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High School Dropout Education Levels
And Adult Education Grade Equivalents Scores on School Re-entry
A Correlation Study

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Abstract

While dropping out of high school is a choice that has serious social and economic repercussions, it does not have to be a permanent situation or the end of the person's education. Learning is generally considered to be a continuous process over a lifespan. This study looks at more than 300 students who dropped out of school in their teen years and returned to school to earn a General Education Diploma (GED). Data were collected from program records for three consecutive years. The information included: gender, race, age, last grade completed in high school, as well as reading, writing, and math assessment scores done at program entry. Correlation and regression techniques were employed to analyze relationships between variables. Results show certain correlations between age and program-entry reading scores, gender and program-entry reading scores, race and program-entry reading scores, and age and program-entry math scores. Results also show that race had significant effect on the program-entry reading scores, the last high school grade completed, and program-entry writing scores.

Chapter I

Introduction

Many factors contribute to the making of a high school dropout. Countless students exhibit risk factors for not completing high school; however, some students do not overcome the risks and drop out of high school. Laird, Kewal-Ramani, and Chapman, (2008), reported that nationally, of the 37 million 16-24 year olds in the United States, 9.3% dropped out of high school in 2006. On average this would indicate that 3.5 million 16-24 year olds were not enrolled in high school, had not earned a high school diploma and would be labeled as dropouts. The figures also indicate that males (10.3%) were more likely to drop out of high schools than females (8.3%). The dropout rate for Hispanics was 22.1%, for Blacks 10.7%, and for whites 5.8% (Department of Education, 2008). Annual rates of dropouts are close to five times higher in large cities compared to dropout rates in the suburbs and three times higher than in rural areas (Swanson 2004). The problem is multifaceted. There are many risk factors associated with dropping out of school. When considering all the different risk factors for dropping out of school, the picture is bleak. Poverty is a huge factor: An estimated 22% of poor children dropout of school. The rate increases radically for children who are minority and poor: 31% of poor Black children and 33% of poor Hispanic children dropout of school. Success in school is another huge factor: 23% of children who are poor readers drop out compared to 9% of children with basic reading skills and 4% of proficient readers (Hernandez, 2011). Many would agree that when all the factors come together a decision is made to drop out. However, the decision is not a sudden one, but a gradual process of disengagement. Identifying the factors that contribute to the process is imperative for intervention and prevention.

Chapter II

Literature Review

Factors of Dropping Out

Meeker, Edmonson, and Fisher, (2008) gathered data from qualitative surveys, focus groups, and interviews. The participants were high school dropouts from 16 to 30 years old and were all connected to a GED program, some were currently enrolled and others had successfully completed the program. Although the study participants were not a representative sample the data were interesting. The study focused on the factors that prevented the students from completing high school. Their findings were categorized as factors that push students out of school and factors that pull students out. Push factors were influences from within the school system and pull factors were influences outside the school system. The respondents reported 17 different factors that they believed influenced them to drop out of school. More than a quarter of the participants reported pregnancy as the reason for being pulled out of school. The other factors commonly reported as reasons for being pushed out of school were overall school dysfunction and lack of credits. Three other factors frequently mentioned by the participants were bad attitude, poor choices, and dysfunctional homes. Overall the pulls-out factors were stronger influences than the push-out factors. The implication of the study was that push-out factors were often influenced by the pull-out factors.

In a much larger study, Suh and Suh, (2007) also identified factors contributing to high school dropouts. The study used the U.S. Department of Labor database to access data from the National Longitudinal Survey of Youth (NLSY97). In 1997, the Department of Labor conducted the initial survey of 9000 youths and their parents. Each received an hour-long interview. These youths have been re-interviewed annually since then. The final sample was 3,111 males and

3,081 females; 5,244 completed high school, 948 did not. To identify common causes of dropping out of school, Suh and Suh considered 180 variables representing personal, behavioral, familial, school related, and community related aspects of the participants' school performance. The screening process yielded 15 statistically significant predictors of high school dropouts. Six are quantitative composite index variables and nine are qualitative. The predictors were: low grade point average in 8th grade, low socioeconomic status, suspension from school, students' expectation to stay in school, enrichment risk index, number of days absent from school, not living with both biological parents, physical environment risk, sexual experience at age 15 or earlier, number of household members, percentage of peers planning to go to college, residence in metropolitan area, positive perception toward teachers, number of fights at school, and threatened with harm at school.

The study found that although many students were exposed to multiple risk factors, three major risk factors: academic failure, low socioeconomic status, and behavioral problems had the biggest effect on the decision to drop out of high school. Of these three risk factors, academic failure was the greatest risk. According to the authors, the dropout rate for students with one risk factor is 27.1%, for two risk factors is 32.5%, and for three 47.7%.

Reasons for Dropping Out

A study done by Stevenson and Ellsworth, (1991), focused on suburban school students who had dropped out of high school. The study was conducted in a working class or lower middle class neighborhood that was almost 100% white. The sample consisted of 86 dropouts who were interviewed to obtain information regarding their reasons for dropping out of high school and their views of school programs and policies. The students' school records were also analyzed. The research reported 76% of the dropouts had been retained a grade in elementary

school. The dropouts had a widespread variation in demographic and family related factors, but had reoccurring patterns with poor academic performance. Almost all, 94%, had a history of academic failure, 77% had failed courses in a range of subjects, and 50% had truancy problems. Truancy was measured by 18 or more unexcused absences of more than 18 days during the year prior to leaving school. The dropouts reported that poor academic performance was not the only factor. Personal and family problems added to the decision to drop out. In addition, a large percent of the students felt unaccepted by peers and felt a lack of support from school staff.

The Silent Epidemic, a 2011 report from the Bill and Melinda Gates Foundation, described the results of an extensive study of 16 to 24 year olds who did not complete high school. The study conducted four focus groups and face-to-face interviews with 467 ethnically and racially diverse subjects from public high schools in 25 different locations. The subjects were from urban areas (67%), suburbs (14%), and rural/small towns (17%). The racial aspects of the subjects were: 36 % white, 35 % black, and 27% Hispanic. Fifty-two percent of the subjects were male and forty-eight percent female. Two other factors reported were 49% of the subjects were raised with a single parent and 44% claimed a below average family income (Bridgeland, Dilulio, and Morison, 2006).

Although the authors admitted that participants reported multiple reasons for dropping out, the report's main focus was on the subject's lack of connection to the school, a perception that school was boring, their feelings of not being motivated, and the weight of world events as the primary reasons for students dropping out of school. The report stressed that although some students dropped out of school because of academic issues, this was not the majority of the motivation for dropping out. Forty-five percent of the subjects reported that they started high school poorly prepared by their earlier school experience. However, most participants in the

study agreed that dropping out of school was a gradual process of disengagement beyond academics.

Behavioral Characteristics of Dropping Out

Daniels and Company, (2008), also used the National Educational Longitudinal (NEL) Study (NELS: 88) database to examine the educational development of students, particularly those of low socioeconomic status (SES). The purpose of the study was to continue a study of low SES students 8 years after high school in demographic, psychological and behavioral characteristics. The participants were 2,460 students from the NEL Study panel sample who were at or below the 25th percentile in SES in the 1988 and 2000 survey. The SES variables were: father's education, mother's education, family income, father's occupation, and mother's occupation. The study began with the student questionnaire in 8th grade and follow up questionnaires in 10th grade and 8 years beyond high school. The study participants were gender, ethnically and racially diverse. The participants were from southern, northeast, north central, and western United States. The study reported that the influence of gender on educational attainment was small but significant, with the girls in the study attaining higher degrees than the boys. There was no direct effect of race on educational attainment in general, though there was a significant negative effect on educational attainment through math and reading scores, and student behavior. The majority group (White and Asian) had higher math and reading scores and fewer behavior problems. Overall, academic performance in 10th grade was the strongest predictor of later educational achievement.

Another study, the Concordia Longitudinal Risk Study, (Serbin, 2010) examined the patterns of childhood behaviors and the connection to a disadvantaged future of dropping out of high school, early parenthood, and family poverty. The 30- year study had 328 female and 222

male participants, who began the study in 1976 as school children from low socio-economic, urban backgrounds. The children were admitted to the study because of their school patterns of aggressive, antisocial behavior. The participants were systematically assessed during childhood, adolescence, and adulthood with the Pupil Evaluation Inventory, which is a peer nominated instrument. School information was gathered from school reports and standardized educational test scores in mathematics and language arts. Phone interviews with the participants parents and later with the participants as adults were conducted at the end of the first year and at three year intervals. The cumulative data gathered from 1976 to 2003 was used in the study. The study had a high rate of attrition, as the 550 participants were only 48% of the original sample.

Among other measures such as age of first child, family composition, and socio-economic circumstances, the study revealed that 74 females (22.6%) and 50 males (22.5%) dropped out of high school. Both childhood aggression ($r = -.27, p \leq .001$) and withdrawal ($r = -.30, p \leq .001$) were related to lower school achievement. Females (35) who experienced academic difficulties were at an increased risk of dropping out of school ($\beta = .19, p \leq .001$) when compared to the female students who did not have difficulty in school. This was also true of the males in the study, as both childhood aggression ($r = -.34, p \leq .001$) and withdrawal ($\beta = -.23, p \leq .001$) were related to lower school achievement. The males who experienced academic difficulties also had a significantly increased risk of dropping out of school ($\beta = .24, p \leq .01$) when compared to male students who did not have difficulty in school. The authors' conclusion was that early childhood characteristics such as aggression, social withdrawal, and low socio-economic status are predictive of a series of negative actions including dropping out of high school.

Process of Dropping Out

In order to understand the development of changes in the personal factors of dropouts, Lanthier and Lan, (2003), studied the changes in personal attributes of students between 8th and 12th grade. The researchers believed that there was a need to understand the developmental patterns and processes of dropping out of school. Data were used from the National Educational Longitudinal Study of 1988 conducted by the National Center of Educational Statistics (NCES). The NCES selected 1,100 public and private schools and surveyed 25 eighth graders in each school. The students were surveyed four times between 1988 and 1994, in 8th grade, 10th grade, 12th grade and 2 years after graduation. Of these, only the students who dropped out of high school were used in the study. The participants were: 591 males and 513 females; 673 were White, 196 Hispanic, 172 Black, 27 Asian and Pacific Islanders, and 25 American Indian or Alaska Natives; 44% from the South, 24.2% from the North Central, 20.3% from the West and 11.5% from the Northwest sections of the United States.

The variables used in the study were the students' personal attributes that could be related to dropping out: academic performance, relationship with teachers, relationship with peers, perceptions by peers, perception of school, participation in school activities, motivation for school work, effort in school work, self-esteem, and locus of control. Every variable was measured three different times except peer relationship, which was only measured in the first two surveys. The researchers observed a decline in the student's perceptions of schools, teachers, and school related work after 10th grade which continued until the student dropped out of school. Participation in school activities did not decline until the last two years of high school. Overall there was a general decline in the personal attributes of the students when they transitioned to high school. If students had a history of academic failure, the beginning years in high school

accelerated the academic decline. The perception of a non-supportive school environment was added to the academic failure of students and promoted the decision to drop out of school. The study found that, as a group, the students in the earlier study tended to have low self-esteem. There was not an observable decline or an increase of self-esteem between the beginning of high school and the drop out time. The study also showed the students maintained a high external locus of control in their accountability belief throughout their time in high school.

Academics and Dropping Out

Carpenter and Ramirez, (2007), explored issues surrounding the academic achievement gaps in dropout rates between Black, White, and Hispanic students. The study built on their previous study which used data from National Educational Longitudinal Study of 1988 conducted by the National Center of Educational Statistics (NCES). Although test scores usually measure achievement, this particular study documented the achievement gap by dropout behavior. The data used in the study was collected during the student's 8th grade, 10th grade, 12th grade, two years after high school and eight years after high school. This included a questionnaire and a cognitive test for each student. The students' parents, teachers, and the school principal also completed questionnaires. The demographics of the 17,613 participants were: 13,158 White, 2,445 Hispanic, and 2,010 Black. The variables used were each shown to influence the probability of dropping out. Phase I applied models from an earlier study to determine if the predictors would produce similar results. Phase II included additional variables that had been shown to be important in other research.

Phases I variables tested were: grade retention, number of suspensions, participation in a dropout program, country of birth, gender, hours per day watching TV, hours per week spent working, hours per week in extracurricular activities, computer use, number of sibling who had

dropped out, 8th grade reading and math scores, and 10th grade reading and math scores. Phase II variables tested were: time spent with homework, SES, units of algebra, participation in ESL programs, language other than English spoken at home, family composition, parental involvement, student race/ethnicity, teacher certification, percent of white students in the school, school type, and urbanicity. Traditionally achievement gap is measured by test scores; however, the study also included drop-out behavior among Black, White and Hispanic students. It also had a specific focus on gaps within groups, not just between Whites and minorities. The results of the study showed that within-group gaps were often more significant than between-groups. The overall dropout rate in the sample was 9.7%. Disaggregated by race/ethnicity, the rate was Black 15.0%, Hispanic 15.4% and White 8.4%. Achievement gaps within groups if measured by dropping out are larger than gaps between groups. Male, white and Hispanic students, who spent more time on homework, and had two parents in the home, had less likelihood of dropping out. In addition, male, white and Hispanic students who had parental involvement in their school activities were less likely to drop out. It also found two common predictors for all three groups of dropouts: grade retention and school suspensions.

Abbott, Hill, Catalano, and Hawkins, (2000), tested five different theories that predict dropping out of high school using a variable structure equation model. In the study, the authors tested the effects of poor academic achievement on the theories of general deviance, deviant affiliation, poor family socialization, and structural strains. The model used a combination of statistical data and causal assumptions to test these theories. The focus of the study was to determine how these variables were related to achievement. The data used was from a longitudinal study of 808 fifth grade students from 18 elementary schools in high crime neighborhoods in Seattle. The students were 46% white, 54% minority, 412 were male, 396

female and about half were from low-income households. Information for the study was gathered from school records, parent and student interviews and questionnaires. Yearly data was collected from 1985 to 1993. Twenty measured variables and scales were used in the analyses, fourteen were used in the five latent constructs. The following were used as measured variables: low parental expectations, lack of parent education, sexual involvement, gender, ethnicity, and SES. All variables were measured when the participants were age 14 and 16. The results of the study indicated that poor academic achievement was the strongest predictor of dropping out of school. However, several additional factors contributed when poor academic achievement was modeled as a mediating variable. Considered separately, general deviance, bonding to antisocial peers, and low SES all increased the likelihood of dropping out of school.

Criminal Behavior and Dropping Out

Hirschfield, (2009), suggested that contact with the legal system increases school dropout rates. Using a sample of 4,844 inner-city students in minority dominated Chicago schools, the study compared 9th grade students, who were court involved, with a comparison group, who were not court involved. The sample involved both sexes and represented a wide range of criminal offenses for the arrested groups: drugs (40%), assault or battery (18%), and property crime (22%). The sampling pool for the study was from an earlier study: Comer's School Development Program (CSDP). This study provided at least one annual survey on attitudes and behavior and access to school and juvenile justice records. The 402 youths who were arrested Year 1 (60%) and Year 2 (40%), and the non-arrested youths were assigned a comparable reference point for the measurement of baseline enrollment status. Year 1 arrestees were compared with Year 1 non-arrestees and the Year 2 arrestees were compared with Year 2 non-arrestees. In the baseline model arrestees are 9.5 times more likely to dropout. A multiple

regression analysis examined the effects of arrest on the 9th and 10th grade dropout rates. The variables used were demographic factors, behavioral factors, academic behavior, contextual factors, and being arrested. In total, 402 youths were arrested, Year 1 (60%), Year 2 (40%). The remaining 4,507 youth were not arrested during Year 1 and Year 2. Of the arrested participants, only 28 % were confined in juvenile detention centers and this was for a short period. According to the research, arrests increased the early dropout by a factor of 2.60 ($p=.016$). Year 1 arrestees had more than 2.5 times the odds of dropping out early than the arrestees in Year 2. Only 7% of the females in the study were arrested and dropped out while enrolled in Year 1 and Year 2. But 27% of the males were arrested and dropped out while enrolled in Year 1 and Year 2 compared to 3% among non-dropouts. The study suggests that juvenile justice intervention weakened school participation and concluded that criminal behaviors are important risk factors that contribute to youths dropping out of school.

Purpose

Over all, the literature listed here establishes risk factors or tests previously determined risk factors for dropping out of school. The risk factors are often too many to list; one study used 180 different risk factors. The problem of youths dropping out of school is clearly multifaceted. Many studies have examined individual and related risk factors searching to understand the causes and the processes of dropping out of school. They are crucial to creating solutions for the problem. The studies reviewed in this paper clearly support that dropping out of high school is a gradual process of disengagement. However, of all the factors considered, not-learning at an early age was not considered. Usually referred to as lack of credits, academic failure, grade retention, and poor academic performance, this basically translates to students fail because they do not learn. If the dropout process has a beginning, it would be not-learning. In my classroom

for high school dropouts, I observe many adult learners who exhibit a lack of learning in very basic skills that could be connected to not-learning as children. There is a need for research to determine if the starting point of the dropping out process is not-learning. My study has one central aim: to examine a sample of test scores of adult dropouts for indications of not-learning. This will be done by comparing the grade levels of adult students who dropped out of high school with the test scores in reading, math, and writing, taken upon entrance into a GED program.

Research Question

The study presented here asked two questions. First, if drop outs return to school as adults and are tested upon entry, will there be a significant correlation with the highest level of high school completion and the students current test levels in reading, math, and writing? Second, will there be a significant difference in these test scores across gender, race, and age?

Chapter III

Methods and Procedures

Sample

The study sample is 454 adult students who did not complete high school and who returned to school to enroll in a GED program. The students are from the surrounding community and from a jail release program. Data were collected from program records, which include: gender, race, age, and last completed high school grade. This information was self-reported by the students. Reading, writing, and math assessment scores were done at program entry with the Test of Adult Education (McGraw-Hill 2004). Subjects were not included in the study if the information needed was incomplete in the program records or students were assessed in only one or two content areas. A total of 980 students were considered, 526 were excluded for incomplete information. Many students did not include the last grade completed on the form. Students seem uncomfortable revealing this information. It could be embarrassment or some sense of failure. Other students were not included in the study if they pre-tested in only one or two subjects. This would indicate that the dropout had already participated in a high school completion program and passed some of their GED tests. Three pre-test scores were required for the study: reading, math and writing. The subjects, who are not identified, were 68% (308) male, 32% (144) female. The racial makeup of the sample was 75% (338) black, 16% (74) white, 9% (27) Hispanic, 2% (8) Native American, and 1% (6) Asian (Table 1.8). The racial and gender makeup of the sample was affected by several factors. The GED program is located in a predominately black neighborhood, which accounts for part of the large amount of black students. The other factor is that students from the local jail release program were also

predominately black, which reflects the disproportionate number of blacks in the county jail. In addition, the jail facility that released prisoners to go to school was an all-male facility. This influenced the male/female ratio in the sample. The age range is 18 to 65 years old; however, the mean age was 28 years, the median age 26. The subjects live in a poor neighborhood in a major Midwestern city; all have low socio-economic backgrounds. Most of the subjects have an education experience from an urban middle school and/or high school.

Table 1.1 *Sample Demographics*

<u>Sample</u>	<u>Gender</u>	<u>Sample</u>
Black	m	234
White	m	45
Hispanic	m	22
Asian	m	5
Native American	m	3
Black	f	104
White	f	29
Hispanic	f	5
Asian	f	1
Native American	f	5

The sample participants were 52% black males, 10% white males, 23% black females, and 6% white females. The sample had a small percent of Hispanic, 1%, Asian .2%, and Native American , 1%, (Table 1.1). The mean scores for black males were reading 7.4, writing 6.3, and

math 5.4 with a range from 1.5 to 12.9. The mean scores for the white males were reading 8.7, writing 7.2, and math 7.6 with a range from 1.2 to 12.9. The mean black female's scores were reading 7.2, writing 6.1, and math 5.6 with a range from 1.1 to 12.9. The white female scores were reading 9.4, writing 6.7, and math 8.1 with a range from 4.1 to 12.9, (Table 1.2). The average high school grade completed by the participants was 10th grade. The lowest high school grade completed by the participants was 8th grade. Only one participant dropped out of high school in 12th grade, (Table 1.6).

Table 1.2 Sample Mean Grade Equivalent Scores

Mean scores	Gender	Reading	Writing	Math
Black	m	7.4	6.3	5.4
White	m	8.7	7.2	7.6
Native American	m	10.0	6.5	7.3
Asian	m	6.0	5.5	4.4
Hispanic	m	5.7	6.6	5.4
Black	f	7.2	6.1	5.6
White	f	9.4	6.7	8.1
Native American	f	9.8	6.7	6.1
Asian	f	6.0	6.8	9.4
Hispanic	f	5.4	5.4	3.8

Table 1.6 *Sample Mean Last Grade Completed*

<u>Last Grade Completed</u>	<u>Mean</u>	<u>Number dropped</u>
8th	5%	23
9th	13%	57
10th	43%	197
11th	39%	193
12th	0%	1

Table 1.7 *Sample Mean by Gender*

<u>Gender</u>	<u>Mean</u>	<u>Sample</u>
Male	68%	308
Female	32%	144

Table 1.8 *Sample Percentage by Race*

<u>Race</u>	<u>Mean</u>	<u>Sample</u>
Black	75%	338
White	16%	74
Hispanic	6%	27
Native American	2%	8
Asian	1%	6

Method

The study was an explanatory, correlation study involving a multiple regression analysis and analysis of variance (ANOVA). The explanatory design explores the extent to which the change in the independent variables reflects on dependent variable. The analysis included measure of central tendencies, variability, and relative standing to provide understanding of the tendencies of the data, variations of the grade levels, and score comparison. In the multiple regression analysis, the dependent variables were program entry-level scores: $Y^1 = \text{Reading}$, $Y^2 = \text{Math}$, and $Y^3 = \text{Writing}$ and the independent variables were: age = X^1 , gender = X^2 , race = X^3 , and highest level of high school completion = X . The null hypothesis claimed that there is no significant correlation with age = X^1 , gender = X^2 , race = X^3 , and X . The level of statistical significance was .05 for all the analyses. The alternative hypothesis claimed that at least one significance test would be below .05 and there would be a significant correlation with at least one of the variables.

Analysis of variance (ANOVA) was also conducted using: last grade of high school = A , gender = B , race = C , as independent variables and TABE scores- reading = D^1 , math = D^2 , and writing = D^3 as the dependent variable. For the 4-way ANOVA, the null hypotheses were:

1. There would be no effect of A on D^1 , D^2 , and D^3
2. There would be no effect of B on D^1 , D^2 , and D^3
3. There would be no effect of C on D^1 , D^2 , and D^3

For the 4-way ANOVA the alternative hypotheses were:

1. There would be an effect of A on D^1 , D^2 , and D^3

2. There would be an effect of B on D¹, D², and D³
3. There would be an effect of C on D¹, D², and D³

Instrument

The study relied on information from a GED program. Students enrolling in the program, self-reported demographic information of age, race, gender, and last grade completed in school. Upon entry into the GED program students were tested in reading, math computations, applied math, and language arts writing. The pre-entry test used was the Tests of Adult Basic Education (TABE), Survey Forms 9 and 10, Battery Levels A, D, M, or E. The test was administered and hand scored by program staff. To clarify irregularities that could occur with hand scoring tests, several scoring procedures were used. A valid response to an item was marking on one, and only one, answer choice. A non-valid response to an item was when they omitted an answer or marked more than one choice. According to *The TABE Norm Book Form 9 and 10* (2004), the grade equivalents (GEs) range from .0-12.9 representing the 13 years of school (K-12).

The TABE test is a standardized test for an adult that was normed on school children in grades 1-12. The adult testers' scores are correlated to the average performance at each grade level. The use of standardized, norm referenced tests for placement is not perfectly reliable. (Sticht, 1990). The difference in the tester's frame of mind and the testing situation will reflect on test scores. Multiple choice tests also allows for guessing to affect the test results. Test-retest reliability is not reported. Internal reliability is equal to or greater than 0.80. Validity analysis show moderate correlations with Stanford Achievement Test Scores. The norm data are based on 4000 adults in 41 states (Sticht, 1990).

Chapter IV

Methods

The data were taken from registration forms from a GED program from the years 2009, 2010, and 2011. The information that was taken from each registration form was gender, race, age, last completed high school grade, and reading, writing, and math TABE assessment scores done at program entry. Subjects were eliminated from the study if information on the form was incomplete or if the student did not completed all three tests scores. There were 980 subjects considered, 526 subjects were excluded, 454 subjects were used. All student information was inserted into an excel spreadsheet and analyzed.

The analysis of variance (ANOVA) examined the effects of each independent variable separately and then in combination with the dependent variables. The last year of high school score =A, gender =B, race =C, were independent variables and TABE scores- reading=D¹, math=D², and writing=D³ were the dependent variables.

ANOVA Results

Table 3.9 *Tests of Between-Subjects Effects*

Independent variables: grade, gender and race/ dependent variable: reading score

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	624.203 ^a	34	18.359	2.562	.000
Intercept	1533.096	1	1533.096	213.932	.000
Grade	80.613	6	13.436	1.875	.084
Gender	4.804	1	4.804	.670	.413
Race	132.774	4	33.194	4.632	.001
Grade * Gender	18.525	3	6.175	.862	.461
Grade * Race	122.558	10	12.256	1.710	.076
Gender * Race	27.172	4	6.793	.948	.436
Error					
Corrected Total	2995.503	418	7.166		

Note: R Squared = .172 (Adjusted)

Table 3.10 *Tests of Between-Subjects Effects²*

Independent variables: grade, gender and race/ dependent variable: math score

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	207.631 ^a	34	6.107	.989	.489
Intercept	1184.419	1	1184.419	191.748	.000
Grade	55.473	6	9.246	1.497	.178
Gender	.881	1	.881	.143	.706
Race	22.739	4	5.685	.920	.452
Grade * Gender	9.277	3	3.092	.501	.682
Grade * Race	40.769	10	4.077	.660	.762
Gender * Race	8.746	4	2.186	.354	.841
Error	2581.961	418	6.177		
Total	21132.600	453			
Corrected Total	2789.592	452			

Note: R Squared = .074 (Adjusted R Squared = -.001)

Table 3.11 *Tests of Between-Subjects Effects*³

Independent variables: grade, gender and race/dependent variable: writing score

Source	Type III Sum	df	Mean		Sig.
	of Squares		Square	F	
Corrected Model	835.396 ^a	34	24.570	2.828	.000
Intercept	1015.072	1	1015.072	116.817	.000
Grade	126.708	6	21.118	2.430	.025
Gender	.072	1	.072	.008	.928
Race	203.021	4	50.755	5.841	.000
Grade * Gender	14.089	3	4.696	.540	.655
Grade * Race	193.643	10	19.364	2.228	.016
Gender * Race	30.238	4	7.559	.870	.482
Grade * Gender *	89.637	6	14.939	1.719	.115
Error	3632.191	418	8.689		
Total	19863.510	453			

Note: R Squared +.187 (Adjusted Square .121)

The null hypothesis is rejected as there was significant effect of C on D¹ (Table 3.9) and also a significant effect of A and C on D³ (Table 3.11). Using alpha = .05, only race has significant main effect on reading scores. Grade and race have significant effects on writing scores. Also, combination of these two factors also affects this score.

In the multiple regression analysis, the dependent variable were program entry-level Y^1 = Reading, Y^2 = Math, and Y^3 = Writing and the independent variables were: age = X^1 , gender = X^2 , race = X^3 , and highest level of high school completion scores = X . The null hypothesis was rejected as there was significant correlation with age = X^1 , gender = X^2 , race = X^3 , and X = highest level of high school completion. There was a correlation between age and reading, gender and reading, race and reading, age and math. The alternative hypothesis is accepted. It is predicted that at least one coefficient will be below .05 and there would be a significant correlation with at least one of the variables. The data suggests that there is a significant proportion of variability in the following areas of the data.

X^1 = age and Y^1 = reading (Table 3.18)

X^2 = gender and Y^1 = reading (Table 3.15)

X^3 = race and Y^1 = reading (Table 3.21)

X^1 = age and Y^2 = math (Table 3.19)

X^1 = age and Y^3 = writing (Table 3.20)

X^2 = gender and Y^3 = writing (Table 3.17)

Table 3.12 *Regression Reading - Grade*

Multiple R 0.180266944

R Square 0.032496171

Adjusted R Square 0.03035093

Standard Error 2.78660086

Observations 453

ANOVA

	df	SS	MS	F	Significance F
Regression	1	117.6266083	117.6266083	15.14802597	0.000114406
Residual	451	3502.080104	7.765144355		
Total	452	3619.706713			

	Coefficients	Standard Err	t Stat	P-value	Lower 95%
Intercept	1.764025508	1.488487631	1.185112641	0.236597002	-1.16120682
X Variable 1	0.569413297	0.146301771	3.892046501	0.000114406	0.281895509

Table 3.13 *Regression Math - Grade*

Multiple R 0.105999929

R Square 0.011235985

Adjusted R Square 0.009043603

Standard Error 2.473024258

Observations 453

ANOVA

	df	SS	MS	F	Significance F
Regression	1	31.34381013	31.34381013	5.125013754	0.024057647
Residual	451	2758.24789	6.115848979		
Total	452	2789.5917			

	Coefficients	Standard Err	t Stat	P-value	Lower 95%
Intercept	3.384428813	1.3209879	2.562043764	0.010729688	0.788373308
X Variable 1	0.2939346	0.129838411	2.263849322	0.024057647	0.038771231

Table 3.14 *Regression Writing- Grade*

Multiple R 0.125742213

R Square 0.015811104

Adjusted R Square 0.013628867

Standard Error 3.122392549

Observations 453

ANOVA

	df	SS	MS	F	Significance F
Regression	1	70.6374941	70.6374941	7.245365191	0.007372775
Residual	451	4396.950188	9.749335228		
Total	452	4467.587682			

	Coefficients	Standard Err	t Stat	P-value	Lower 95%
Intercept	1.357803848	1.667853748	0.814102465	0.416015879	-1.919925572
X Variable 1	0.441257865	0.163931465	2.691721603	0.007372775	0.119093535

Table 3.15 *Regression Reading - Gender*

Multiple R 0.03888099
 R Square 0.001511731
 Adjusted R Square -0.000702212
 Standard Error 2.830869856
 Observations 453

ANOVA

	df	SS	MS	F	Significance F
Regression	1	5.472024233	5.472024233	0.682823099	0.409053225
Residual	451	3614.234688	8.013824143		
Total	452	3619.706713			

	Coefficients	Standard Err	t Stat	P-value	Lower 95%
Intercept	7.931860841	0.498538797	15.9102178	1.46374E-45	6.952113496
X Variable 1	-0.236027508	0.285633091	-0.826331107	0.409053225	-0.797364487

Table 3.16 *Regression Math - Gender*

Multiple R	0.035386191
R Square	0.001252182
Adjusted R Square	-0.000962336
Standard Error	2.485478277
Observations	453

ANOVA

	df	SS	MS	F	Significance F
Regression	1	3.493077881	3.493077881	0.56544234	0.45246796
Residual	451	2786.098622	6.177602266		
Total	452	2789.5917			

	Coefficients	Standard Err	t Stat	P-value	Lower 95%
Intercept	6.046143474	0.437712581	13.81304477	1.92277E-36	5.185934115
X Variable 1	0.188578749	0.250783285	0.751959002	0.45246796	-0.304270071

Table 3.17 *Regression Writing - Gender*

Multiple R 0.063414763

R Square 0.004021432

Adjusted R Square 0.001813054

Standard Error 3.141038561

Observations 453

ANOVA

	df	SS	MS	F	Significance F
Regression	1	17.96610108	17.96610108	1.820988918	0.177872612
Residual	451	4449.621581	9.86612324		
Total	452	4467.587682			

	Coefficients	Standard Err	t Stat	P-value	Lower 95%
Intercept	6.549204423	0.553161984	11.83957794	2.39243E-28	5.46210952
X Variable 1	-0.427676645	0.316928929	-1.349440224	0.177872612	-1.050517393

Table 3.18 *Regression Reading - Age*

Multiple R 0.105101853

R Square 0.011046399

Adjusted R Square 0.008853598

Standard Error 2.8173213

Observations 453

ANOVA

	df	SS	MS	F	Significance F
Regression	1	39.98472609	39.98472609	5.037573178	0.025287334
Residual	451	3579.721986	7.937299305		
Total	452	3619.706713			

	Coefficients	Standard Err	t Stat	P-value	Lower 95%
Intercept	8.417468412	0.414931401	20.28640975	1.7101E-65	7.602029492
X Variable 1	-0.031141257	0.013874759	-2.244453871	0.025287334	-0.05840846

Table 3.19 *Regression Math - Age*

Multiple R 0.032196028
 R Square 0.001036584
 Adjusted R Square -0.001178412
 Standard Error 2.485746531
 Observations 453

ANOVA

	df	SS	MS	F	Significance F
Regression	1	2.891646699	2.891646699	0.467984583	0.494267168
Total	452	2789.5917			

	Coefficients	Standard Err	t Stat	P-value	Lower 95%
Intercept	6.600714676	0.366097502	18.0299364	4.03016E-55	5.881245985
X Variable 1	-0.008374554	0.012241818	-0.684093987	0.494267168	-0.032432639

Table 3.20 *Regression Writing - Age*

Multiple R 0.109782711
 R Square 0.012052244
 Adjusted R Square 0.009861672
 Standard Error 3.128349461
 Observations 453

ANOVA

	df	SS	MS	F	Significance F
Regression	1	53.84445489	53.84445489	5.501871746	0.019428501
Residual	451	4413.743227	9.786570349		
Total	452	4467.587682			

	Coefficients	Standard Err	t Stat	P-value	Lower 95%
Intercept	6.854046838	0.460739222	14.87619571	5.18947E-41	5.948584651
X Variable 1	-0.036137622	0.015406513	-2.345606904	0.019428501	-0.066415085 -

Table 3.21 *Regression Reading - Race*

Multiple R 0.03888099
 R Square 0.001511731
 Adjusted R Square -0.000702212
 Standard Error 2.830869856
 Observations 453

ANOVA

	df	SS	MS	F	Significance F
Regression	1	5.472024233	5.472024233	0.682823099	0.409053225
Residual	451	3614.234688	8.013824143		
Total	452	3619.706713			

	Coefficients	Standard Err	t Stat	P-value	Lower 95%
Intercept	7.931860841	0.498538797	15.9102178	1.46374E-45	6.952113496
X Variable 1	-0.236027508	0.285633091	-0.826331107	0.409053225	-0.797364487

Table 3.22 *Regression Math - Race*

Multiple R 0.048495677
 R Square 0.002351831
 Adjusted R Square 0.00013975
 Standard Error 2.484109611
 Observations 453

ANOVA

	df	SS	MS	F	Significance F
Regression	1	6.56064729	6.56064729	1.063176038	0.303044546
Residual	451	2783.031052	6.17080056		
Total	452	2789.5917			

	Coefficients	Standard Err	t Stat	P-value	Lower 95%
Intercept	6.155295478	0.23310662	26.40549409	1.44843E-93	5.69718551
X Variable 1	0.149367906	0.144862075	1.031104281	0.303044546	-0.135320537

Table 3.23 *Regression Writing – Race*

Multiple R 0.103382913
 R Square 0.010688027
 Adjusted R Square 0.00849443
 Standard Error 3.130508621
 Observations 453

ANOVA

	df	SS	MS	F	Significance F
Regression	1	47.74969641	47.74969641	4.872376126	0.027792712
Residual	451	4419.837986	9.800084226		
Total	452	4467.587682			

	Coefficients	Standard Err	t Stat	P-value	Lower 95%
Intercept	5.268494385	0.293764124	17.93443772	1.09905E-54	4.691177991
X Variable 1	0.402966789	0.182557152	2.207345946	0.027792712	0.044198553

Chapter V

Discussion

The study presented here asked two questions. First, if drop outs return to school as adults and are tested upon entry, will there be a significant correlation with the highest level of high school completion and the students current test levels in reading, math, and writing? The study found no significant correlation with the highest level of high school completion and the student's current test levels in reading, math, and writing. Second, will there be a significant difference in these test scores across gender, race, and age? The study did show significant correlation between age and reading, age and math, gender and reading, and race and reading. The mean reading test score for 18 to 23 year olds ranged from 6.8 to 7.9. However, the mean reading test scores for 24-30 year olds ranged from 8.1-8.7. For the older participants, the 31 to 56 year olds the mean test scores ranged from 6.8 to 7.3. There was a noticeable increase in the mean reading scores of the 24-30 year olds. There was also a marked difference in the mean math test scores in the age groups. The mean math test score for 18 to 23 year olds was 5.8 to 6.7. The mean math test scores for 24-30 were 6.8 and for the older participants, the 31 to 56 year olds the mean test scores ranged from 5.7 to 6.5. Again the 24-30 year old group had higher scores. When the mean scores were sorted by race, the male and female white participants had higher scores than the black male and female participants. The mean reading test score was 7.8 for males and 8.4 for females. However, the mean reading test scores for black males was 7.0 and for white males 8.6, for black females 7.3 and for white females 9.4.

Establishing a definitive causal connection in this type of research is not a possibility. Participants in the study were drawn from a very limited sample. The most advantaged and highest functioning high school dropouts would have greater social mobility and more resources

that would make them less available to participate in this small community GED program. Likewise, the least advantaged and lowest functioning high school dropouts may have fewer resources and other complications that would prevent access to this particular GED program; issues such as homelessness, poor health or long term criminal convictions. Conclusions remain speculative.

Even though dropping out of high school is an action that has serious social and economic repercussions, it is not always a permanent situation or the end of the person's education. High school completion is required for accessing higher levels of education and for obtaining good jobs, so many dropouts return to school to earn a high school credential. At this point, an academic assessment is required. It is expected that dropouts continue to learn informally after dropping out of school. Their learning opportunities vary according to their situations: jobs, relationships, parenting, personal interests. Beyond this, we must read and write to survive in our world. These life learning situations could produce re-entry scores that are higher than the last grade completed.

Other situations could also impact re-entry scores. Students in high school often do not work to their potential. They could have had academic abilities beyond the last grade completed when they dropped out of school. Or other situations of drug and alcohol abuse could produce re-entry scores that are lower than the last grade completed. However, even though it seems reasonable to expect students to have re-entry test score close to the level at which the student dropped, this is usually not the case. The difference is often five or more grade levels. This may indicate learning deficiencies.

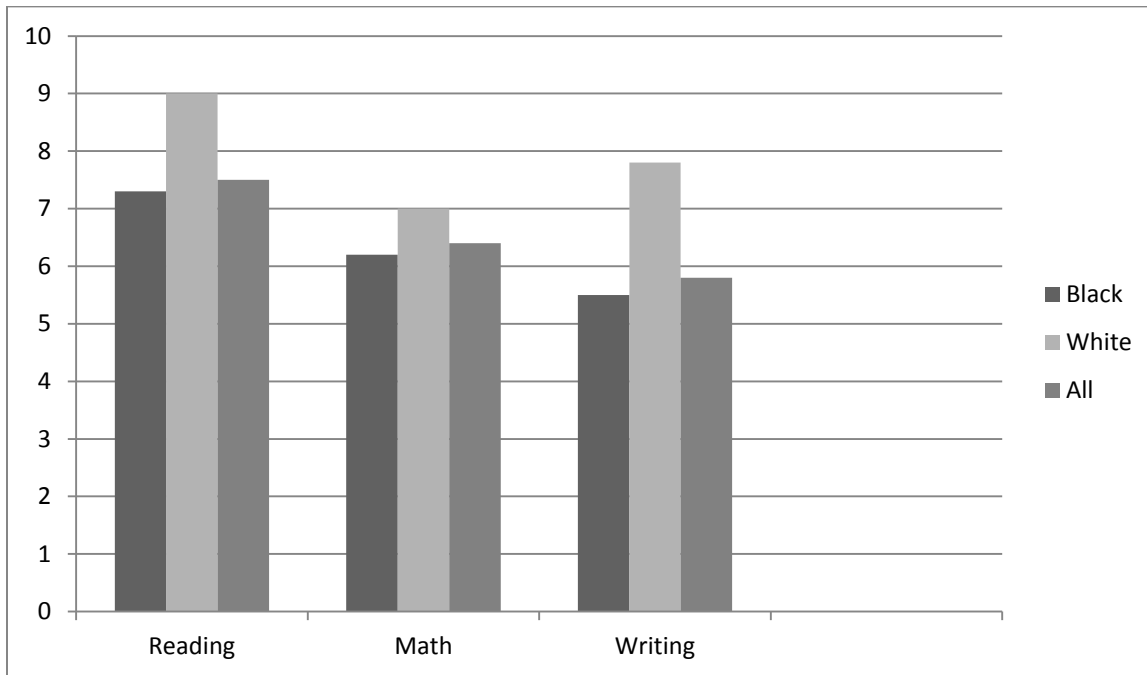
Some of the dropouts' learning deficiencies could be explained by the very nature of the problem. Dysfunctional school behavior (truancy, poor attention in class, poor completion of homework) could negatively impact learning. Removing students from the learning environment for regular periods of time for punishment (detention, suspension, expelling, jail time) could also negatively impact learning. Home situations such as malnutrition, frequent moves, divorce, death, violence, and addiction could impact a students' learning. In addition, dysfunctional school behavior could set the stage for negative relationships with school personnel. And this too could have a negative impact on learning.

Another factor that could have some influence on the differences in the grade levels is the very act of taking a reentry test. It may be traumatizing for dropouts to repeat a task that was historically unsuccessful for them. And it also may be difficult for dropouts to be in a setting that is similar to one that they were not successful or happy in.

Even with all of these factors considered, there is still a strong indication that the students have learning deficiencies that go way back to grade school. The participants in this study averaged a 10th grade education. However, on entry into a GED program, they averaged a 7.5 reading score, a 6.4 math score, and a 5.8 writing score. This would indicate an approximate 2.5 grade difference in reading, a 3.6 grade difference in math, and a 4.2 grade difference in writing scores. If race is considered, the data followed national trends with Black student averages lower than White student averages even though both groups averaged a 10th grade education. The white students (N= 75) averaged a 9.0 reading score, a 7.0 math score, and a 7.8 writing score. The Black students (N= 338) averaged a 7.3 reading score, a 6.2 math score, and a 5.5 writing score. When comparing black program students' and white program students' entrance scores, black student scores were 19% lower in reading, 11% lower in math and 29% lower in writing. When

compared to the average 10th grade education level, black students were 2.7 grades lower in reading, 3.8 grades lower in math, and 4.5 grades lower in writing (Table 4.24).

Table 4.24 *Average TABE Scores*



Chapter VI

Conclusion

Limitations of this research must be mentioned. The result of this research may not apply to broader areas, given that the study was quasi-experimental and the 454 participants were not truly random. Future research would benefit from studying student scores that are randomly selected from the population. This would eliminate the possibility of sample bias. Future research can improve upon and extend these results in other ways. Such research will yield richer implications. Despite the shortcomings, this study strengthens the idea that there is a connection with not learning and dropping out.

By drawing upon the literature, we find strong suggestions that the underlying reasons for dropping out of school are very complex and involve a pattern of personal and school related problems. Many of the factors that influence or impact the decision to drop out of school are not within the schools area of control. But one major factor is within the schools control: learning. Some may argue that learning is not an important factor; however, it is plausible that if the dropping out process has a beginning, it could be failing to learn. If it were possible to determine the point at which a child stops learning, for whatever reason, we as educators in the educational systems could intervene. According to Balfanz, Herzog, & MacIver (2007), 60 % of future dropouts can be identified as early as 6th grade by their low English and math scores, low school attendance records, and the number of behavior problems and school disciplines. If public education systems can better anticipate the dynamics of school dropouts they can implement more effective efforts for student learning. We must recognize the importance of forming solid academic foundations for students long before the adversities of personal, family, and social factors combine with adolescence to influence the decision to drop out of school. Children's

values and expectations for school may be shaped by poverty, peers, and parents, but they can also be shaped by the school. Within the school's area of influence, there is achievement, peer mentoring, after-school tutoring, bonding between teachers and students, and involving parents in academic intervention. These all work to build and maintain student motivation, self-confidence and self-esteem. Teachers, school staff, and administrators can have a vital, positive, impact on future dropouts. If we could stop not-learning perhaps we could counter the other factors which we have no control over. The problem of students dropping out of school will continue to be an important area of research.

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