Education in Milwaukee, WI

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ABSTRACT

Ever since the Milwaukee Parental Choice Program was implemented in 1991, Milwaukee has been generally deemed a success for the implementation of school choice. Under this program, funds are provided by the state of Wisconsin for low to moderate income families for their children to attend any private, nonsectarian school in the City of Milwaukee. Existing research investigates how traditional public schools have been testing compared with their charter school and private school counterparts. While this is helpful, this research will take a different approach, focusing on the various neighborhoods in Milwaukee and their income diversity. This paper will answer the question: "Does a neighborhood's median household income have an effect on student ACT scores, dropout rates, and 4-year high school completion rates?" Much of this data can be collected from online sources, such as the Wisconsin Department of Public Instruction. Using this data, a statistical analysis will be conducted in order to determine whether there's a significant relationship.

INTRODUCTION

It is apparent that students attending Milwaukee Public Schools are not receiving the education that they deserve, which is why it is crucial to investigate this problem. Public schools in Milwaukee are demonstrating some of the lowest composite ACT scores, highest dropout rates, and lowest high school completion rates in the State of Wisconsin and nationwide. Why exactly are Milwaukee schools failing? Is it the school the child attends? The lack of resources? The destitution of funding? The teachers? The lack of extracurricular activities? Even though the problem has yet to be defined, this research will contribute by demonstrating whether or not neighborhood context has anything to do with school performance in the area.

Education policy research is difficult due to the many different moving parts and pieces. There are many reasons why schools could be failing, and it is hard to pinpoint exactly why. Being able to recognize that any one factor could change research results significantly is important. This research will look at one specific part of a possible socioeconomic factor. Socioeconomic factors that could affect student performance is vast and can include: the education of the parents, if it is a one or two parent household, property values in the neighborhood, household income, or parental value of education. Because including all of these possible factors is difficult, this research will focus on one specific factor: median household income.

The first section of this paper will discuss previous research that has been done on this topic. This will include research about charter schools, neighborhood factors, and the success of various school choice programs. Then, the methods and results section will contain information about how this research was conducted and the statistical findings. Following the methods section is the discussion. This will provide some contextual ideas behind the results of this research.

LITERATURE REVIEW

As stated above, there has been a conglomeration of studies done on education policy, primarily focusing on how charter and private schools have tested to traditional public schools. While this research is important, it is necessary to investigate socioeconomic factors that may play a pivotal role in a child's education. There has been some research done that touches on whether or not the neighborhood that the child comes from affects their

performance in school, but by focusing on one specific factor, median household income, we will be able to narrow down this problem.

The first theme throughout these articles discusses the Milwaukee Parental Choice Program and then, whether or not choice programs have been successful in various urban areas, including Milwaukee. Whether or not choice programs have been successful is a heated controversy, some arguing that vouchers take money away from traditional public schools, while others argue that parents have a right to choose where their children goes to school. Another theme discussed in these articles is the possibility of neighborhoods impacting student performance in schools. There isn't much research done that considers socioeconomic factors in education policy research. This factor is important, as where a child comes from can have a lasting effect on their dedication and desire for education. The last main theme in these article provide contrasting viewpoints about whether charter schools have performed better compared to traditional public schools. There has been a lot of research discussing this topic, trying to figure out if charter schools are good, since they foster competition, or if they are bad because competition makes it harder for a traditional neighborhood public schools to be successful.

Clancy (1991) goes into detail about the Milwaukee Parental Choice Program and describes the statutory provisions of the parental choice program and discusses school participation in the following years. For example, Clancy explains "according to the Department of Public Instruction, there were 635 applications submitted for the Milwaukee choice program during the summer of 1990. Nine private schools indicated their intent to participate in the program." This information is helpful to see how the program has developed throughout the years. This research also provides the statutory provisions that were written in regard to the choice program in Milwaukee, which provides context for all of the rules and requirements of the choice program. While this research doesn't look into the effects of this program, it is helpful to provide some background context to the issue.

In the next article, Steinberg and Quinn (2017) use statistics from Milwaukee, Wisconsin, as one of their examples to analyze the effects of various education and choice reforms. The four main education reforms that they examine are investments in early childhood education, human capital policies, accountability and assessment, and school choice. As for school choice, where Milwaukee was used as an example, Steinberg and Quinn conclude:

> Certain choice-based reforms have been effective in improving academic outcomes. Small schools in New York, where applicants seeking to establish a school underwent a rigorous selection process and schools received substantially larger per-pupil funding, enjoyed high graduation rates.

This article provides a lot of helpful information because it can distinguish which reforms have been the most beneficial, and it comes to the conclusion that choice reforms improve academic outcomes. When doing research in Milwaukee, it is important to recognize choice reforms, as they may have an impact on performance. Rather than focusing on the differences between charter, private, and public schools, my data will group all the Milwaukee Public Schools together in order to correlate neighborhood median household income and various elements of student performance.

Carlson and Cowen (2015) examine how various neighborhoods and school districts in Milwaukee influence a student's academic outcomes. The authors use 5 years of data collected from school districts, and they distribute and analyze it based off of which neighborhood that specific student is from. By doing this, they are able to determine the extent to which a specific school that a student attends affects his/her learning. They compare various public and charter schools in Milwaukee, factor in the neighborhood that the specific student is living in, and then determine how students are performing in each of these schools. In the end, the authors conclude that:

> Perhaps more to the point, our analyses make clear that the school students attend makes a larger difference with respect to achievement outcomes than do the neighborhoods in which they live, a finding consistent with earlier work that examined the two simultaneously.

This research is important because it shows just how big of an impact that school plays on a student's academic outcome. With that being said, if the school choice program in Milwaukee only allows some students to go to better schools, what happens to the students that are left? If they are stuck at a school that is worse off, that may have a

drastic effect on their academic performance. This article is beneficial for my research, because depending on my results, my findings may be able to support the authors claim made above.

In the next article, Witte, Weimer, Shober, and Schlomer(2007) discuss how charter schools in Milwaukee have performed compared to the traditional public schools. This research was done in 2007, which allows us to compare the results over time. The authors use a methodological approach to analyze a comparison of achievement of test scores for students. They use a statistical analysis to control factors such as race, age, and economic status. This allows the comparisons to be as accurate as possible and to make sure that the results found are universal across the city. In their research, the authors found significant evidence that supports their hypothesis. As stated in the article:

> As is readily apparent, with the exception of black students under fixed effects, being in a charter school produces positive effects relative to students in traditional schools in Milwaukee.

This research is important because it argues that charter schools are demonstrating positive effects compared to traditional public schools. This is important to include since research comparing charter schools and traditional public schools is a significant part of education policy research.

While there is ample evidence that suggests charter and voucher schools result in higher test scores, graduation rates, and a higher probability of future enrollment in a 4-year institution for students, there is also a plethora of negative, unintended consequences that may arise. Carr (2011) identifies the possible effects and the stigma of state given performance grades has on public schools in his journal article *The Impact of Ohio's Edchoice on Traditional Public School Performance.* Carr writes:

> One hypothesis is that threatened schools chose to focus most heavily on their highest and lowest performers, even though this led to little noticeable change to the overall proficiency passage rates. It has been argued that voucher-threatened schools would target so-called bubble students, those just above and below the proficiency cutoff scores, because overall passage rates are a key component of the federal Adequate Yearly Progress benchmarks and play a significant role in school grade determinations.

This suggests that public schools who now have to compete with voucher schools will focus primarily on students at specific levels of performance in order to score higher on state evaluations. Having public schools operate in such a way is less than ideal for obvious reasons as it would lead to more time being spent on students at the fringes of academic performance. Carr's research offers useful insight on possible issues that may come from the existence of voucher schools and suggests a viewpoint that charter schools may not be better than traditional public schools.

Table 1 and Table 2 below shows more important information that needs to be considered. The Public Policy Forum put these tables together in order to show how Milwaukee Public Schools are testing. In Table 1, Milwaukee charter school proficiency rates in Math and Reading are in the left columns while Traditional Milwaukee Public School proficiency rates are in the right column. As you can see, Traditional Milwaukee Public Schools were outperforming the Charter Schools in the 2010-2011 and 2011-2012 school years. Looking more closely though, you are able to see greater improvement in the Charter School test scores through the years. Table 2 is important because it demonstrates the percentage of students in Milwaukee that are currently meeting the state and national proficiency standards from 2011-2012. In the state proficiency standards, Traditional Milwaukee Public Schools are still outperforming Milwaukee Charter Schools. Besides the problem, all Milwaukee Public Schools are struggling to compete with the national proficiency rates.

Table 1: Percentage of Students Meeting the State of Wisconsin Proficiency Standards

	Math		Reading	
	MPCP	*MPS*	*MPCP*	*MPS*
3rd grade				
2011-12	36.9%	50.2%	54.2%	59.6%
2010-11	30.1%	50.3%	51.1%	62.0%
4th grade				
2011-12	40.2%	54.7%	54.9%	61.1%
2010-11	36.6%	56.7%	51.1%	62.3%
5th grade				
2011-12	43.7%	54.3%	53.2%	57.4%
2010-11	34.3%	56.2%	54.9%	63.8%
6th grade				
2011-12	40.1%	49.9%	61.8%	62.6%
2010-11	38.2%	55.2%	61.5%	65.3%
7th grade				
2011-12	45.5%	54.8%	63.2%	65.3%
2010-11	39.2%	51.0%	63.7%	66.9%
8th grade				
2011-12	45.1%	53.6%	63.8%	63.7%
2010-11	35.6%	47.5%	64.3%	65.7%
10th grade				
2011-12	26.4%	33.1%	43.3%	47.8%
2010-11	22.5%	31.6%	33.9%	40.2%

Table 2: Percentage of Students Meeting the State of Wisconsin and the National Proficiency Standards

	Parent opt-out	Not tested	Reading Proficient/ Advanced	Math Proficient/ Advanced
Existing state proficiency standards				
MPCP	**1%**	**1%**	**57%**	**41%**
MPS	N/A	1%	60%	50%
WI	N/A	1%	82%	78%
New national proficiency standards				
MPCP	**1%**	**1%**	**10%**	**12%**
MPS	N/A	1%	Not reported	Not reported
WI	N/A	1%	36%	48%

Overall, examining school choice and their effects from different angles is important in order to understand how it has impacted the City of Milwaukee. Looking at school participation, test scores, and other socioeconomic factors is important for concluding whether or not school choice has helped or hurt the City of Milwaukee over time. The information my research would like to contribute would be focusing on whether or not the neighborhood median household income in the districts has a correlation with composite ACT scores, dropout rates, and high school completion rates. This research is related to school choice programs and test scores, but it takes a different approach, rather than just comparing scores between charter and public schools. It is important to analyze all the factors that may influence the success or failure of schools. Analyzing all of the factors that may affect failing schools is essential because it will narrow down and eventually pinpoint the reason why schools are failing. Once we figure this out, legislation can then be passed to start giving failing schools the resources that they need to be successful.

METHODS/ RESULTS

In order to obtain the ACT scores, dropout rates, and high school completion rates of the public schools in Milwaukee, the Wisconsin Department of Public Instruction website was used. They have a dashboard where you are able to see the statistics for every year back to the 2004-2005 school year. This is where data was received for Composite ACT Scores, Dropout Rates, and High School Completion Rates for all of the Milwaukee Public Schools. Once data on the schools was obtained, a combination of Area Vibes, Niche, and City Data websites were used in order to get statistics on the neighborhoods in Milwaukee. Multiple websites were utilized in order to compare the statistics and make sure that they were accurate. In this research, the school ACT scores, dropout rates, and high school completion rates were compared with the statistics from the neighborhood in which the school was located in.

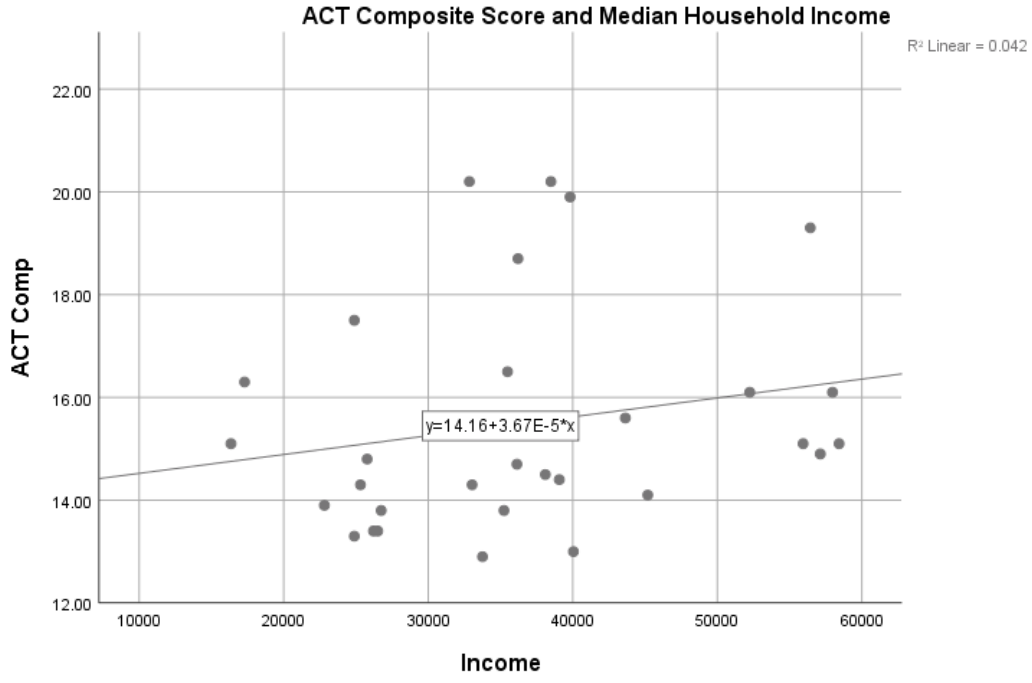
Median household income was used, because median is more representative of the neighborhood than an average household income would be. Average values tend to vacillate data one way or the other, which is why using median values is more accurate. This information was available on multiple websites, so there is confidence that the values were accurate. Household income is important, because it can determine whether a family will have the ability to send their child to higher education, or whether a family may need their child to drop out of high school in order to work. This is what my research focused on, and the results may be able to conceptualize some of these

theories. Multiple dependent variables were used because it would be more effective in identifying factors that would be detrimental to the success of schools in the Milwaukee Public School System. These variables include: Composite ACT Scores, Dropout Rates, and High School Completion Percentages.

The statistical database was useful because it provided graphs as a visual representation of the relationships, and also gave the level of significance between variables. The Pearson Correlation is important because it shows whether there is correlation between the variables. The significance value provided is important because it shows whether or not there is statistical significance. Scatter plots were also used to display the results of this study because they show the basic trend line, in which you are able to see, for example, if higher median household income leads to a higher composite ACT score.

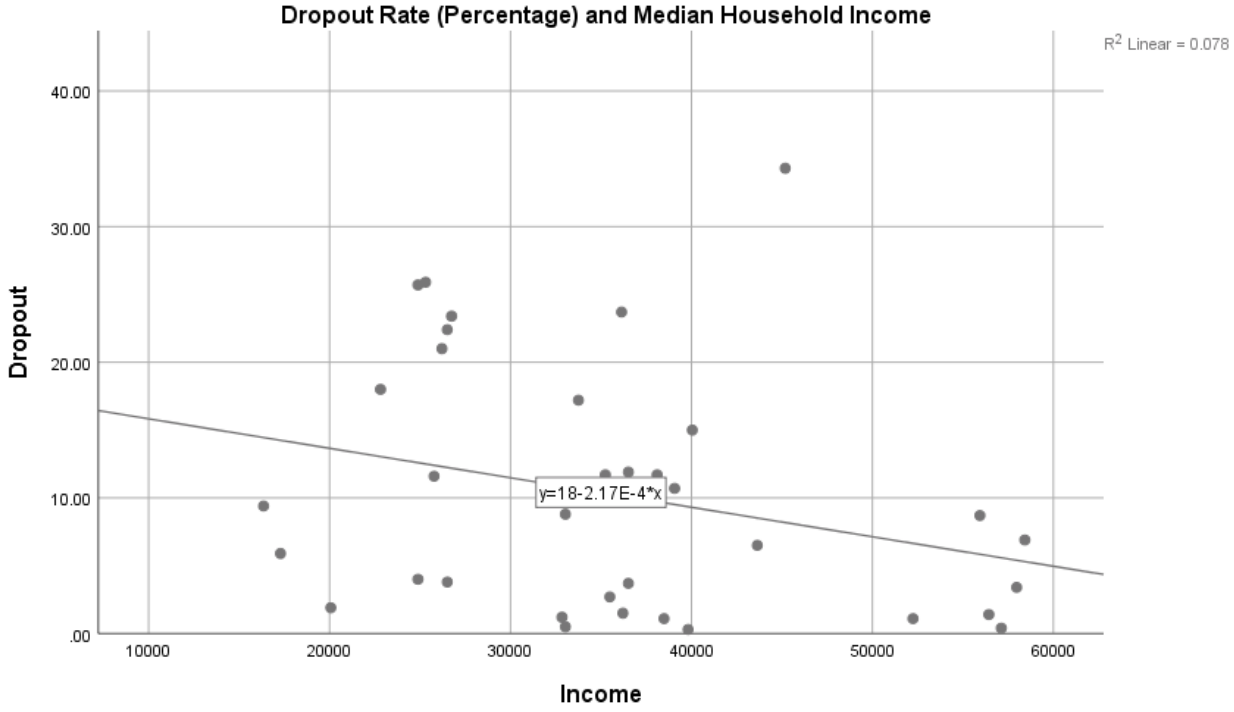
After running the data through the statistical database, while the Pearson Correlation wasn't strong for any of the variables, there is some statistical significance. The Pearson Correlation between Median Household Income and Composite ACT Scores was a ".206." This suggests that there is little correlation between these variables. The level of significance between Median Household Income and Composite ACT Scores is ".267." This value suggests that there isn't statistical significance, since typically the closer you get to ".05," the more significant the findings are. While there isn't statistical significance, there is some substantive significance that suggests why these findings matter in the real world. In Figure 1, there is a graph showing all the schools displayed in a scatter plot, with a trend line in the middle. This graph is helpful because it shows the trend line in comparison with the Pearson Correlation and Statistical Value listed above. When looking at Figure 1, it is readily apparent that when Median Household Income increases by $10,000, then ACT scores increase by about 1 point. It is important to acknowledge this, as it could show that even though these results aren't significant, Median Household Income may be a factor in student performance on the ACT. It should be noted that the relationship between Median Household Income and Composite ACT Score was the least significant in comparison with all of the dependent variables. It is also important to point out that there were approximately 30-40 schools that were included in this study, and if there were more, the results may have shown more significance.

Figure 1: Scatter Plot showing the relationship between Median Household Income and Composite ACT Score.



The Pearson Correlation between Median Household Income and Dropout Rates is "-.280," which suggests a higher correlation compared to Median Household Income and Composite ACT Scores. The level of significance between Median Household Income and Dropout Rates is ".104." Under certain circumstances, this value can be deemed a significant finding. When looking at Figure 2, it is noticeable that every time Median Household Income increases by about $10,000, the dropout rates decrease by about 2%. It is important to point this out, as it may show that there is a relationship between these two variables. Once again, only Milwaukee Public High Schools were used in this study, and if more schools had been used, the results may show a higher Pearson Correlation. When comparing Figure 2 to Figure 1, it is noticeable that the trend line appears slightly more significant in Figure 2, and statistics show that there is more of a relationship between Median Household Income and Dropout Rates than there is between Median Household Income and Composite ACT Scores.

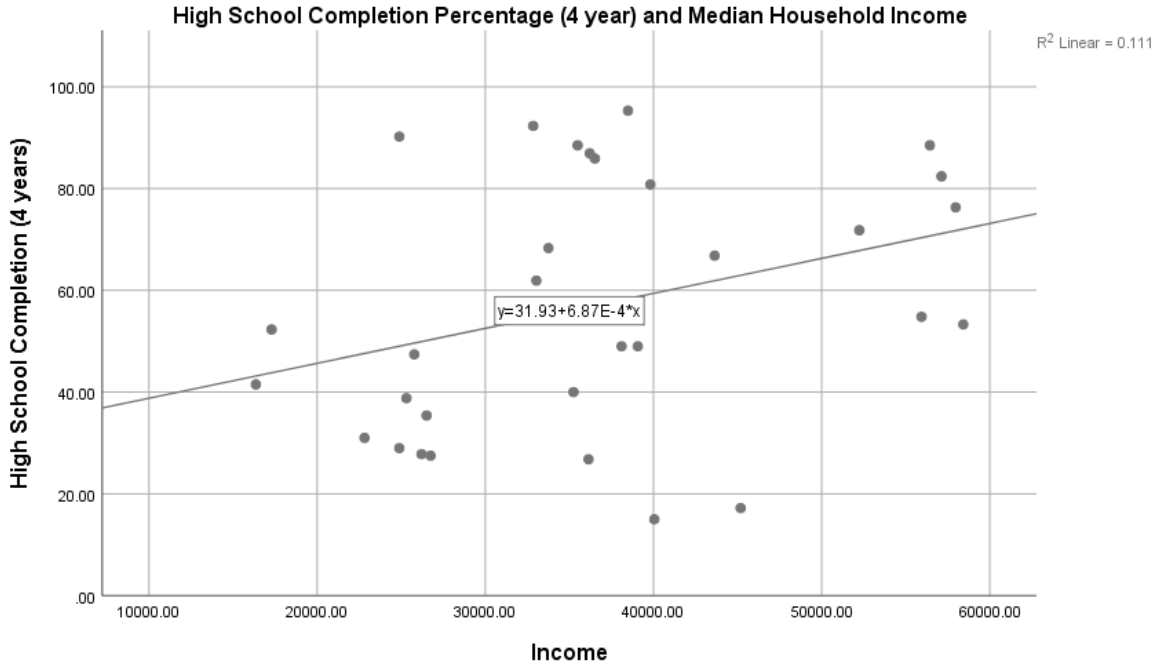
Figure 2: Scatter Plot showing the relationship between Median Household Income and Dropout Rate.



For the final variables, the Pearson Correlation for Median Household Income compared to High School Completion Rate is ".332." The level of significance between Median Household Income and High School Completion Rate is ".068." As determined by the Pearson Correlation, the correlation between these variables isn't strong. However, the level of significance is fairly close to the standard ".05," which shows us that these results are statistically significant. Figure 3 demonstrates the relationship between Median Household Income and High School Completion Rate in a scatter plot. In Figure 3, it can be seen that as Median Household Income increases by $10,000, High School Completion Rate in a 4 year time frame increases by approximately 10%. These results show substantive significance, because in the real world these numbers may be important. If a neighborhood's Median Household Income increases by only $10,000, according to my research, 10% more students would graduate high school in 4 years. This is something that should be acknowledged, as it offers very practical significance. It should be noted that the high school completion percentage was used based off a 4-year rate, which may have an impact on

significance. According to the statistics, the relationship between Median Household Income and High School Completion Rates was the most significant compared to the other dependent variables used.

Figure 3: Scatter Plot showing the relationship between Median Household Income and High School Completion Percentage (4 year)



Overall, my results show that there is no strong correlation between Median Household Income and Composite ACT Scores, Dropout Rates, and High School Completion Rates. Although the results show a lack of correlation, they do show some statistical significance. Median Household Income has a higher correlation with High School Completion Rates, versus Composite ACT Score or Dropout Rates. This is interesting because it could show that students that attend the Milwaukee Public Schools don't graduate in 4 years for many reasons, one possibly being that they must work to support their family.

Right now, in Wisconsin, every student has to take the ACT whether they are planning on going to college or not. Perhaps, students feel like college isn't an option due to the financial status of their families, which would cause them to not try on the tests. The No Child Left Behind Act, created by President Bush in the early 2000s, required that every school has their students take tests in order to measure the proficiency of the school. This is controversial because if schools do not meet this standard, they could possibly lose their Title I funding from the Federal Government. The argument is that teachers now have to target their curriculum in preparation for these tests, and if a school is not doing well, should they lose money instead of getting more? This relates to my research because it could play a factor into why schools are failing. If students in the City of Milwaukee don't want to go to college, they are still forced to take exams and that can have an affect on how much money their school receives. If minimal effort is put into these exams, that could be a factor into why Milwaukee Public Schools are not meeting their proficiency standards. Relating this to my research, the neighborhoods and families that children come from could possibly influence their performance on tests, which could impact the school as a whole.

DISCUSSION/ CONCLUSION

As stated above, education policy is an extremely complex topic to research. There are many reasons why findings may show certain results over others, and research findings could change drastically with a simple change in procedure, location, or sample size. In this research, I determined whether there was a correlation between Median Household Income of a neighborhood and school Composite ACT Scores, Dropout Rates, and High School Completion Rates. My results showed while there is little correlation between the variables, there is some statistical significance. There are many reasons why this might be the case. It should be important to note that my sample size only included the Milwaukee Public High Schools, which comes to approximately 30-40 schools. If more data would have been collected in multiple areas, or if it would have included private schools, the results may have varied.

To begin, the Pearson Correlation of significance between Median Household Income and Composite ACT Scores showed the least amount of correlation. While there are many reasons as to why this might be, I think that the opportunity of a higher education plays a factor. If a household has a low median income, children might know that going to college is just not fiscally possible for their family. Even though every student is required to take the ACT exam, if a student knows that they aren't able to go to college, they might not try as hard on the exam. This could be a factor into the correlation between Median Household Income and Composite ACT scores. I think there are many reasons as to why this correlation was the least significant. There are many factors that contribute to Composite ACT Scores including how much the school values the ACT, how much time they spend preparing their students for the ACT, and how much motivation the student has to get a good score. I think that how much the school focuses on prepping students for the ACT has an impact on how well they perform, which could suggest why it was the least significant in terms of Median Household Income.

Another finding of my research included the correlation between Median Household Income and Dropout Rates. While the Pearson Correlation didn't suggest much of a correlation, there was substantive significance. There are many reasons why a child might drop out of school, which include: if they have to work to support their family, if they don't have enough resources, or if they come from a family that doesn't value education. Any one of these theories could be why a child might have to drop out of high school, and that could explain why the correlation was not strong. The correlation between these variables may have been stronger if more schools and neighborhoods had been utilized. A level of significance of ".104" shows that these results are close to being significant. If a neighborhood has a lower Median Household Income, children may need to drop out of school in order to help support their families. This could explain the significance between these variables.

The correlation between Median Household Income and 4-year High School Completion Rate was the most significant out of all of the dependent variables. The level of significance was ".068," which is close to the standard level of ".05." One reason that explains this relationship is that if a child's median household income is low, that child might need to take time away from school in order to work for the family. High schoolers around 14, 15, 16 and 17 years old are now old enough where they are able to work and help out the family. If a child needs to work, they may only go to high school part time, or even take a year off, which may be the reason why 4-year high school completion rate is deemed the most significant. Just like the other variables, it is important to acknowledge that there are many factors that could play a role into why schools are failing. Even so, this research suggests that Median Household Income might be one of those factors.

For future graduate school research, I will focus more on how property values may have an affect on student performance and whether a school is succeeding or failing. The State of Wisconsin relies more on property taxes than most states in the US, which is important, because this can impact how much funding schools receive. Being able to determine not just the median home value in a neighborhood, but also mapping the home values where the children reside will be essential in order to determine if there is a correlation between school performance and property values, which can also be linked with funding. In regards to neighborhood context in relation to school performance, there could be many factors, not just Median Household Income. That is why in the future, I would like to research relationships between family size, whether it is a one or two parent household, and values of the family to see if this plays a factor in to student performance. In the end, quality education is a human right, and no

child should be forborne from following their dreams because they don't have the resources and education they need to be successful.

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