at the .05 level. He obtained coefficients of .537 between the SIT and the Wechsler Intelligence Scale for Children (WISC) full scale IQ score and .852 between the SIT and the WISC verbal IQ score, both of which were significant beyond the .01 level. The obtained coefficient between the SIT and the WISC Performance IQ score was .204, which was not significant. He concluded that the SIT could be used as a brief screening device but should not replace the Stanford-Binet or the WISC as a basic instrument.

The purposes of this study were: to compare the SIT with existing and well established tests of mental



ability; to add to the research previously done on the validity of the SIT; and to determine if the SIT could be used as a reliable measure of intellectual functioning of college students.

### Subjects

The subjects were 50 college students who were members of the psychology department at Clark College, Clarksville, Tennessee. The subjects were selected from the college's roster of students. The subjects were of 50 students of which 10 were males.

The subjects ranged in age from 18 to 38 years, with a mean age of 22 years 2 months. The sample was composed of freshmen, sophomores, juniors, and seniors, with the mean being 2.4 years.

### Description of the Instruments

The subjects completed a test of intelligence which was a modified version of the Stanford-Binet intelligence test. The items were selected from the items of the Stanford-Binet intelligence test. At the time of the study, the items were included, and the subjects were given the same test when the test was administered. The test was a ratio test.

## CHAPTER II

### METHOD

#### The Sample

The sample used in this study was undergraduate students currently enrolled in lower division psychology courses at Austin Peay State University, Clarksville, Tennessee, who volunteered to serve as subjects. The sample was composed of a total of 50 students of which 32 were females and 18 were males.

The subjects ranged in age from 18 to 38 years, with the mean age being 22 years 2 months. The sample included sophomores, juniors, and seniors, with the mean level of education being 14.5 years.

#### Description of the Instruments

The SIT is an abbreviated test of intelligence designed for use with both children and adults. The items on the test are similar to the items of the Stanford-Binet and those of the Gesell Developmental Schedules. At the lower levels numerous perceptual motor items are included, however, these phase out at the seven year level when the test becomes essentially verbal. The test yields a ratio IQ score.

In selecting instruments to serve as the criteria in the study, this researcher wished to use tests which

would provide valid and reliable measures of intellectual functioning.

The California Test of Mental Maturity-Short Form was selected because of its wide use in public schools, for its validity and reliability, and its ease of administration. Moreover, it was revised in 1963, the year in which the SIT was published.

The CTMM-SF, 1963 Revision (Level 5), consists of seven test units. Tests one through four compose the Non-Language Section. Tests five through seven compose the Language Section. Both sections contain sixty items. The CTMM-SF yields a MA and an IQ for each section of the test as well as a total MA and IQ. The test is scaled to the Stanford-Binet Intelligence Series. Total testing time is approximately 50 minutes.

Extensive research concerning the validity and reliability of the test was conducted in its revision (Sullivan, Clark, and Tiegs, 1963). Tables of national norms are provided in the examiner's manual. A review of the literature did not reveal any studies concerning the CTMM-SF.

The Quick Word Test (Borgatta and Corsini, 1964) was designed to provide a convenient and quick assessment obtained with the WAIS Verbal and Full Scale IQ's respectively. These findings indicate that the QWT appears to be a valid measure of general mental ability.



The Wide Range Vocabulary Test (WRVT) also consists of 100 multiple-choice items arranged in order of difficulty. The stimulus word is contained in an incomplete sentence and four alternate response words are provided for each item. This test is also untimed and can usually be completed in 10 to 20 minutes (Atwell & Wells, 1937).

The Shipley-Institute of Living Scale (Shipley), also known as the Shipley-Hartford and the Shipley Conceptual Scale, was developed as an aid in detecting mild degrees of intellectual impairment in individuals of normal original intelligence. It may also be used as a test of intelligence. The test is composed of a vocabulary test which includes forty-multiple-choice items, and an abstraction test, which is composed of twenty completion items. Both tests yield maximum scores of forty, the abstraction test raw score is multiplied by two. Mental age can be computed from the total raw score, which is the sum of the vocabulary and abstraction raw scores. The test also provides a conceptual quotient, which serves as an index of impairment.

Shipley (1940) obtained reliability coefficients of .87 for the vocabulary test, .89 for the abstraction test, and .92 for the two combined in a study of 322 army recruits. Shipley and Burlingame (1940) reported no validity coefficients, however, results from 374 mental patients in both state and private institutions indicated that the scale is an effective measure of impairment and



intelligence.

A review of the literature revealed several studies in which the validity and reliability of the scale was investigated using both psychiatric and normal subjects.

Wiens and Banaka (1940) administered the scale and the WAIS to 140 subjects at the Oregon State Hospital. The diagnostic categories of the group included all major psychiatric classifications. A correlation coefficient of .80 was obtained and was significant well beyond the .01 level. The investigators concluded that the Shipley may be used in an institutional setting as a substitute for the WAIS when economy of time in administration is desired.

Stone (1965) conducted a validation study of the Shipley. The scale was administered to 886 mental patients newly admitted to a state hospital in Fort Steilacoom, Washington. Frequency distributions, frequency percentages, means and standard deviations were computed for the four Shipley scales (Vocabulary, Abstraction, Total, and Conceptual Quotient). No sex differences were noted. The mean conceptual quotient was found to be similar to the median value observed in the original study conducted in 1940.

In a cross validation study conducted at the Mental Health Institute, Fort Steilacoom, Washington the WAIS and the Shipley were administered to 51 subjects. The obtained coefficient was .79, which was significant beyond the .01 level. The researchers concluded that the Shipley

seems to be a valuable tool as an economical substitute for the WAIS when only an estimate of intellectual functioning is required (Stone & Ramer, 1965).

The Wechsler-Bellevue, the WAIS, and the Shipley were administered to 59 psychiatric patients and 56 control adults at the Veteran's Administration Hospital, Little Rock, Arkansas. Results indicated that the Shipley was a good indicator of average or better intellectual functioning and can be used as an effective screening instrument (Prado & Taub, 1966).

In a test-retest study of 56 subjects at the University of Kansas Medical Center reliability coefficients of .77 for the vocabulary scale, .63 for the abstraction scale, and .74 for the IQ score were obtained (Ruiz & Krauss, 1967). They concluded that the Shipley is a weak measure of intellectual deterioration but a better measure of intellectual functioning.

#### Administration and Scoring

The SIT was administered individually to each subject by this researcher and a fellow graduate student over a period of three months. The other tests were administered in groups by this researcher over the same period. Each instrument was scored according to the manuals of directions.

## CHAPTER III

### RESULTS

The Pearson Product-Moment technique was employed to compute the correlation coefficients. In the computations IQ scores were used for the SIT and the CTMM-SF, total raw scores were used for the other instruments. Table 1 summarizes the correlations for all measures. Means and standard deviations are summarized in Table 2.

TABLE 1  
Correlations between tests

Tests	r*
1. SIT-CTMM-SF	.73
2. SIT-QWT	.69
3. SIT-WRVT	.69
4. SIT-Shipley	.69
5. CTMM-SF-QWT	.70
6. CTMM-SF-WRVT	.71
7. CTMM-SF-Shipley	.68
8. QWT-WRVT	.81
9. QWT-Shipley	.68
10. WRVT-Shipley	.73

\*All correlations were significant beyond the one percent level of significance.



TABLE 2  
Means and standard deviations

Test	M	SD
1. SIT	124.08	11.70
2. CTMM-SF	123.12	11.39
3. QWT	46.64	17.50
4. WRVT	76.02	9.46
5. Shipley	64.52	7.09



## CHAPTER IV

### DISCUSSION

The correlation coefficients obtained in this study were comparable to those reported in the review of the literature. The concurrent validity of the SIT was evidenced by these high correlations with other test purported to measure intellectual ability. The findings of this study support Slosson's contention that the SIT is a valid measure of intelligence.

The average time for administering the SIT to subjects in this study was 30 minutes which did not include scoring time. In the test directions Slosson states, "The time required to give and score this test varies from about 10 to 15 minutes for the average person, to 20 or even 30 minutes for the slow, the timid, the very gifted or the person who is defective in certain areas while normal or high in other areas." Slosson also suggests that with the average adult the test can be started at the 15-0 year level. It was necessary in most cases in this study to work backwards much further in order to obtain the correct "10 in a row" necessary to ascertain the basal age. In many cases the subjects were defective or deficient in certain areas, such as mathematics and/or vocabulary.

Also, the items which require total recall of facts, such as the number of feet in a mile or the number of pounds in a ton, hindered many subjects. This researcher found that these characteristics were not limited to the subject with average intelligence, but were also found in subjects with superior intelligence. This could account for the lengthy testing time.

The high correlations obtained in this study justify the use of the SIT as a valid measure of intelligence when an individual test is warranted. Although group tests may provide an economical assessment of intelligence, the SIT allows the examiner to determine the subject's reasoning processes and observe his behavior.

It was not the purpose of this study to determine the correlation between the group tests; however, these coefficients were computed and included in this study. (See Table 1.)

## CHAPTER V

### SUMMARY

The purpose of this study was to determine the validity of the Slosson Intelligence Test when compared with group tests of mental ability, and to determine if the SIT can be used as an effective instrument in assessing the intellectual ability of college students.

The selection of the criteria instruments--the California test of Mental Maturity-Short Form, the Quick Word Test, the Wide Range Vocabulary Test, and the Shipley-Institute of Living Scale--was based on their reliability and validity, and their wide usage in educational and institutional settings.

The correlation coefficients obtained in this study between the SIT and the criteria instruments ranged from .69 to .73, and were significant beyond the .01 level.

In light of these large and significant correlations it is concluded that the SIT is a valid measure of intellectual functioning and may be used in a population of college students.



## REFERENCES

- Atwell, C., & Wells, F. Manual for the Wide Range Vocabulary Test. New York: The Psychological Corporation, 1937.
- Borgatta, E. & Corsini, R. Manual for the Quick Word Test. New York: Harcourt, Brace and World, 1964.
- DeLapa, G. The Slosson Intelligence Test: a screening and retesting technique for slow learners. Journal of School Psychology, 1968, 4 (3), 224-225.
- Grotelueschen, A. & Lyons, T. Quick Word Test validity with adults. Psychological Reports, 1967, 20 (2), 488-490. (Psychological Abstracts, 1967, 41 (7), No. 8151)
- Hammill, D. The Slosson Intelligence Test as a quick estimate of mental ability. Journal of School Psychology, 1968-69, 7 (4), 33-37.
- Jongeward, P. A validity study of the Slosson Intelligence Test for use with educable mentally retarded students. Journal of School Psychology, 1968-69, 7 (4), 59-63.
- Kaufman, H., & Ivanoff, J. The Slosson Intelligence Test as a screening instrument with a rehabilitation population. Exceptional Children, 1969, 35 (9). (Reprint: Aurora, New York: Slosson Educational Publications, 1969.)
- Poissant, P. A product-moment correlation between the Stanford-Binet and the Slosson Intelligence Test with slow learners. Aurora, New York: Slosson Educational Publications, 1969. (Abstract)
- Prado, W. & Taub, D. Accurate prediction of individual intellectual functioning by the Shipley-Hartford. Journal of Clinical Psychology, 1966, 22 (3), 294-296.
- Ruiz, R. & Krauss, H. Test-retest reliability and practice effects with the Shipley-Institute of Living Scale. Psychological Reports, 1967, 20 (3, Pt. 2), 1085-1086. (Psychological Abstracts, 1967, 41 (11), No. 14452)



Shipley-Institute of Living Scale Manual. Hartford, Connecticut: The Institute of Living, 1967.

Shipley, W. A self-administering scale for measuring intellectual impairment and deterioration. Journal of Psychology, 1940, 9, 371-377. Cited in Shipley-Institute of Living Manual. Hartford, Connecticut: The Institute of Living, 1967.

Shipley, W. & Burlingame, C. A convenient self-administering scale for measuring intellectual impairment in psychotics. Paper presented at the 96th annual meeting of the American Psychiatric Association, Cincinnati, May, 1940. Cited in Shipley-Institute of Living Scale Manual. Hartford, Connecticut: The Institute of Living, 1967.

Slosson, R. Slosson Intelligence Test (SIT) for children and adults. East Aurora, New York: Slosson Educational Publications, 1963.

Stone, L. & Ramer, J. Estimating WAIS IQ from Shipley Scale scores: another cross-validation. Journal of Clinical Psychology, 1965, 21 (3), 297.

Stone, L. Recent (1962-1964) psychiatric patient validation norms for the Shipley-Institute of Living Scale. Psychological Reports, 1965, 16 (2), 417-418. (Psychological Abstracts, 1965, 39 (4), No. 10154)

Sullivan, E., Clark, W., & Tiegs, E. Examiners Manual California Short-Form Test of Mental Maturity. Monterey: California Test Bureau, 1963.

Wiens, A. & Banaka, W. Estimating WAIS IQ from Shipley-Hartford scores: a cross-validation. Journal of Clinical Psychology, 1960, 16 (4), 452.