

How the Education Finance System is the Gateway to Unequal K-12 School in California?

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The achievement gap among public school students in the California education system has reached an unprecedented level, directly resulting from the current public-school finance system. This paper argues that this finance system is reflected in the relationship between taxation and educational achievement in both affluent and poor communities. The achievement gap is symbolic of injustice and unfairness and results from the unequal finance system. Using qualitative analysis, this paper argues that the level of school funding impacts students' performance on the SAT, thereby affecting their chances of attending a university. The research also asserts that the inequality between wealth and poverty does not change across California's various geographic areas nor according to each school district's ability to provide high-quality education, unless the funding system is different from each school district. Therefore, there is little to no chance for students, who are not already at the top, to move up the social ladder. Thus, the education finance system is the gateway to unequal K-12 schools in California

Introduction

The California education system plays an important role in providing formal education to students. Along with school education, home education is another important pillar with a strong influence on a student's education success. The State of California's education finance system allows individual unified school districts to fully manage the funding and distribution of educational resources within the unified districts across the state. However, such a funding system can be a gateway to unequal school systems. This is because each unified district has its own funding system, which creates different levels of funding among unified districts; hence, the resources could not be equitably distributed to all the students.

This research also investigates the role of home learning environment and its influence on students' academic performance. We all begin our lives with a unique socioeconomic status and home environment; however, whether we are born rich or poor should not be the decisive factor that would determine our life course. Understanding the reasons why students grow up in a certain environment is a necessary part of the process. Indeed, multiple factors are responsible for the performance of students and these are likely to change their lives and experiences within and outside school. Hence, this study also aims to determine how household median incomes are related to students' performance.

The current condition of California's unified dis-

tricts can be traced back to the beginning of colonial America's education history. Understanding the context in which our schools were originally founded can give us a better picture of the history of the state's school financing system and how it works. According to Sadker and Zittleman (2013), the first colonial school districts and towns raised money to build schools and provide education for the community, and the amounts depended on the size of the firms, which were the primary sources of income at the time (known as property tax). The funding structure of modern unified districts across California can be traced back to colonial America's school funding history. In fact, the historic impacts of property taxes continue today, as they remain part of the current financial structure of California's unified districts.

The second issue that this research aims to focus on is the educational resources gap between affluent and poor communities. The current situation is a result of the divided educational resources among the affluent and poor unified districts, given that their financial structures are dramatically different from one another. Such a difference has a huge impact on the level of funding received by each unified district (Sadker & Zittleman, 2013). Sadker Zittleman (2013) state, for example, in Illinois, one wealthy district in the same state. This situation typifies the current gap between affluent and poor communities in terms of financial structure. In particular, this research will investigate whether the financial structure of the unified

districts in California is fostering inequality and an unjust system.

The final issue that this research aims to focus on is the environment of the unified districts. Each student who enters college right after high school is a result of years of preparation by the student and their parents. It can be said that the “race” has already begun from the first year a student attends the K-12 system. Macionis (2012) explored the differences in school environments and found that one of the schools within the underfunded unified district was built from a former roller rink and did not even resemble a normal school. Furthermore, the school should only have 900 students, but the actual number of enrollees was 1,300. In comparison, the environments in schools situated in well-funded districts are totally different. For example, in one of the schools in an affluent district in New York City, the buildings are in good shape, and it even runs a program for gifted students, with a special curriculum. Such a striking difference gives us an idea of the reality that the system that we have now can contribute to the creation of unjust outcomes for students. Moreover, aside from the environment within a unified district, the home and family environment can also help shape a student’s character. Thus, this research aims to examine how the environment of the unified districts of California impacts students’ learning and academic performance and to determine the influencing factors (i.e., the district and family environments).

This research falls under public administration, which is a subfield of political science. As public administration focuses on public bureaucrats, the topic of this paper (i.e., public education policy) is covered by this field of study. Ultimately, the research aims to discover the relationship between education policies and students’ performance.

One of the questions that this research aims to answer is “How does the level of school district funding affect student performance?” In California, the composition of each unified district is unique and each district controls its funding. Therefore, the finance structure varies in every single one of them. This research will attempt to find out how to increase the level of effectivity and equality in funding, which can help these districts face the major challenge of educating the next generation of students.

The second question that should be answered is “How does a unified school district’s level of residential household income affect student SAT scores?” To answer this, the current research focused on the relationship between residential household income and student SAT scores. The assumption is that the home learning environment is essential to students’ overall education as they spend a good amount of time learning at home doing homework and other school-related activities. In terms of character building, parents also play a critical role in educating their children, and a striking difference can be found in terms of how children are raised between affluent and poor families. The SAT score is a good indicator to measure the success of home education and to assess the impact of household median income level and education resources gap on students’ academic perfor-

mance.

The third and final question of this thesis aims to answer is how parental median income level and level of student educational performance measured in SAT scores impact the possibility to enter the University of California as elite education? To answer this the research focused on the relationship between the how parental median income level and level of student educational performance measured in SAT shaped the possibility to enter the University of California, for it is a good indicator to measure the gap between affluent and poor communities’ representation among elite education and the social mobility exist among all social-economic ladder.

Overall, this study finds mixed results when it comes to student performance as measured by SAT scores from 2017–2018. However, due to the lack of significance levels, the hypothesis is rejected. Meanwhile, students’ performance measured by SAT scores from 2017–2018 has a positive relationship with median income household level; however, the same is not true for the unified district funding level as the significance levels are too high.

The rest of the paper is divided into several sections. First, the paper begins by discussing the related literature, which shows how previous scholars have discussed the topic of school financing and inequity. The literature topics mainly focus on several topics, including “school finance systems and why they are the source of school inequality,” which explains the relationship between the school finance systems and student performance. “The reality of students’ performance and housing prices,” meanwhile, explains how housing segregation affects the funding level of the schools. “Outcomes for low-performing schools” shows how low-performing schools affect student’s performance, whereas “impact of judicial rulings and government policies on education” discusses how government bureaucracy shapes the education policies. “Teachers and students’ performance” presents in detail the relationship between teachers and students are connected to performance of students, and “parents’ income and students’ performance” discusses how parents’ income influences students’ performance. The research design and methodology of the current thesis indicate that this research relies on a literature review to guide the research and what kind of hypotheses

needed to be formulated and tested. This thesis findings and analysis section presents the analysis of data collected from several institutes using SPSS to test the hypotheses. The final section of the thesis presents the conclusion in which the limitations and the recommendations for future scholars are discussed.

Literature Review

School Finance Systems and Why They Are the Source of School Inequality

The school finance system in the United States is deeply connected with property taxes because neighborhoods with high housing prices can more easily

fund their local school districts through property taxes. This also means that when housing prices are low or reduced, the school district will likely be underfunded. Hoxby (1996) discusses the challenges of balancing efficiency and equity in school finance. The United States has centralized and local finance systems for education, and each one has benefits and defects, which are in direct connection to each other in terms of efficiency and equity. The centralized finance system provides equality, for funds are evenly distributed among all school districts, but it lacks the efficiency of the local finance system, which is tied to property taxes. Hoxby's (1996) findings suggest that housing segregation and property taxes are the causes of inequality in access to knowledge. Further, Kane, Riegg, and Staiger (2006) clarify how housing prices and their relationship with the school district under desegregation generate increased residential integration and reduce the variance in housing prices. In the case of Mecklenburg County, the result of desegregation was that home buyers were limited in their ability to choose to send their children to racially segregated schools. At the time of their study, the school district was under a court order to eliminate purposeful segregation based on test scores and race. Kane et al. (2006) examined Mecklenburg County, North Carolina, from 1994 to 2001 to determine the difference between housing prices and their connection with school performance.

The Reality of Students' Performance and Housing Prices

The approach to financing schools in the United States is causing housing segregation, which imposes school segregation as a result of people with different levels of income being less likely to mix. This further affects racial mixing and exacerbates the wealth gap; therefore, it will most likely change students' lives and experiences of education. Mather (2017) focused on the quality of a school and its relationship with housing prices. Mather (2017) states the Academic Performance Index (API) is used to determine the quality of a school. The study concentrated on the Fremont Unified School District, and the boundary of the district is entirely located within the city of Fremont, which is also known as an upper-median income majority-Asian neighborhood. Based on its funding, the impact of school quality on housing prices was more than three times greater than the impact typically found in studies conducted in other regions (Mather, 2017). Mather (2017) compared Fremont in Alameda County, California, and in the United States as a whole to determine the roles of housing prices, ethnicity, and family income when it comes to the school quality variable between hedonic regressions. There is a positive relationship between the location of a house and that of the local school. The community surrounding a school differs from district to district; therefore, academic performance differs according to access to educational resources. Mather (2017) also stated that only distances beyond the 0.375 mile subset show any significant differences across subsets. The distance from home to school plays a role in students' academic performance and its connection to housing prices.

If housing plays a significant role in educational opportunities, Ihlanfeldt (2019) further attempts to answer the question of whether school districts with affordable housing units would see a benefit in school performance for students from low-income families, who are predominantly Hispanic or Black. The study indicates that there is no prior research providing direct empirical evidence regarding affordable housing and its connection with better school performance and low-income families. Ihlanfeldt (2019) presents a case study that compares different levels of income and housing and their relationship with students' performance at school.

Outcomes for Low-Performing Schools

The environment of the school district that students grow up in has a fundamental impact on the students, especially when they grow up in unsafe, unclean, and dangerous conditions in a school district that is underfunded. Thus, Lavy, Paserman, and Schlosser (2012) focus on students' achievements and their relationship with the environment of the school district, and especially on how low-achieving students studying with other low-achieving peers affects their academic performance. The students' environment is examined in different categories—race, parent education level, ethnicity, and income level—to determine if having low-achieving peers impacts students' performance at school and its connection with socioeconomic status. Especially the parent's education level and teachers' attention shift from regular students to low-ability students. Lavy et al. (2012) focus on Israel and use data regarding the country's nationwide examinations, which students from middle school to high school take annually. Low-achieving students are determined by the number of times they fail a class, starting from the beginning of their early education in kindergarten or first grade in elementary school. This study concludes that having low-achieving students affects the performance of the peers studying with them. Furthermore, there is a spillover effect from low-ability students to regular students, but the scope of this effect is unknown.

The question of ethnicity and socioeconomic status plays a role in academic performance and its link to geography. Different factors of education policies imposed on different target groups impact the funding of school districts, according to Monroe-Lax and Ko (2017). The question as to which is the better predictor or has a more significant impact on student achievement continues to fuel debates. This study builds on the literature by using an economic model to analyze educational production functions of school resources on students' educational outcomes. The study employs a quasi-experimental design with cross-sectional data. The sample population consists of 146 out of 152 (due to missing data) school districts in Mississippi. The researchers use ACT scores to examine academic performance. Their results show that as income levels go higher, test scores increase as well. Both the State of Mississippi and the State of Ohio have indicated similar findings based on the research of Monroe-Lax and Ko (2017) and Hall

(2007), respectively. The data for Hall's (2007) study were collected from a report by the Ohio Department of Education (2002), which provides information at the school district level on demographics, personnel usage, property valuation, taxes, expenditures, revenues, and school district performance. In Ohio, all students (with the exception of disabled students) are required to take proficiency tests, thereby mitigating possible sample selection bias that can occur with selective standardized tests, such as the SAT or American College Test (Brasington, 2003). In the basic specification, the two independent variables measuring local fiscal involvement have a positive effect on test scores. The percentage of school district revenue raised from local sources and the percentages of district property classified as residential and agricultural are statistically significant at the 1% level. The research explains the relationship between local funding and statewide standardized test scores (Hall, 2007).

A relationship exists between the parent's education and the student's academic performance. Rouse and Barrow (2006) investigate the effect of parents' socioeconomic status on student performance. Socioeconomic status determines students' ability to access quality education. As the research shows, the parents' educational background affects the students' academic performance because the parents potentially provide more schooling for their children to prepare them for higher education, such as enrolling them in after-school programs. The research compares higher- and lower-income parents and discusses how the parents' educational background, which shapes the "value of education" that they impart to their children, influences access to education in terms of the length of education. Rouse and Barrow (2006) assess the relationship between years of completed schooling and annual earnings by using data from the Current Population Survey (CPS) from March 2003 and 2004. An American child's educational attainment is strongly linked to his or her family background, and children of parents of a low socioeconomic status are likely to share the socioeconomic status of their parents when they become adults. As students' educational achievements vary by family background, the students' families are divided into four even groups (quartiles) based on a socioeconomic status index. Those in the lowest quartile are the most disadvantaged, while those in the highest quartile are the most advantaged. In conclusion, there is a strong link between the parents' socioeconomic status and their children's socioeconomic status when they enter adulthood. The parents' educational background also affects their

children's academic performance. Furthermore, the parents' level of income affects the students' learning outcome by influencing their chance of entering college. Haveman and Smeeding (2006) focus on the impact of level of education on career path, which further influences social mobility. The family's socioeconomic status has a substantial impact on college selectivity. In general, the earnings gains for students from high-income families exceed those for students from low-income families. Similar differences exist for students with other characteristics. Most Americans expect U.S. colleges and universities to promote the goal of social mobility, to enable anyone with the ability and motivation to succeed. According to Haveman and Smeeding (2006), income-related gaps both in access to and success in higher education are large and growing. In the top-tier colleges and universities, almost three-quarters of the entering class belong to the highest socioeconomic quartile. Higher education in the United States, especially public higher education, has two primary goals: economic efficiency and social equity.

Impact of Judicial Rulings and Government Policies on Education

The judiciary affects equality among school districts. Court decisions can change the structure of the finance system of a school district. Thus, the structure of the school district impacts its performance. Wood and Theobald (2003) develop a theoretical model that emphasizes the social welfare implications of equity versus allocative efficiency and distributive policies. Wood and Theobald (2003) research focuses on how a state government accesses federal school financing as part of an effort to promote equality and efficiency and how the court exerts an influence on the state to bring about an equitable balance among school districts in the United States. Based on judicial research, the state budget is firmly tied to the ideology of the judicial system of the state, which determines whether there is equality among school districts. On the government's endeavor to create greater equality and efficiency among school districts, Lipman (2002) states that it has resulted in minority-dominant school districts in Chicago showing that when the government steps in, there is little improvement in students' academic performance over time. Thus, government policies have a minimum ability to shape equality and efficiency in academic performance. Lipman (2002) also finds that to address the complexity of policy analysis, it is essential to perform structural, macro-level analyses of social systems and educational policies through a micro-level investigation, especially one

that takes account of people's perceptions and experiences. The study examines different levels of CPS policies—for teachers, school administrators, and students—and focuses on four Chicago public elementary schools—namely, Grover, Westlawn, Brewer, and Farley. Both Grover's and Westlawn's student bodies are more than 90 percent low-income and more than 95 percent African American. Although Grover was placed on probation in 1996, in 2000, fewer than 15 percent of its students scored at or above national norms in reading on the ITBS and fewer than 25 percent were at or above national norms in math. Two of the most common causes were per pupil expenditures and family socioeconomic background. Driscoll, Halcoussis, and Svorny (2004) examine California's school districts to determine the relationship between the school district's size and student performance. The research finds that district size has a negative effect on student performance, as measured by standardized test scores. The measure of the test scores is based on the 1999 California API. The results show that students' performance is connected with their parents' educational background. When API scores are high, this attracts new residents, thus providing an incentive to maintain high scores in the district, and smaller school districts do better compared to larger school districts. Papke (2008) clarifies that when the state of Michigan implemented a power-equalizing/guaranteed tax base (GTB) plan in 1974, it changed the school finance system; for school districts, there is a base budget and a maximum budget. Moreover, school districts will endogenously shift spending within a district to possibly target lower performing schools. Under the new finance system, the school districts have performed according to the funding provided to each district. The research shows, based on the state-wide MEAP exams, when school funding increases even slightly, scores also increase. Coate and VanderHoff (1999) examine the funding of school districts in the state of New Jersey and find that this largely comes from the local government. The New Jersey Supreme Court changed the finance structure when it ruled in favor of a substantial increase in state aid to poor urban school districts. Expenditures were meant to increase for both special needs high schools and affluent suburban high schools, but in reality, the affluent suburban high schools continued to receive more funding compared to poor urban schools. The performance of affluent suburban high schools and poor urban schools remained unchanged. Loeb and Socias (2002) examine how the federal and state governments impact the funding of K–12 education. As the research shows, states with high percentages of high-income families within school districts have received support from the federal government in the form of tax cuts to increase educational support. However, state governments across the country have shown support to school districts by giving aid indirectly through the redistribution of property taxes. Yet, in reality, the states that have adopted smaller funding reductions in high-income communities have impacted the overall quality of K–12 education in those states. The impact of government funding of school districts changed when the

Supreme Court's and state courts' rulings also influenced the funding sources. Murray, Evans, and Schwab (1998) clarify that in the 1971 landmark case of *Serrano v. Priest*, the California State Supreme Court ruled in favor of Serrano and the other plaintiffs and declared the state's public school finance system unconstitutional. This case reformed the education funding system by changing California's school finance system and shaping the equality of school districts across the state. Murray et al. (1998) examine the relationship between school funding and the court ruling and assess how the conditions of the court-ordered reform reduced inequality by increasing spending at the bottom of the distribution while leaving spending at the top unchanged, thus reducing the inequality of schools in low-income neighborhoods.

Teachers and Students' Performance

The school finance system also pays for the teachers' salaries, and it helps school districts hire high-quality teachers, thus shaping the students to perform well in school. Strunk (2012) examines how the policies set in collective bargaining agreements (CBAs) impact the quality of the teachers' performance in connection with the wellbeing of the teachers provided by financial stability, in turn, impacting the students' performance. CBAs allow teachers' unions to negotiate specific contract provisions to provide better terms for their salaries, benefits, and retirement. There are specific policies from other contract areas that provide teachers with security or rights that can enhance their working conditions and perhaps make the district a more positive place to work, some of which inherently constrain administrators even as they enhance teachers' professional working conditions. Thus, in districts with CBAs, teachers' unions have a significant impact on the performance of teachers, which also means the quality of the teaching, as well as students. Duncombe and Yinger (2000) examine New York City, as teachers' salaries in this city are among the highest in the country. The research reveals that the area of the city and its relationship with the school district may affect the extent to which parents are willing and able to monitor the performance of their schools. A comparison of small cities, large cities, rural areas, and suburbs shows that different types of low-performing school districts have unique challenges. To improve the performance of school districts in different geographic areas, it is necessary to improve the district's efficiency, its property tax rate, and its state aid.

Parents' Income and Students' Performance

Parents' income and students' performance in K–12 is connected to the parents' educational background. It limits the ability of parents to help their children perform well academically. Logan, Minca, and Adar (2012) examine the relationship between ethnicity/race and performance in school. The research shows that non-Hispanic white students and Asian students have the highest median performance in school and the gap becomes wider in high school. The Hispanic and Black students are at the bottom of the school performance measure using reading and mathema-

tics scores. Yet the cause of the wide gap in school performance between ethnicity/race, in fact, is the association with poverty or racial composition. There is a significant effect of the share of adults in the district who are college educated, in addition to the school poverty effect linked to students' test performance. Drummond and Stipek (2004) state that low-income families and their children, on average, tend to have lower academic achievement. Low-income parents believe that their involvement in the children's homework is important, but the amount of time that they actually devote to reviewing their children's homework usually is very minimal. Furthermore, based on the research, low-income parents tend to be low educated, which limits their ability to help with their children's homework; consequently, the children perform below the school's expectations. In particular, when children's performance in school is poor, it will discourage low-income parents from continuing to help with the children's schoolwork; thus, low-income families have a direct impact on the performance of students. Haveman and Smeeding (2006) note that there is a strong relationship between socioeconomic status and the parents' educational background. Further, the parents' level of education affects the students' performance, and the related disparities in college access lead to widening gaps in the share of students remaining in college until graduation. The data in the research come from the National Education Longitudinal Study (NELS) of 1988 conducted by the Department of Education. Students coming from the highest socioeconomic quartile also have the highest chance of attempting a bachelor's degree, but students coming from the lowest quartile have the lowest chance of attempting a bachelor's degree. The graduation rate is also low for low-income students who begin postsecondary education, as compared to higher-income students. Low graduation rates, then, can be related to students from low-income families being less likely to receive guidance from their parents, in part, because their parents did not attend college themselves and, in part, because their high schools, which send few students on to complete four-year baccalaureate degrees, lack useful and timely advice on college preparation.

I plan to investigate ten unified school districts within the state of California—namely, the San Francisco unified school district, Los Angeles unified school district, and Fresno unified school district, Irvine, San Diego—to determine if there is a connection between college preparedness and coming from a low-income or affluent family, in terms of SAT and the chances of entering four-year university. To understand

the differences among geopolitical areas, the performance of students from different socioeconomic backgrounds will be compared to identify the connections between property tax and ethnicity and low-income families' college preparedness.

Research Design and Methodology

Based on the literature review, there is a strong relationship between the unified district's funding level, the parental income level, and student academic performance. The geographical area chosen as the test area was California's unified districts. California is the largest state in terms of population, which provides the best statistical knowledge on national education equality. The dependent variable is the performance of students, measured by SAT scores, in each of the ten unified districts in our study region. The study will aim to identify differences in SAT scores between geopolitical areas in order to determine the connections between finance structure, academics performance, and median income in the school district among all races and ethnicities. The SAT scores are derived from standardized tests of academic performance and are widely used in the US as entry criteria for four-year universities. The result of this relationship would indicate whether different levels of income affect students' academic performance. The growth of inequality in educational performance within a state is often associated with the level of state government funding for education. Funding levels have a measurable effect on student performance in the state of California. These funding levels vary considerably across school districts depending on the level of financial support available. It is also the deferment factor to the success or failure of the current inequality of the income and the educational performance. Levels of income vary greatly across society and there is also wide variation in the importance placed on education, including in the emphasis placed on the level of investment in academic activities. Neighborhood property taxes are the primary source of funding for school districts and, consequently, there is a strong association between household income and the level of funding provided to a school district. As a result, different socioeconomic groups usually receive different levels of quality within their school district. Students' performance in both SAT scores affect the chances of entering university.

This data was collected by the Academic Accountability Unit (California Department of Education, 1430 N Street Sacramento, CA 95814). The dataset used in this study was DataQuest, 2017-2018. These data were collected on selected unified district's

University of California in state enrollment of the high school students from California, for it represents the chance to enter top-tier universities and high school students who completed high school and enrolled in college access the nation. It provides the information how high school students are seeking higher education to determine how both affluent and poor schools' districts help students' college preparedness in order to understand students' performance measured by in state enrollment of the University of California provides measurement on enter top-tier universities. The data of the in-state enrolment in the University of California and graduated high school students enroll in college data were collected by the California Department of Education and were obtained from the database "DataQuest, College-Going Rate for CA High School Students by Postsecondary Institution Typ."

This paper investigates the relationship between the finance system and educational achievement between affluent and poor communities. Therefore, I will conduct a quantitative methods analysis. I will test the association between different taxation systems and the level of educational funding. I will then measure the difference in the likelihood of a student entering a tier-one university across different social-economic groups. The research will focus on ten unified school districts in California. The ten school districts are: San Francisco Unified District, Los Angeles Unified District, Fresno Unified District, San Diego Unified District, Irvine Unified District, Kern High School District, Anaheim Union High School District, Oakland Unified District, Stockton Unified School District, and Fontana Unified School District. These are some of the largest unified school districts in California and as such provide an appropriate sample size for this study.

The first hypothesis is that the level of funding within the school district affects the performance of the students. The associated null hypothesis is that there is no effect of funding level within the school district on the performance of the students. The second hypothesis is that there is an effect of parent income level and level of student educational performance on the level of possibility of entering University of California as elite education. The null hypothesis is that there is no effect of parent income level and level of student educational performance on the level of possibility of entering University of California as elite education. It shows how both parents and students value elite education. The third hypothesis is that there is an effect of the level of resident income within a school district on the understanding of the value of educational investment. The null hypothesis is that there is no effect of the level of resident income on the understanding of the values of educational investment. The independent variable is California's ten unified school districts. The research aims to determine if there is a connection

between income level and college preparedness as measured by SAT scores. The dependent variable is the differences in geopolitical areas. There are ten unified school districts in California selected as test subjects. SAT scores from each unified district will be compared to identify the connections between financial structure and academic performance. According to the California master plan for higher education "UC was to select from among the top one-eighth (12.5%) of the high school graduating class."

Unified Districts SAT Data:

I will be analyzing these data using quantitative methods. This data was collected by the Academic Accountability Unit (California Department of Education, 1430 N Street Sacramento, CA 95814). The dataset used in this study was DataQuest, 2017-2018. These data were collected post-secondary preparation and provides standardized test results from the SAT tests used to measure high school students' achievement, particularly for students intending to pursue an undergraduate degree. I will use these data to assess how student performance is connected to family income in each of the school districts. The data information of the DataQuest provides statistics regarding the information of California's K-12 public educational system in terms of the demographics, the performance on the AP, SAT, and SAT test scores information on each unified school district in the State of California. It also provides information on the academic performance measured in, SAT scores. The SAT scores are derived from standardized tests of academic performance and are widely used in the US as entry criteria for four-year universities. The result of this relationship would indicate whether different levels of income affect students' academic performance. SAT reports were obtained from San Francisco, Los Angeles, Fresno, San Diego, Irvine, Kern High, Anaheim, Oakland, Stockton, and Fontana. Unified District Scores 2017- 2018 are used to measure the performance of the students from each school district. The SAT score data were collected by the California Department of Education and were obtained from the database "DataQuest, SAT ACT AP Reports & Data."

Median Household data:

According to the 2017 U.S. census report, the median household income of the California unified districts: San Francisco Unified District: 96265.00, Los Angeles Unified District: 53886.00, Fresno Unified District: 37273.00, San Diego Unified District: 67010.00, Irvine Unified District: 96312.00, Kern High School District: 51974.00, Anaheim Union High School District: 63483.00, Oakland Unified District: 63242.00, Stockton Unified School District: 38711.00, and Fontana Unified School District: 57040.00. The Information list from above is the statistical information of the figure.

Name of Unified District	Median Household Income
San Francisco	96265.00
Los Angeles	53886.00
Fresno	37273.00
San Diego	67010.00
Irvine	96312.00
Kern High	51974.00
Anaheim	63483.00
Oakland	63242.00
Stockton	38711.00
Fontana	57040.00

Figure. 1 Median Household data 2017:

To understand the current distribution of the affluent and poor neighborhood in the school districts I will use data from the US Census (2017) and, in particular, statistics on median income measured within the past 12 months period, which it is inflation-adjusted dollars in the year of 2017, for it is a survey collected by American community survey within a five year period from 2013-2017. The data as it is a 5-year estimate collected by the U.S. Census Bureau. The data set collected median household income of the unified district used to understand the location of the affluent and poor in the unified districts of California. The data information of the median household income provides statistics regarding California's median household income information on each Unified school district in the State of California. I will use these data to assess how student performance is connected to parental median household income in each of the school districts. The data of the income level comes from the US Census, and were obtained from the database "median household income by in the past 12 months (in 2017 inflation-adjusted dollars) Universe: households 2013-2017 American Community Survey 5-year estimates."

University of California data:

Based on, during the year of 2017-18 the high school completers who enrolled in college for enrolled compared to students who in-state in the University of California are selected as top-tier universities. Fresno Unified Report 130 of 2,774, Stockton Unified School District 45 of 1,042. San Francisco Unified for the 677 of 2,716. Los Angeles Unified for 1,721 of 13,524. San Diego Unified District has 746 of 4,542. Irvine, 425 of 2,053. Kern High School District, 289 of 4,368. Anaheim Union High School District, 316 of

3,274. Oakland Unified District, 217 of 1,193. Fontana Unified School District, 177 of 1,625. The Information list from above is the statistical information of the figure. 3. According to Cobo (2019) "This year sets the record-high number of public schools in the West's top 25, with 11 public universities across three states in the region. Six out of all 10 public universities in the University of California System are in this year's top 25 schools in the West."

Unified District Finance Structure data:

According to 2019–20 information from the California Department of Education, the finance system data of the ten unified school districts in the California Unified District comes from the LCFF Budget Overview for Parents 2019–20. The funding sources for all the selected districts are divided into four sections: the Local Control Funding Formula (LCFF), other state funds, local funds, and federal funds. The California Unified Districts incorporates a total collection of the finance structures from all ten school districts. The funds received through the LCFF are used for high-needs students and are based on the total enrollment of these high-needs students, which includes foster children, English learners, and low-income students. The LCFF gives school districts more autonomy on how to use the funding. Other state funds include a collection of funding unrelated to LCFF funding. Due to differences in the California Unified Districts, funding from the LCFF usually counts as the most significant part of the district's overall finance structure. The Information list from below is the statistical information of figure. 4 below.

Finance System of the Unified District	Total Unified District	Local Control Funding Formula (LCFF),	Other State Funds	Local Funds	Federal Funds
San Francisco	\$862,436,38.00	\$535,388,706.00, 62%	\$29,606,347.00 4%,	\$268,060,749.00 31%	\$29,380,579.00 3%
Los Angeles	\$73770987416.00	\$5,587,376,601.00 7616.00%	\$873,459,191.00 12%	\$142,358,623.00 2%	\$767,793,001.00 10%.
Fresno	\$1,002,707,934.00	\$780,478,155.00 87%	\$107,340,248.00 6%	\$14,079,897.00 1%	\$100,809,634.00 6%.
San Diego	\$1,368,902,144.00	\$1,041,226,850.00 76%	\$194,543,729.00 14%	\$31,690,641.00 2%	\$101,440,924.00 8%
Irvine	\$400,563,176.00	\$321,295,584.00 80%	\$45,932,431.00 12%	\$21,857,392.00 5%	\$11,477,769.00 3%
Kern High	\$547,989,313.00	\$452,000,000.00 82%	\$59,705,370.00 11%	\$3,971,672.00 1%	\$32,312,271.00 6%
Anaheim	\$407,973,348.00	\$331,039,095.00 81%	\$43,934,289.00 11%	\$11,088,384.00 3%	\$21,911,580.00 5%
Oakland	\$575,727,295.00	\$387,866,256.00 67%	\$60,795,094.00 11%	\$80,552,012.00 14%	\$46,513,933.00 8%
Stockton	\$473,613,156.00	\$377,487,806.00 80%	\$53,221,661.00 11%	\$6,975,874.00 2%	\$35,927,815.00 8%
Fontana	\$488748134.00	\$405,533,393.00 83%	\$54,906,322.00 11%	\$2,893,979.00 1%	\$25,414,440.00 5%

Figure 4.

The data on the finance system of each of the ten school districts is collected by the California Department of Education, and were obtained from the database called “the Local Control Funding Formula (LCFF) Budget Overview for Parents, 2019-20, Budget Overview for the 2019-20 LCAP Year.” The breakdown of the Unified District’s funding structure is divided into four different sections as the LCFF, other state funds, local funds, and federal funds. The data set was collected for the purpose of the unified district to evaluate the use of the unified district’s funding in each category used to measure the finance structure of the unified district. I will use these data to assess how student performance is connected to finance structure in each of the school districts.

Potential biases and weaknesses

This research primarily focuses on the population centers of the State of California and as such lacks representation for rural towns of California. As a result, this is not a statewide study. The data used in this study were collected by the state and federal governments and they might not be able to collect data from all populations in each school district. The data on the income levels will be used here to assess their effect on student performance, but it will be difficult to determine whether there are other factors that might affect the performance of the students. This research methodology should be suitable for application to other states and countries. This research will contribute to determining the effects of geographical area, and in particular the impact of different funding levels across school districts, on student performance, as measured by SAT scores.

Findings and Analysis

In this section, I will explain the purpose of the data and analyze the meaning of the data. How I use it to test my hypotheses. The data of the in-state enrolment in the University of California and graduated high school students enroll in college to understand how students from different socioeconomic backgrounds and the parental and student value elite education. The findings show the students from upper-middle class have a higher percentage to enroll the University of California and SAT scores in ELA and math. The data shows students from low socioeconomic background tended to have low scores on the SAT scores on both ELA and math and the possibility to enter University of California as access to elite education. Figure 2 shows the academic performance of high school grade 12 enrolled students and SAT test-takers, which gives detailed information on how students’ performance varies between the selected unified districts. Figure 3 provides the number of students who enrolled in-state at the University of California, which provides a measurement on top-tier universities from each selected unified district. This gives an idea of how test educational achievement varies in both affluent and poor communities, and they prepared academics to prepare students to enter top-tier universities in California. Parental income and student performance in K–12 are connected to the parents’ educational background. Drummond and Stipek (2004) state children from low-income families often have lower academic achievement. Haveman and Smeeding (2006) note there is a strong relationship between socioeconomic status and the parents’ educational background.

Name of Unified District	Total Number Meeting ELA Benchmark	Total Number Meeting Math Benchmark	Percentage Meeting ELA Benchmark (%)	School District 12 Enrollment	Number Tested	Percentage Meeting the Math Benchmark (%)
San Francisco	2248	1957	76.05	4546	2256	66.24
Los Angeles	14260	8043	55.63	42372	25633	31.38
Fresno	1603	808	48.99	4647	3272	24.69
San Diego	3726	2673	74.91	9665	4974	53.74
Irvine	1127	1069	97.24	2474	1159	92.23
Kern High	2268	1469	65.66	9852	3453	42.27
Anaheim	1628	1156	77.49	1623	2101	55.02
Oakland	1176	721	49.77	2363	2363	30.51
Stockton	567	336	58.88	2559	963	34.89
Fontana	764	387	61.35	3111	1229	31.49

Figure 2. SAT Scores from 2017-2018

Name of Unified District	High School Completers Enrolled in College	Number of Students Enrolled In-State in the University of California, Top-Tier Universities	College-Going Rate
San Francisco	2,716	677	74.8%
Los Angeles	13,524	1,721	50.8%
Fresno	2,774	130	74.3%
San Diego	4,542	746	72.6%
Irvine	2,053	425	84.4%
Kern High	4,368	289	50.1%
Anaheim	3,274	316	70.7%
Oakland	1,193	217	58.5%
Stockton	1,042	45	57.7%
Fontana	1,625	177	58.2%

Figure 3. University of California Data 2017-2018

The ten unified districts from California were randomly selected, with each school district representing the population center of a different geographical area. The finance structure of the school districts was used to determine the relationship between students' performance and funding level of the unified district, for each school district has a different financial structure... Lavy, Paserman, and Schlosser (2012) stated student achievements are tied to the school district's environment. The environment of the school district that students grow up in has a fundamental impact on the students. Lavy, Paserman, and Schlosser (2012) focus on students' achievements and their relationship with the environment of the school district.

The finance structure of unified districts is shown in figure 4, which explains the difference in the composition of school funding among each of the ten unified districts. How it plays a role in shaping the students' performance on how those funding provides quality education to students in the district. Due to people of different income levels being segregated by their housing, school segregation has become a problem. This affects racial mixing and exacerbates the wealth gap. Mather (2017) states the roles of housing prices, ethnicity, and family income vary between hedonic regressions for school quality. There is a positive relationship between a house's location and the local school.

Testing of my Hypotheses

This paper's first hypothesis is that there is an effect of the level of resident income within a school district on the understanding of the value of student's educational performance measured by SAT scores. The null hypothesis is that there is no effect of the level of resident income on the understanding of the values of educational investment. Based

on the finding calculated by SPSS, for it shows that we accept the hypothesis.

The beta coefficient for this hypothesis is 49986.056. For every unit increase in my independent variable, I see a corresponding increase of 49986.056 in my dependent variable. The r-square for this hypothesis is .675 This regression model explains 67.5 % of the variation in my dependent variable. The constant for this hypothesis is 49986.056. When my independent variables the SAT English and math scores is 0, the value of dependent variable the median household income is 49986.056.

Frequency histograms (Figure 5) shows a normal curve overlaid on the histogram to test the percentage of the students from each California unified school district meeting the SAT ELA scores benchmark from 2017 to 2018. The mean score on the SAT ELA was 66.60 across all ten districts, and this explains that there is almost an even distribution in the percentage of the SAT scores among the unified district crosses California. Drummond and Stipek (2004) state that low-income families and their children, on average, tend to have lower academic achievement. According to Figure 6, when all these variables are set to 0, there was a 61.754% for the total number of math scores to increase, but a 34.497% total number to meet ELA scores to decrease. Therefore, there is a positive relationship total number meet math scores when household median increases, but a negative impact on the SAT English scores with household median income. There was a mixed relationship between both the affluent and poor schools. However, when combined, based on the R-Squared value (Figure 7), this model explains 67.5% of the variation in the

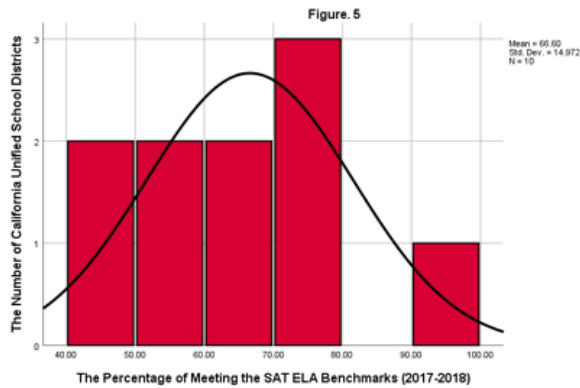
median household income for total number meet Math, and the total number meet ELA scores across unified districts, which indicates that the relationship between median household income is positive when testing SAT ELA and Math together. We conform to the hypothesis.

ing, and total federal funding, I see a corresponding decrease of -282.992 in my dependent variable, which is total number meeting current SAT Math benchmark.

The r-square for this hypothesis is .983 This regression model explains 98.3 % of the variation in my dependent variable.

These findings indicate that the relationship between geographical location and student performance is positive only when the finance structure is different from district to district in combination, and these data provide the information necessary to assess the role school funding plays in student performance and levels of equality. Figure 8 shows that the SAT scores in the current Math benchmark 2017-18 have a strong relationship with the California unified districts: the level of total financial funding has a positive effect; the level of funding in LCFF has a positive effect; other states' levels of funding have a positive effect; the level of local funding has a positive effect; and, the level of federal funding has a negative effect. But we reject the hypothesis, for the significance levels are over 5%. Loeb and Socias (2002) examine how the federal and state governments impact the funding of K-12 education.

This paper's third hypothesis is that there is an effect of parent income level and level of student educational performance on the level of possibility of entering University of California as elite education. The null hypothesis is that there is no effect of parent income level and level of student educational performance on the level of possibility of entering University of California as elite education. It shows how both parents and students value elite education. The beta coefficient for this hypothesis is 473.831.



This paper's second hypothesis is that the level of funding within the school district affects the performance of the students. The associated null hypothesis is that there is no effect of funding level within the school district on the performance of the students. According to SPSS analysis that all independent variables tested with significance levels are over 5%, which means it has passed the limitation to be efficient as variables, so we rejected the hypothesis. For every unit increase in my independent variables, which are total unified school district finance system, total local control funding formula, total other state funding, total local fund-

Figure 6. SPSS Linear Regression Calculation 1:

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. error	Beta	t	Sig
(Constant)	49986.056	6385.715		7.828	.000
Total Number Meeting Current Math Benchmark	61.754	16.1527	6.877	3.786	.007
Total Number Meeting Current ELA Benchmark	-34.497	9.048	-6.925	-3.813	.007

a. Dependent Variable: Median Household Income

Figure 7. SPSS Linear Regression Calculation 2:

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.822	.675	.582	13147.09135

Predictors (constant), Total Number Meeting Current Math Benchmark, Total Number Meeting Current ELA Benchmark

Figure 8. SPSS Linear Regression Calculation 3:

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. error	Beta		
(Constant)	-282.992	512.133		-.553	.610
Total Unified School District Finance System	7.943E-9	.000	.080	.132	.902
Total Local Control Funding Formula	3.380E-6	.000	2.395	1.046	.355
Total Other State Funding	1.068E-5	.000	2.995	.864	.437
Total Local Funding	3.471E-6	.000	.272	1.115	.327
Total Federal Funding	-2.731E-5	.000	-2.755	-2.089	.105

b. Dependent Variable: Total Number Meeting Current Math Benchmark

Figure 9. SPSS Linear Regression Calculation 4:

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. error	Beta		
(Constant)	473.831	825.198		.574	.584
Medium Household Income	.010	16.1527	.431	.733	.488
Percent Meeting ELA Benchmarks	-9.795	19.357	-.297	-.506	.628

c. Dependent Variable: University of California Enrolled in-State

For every unit increase in my independent variable, I see a corresponding increase of 473.831 in my dependent variable. The r-square for this hypothesis is .073. This regression model explains 7.3 % of the variation in my dependent variable. The constant for this hypothesis is 473.831 When my independent variable median household income and percent of meeting ELA benchmarks is 0, the value of dependent variable University of California enrolled in-State of California is 473.831.

Based on the SPSS model, linear regression indicates that (Figure 9) when all these variables are set to 0, there is a 1% for the median household income to increase, but 9.795% meeting ELA benchmarks to decrease. Therefore, there was a positive relationship between the University of California's in-state enrollment and household median income, but a

negative relationship with the SAT percentage meeting University of California's enrolled in-state threshold. There is a positive relationship between both the affluent and poor schools. But we reject the hypothesis, for the significance levels are over 5%. According to Haveman and Smeeding (2006), income-related gaps both in access to and success in higher education are large and growing.

Limitations

Findings from this study are limited by a number of factors, most significantly, this research is limited to information on school funding at the unified district level and focuses on individual unified districts in California. Research is limited to information on each high school

level where there is no statistical detail to provide clarity about school funding or student performance in each district. Future researchers should consider testing more unified districts over a longer time frame to provide greater statistical accuracy. Due to limited resources and time of research and the length of the research is approximately seven months, the research is only able to conduct research on one year period of the latest possible of the data provided by the institutes who conduct the statistical information on the SAT scores, median household income, In-state enrollment of the University of California of each unified district, and the finance structure of selected unified districts.

The independent variable is California's ten unified school districts. The research aims to determine if there is a connection between income level and college preparedness as measured by SAT scores. The dependent variable is the differences in geopolitical areas. There are ten unified school districts in California selected as test subjects. SAT scores from each unified district will be compared to identify the connections between financial structure and academic performance. The limitation of using SAT test scores as the measurement of the students is the limited number of the test takers among the population of the high school students. The accessibility among the takers and the institutes who will use it as a method of the admission requirements for the institute universities, for there are other methods as the admission requirements like ACT, TOFIC, and some universities might not require any scores on entrance exams.

The data used in this study were collected by the local, state, and federal governments and they might not be able to collect data from all populations in each school district. The United States Census Bureau and the California Department of Education might not be able to research the population in the state of California who are very difficult to connect due to barriers that are difficult to overcome, for example illegal immigrants, homeless, California residents temporarily living abroad or other states, and etc.

Conclusion

This thesis explores school financing and inequity and their relationship with the education finance system as the gateway to unequal K-12 schools in California. The first research questions of the thesis, it raises the question, how does the level of school district funding impact student performance? As stated in the previous literature, there is a strong relationship between the educational finance system and students' performance. Hoxby (1996) discusses the challenges of balancing efficiency and equity in school finance. The local finance system promotes efficiency in student learning, which helps the local unified district perform better. The research shows add nuance to the previous literature.

However, according to the sample selected for the thesis, the unified district finance structure has a minimum impact on students' performance as measured in SAT scores from 2017 to 2018. The thesis explores the issue of home education, as this is one of the primary sources of the ed-

ucation block, and it is part of the overall environment of student learning. The second research questions of the thesis, this raises the question, how does a unified school district's level of residential household income affect student SAT scores? The second key point of the thesis is that there is a strong connection between student SAT score performance and educational resources provided by the home, and this changes as the household income level changes. Haveman and Smeeding (2006) note that there is a strong relationship between socioeconomic status and parents' educational backgrounds. Further, the parents' level of education affects the students' performance. Based on my research, the level of residential household income has a strong effect on student SAT scores. The research shows validate to the previous literature.

The final focus of the research is how both parental income levels and student educational performance levels together affect the possibility of entering the University of California for elite education. According to Haveman and Smeeding (2006), income-related gaps in both access to and success in higher education are large and growing. In top-tier colleges and universities, almost three-quarters of the entering class belong to the highest socioeconomic quartile. When both factors of the household of the median parental income connect together, there is no significant increase in the chance of entering the University of California. Based on my research, it contradicts the previous literature.

Based on the findings, the hypothesis was rejected, for the first hypothesis that the level of funding within the school district affects the students' performance. The financial structure of the unified district impacts academic performance, but the significance level is affected to prove a strong relationship between the independent and dependent variables. In the future, the research will collect more samples to increase the significance level and then test if the thesis results remain the same. The hypothesis was rejected, for the second hypothesis, that the parent income level and the student educational performance level affect the possibility of entering the University of California for elite education. These levels do impact the possibility of entering the University of California, but the significance level is inefficient to prove a strong relationship between the independent and dependent variables. In the future, the research will collect more samples to increase the significance level and then test if the results are the same. Based on the findings, the hypothesis was accepted, for the third hypothesis, that the level of resident income within a school district affects the understanding of the value of education. As the household median increases or decreases, there is a positive relationship with the value in academic education.

This research is important because it provides critical information on school finance investment, as information of the findings of the research shows when increasing of the funding on unified district finance system, there

is an increase on students' academic performance, for it provided from the research shows that government bureaucracies should favor increasing levels of funding, even if there are only minimum connection related to statistical values. However, the data still show a positive relationship between the educational finance structure and student academic performance. Secondly, as information of the findings of the research shows when parent income level increases and the student educational performance level increases, there is an increase in the possibility of entering the University of California for elite education, even if there is only a minimum connection related to statistical values. This information should help the California Department of Education to create an education system where efficiency and equity of education quality could coexist. Finally, the findings of the research show when increasing median household income, there is an increase in student SAT scores. This information provided from the research shows the government should give extra funding to help unified districts with a huge number of households living under poverty line, for it helps to fight narrow the academic resources gap between the affluent and the poor communities. Future research should gain more information on whether unified districts should increase the levels of Local Control Funding Formula (LCFF), state funding, or local funding to benefit student academic performance. Future research should also gain more information on top-tier universities in California instead of only the University of California regarding in-state enrollment as the measurement of top-tier universities. Quantitative research lacks the detail that qualitative research can provide; for example, interviewing low-income and affluent families might give researchers more personal experience on how the education funding system has impacted their lives, which will provide insightful information on the research. Using both approaches helps the research to become detail-oriented and full-scaled.

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