A STUDY OF THE RELATIONSHIP BETWEEN TIME AWAY FROM SCHOOL AND SCORES OF APPLICANTS WHO TAKE THE GENERAL EDUCATION DEVELOPMENT TEST

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ROGER D. BATSON

A STUDY OF THE RELATIONSHIP BETWEEN TIME AWAY FROM SCHOOL

AND SCORES OF APPLICANTS WHO TAKE THE

GENERAL EDUCATION DEVELOPMENT TEST

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An Abstract

Presented to the

Graduate and Research Counsel of

Austin Peay State University

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In Partial Fulfillment

of the Requirements for the Degree

Master of Science

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by

Roger D. Batson

August 1992

ABSTRACT

This study was undertaken to examine the degree of relationship between scores on the General Education Development Test and the time away from formal schooling. The sample consisted of 894 applicants who took the GED between the years 1988-1990.

A regression analysis was conducted to compare time since leaving school, grade completion, and whether formal GED preparatory classes were predictive of standard score.

While time away from school was not predictive of performance on the GED, grade completion and planning for further education were positive predictors of performance. A correlation between age and standard score showed a slight negative correlation, but was not significant to the .05 level of significance. Additionally, taking GED preparatory classes was a negative predictor of performance on the GED.

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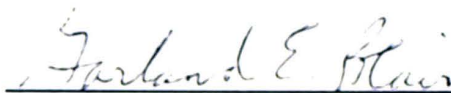## GENERAL EDUCATION DEVELOPMENT TEST

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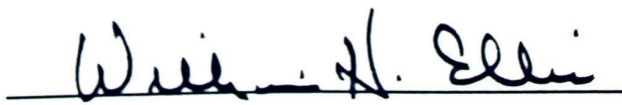August 1992

To the Graduate and Research Council:

I am submitting herewith a Thesis written by Roger D. Batson entitled "A Study of the Relationship Between Time Away From School and Scores of Applicants Who Take the General Educational Development Test." I have examined the final copy of this paper for form and content, and recommend it be accepted in partial fulfillment of the requirements for the degree Master of Science, with a major in Counseling and Guidance.

_____
Major Professor

_____
Second Committee Member

_____
Third Committee Member

Accepted for the Graduate and
Research Council:

_____
Dean of the Graduate School

ACKNOWLEDGEMENTS

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CHAPTER 1

Introduction to the Problem

The traditional method of acquiring post secondary education has been to attend elementary school, high school, and then college. During World War Two the nation's work force was mobilized in an all out effort to make war materials. Many individuals were uprooted and unable to finish their formal educational requirements. Only after the war were many able to return and pursue college degrees.

The traditional method of acquiring an education has not only been interrupted due to war, but has been interrupted for other reasons as well. High school dropouts have generally been viewed as delinquent. However, research conducted by Ogletree (1988) indicates the opposite. Ogletree found that very few dropouts had been in trouble with the law, raised in dangerous communities, involved in gangs, abused as children, etc. Instead, Ogletree found poverty and socioeconomic background were strongly correlated with dropping out.

In 1942, the need to supply individuals with the means to further their education, resulted in the development of what now has become the General Education Development Test. The test batteries of General Educational Development were introduced by the examination staff of the United States

Armed Forces Institute (USAFI) to help veterans that did
not finish their education (Swarm, 1981).

While the original purpose was to help military
personnel who had not received a high school diploma, the
majority of individuals tested today are civilian adults.
In 1971, there were 387,733 persons tested in 1,858
official GED centers. The mean age of the person taking
the test was 28. Forty one percent indicated that they
were taking the test to qualify for training beyond high
school. The average number of years of formal schooling
completed was 9.78 (Sharon, 1972).

Each state department of education determines the
standard scores required for issuance of a certificate. In
Canada, the test is given in a central location and metrics
are used in math. A French version of the test is also
available. In the U.S., a Braille version is available for
the blind, large print for those whose sight is partially
impaired, and a Spanish version (Quigley, 1991).

The Tests of General Educational Development (GED
Tests) consist of five multiple-choice tests which measure
achievement in those areas thought to be associated with
high school study. The five tests, and their content area
are described by American Council on Education (1992) as
follows:

1. WRITING SKILLS: Part 1 - Sentence Structure (35%),
Usage (35%), and Mechanics (30%). Part 2 - Essay.

2.   SOCIAL STUDIES: History (25%), Economics (20%), Political Science (20%), Behavioral Science (20%), and Geography (15%).

3.   SCIENCE: Life Sciences - Biology (50%), Physical Science - Earth Science, Physics, and Chemistry (50%).

4.   INTERPRETING LITERATURE AND THE ARTS: Popular Literature (50%), Classical Literature (25%), and Commentary (25%).

5. MATHEMATICS: Arithmetic - Measurement, Number Relationships, and Data Analysis (50%), Algebra (30%), and Geometry (20%).

In 1990, the number of persons taking the GED test increased to 763,618. This amounted to a twelve percent increase over the previous year. The decade of the eighties saw a pattern of declining participation in the GED program. However, in 1990 three million high school diplomas were issued in the United States. Over 430,000 of these diplomas were through the GED program (American Council on Education, 1990).

In the fifty years since the program began, more than ten million adults have received their high school diplomas as a result of successful performance on the GED Tests. The General Educational Development (GED) Tests are designed to correspond to what is expected of high school seniors in the area of writing skills, social studies, science, literature and the arts, and mathematics.

By passing the GED, adults earn a high school diploma and are entitled to enroll in post secondary educational institutions (Baldwin, 1990).

Since it's inception in 1942, over 500 research studies have been conducted by various individuals in a variety of educational settings (Test of General Educational Development Bibliography, 1991). One issue that has been the concern of researchers is reliability and validity of the instrument.

Several studies have been conducted to test the reliability and validity of the tests. Whitney, Malizio, & Patience (1986) report that internal consistency of the GED tests were checked using Kuder-Richardson formula 20 (KR20) on a sample of high school seniors and a group of GED candidates. KR20 coefficients were reported for each group and ranged between .81 - .96 for both groups depending on the subtest taken.

Malizio & Whitney (1982) report that during the 1980 standardization study conducted by Education Testing Service, parallel forms reliability was checked when two forms of the test was administered to high school seniors and GED candidates. Results were that the sample scored within three to four points on the test which is what would be expected if a student retook the test after a period of time.

To insure concurrent validity, GED testing service regularly administers the GED test to graduating seniors across the United States. The data received help to establish norms and standard test scores. On average, 33% of graduating seniors fail to reach the required scores established by most states (GED Testing Service, 1984). This indicates that GED standards are slightly more stringent than norms established by most of the nation's high schools.

In recent years, states have established competency examinations to insure that high school graduates reach minimum standards. Sonnenblick (1980) administered the New York minimum competency reading test to a sample of GED candidates. In this study, 37% of those who passed the states test failed the GED test. No one who failed the GED test passed the state test. Whitney et al. (1986) further summarized research that dealt with reliability and validity issues surrounding the GED, including content and predictive validity.

Research conducted, which examined the relationship between pre-college preparation and educational success at college, has shown no statistically significant difference in the college success of GED recipients and those obtaining high school diplomas (Willett, 1982). A study was conducted by Andrew (1954) to see if the amount of high school completion resulted in significantly different GED

test scores. The study concluded that various amounts of high school training did not result in significantly different test scores on the GED tests. Andrew's study was plagued by small sample size (N=95 male non high school graduates), and he suggested a larger sample size should be used in future research.

Similar research conducted by Moser and Muirhead (1949) using 2,000 soldiers as subjects indicated that the ability to interpret reading material increased with the grade last completed. However, coefficients of correlation indicated no relationship between an individual's score and the grade last completed.

In a national survey of applicants to take the GED, Cerevero (1983) surveyed 13,000 applicants at over 250 testing sites across the United States. The survey indicated that over half the candidates were 21 years old or younger. Nearly 70% of the candidates had completed the 10th grade and 75% reported an average of "C" or higher before leaving school. In this survey, 90% of the examinees reported that they regularly read books, magazines, newspapers, etc. Over 60% cited general knowledge as their most important reason for reading. According to the survey, most individuals who left school continued to add to their cognitive abilities in some way.

Since recent surveys indicate that the majority of individuals who leave school passively continue their

education, it should be possible to measure the effect this has on scores of the GED. That is what this study seeks to do. By taking scores of individuals who take the test immediately after leaving school and comparing them to individuals who take the test after a period of time away from school, taking into account grade completion and formal preparation for the GED, one should be able to hypothesize that time away from school has a significant effect on test outcome.

Additionally, age, formal preparation, and gender differences, as a predictive measure of test performance, can be hypothesized. Many take the GED as a requirement for employment, while others take the GED as a requirement before college admission. Indicating that one is taking the GED with the intentions of pursuing higher education may be hypothesized as predictive of test scores.

CHAPTER 2

Method and Results

The Sample

The sample consisted of all GED applicants selected from files in the Counseling and Testing Center at Austin Peay State University, in Clarksville, Tennessee for the years 1988 - 1990. The sample consisted of 299 males and 595 females. All but one subject took the English version.

Method

Each applicant's file was reviewed and the following information extracted: date of test, date of withdrawal from school, was there formal preparation for the GED, standard scores on all five subtests, average standard scores, age of applicant, gender, whether applicant passed or failed, and last grade completed.

Results

Information obtained from the files indicates that 1104 individuals took the GED during the three-year period. The age range of the group varied from 17-68 years of age, with a mean age of 28.151. Those applicants under 21 who took the test accounted for 38.949%. State of Tennessee standards require a standard score of 225, average score of 45, and no subtest score below 35 for passing the GED.

Under these guidelines, 72.1% of the applicants passed. Only first time score results were used in the analysis. No retake scores from subsequent tests were included.

Grade completion ranged from sixth grade through attendance of the twelfth year of school, with a mean grade completion of 9.976 years of school. While 1104 took the test, certain data were absent on some forms. Analysis were completed on forms that had all data present for the various tests resulting in a revised sample of 299 males and 595 females for a total of 894 subjects.

A regression analysis was conducted to compare time since leaving school, grade completion, and whether formal GED preparatory classes were predictive of standard score. The multiple R of 0.203 (p <.0005) indicates that these variables were significant predictors of total standard scores on the GED. However, these variables accounted for only 4.1% of the variance. The associated beta weights (semi-partial correlations) indicate that dropping out in a higher grade (Beta= -.092 p < .02) and planning further education (Beta =.107, p <.003) were positive predictors of performance.

Time since leaving school (Beta = .043, p >.05) and gender (Beta = -.004, p = .896) were not significant predictors. Surprisingly, taking preparatory classes for the GED was a negative predictor (Beta = -.137, p <.0005) of performance on the GED.

Although gender was not significantly related to average standard score, a follow up analysis indicated gender related variability in subtest scores. Two hundred ninety nine males and 595 female subjects were compared on several variables by using a t-test. Results indicate that no significant difference was found when gender was compared to the average standard score. However, when each subtest was individually compared with gender, females were found to preform significantly better on writing and reading skills tests, while males preformed significantly better on science and mathematics skills tests. No significant difference was found on the social studies skills test. Table 1 contains the means, standard deviations, and levels of significance of each test by gender.

Table 1

Mean Differences in GED Scores by Gender

Gender	Number	Mean	SD	Significance
STANDARD SCORE				
Female	595	248.21	39.57	p > .05
Male	299	248.74	38.48	
WRITING				
Female	595	49.06	8.23	p < .0005
Male	299	46.12	8.28	
SOCIAL STUDIES				
Female	595	51.19	9.01	p > .05
Male	299	51.73	9.45	
SCIENCE				
Female	595	50.17	8.41	p < .0005
Male	299	52.35	8.99	
READING				
Female	595	51.53	9.60	p < .01
Male	299	49.90	9.33	
MATHEMATICS				
Female	595	46.42	8.19	p < .0005
Male	299	48.61	8.56	

Additionally, a t-test was preformed on each subtest comparing it to class preparation. Results were that all subtests scores were significantly lower for those who took preparatory classes. A correlation between age and standard score was preformed. Results indicated a slight negative correlation between age and standard score (r= -.037) but was not significant to the .05 level (p >.05).

Finally, a t-test was conducted comparing each subtest and standard score, to whether individuals were taking the GED for advanced training beyond high school. Results indicate standard score and each subtest score was significantly higher for those indicating they were planning to take advanced training beyond the high school level. Table 2 lists the mean scores, standard deviation, and level of significance for each test.

Table 2

Mean Differences in GED Scores for Those Indicating
Training Beyond High School and Those Indicating No
Additional Training Plans

Training	Number	Mean	SD	Significance
STANDARD SCORE				
Training	463	253.19	39.86	$p < .0005$
No Training	431	243.23	37.04	
MATHEMATICS				
Training	463	47.97	8.76	$p < .001$
No Training	431	46.27	7.86	
READING				
Training	463	52.13	9.60	$p < .0005$
No Training	431	49.75	9.32	
SCIENCE				
Training	463	51.95	9.08	$p < .0005$
No Training	431	49.76	8.05	
SOCIAL STUDIES				
Training	463	52.25	9.15	$p < .002$
No Training	431	50.43	9.08	
WRITING				
Training	463	49.10	8.42	$p < .0005$
No Training	431	46.97	8.16	

CHAPTER 3

Discussion

The results of the present study indicate time away from school has no adverse effect on test results. The hypothesis that time away from school would be a significant predictor of standard score was not supported. This should be encouraging news for those who did not complete their high school education and have reached a transitional time in their lives.

While past research conducted by Moser and Muirhead in 1949, and Andrew in 1954, indicated that grade completion is not a significant predictor of GED scores, results of this study found that grade completion was indeed a significant predictor of GED scores. However, the purpose of the GED test is to recognize those educational experiences that have been acquired since leaving school. The relatively low correlation between grade completion and standard score lends support to the notion that more than specific content is being measured. Since time away from school is not a significant predictor of test performance, it may be that students who have less formal education are compensating through experience after leaving school.

The most surprising finding in this study is the negative predictive relationship between individuals taking

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GED preparatory classes and standard score. It would be unfair to draw the conclusion that GED preparatory classes are not having a significant effect on GED scores. The amount of time in these classes and the prior knowledge before entering these classes is unknown. Further study of the preparatory test instruction program is advised.

Support for the hypothesis that scores of individuals taking the GED for advance training beyond high school was found. A quick look at research on GED applicants success in college produces mixed results. A meta-analysis of all research on college performance is suggested for future research.

It was found that age was not a significant predictor of score results which did not support the stated hypothesis. This should lend additional support to those who feel that they are too old to take the GED.

Finally, the matter of gender differences on scores should be discussed. No significant difference in standard scores according to gender would seem to support the hypothesis as stated. However, upon further study it was revealed that males did better in mathematics and science, females did better in reading and writing, and no difference in social studies was found. The hypothesis as stated was not supported. For decades the stereotypical view that males are better in mathematics and science has often been stated. The results in this study may be a

reflection of stereotype views still present in the classroom.

In conclusion, the GED is provided to give a second chance at education. The statements that a person is too old, been away from school too long, or did not go far enough in school, cannot be supported by the evidence presented in this study. On October 31, 1981 this author took the GED at age 25, after being away from school for 10 years, and only finishing the ninth grade.

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