**PyCity Schools Written Analysis**

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Summary of Analysis

The overarching objective of the PyCity Schools Analysis was to utilize school and standardized testing data in order to identify relationships and relevant information that can assist the school board and the Mayor in making informed strategic decisions concerning future school budgets and priorities.

In our initial analysis, we conducted a district summary that provided key information encompassing the total budget, average scores, and total student count for all schools within the district.

Next, we conducted a school summary analysis where we calculated and presented similar results to the district summary, but this time for each individual school within the district.

In the Highest and Lowest-Performing School analyses, we examined the top and bottom 5 schools separately by sorting values in ascending and descending order, respectively. It was notable to observe that Charter schools comprised the top 5 performing schools, while District schools constituted the bottom 5 performing schools. This finding provides an interesting insight into the performance disparities between different types of schools within the district.

In the subsequent analyses, we focused on Math and Reading Scores by Grade. To accomplish this, we performed calculations to determine the average math, reading, and overall scores for each grade, while maintaining categorization by school. This allowed us to examine the performance trends across different grades within each school.

In the Scores by School Size/Spending analyses, we conducted calculations and utilized binning techniques to add a new column to the data frames, incorporating the relevant findings. These new columns provided additional information to the existing Per School Summary data frame. The resulting data frames displayed information similar to the Per School Summary, but with the inclusion of the newly added information, allowing for a more comprehensive understanding of the relationship between school size/spending and academic performance.

The final analysis, Scores by School Type, involved additional calculations to present the average score and percentage of students passing in math, reading, and overall, for each school type. An intriguing observation was made regarding the comparison between Charter and District schools. Despite a relatively small difference of approximately 6.5% in average math scores, there was a notable disparity in the Percent Passing Math, with a difference of around 27% between the two school types.

Conclusions/Comparisons of Analysis

After completing these analyses and reviewing the findings, I have drawn several conclusions. The most prominent relationship observed was the connection between top-performing schools and their status as Charter schools. This raises the question: What factors contribute to the success of Charter schools?

When examining the Scores by School Spending analysis, it was intriguing to observe a consistent increase in scores with each increment of the Spending Range. This finding caught my attention because the top 5 performing schools had an average budget per student of $606.40, which was lower than the average budget per student of $646.60 for the bottom schools. This slight contradiction challenges the notion that the per school student budget is a major contributing factor to these schools' successes. Instead, it suggests that other factors play significant roles.

In the analysis of Scores by School Size, it is evident that small and medium-sized schools consistently achieve higher average scores and percentages compared to large schools. This relationship is particularly notable when examining the bottom performing schools, all of which are large schools, while the majority of the top performing schools are small or medium-sized (with the exception of Wilson, which is classified as large). Therefore, it can be concluded that school size is one of the contributing factors to the successes of these schools.

Do these conclusions play a large enough role in these schools’ successes that strategic decisions can be based on this information in the future? They are pieces in the puzzle, and they help for sure, but I don’t think it’s enough information alone. These conclusions reflect moderate relationships to schools’ success, but we are missing other information that could translate to a stronger relationship, and therefore give us a higher likelihood of making decisions that strongly impact the crisis that is the District schools passing percentages. Some other information that could potentially help uncover other more specific relationships include average class sizes, community involvement/culture, student supports available (i.e guidance counseling, tutoring, & reduced/free lunch)