

Article 28

Chapman-Cook Speed of Reading Test: Performance of College Students

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ABSTRACT. The performance of 116 college students on the Chapman-Cook Speed of Reading Test on three different occasions was investigated. Descriptive statistics, test-retest reliability measures, and correlations with other tests of reading and verbal ability are provided. Analyses suggest that the Chapman-Cook test provides some information not available from tests currently used to assess reading and verbal ability.

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This report provides descriptive statistics (mean, mode, median, range, and standard deviation) and reliability estimates for the Chapman-Cook Speed of Reading Test obtained from college students. Also, correlations between scores on the Chapman-Cook test and four other measures of reading and verbal ability are reported.

The Chapman-Cook test is a timed test of 25 short paragraphs, each containing one word that is discordant with the paragraph's meaning. Test takers are instructed to find as many discordant words as possible in 2.5 min. Chapman and Cook (1923) suggested that the test may assess both comprehension and speed of reading. At the present, psychometric and normative data are not available. A literature review indicated that only two studies, Muncer and Jandreau (1984), and Giroux, Salame, Bedard, and Bellavance (1992) have employed this test for research purposes, evaluating the effect of text presentation on reading and cognitive abilities.

The Chapman-Cook test was administered to 116 college students (63 women, 53 men, $M_{age} = 18$ years) on three different occasions at 2-wk. intervals. The mean, mode, median, range, and standard deviations obtained for the three test administrations are summarized in Table 1. Analysis of frequencies of correct responses indicates that 37 subjects at Time 1 accurately identified all discordant words in the 25 paragraphs, compared with 76 and 90 subjects at Times

2 and 3, respectively. These results suggest a strong practice effect. A ceiling effect was apparent at Time 1, which limits the test for discriminating reading ability in college students. Test-retest reliability between Times 1 and 2, Times 1 and 3, and Times 2 and 3 yielded correlations of .82, .63, and .69, respectively.

To assess the relation between scores on the Chapman-Cook test and other measures of reading ability and intellectual functioning, a different group of 22 college students (11 women, 11 men, $M_{age} = 19$ yr.) were administered five tests. Scores of each subject on the two administrations over a 2-wk. interval of the Chapman-Cook test were averaged and then correlated with scores on the other four tests.

Table 1

Descriptive Statistics for the Chapman-Cook Speed of Reading Test ($N = 116$)

Statistics	Test 1	Test 2	Test 3
<i>M</i>	20	23	24
<i>Mdn</i>	22	25	25
Mode	25	25	25
Range	0-25	0-25	12-25
<i>SD</i>	5.6	4.3	2.0

The Shipley Institute of Living Scale has been used to estimate general intellectual functioning in adults and adolescents and to assist in detecting cognitive impairments in individuals with normal premorbid intelligence (Zachary, 1992). The scale consists of two subtests, a 40-item vocabulary test and a 20-item test of abstract thinking. For normative data including reliability and validity indices refer to Zachary (1992).

The Gray Oral Reading Test measures reading speed, accuracy, and comprehension. It consists of two alternate, equivalent forms, each containing increasingly difficult passages that are followed by five comprehension testing questions. Normative data for those 7 to 18 years of age, including reliability and validity indices, are given by Wiederholt and Bryant (1992).

Table 2

Pearson Correlations for Number Correct Responses on the Chapman-Cook Test and Other Measures of Reading and Verbal Abilities

Measure	<i>r</i>			Kaufman Brief Intelligence Test: Composite IQ		
	2	3	4	Full Scale	Matrices	Verbal Scale
1. Chapman-Cook Test	.60	.55	.60	.60	.23	.53
2. Gray Oral Reading Test: Quotient		.37	.58	.62	.33	.63
3. National Adult Reading Test Revised: Estimated Full Scale IQ			.24	.50	.11	.70
4. Shipley Institute of Living Scale: Estimated Full Scale IQ				.51	.14	.61

60 The Kaufman Brief Intelligence Test is a brief, individually administered measure of intelligence used primarily for screening and related purposes (e.g., Donovick, Burrigh, Burg, Davino, Gronedyke, Klimczak, Mathews, and Sardo, 1996). The subtests, 65 Vocabulary and Matrices, respectively, measure crystallized and fluid intelligence. For normative data, including reliability and validity indices, refer to Kaufman and Kaufman (1990).

The National Adult Reading Test Revised has been used to estimate verbal skills of premorbid cognitive 70 functioning (Berry, Carpenter, Campbell, & Schmit, 1994). It consists of a list of 61 words which the test taker is required to read aloud. Points are given for correct pronunciation of words of increasing difficulty.

75 Pearson correlations between scores on the Chapman-Cook test with those on the four tests are listed in Table 2. The indices employed for the correlations in Table 2 are Number of Correct Responses for the Chapman-Cook test, Oral Reading 80 Quotient for the Gray Oral Reading Test, Estimated Full Scale IQ for The National Adult Reading Test Revised, Estimated IQ for the Shipley, and Verbal Standard score, Matrices Standard score, and the Composite IQ score for The Kaufman Brief Intelligence Test. With the exception of the Matrices 85 subtest in the Kaufman Brief Intelligence Test, correlations between the Chapman-Cook test and the other measures of reading ability and intellectual functioning ranged from .53 to .60. These results 90 suggest that about 25% to 30% of the variance in these scores can be predicted by scores on the Chapman-Cook test. Therefore, some information not available from tests currently used in assessment of reading and verbal intelligence may be provided by the Chapman-Cook test. The results also suggest that the Chapman-Cook test may not be considered as a substitute for the 95 currently used reading tests but as an additional source of information about reading ability. The short administration time of the Chapman-Cook test makes it attractive for quick screening of reading. Research 100 aimed at assessing psychometric properties and obtaining normative data for this test is warranted.

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Exercise for Article 28

Factual Questions

1. What is the time limit for the Chapman-Cook Test?
2. How many college students participated in the part of the study in which Chapman-Cook Test scores were correlated with other measures of reading ability and intellectual functioning?

3. Based on the information in Table 1, the distribution of scores on which test administration (Test 1, Test 2, or Test 3) has the least variability? Explain the basis for your answer.
4. For Test 1 in Table 1, which measure of central tendency (i.e., average) has the highest value?
5. What is the value of the correlation coefficient for the relationship between the Chapman-Cook test and the Shipley Institute of Living Scale?
6. The weakest correlation coefficient in Table 2 has what value?

Questions for Discussion

7. Would you be interested in knowing more about why the Chapman-Cook test was selected for examination in this study? Explain.
8. Explain in your own words what the researchers probably mean by the term "practice effect." (See lines 30-31.)
9. Explain in your own words what the researchers probably mean by the term "ceiling effect." (See lines 31-33.)
10. Would you characterize the relationship between the Chapman-Cook Test and the Gray Oral Reading Test as "very weak"? If no, how would you characterize it?
11. Do you think that it would be desirable to conduct a replication of this study? Why? Why not?

Quality Ratings

Directions: Indicate your level of agreement with each of the following statements by circling a number from 5 for strongly agree (SA) to 1 for strongly disagree (SD). If you believe an item is not applicable to this research article, leave it blank. Be prepared to explain your ratings.

- A. The introduction establishes the importance of the study.
SA 5 4 3 2 1 SD
- B. The literature review establishes the context for the study.
SA 5 4 3 2 1 SD
- C. The research purpose, question, or hypothesis is clearly stated.
SA 5 4 3 2 1 SD
- D. The method of sampling is sound.
SA 5 4 3 2 1 SD
- E. Relevant demographics (for example, age, gender, and ethnicity) are described.
SA 5 4 3 2 1 SD
- F. Measurement procedures are adequate.
SA 5 4 3 2 1 SD
- G. All procedures have been described in sufficient detail to permit a replication of the study.
SA 5 4 3 2 1 SD
- H. The participants have been adequately protected from potential harm.
SA 5 4 3 2 1 SD
- I. The results are clearly described.
SA 5 4 3 2 1 SD
- J. The discussion/conclusion is appropriate.
SA 5 4 3 2 1 SD
- K. Despite any flaws, the report is worthy of publication.
SA 5 4 3 2 1 SD