**Report Outline:**

Introduction

What factors play a role in the success of socioeconomically disadvantaged students?

What we looked at

We look at disadvantaged students who we define as students of varying grade levels receiving free/reduced lunch, come from single-parent households, have parents with little to no formal education, or have households that have incomes around the poverty line.

Datasets

Education Equality Index data:

This dataset comes from the Education Equality Index which contains metrics pertaining to how schools with relatively moderate to high amount of disadvantaged students perform throughout the country. It includes information that states whether the school is defined as a magnet, charter, or non-magnet/charter school. To measure performance of each school’s students, we will look at the Math and Reading Proficiency columns. Also included in the dataset are the aforementioned proficiency scores by race and state.

<https://www.educationequalityindex.org/who-we-are/key-findings/>

National Center for Educational Statistics data:

This csv comes from the National Center for Educational Statistics. The data provides graduation rates on economically disadvantaged students by state. Additionally, graduation rates by race are included in this dataset.

<https://nces.ed.gov/ccd/tables/ACGR_RE_and_characteristics_2016-17.asp>

Students Performance in Exams data:

This csv file comes from kaggle.com. The data provides insight into a plethora of items including, but not limited to: gender, students who received Free or Reduced Lunch, and students who participated in test prep courses.

<https://www.kaggle.com/spscientist/students-performance-in-exams>

U.S. Department of Education, My Brother’s Keeper: Data and Doing what Works:

 My Brother’s Keeper is a database hosted by the Department of Education that contains many, many tables related to education in the U.S. The few tables we utilized shows over a period of time, the percentage of high school graduates based on ethnicity and the living arrangement of the student based on ethnicity.

<https://www2.ed.gov/rschstat/statistics/surveys/mbk/index.html>

Potential indicators of academic success:

Magnet, Charter, or Standard public school?

* Using the Education Equality Index dataset, we can reveal information on whether going to a magnet, charter, or standard public school plays a factor towards disadvantaged students’ academic success.

Which states produce the best results?

* The dataset from the National Center for Educational Statistics can give us an idea of which states that socioeconomically disadvantaged students do well academically in given the statistics on disadvantaged students’ graduation rates and by state. Identifying which states serve disadvantaged students best opens up the opportunity to figure out why these students perform well in these states, hence revealing further insight on this topic.

Does gender play or the parent’s level of education a role in success?

* Utilizing the dataset from Kaggle, we can quickly determine if there is a significant difference in the success of students based on gender. We can also see if the parent’s education plays a role in the student’s current grades.

Which ethnicity saw the most academic success over the years, and does the student’s living situation play a role in their success?

* Using ethnicity as the common denominator, someone using this data can try to see if there was a correlation between the living arrangement of the student and the graduation rate.

Table summaries:

We performed ETL on the data we have collected by using MySQL. Below are the tables that could be utilized to perform analysis on this topic.

Low\_income\_performance

* This table will help us determine whether Charter or Magnet schools play a role in a disadvantaged students’ academic success.

State\_proficiency

* The state\_proficiency table gives the mean of Math and Reading proficiency scores of disadvantaged students by state.

Graduation\_rates

* This table can provide insight on which states serve economically disadvantaged students best by looking at their graduation rates by state.

Score\_by\_gender

* This table shows the student’s subject scores and average score by gender

Parent\_education

* This table shows the student’s subject scores and average score by parent’s level of education

College\_by\_race

* This table shows high school graduation rates from 2000 to 2014 by ethnicity

Asian\_home, black\_home, hispanic\_home, white\_home

* These tables show the students’ living situations from 2001 to 2015 by ethnicity

ETL Process

Extract:

We utilized CSVs to format our data. The datasets and CSVs are listed and summarized above.

Transform:

Jupyter notebooks were used to transform and clean our data to produce the desired data frames to be used in our tables. The transformation process is detailed in the jupyter notebook provided.

Load:

We uploaded our cleaned data into a MySQL database which includes a series of tables that will be useful in figuring out the factors that lead to the academic success of disadvantaged students.