Assessment 4: High School Dropouts

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**Assessment 4**

**Introduction**

According to the *Compendium Report on Trends in High School Dropout and Completion Rates in the United States,* in the year 2012 there was no measurable difference in the dropout rates for male and female high school students (NCES, 2015, p.5). This study will examine the validity of the statement using a small sample of high school students. The population for the current study includes 9th, 10th, 11th and 12th grade students enrolled in a public high school in Jersey City during the 2011-2012 school year within the county of Hudson in the state of New Jersey.

The two categorical variables for this study include grade level, gender, and race of the students in the data set. The hypothesis of the researcher is that there was a measurable difference in the dropout rates for male and female students enrolled in the 9th, 10th, 11th and 12th grade during the 2011-2012 school year in Jersey City Public Schools within the county of Hudson. The dropout rate would be defined as the number of high school students that entered high school in September of 2011 and left the high school before the beginning of the next school year without earning a high school diploma or an alternative equivalent (e.g. GED).

The null hypothesis and the alternate hypothesis are the following:

Ho: µ= µ

Ha: µ ≠ µ

**Data Collection and Sampling**

The New Jersey Department of Education collects data on the dropout rates for the state according to county, district and school year. For the purposes of this study, the data collection will primarily focus on the dropout rate of Black and Hispanic 9th, 10th, 11th and 12th grade high school students within the county of Hudson. The dataset in the study was retrieved from NJDOE (<http://www.nj.gov/education/data/drp/drp13/>) for the 2011-2012 school year and includes the following counties: Bayonne, Harrison, Hoboken, Jersey City, Kearny, North Bergen, Secaucus, Union City and West New York. The two school districts excluded from the data set are Guttenberg and Weehawken.

**Data Description**

This study examines the relationship between grade level, gender and the race of the students that dropped out of high school between the 9th-12th grade. There were nine school districts represented in the data set. Some of the high schools were missing reportable data for one or more of the grades. The race of the students in the data include Black Males (BM), Black Females (BF), Hispanic Males (HM) and Hispanic Females (HF).

Table 1

*Descriptive Statistics based on Race and Gender in 9th-12th Grades*

|  |  |  |  |
| --- | --- | --- | --- |
|   | Mean | Std. Deviation | N |
| BM | 9 | 9.393 | 27 |
| BF | 11.8 | 13.179 | 27 |
| HM | 6.35 | 7.31 | 27 |
| HF | 5.12 | 6.167 | 27 |

**Table 1: Descriptive Statistics of Race and Gender in the 9th-12th Grade**

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| Table 2*Descriptive Statistics of Black Males* |
| **N Mean Median Mode Standard Deviation Maximum Minimum** 27 9 2 0 9.393 46 0 |

**Table 2: Descriptive Statistics of Black Males in the 9th-12th Grade**

Excel Software was used to determine the mean, median, mode, standard deviation, maximum and minimum in a dropout data set for grades 9-12 in Hudson County. As shown in Table 2, (N=27) with 9 missing values, the mean of Black male dropouts is M=9, the median is 2 and the mode is 0. The (SD=9.39) and the maximum is 46 and the minimum is 0. As observed by the mode, at numerous points within the data set there were no reported Black males that had dropped out between the 9th and 12th grades in certain high schools.

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| Table 3*Descriptive Statistics of Black Females* |
| **N Mean Median Mode Standard Deviation Maximum Minimum** 27 11.8 9 0 13.179 34 0 |

**Table 3: Descriptive Statistics of Black Females in the 9th-12th Grade**

As shown in Table 3, with N=27 and 9 missing values, the mean of Black female dropouts is M=11.8, the median is 34 and the mode is 0. The (SD=13.17) and the maximum is 34 and the minimum is 0. As noted in the data set, the maximum number of Black female students that dropped out of school within a given year is 34.

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| --- |
| Table 4*Descriptive Statistics of Hispanic Males* |
| **N Mean Median Mode Standard Deviation Maximum Minimum** 27 6.35 3 0 7.310 36 0 |

**Table 4: Descriptive Statistics of Hispanic Males in the 9th-12th Grade**

As shown in Table 4, with N=27 and 9 missing values, the mean of Hispanic male dropouts is M=6.35, the median is 3 and the mode is 0. The (SD=7.31) and the maximum is 36 and the minimum is 0. The data is normally distributed within the given range with nearly 1 standard deviation between the data.

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| Table 5*Descriptive Statistics of Hispanic Females* |
| **N Mean Median Mode Standard Deviation Maximum Minimum** 27 5.12 2.5 0 6.167 29 0 |

**Table 5: Descriptive Statistics of Hispanic Females in the 9th-12th Grade**

As shown in Table 5, with the N of 27 and no missing values, the mean of Hispanic females is 5.12, the median is 2.5 and the mode is 0. The standard deviation is 6.167. The maximum is 29 and the minimum is 0. The data set indicates the maximum number of Hispanic female students that dropped out of high school within a given year in Hudson County is 29.



**Table 6: Pearson Correlations-Black Females and Hispanic Females**

As shown in Table 6, using SPSS, the Pearson Correlations test was conducted to measure the relationship between the dropout rates of Black females and Hispanic females in grades 9-12 in Jersey City.



**Table 7: Pearson Correlations-Black Males and Hispanic Males**

As shown in table 7, using SPSS, the Pearson Correlations test was run to measure the relationship between the dropout rates of Black males and Hispanic males in grades 9-12 in Jersey City.



 **Table 8: Pearson Correlations-Black Females and Black Males**

As shown in table 8, using SPSS, the Pearson Correlations test was run to measure the relationship between the dropout rates of Black females and Black males in grades 9-12 in Jersey City.



 **Table 9: Pearson Correlations-Hispanic Males and Hispanic Females.**

As shown in table 9, using SPSS, the Pearson Correlations test was run to measure the relationship between the dropout rates of Hispanic females and Hispanic males in grades 9-12 in Jersey City.

**Conclusion**

The purpose of this study was to determine if there was a measurable difference in the dropout rate of high school students in the year 2012. Descriptive statistics were used to summarize and describe any emerging patterns within the data set. Nine school districts were represented in the data set for grades 9-12. As a group (N=27), the county of Hudson reported dropout data 27 times. There were several missing values in the data set since dropout data was not reported in 9 out of the possible 36 times. This would indicate that the dropout data was either not available or no students dropped out within the given year. The average number of Black male dropouts was M=9 (SD=9.39). In comparison, the average number of Black female dropouts was M=11.8 (SD= 13.17). The average number of Hispanic male dropouts was M= 6.35 (SD=13.17) as compared to the average number of Hispanic female dropouts M=5.12 (SD=6.16).

The Pearson Product Moment Correlation was also used to determine if there was a correlation between gender, race and student dropouts in grades 9-12. According to the Pearson Correlations it was determined that there was no correlation between the variables. It was also determined that there was no significance between gender, race and dropout rate. When comparing the correlation between Black females and Hispanic females the significance level was *p*<0.05 (*p*=.044). In terms of Black males and Hispanic males, the significance level was *p*<0.05 (*p*=.036) and when comparing the correlation between Black females and Black males the significance level was *p*<0.05 (*p*=0.19). Furthermore, the Pearson Correlations indicated that the correlation between Hispanic males and Hispanic females was equal to *p*=.05. Based on the study it is possible to infer that the significance level between Hispanic males and Hispanic females was due to chance. As a result of this study, the null hypothesis is being rejected and the alternate hypothesis can be accepted.

If additional information had been made available, the researcher would have been able to explore a correlation between dropout rates and GPA, chronic absenteeism, socioeconomic status and age.

**References**

National Center for Education Statistics. (2015). *Trends in High School Dropout and Completion*

*Rates in the United States: 1972-2012.* Retrieved from: <http://nces.ed.gov/pubs2015/2015015.pdf>

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<http://www.nj.gov/education/data/drp/drp13/county.htm>

**Appendix A**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **District** | **Program** | **White Male** | **White Female** | **Black Male** | **Black Female** | **Hispanic Male** | **Hispanic Female** | **Total** |
| BAYONNE | Grade 9 | 0 | 0 | 1 | 0 | 1 | 0 | 2 |
| JERSEY CITY | Grade 9 | 4 | 1 | 46 | 34 | 36 | 29 | 154 |
| KEARNY | Grade 9 | 1 | 0 | 1 | 0 | 0 | 1 | 3 |
| N. BERGEN | Grade 9 | 0 | 0 | 0 | 0 | 3 | 0 | 3 |
| UNION CITY | Grade 9 | 1 | 0 | 0 | 0 | 6 | 1 | 8 |
| WNY  | Grade 9 | 0 | 0 | 0 | 0 | 3 | 2 | 5 |
| BAYONNE | Grade 10 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| HARRISON | Grade 10 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| HOBOKEN | Grade 10 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| JERSEY CITY | Grade 10 | 4 | 2 | 19 | 12 | 14 | 16 | 73 |
| KEARNY | Grade 10 | 1 | 1 | 0 | 0 | 3 | 1 | 6 |
| SECAUCUS | Grade 10 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| UNION CITY | Grade 10 | 0 | 0 | 0 | 0 | 10 | 3 | 13 |
| WNY  | Grade 10 | 0 | 0 | 0 | 0 | 3 | 0 | 3 |
| HOBOKEN | Grade 11 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| JERSEY CITY | Grade 11 | 3 | 2 | 6 | 9 | 12 | 5 | 43 |
| KEARNY | Grade 11 | 1 | 1 | 1 | 0 | 2 | 0 | 5 |
| N. BERGEN | Grade 11 | 0 | 0 | 0 | 0 | 4 | 0 | 5 |
| UNION CITY | Grade 11 | 0 | 0 | 0 | 0 | 7 | 6 | 13 |
| WNY | Grade 11 | 0 | 0 | 0 | 0 | 3 | 1 | 5 |
| BAYONNE | Grade 12 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| HOBOKEN | Grade 12 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| JERSEY CITY | Grade 12 | 1 | 0 | 4 | 3 | 2 | 2 | 15 |
| KEARNY | Grade 12 | 0 | 2 | 0 | 0 | 1 | 1 | 4 |
| N. BERGEN | Grade 12 | 0 | 1 | 0 | 0 | 3 | 4 | 9 |
| UNION CITY | Grade 12 | 0 | 0 | 0 | 0 | 6 | 5 | 11 |
| WNY | Grade 12 | 0 | 0 | 0 | 0 | 7 | 4 | 11 |

**Table 10: High School Dropouts by County**

**Appendix B**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Program | Black Male | Black Female | Hispanic Male | Hispanic Female |
| Grade 9 | 46 | 34 | 36 | 29 |
| Grade 10 | 19 | 12 | 14 | 16 |
| Grade 11 | 6 | 9 | 12 | 5 |
| Grade 12 | 4 | 3 | 2 | 2 |

**Table 11: High School Dropouts by Gender and Race**