2023

Examining School Funding Inequity and Impact on African American High School Dropouts

Michelle Janette Williams
Walden University

Walden University

College of Health Sciences and Public Policy

This is to certify that the doctoral dissertation by

Michelle Janette Williams

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Lori Demeter, Committee Chairperson,
Public Policy and Administration Faculty

Dr. Michael Brewer, Committee Member,
Public Policy and Administration Faculty

Dr. Eliesh Lane, University Reviewer,
Public Policy and Administration Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
2023

Abstract

Examining School Funding Inequity and Impact on African American High School Dropouts

by

Michelle Janette Williams

MA, Wilmington University, 2008

BS, University of Delaware, 1999

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Policy and Administration

Walden University

August 2023

Abstract

Causal factors such as peer pressure and socioeconomic status have been linked to African Americans dropping out of high school. Little research has been done to examine the impact school funding inequity has on African Americans dropping out of a high school. In response, this quantitative research study examined the association between school funding and when an African American dropped out of high school. The results can be used to make an argument for increased funding in high-poverty schools. The theoretical framework that underpinned this research study was equity theory. The quantitative research study explored the association between funding and when an African American dropped out of a Red Clay School District high school**.** Publicly available archival data from 2015-2020 were used from the State of Delaware's Department of Education website. Data were analyzed using a Pearson correlation in SPSS. All of the relevant cases in the dataset were used in the study. The results of the study indicated there was a correlation between student dropout and school funding in the Red Clay School District, which provided insight on the role of school funding consistent with the literature. The study revealed that the problem of student dropout may be associated with inadequate school funding. The findings can be used to help promote positive social change as public policy developers re-examine policies and practices on school funding in high poverty schools.

Examining School Funding Inequity and Impact on African American High School Dropouts

by

Michelle Janette Williams

MA, Wilmington University, 2008

BS, University of Delaware, 1999

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Policy and Administration

Walden University

August 2023

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction to the Study

Introduction

School funding is a vital component in providing a high-quality education that equips all learners with the knowledge and skills they need to become productive citizens. Having inequity in school funding can lead to unequal educational opportunities for students. The Elementary and Secondary Education Act of 1965, which was reauthorized as Every Student Succeeds Act (ESSA) of 2015, highlighted the needed federal role to ensure equal educational opportunities (U.S. Department of Education [DOE], n.d.). The purpose of the ESSA is to ensure a level playing field for low-income and minority students (U.S. Department of Education [DOE], n.d.). According to Sargrad et al. (2019), history shows that without a strong federal role, states and local school districts continue the structural inequality that has existed for generations.

According to Martin et al. (2018), the primary source of school funding is local property taxes. Schools in richer districts receive more funding from state and local governments for their schools and students than poorer districts, while lower performing schools are typically located in poorer districts serving disadvantaged students who need more resources (Martin et al., 2018). In fiscal year 2017, local governments contributed 45% of overall education funding, state governments matched local contributions, and the federal government accounted for the remaining 10% (Martin et al., 2018). According to Rodel (2021), in the 2018-2019 school year in Delaware approximately 59% of revenue came from state sources, 33% from local sources, and 8% from federal sources.

The purpose of this quantitative study was to examine the association between school funding and the grade (9^{th}, 10^{th}, 11^{th}, and 12^{th}) in which an African American student dropped out of a Red Clay School District high school. Delaware has an 80-year-old funding system and is one of only four states that does not provide additional state funding for English as Second Language (ESL) and low-income/at-risk students (Vision Coalition of Delaware, 2021). The outdated system needs to be updated to reflect current conditions in the education arena. In the 2016-2017 Delaware school year, 418 of the 700 dropouts were male, and 246 of them were enrolled in the 10^{th} grade (Delaware Department of Education [DDOE], 2020). The Vision Coalition of Delaware (2021) reported that Delaware is one of only a few states where education funding follows staff positions, rather than reflecting the needs of individual students.

Equity in education is when every student receives the resources needed to acquire the basic work skills of reading, writing, and simple arithmetic (Amadeo, 2021). If society is dependent on the success of students, then students should have access to the same funding and quality resources in their respective schools (Martin et al., 2018). Martin et al. (2018) stated that it costs more to educate low-income students and provide them with a quality education, and that increased spending on education leads to better student outcomes. Further educational equity research is recommended because funding allocated to schools for low-income students' remedial classes instead often allocates to provide advanced classes for affluent students (Vaught, 2009).

The primary research question (RQ) for this quantitative research study was as follows: What is the association between funding and when African Americans dropped

out of a Red Clay School District high school? A quantitative study was conducted to examine if a there was a correlation present between inequity in school funding and when an African American student dropped out of a Red Clay School District high school. Sargrad et al. (2019) noted that when states invest in their public schools and create more equitable school finance systems, student achievement levels rise. The results of the study can be used to make an argument for the use of weighted student funding in Delaware. A weighted student funding (WSF) formula provides an equitable method of allocating state funds to the students with the highest need (DDOE, 2015). According to the Delaware Department of Education (2015), weighted student funding can provide quality programs with the greatest correlation on students.

Background

Public education serves most Delaware K-12 students (DDOE, 2015). Property taxes provide much of a school district's budget, which generates funding differences between wealthy and impoverished communities (Biddle & Berliner, 2002). Some inequities that exist in more impoverished schools are fewer resources than wealthier districts, less experienced staff, reduced access to mental health and health supports, and challenges with behavior and academics (Garcia & Weiss, 2017). According to the United States Department of Education (n.d.), President Obama signed the ESSA (2015) into law on December 10, 2015, with provisions that would advance equity by upholding critical protections for America's disadvantaged and high-need students. It also maintained an expectation that there will be accountability and action to correlation

positive change in our lowest-performing schools (United States Department of Education (n.d.).

State support for public education in Delaware is allocated by the unit system, a formula that provides funding to support staffing based on September 30 enrollment counts in each district (Kelly & Chesser, 2019). Units are comprised of three categories: Division I - salaries and benefits, Division II - all other costs and energy, and Division III - Equalization. Kelly and Chesser (2019) state that Division I unit funding is intended to provide approximately 60 to 70 percent of total salary, according to a state salary scale, while Division II unit funding is broken down into two subcategories. The subcategories, energy expenses and all other costs, provide for energy costs and classroom resources, such as textbooks and teaching supplies. Division III unit funding, equalization, is provided to account for differences between school districts relating to their ability to generate funding at the local level from property taxes (Kelly & Chesser, 2019). School districts that have a low property tax base must raise their tax rates higher to generate the same amount of revenue as a district with a higher property tax base.

The inequity in school funding and its correlation with when an African American student dropped out of a Red Clay School District high school was the basis for this quantitative research study, which also incorporates equity theory as the framework. Red Clay is a comprehensive K-12 public school system with excellent educational opportunities for students of all levels. The instructional program begins with the mastery of basic skills by all students and is centered around individualized programs to meet the needs of each student, from the least able to the most gifted. All Red Clay schools feature

libraries, and there are planetariums and observatories, swimming pools, science labs, technology labs, industrial arts shops, and theatre and music facilities in the district. The district also offers distinctive magnet programs including Cab Calloway School of the Arts, grades 6-12; Conrad Schools of Science, grades 6-12; and Lewis Dual Language Elementary School, kindergarten-grade (redclayschools.com).

Red Clay is Delaware's largest K-12 school system. It serves over 16,000 students from early childhood to adulthood in thirty schools, which includes seven high schools (redclayschools.com). The district is in New Castle County, Delaware, which is 45 minutes south of Philadelphia. Red Clay schools are located in Hockessin, Greenville, Pike Creek, Newark, Elsmere, Newport, and the City of Wilmington. The district's annual operating budget is $265 million, and the average annual spending per student is $17,389 (redclayschools.com).

According to Allegretto et al. (2022), revenues in low-poverty districts averaged $19,280 per-student in the 2017–2018 school year, and per-student expenditures averaged $15,910. In the high-poverty districts, per-student revenues were just $16,570, and per-student expenditures were $14,030. High-poverty districts raise $2,710 less in per-student revenue than the lowest-poverty school districts. Per-student spending in high-poverty districts is $1,880 less than in low-poverty districts (Allegretto et al., 2022).

Many factors such as race, academic achievement, retention, suspensions, family SES, peer pressure and disengagement have been attributed to the high school dropout rate (Bowers et al., 2013). Of the 560 dropouts in Delaware in 2019-2020, 205 were African American, 78 were males, and 127 were females (DDOE, 2020). Most of the

African Americans dropped in the 9th grade (66). There were 50 African Americans who dropped out in the 10th grade, 51 in 11th grade, and 38 in 12th grade (DDOE, 2020).

Researchers, politicians, filmmakers, and authors have addressed the issues of African American students dropping out of the schools (Bottiani et al., 2016; Fan & Wolters, 2014; Kotok et al., 2016). From one angle, filmmaker Davis Guggenheim (2011) worked to bring the education crisis in the United States back to the forefront in his documentary, Waiting for "Superman." In the film, Guggenheim follows a handful of promising kids through a system that inhibits, rather than encourages, academic growth and undertakes an exhaustive review of public education. Much of the film displays "drop-out factories" and "academic sinkholes," methodically dissecting the system and its intractable problems (Guggenheim, 2011). In it, Guggenheim offers hope by exploring innovative approaches taken by education reformers who refused to leave their students behind.

Tavis Smiley also investigated the root causes of the increased dropout rate among teenagers, specifically among Black teenage males, as well as what can be done and is being done to reverse this in his documentary "Too Important to Fail." He asserted that African American students face the disadvantages of not being able to gain employment, experiences with homelessness, lack of adequate healthcare, increased involvement in criminal activities and drug abuse by not completing high school (Smiley, 2011). In his documentary, he traveled across the country speaking to education experts, as well as to the boys themselves, about the challenges they face and how education can be redirected to address their needs.

On the research front, there are data that support an educational inequity in school funding. For example, researchers such as Baker and Weber (2016), Cascio et al. (2011), and Kim and Taylor (2008) have investigated resource allocation and distribution of resources in schools as a causal factor of drop out. Meckler (2019) found overwhelmingly white school districts received $23 billion more than nonwhite school districts in state and local funding in 2016, despite serving the same number of children. Epstein (2011) examined the problem of intrastate fiscal inequity by surveying some of the different measures that are used to characterize a state's level of funding equity among districts within a state. Baker and Corcoran (2012) stated the existence of funding inequity in the education world has long been a known fact, but the sources of these inequities have not always been obvious. The information obtained from this research study can provide legislators, school administrators, families, and communities with information needed to help create and implement policies on equity in school funding to ensure that all students receive the equity and quality in their educational studies that is needed to be successful.

Problem Statement

In 2015, the DDOE found that Delaware's education funding system posed challenges for educators and prevented the state from providing equitable, flexible, and sufficient funding to meet student's needs. If the issue of inequity in school funding continues, it can have increasingly negative impacts on society (Egalite et al., 2017; Rich et al., 2019). Inequity in school funding leads to fewer interventions and social supports for students with the most needs (DDOE, 2015). According to Rich et al. (2019), inequity in school funding could have negative effects on Black students. Whereas literature on

inequity in funding exists (Darling-Hammond, 2019; Egalite et al., 2017; Rich et al., 2019), there are limited studies examining the association between the inequity in school district funding and when (the grade) an African American student dropped out of high school (LaFortune et al., 2016).

Research has not determined whether early factors in life such as grades, student's perceptions of school, and attendance are also causal factors of dropping out of high school. Factors such as a student's living situation, race, gender, parental education and involvement, and socioeconomic status have been researched and considered causal factors of dropping out of high school (Davis et al., 2002; Pagani et al., 2008). For African American students, dropping out can lead to greater societal concerns such as unemployment, incarceration, alcohol and/or drug abuse (Bottiani et al., 2017). Therefore, there is a meaningful gap in the current research literature that needs to be studied. My research assisted with beginning to fill that gap.

Purpose of the Study

The purpose of this quantitative study was to examine the association between funding and when an African American student dropped out of a Red Clay School District high school. The independent variable was per pupil funding. The dependent variable was the grade at which an African American student dropped out of a Red Clay School District high school between 2015 and 2020. Students receive a baseline amount of funding that is adjusted based on weighted student factors such as being an English language learner, having disability, coming from a low-income home, and being homeless (DDOE, 2015). This quantitative study needed to be conducted to determine

whether there was a correlation between school funding and African American student drop out. In addition, the study was necessary to inform educators, politicians and researchers of the current school funding allocations and the potential correlation with when African American students dropped out of a Red Clay high school.

Research Question and Hypotheses

The following research question was addressed using quantitative correlational research:

Research Question (RQ): What is the association between funding and when (the grade) an African American student dropped out of a Red Clay School District high school?

H_0: There is no association between funding and when (the grade) an African American student dropped out of a Red Clay School District high school.

H_1: There is an association between funding and when (the grade) an African American student dropped out of a Red Clay School District high school.

Theoretical Framework

The theoretical framework that underpinned this research study was equity theory. Equity theory was developed by John Stacey Adams, a workplace and behavioral psychologist, who developed his job motivation theory in 1963. Equity theory focused on determining whether the distribution of resources was fair to both relational partners (Miles et al., 2015). The relational partners in this research study were African American students in the Red Clay School District. This framework was used to explore the correlation of inequity in school funding on when an African American student dropped

out of high school, as well as to operationalize the meaning of inequity in school funding to be the unequal distribution of academic resources (including but not limited to school funding).

Funding varies across schools and school districts for an array of reasons. Different funding sources, property taxes, and funding policies all played a role in the inequity that exists in school funding. In the research study, an association between school funding and African American student drop out was examined to determine if school funding had a correlation on African American students dropping out of a Red Clay high school. The variables were also studied to inform recommendations addressing the school funding issue to improve the quality of education for African American students.

Equity theory was relevant to my research because it focuses on the distribution of fairness in resources and the effect it has on people. Equity theory has been used in many educational research studies. For example, Heise (1998) used equity theory in his study to address school finance equity. Although no independent, positive relationship between successful court decisions and increased state educational spending was found, the study brought attention to efforts to address constitutional concerns relating to the equal educational opportunity doctrine through school finance (Heise, 1998).

Fowler and Brown (2018) also used equity theory in their research study to highlight how data were currently being used to solve the “what” and not the “why” as it related to achievement gaps for marginalized students in urban settings. Educational inequity ensures that every student receives the resources needed to acquire the basic

skills of reading, writing, and math (Amadeo, 2021). Inequity in school funding in this research study was measured in per pupil spending and overall spending in the Red Clay School District high schools.

Equity Theory Propositions

Equity theory was utilized in the current quantitative study to examine the correlation of school funding and when (the grade) an African American student dropped out of high school. Developed in 1963 by John Stacey Adams, this theory has four propositions.

1. Men and women are wired up to try to maximize pleasure and minimize pain.
2. Society has a vested interest in persuading people to behave fairly and equitably.
3. Given social pressures, people are most comfortable when they perceive that they are getting what they deserve from life and love.
4. People in inequitable relationships will attempt to reduce their distress via a variety of techniques.

How Equity Theory Relates to the Study Approach and RQ

The research study was framed using equity theory, which involves determining whether school resources in Red Clay School District were distributed in an equitable way. Specifically, equity theory was utilized to examine current funding policies in poverty schools and determine if there was equity in the distribution of school district funding in poverty schools. Further, equity theory was used to determine if and/or how equity was used to motivate African American students in poverty schools. The theory

related to the RQ of what was the association between funding and when an African American student dropped out of a Red Clay School District high school because it focused on resources being distributed equitably, as well as the motivation that distribution could have on people.

The equity theory proposition that men and women are wired up to try to maximize pleasure and minimize pain was relevant in this research study. School funding had different effects on male and female students in the Red Clay School District between 2015 and 2020. Overall, female students dropped out at a higher rate than male students between 2015 and 2020 (DDOE, 2020). There were more African American students who dropped out of school in Delaware in 2019-2020. African American males dropped out of Red Clay high schools at a higher rate than female students between 2015 and 2020 (DDOE, 2020).

The equity theory proposition that society has a vested interest in persuading people to behave fairly and equitably also applied to this research. Per pupil funding in the Red Clay School District was the same for all schools in the district, but it varied from other school districts in the state. Per pupil funding is less in the southern part of the state and more per pupil in the vocational technical high schools (Rodel, 2021). More African American students dropped out in the 9th grade. The least number of African Americans dropped out in 12th grade (DDOE, 2020).

The equity theory proposition that states, given social pressures, people are most comfortable when they perceive that they are getting what they deserve from life and love, also related to this research study. Uncomfortable social pressures such as living

situations, peer pressure, and self-esteem are causal factors for students dropping out of school (Pagani et al., 2008). If students felt like they were not getting what they deserved from home or school, they may have opted to leave rather than stay and remain in uncomfortable situations.

The relationships that some students had with their families, peers, and/or their teachers may have contributed to them dropping out. Rather than deal with certain stresses, people leave home, school, and/or work to reduce exposure their stress. As such, John Stacy Adams' equity theory's proposition that people in inequitable relationships would attempt to reduce their distress via a variety of techniques, was relevant to this research study.

Nature of the Study

A quantitative, correlational study was conducted to examine the association between school funding and when an African American student drop out of a Red Clay School District high school. Quantitative research demonstrates evidence for trends and focuses on data that can be measured and quantified (Goertzen, 2017). Correlational designs compare two or more relevant variables and reports the association between them without controlling the variables (Rezigalla, 2020). A quasi-experimental design was not chosen for my study because in quasi-experimental designs there was no randomization, and the ability to compare variables is limited (Maciejewski, 2018).

Correlational research design investigates relationships between variables without the researcher controlling or manipulating any of them (Bhandari, 2021). A correlational design was appropriate for the study because it compared both the dependent variable

(the grade in which an African American student dropped out of high school (grades 9th, 10th, 11th, or 12th)), and the independent variable (school district funding,) without the variables having to be manipulated. This design was used to determine if there was an association between school district funding levels and when an African American student dropped out of high school.

Key Variables

The dependent variable in this quantitative research study was when an African American student dropped out of a Red Clay School District high school. This was measured by using the grade (9th, 10th, 11th, and 12th) in which the student dropped out. The independent variable in the study was school district funding. Although the variables did not physically impose the intervention, they were used to determine if one variable had a correlation with the other.

Participants

Secondary data analysis was conducted as there were no actual participants for the research study. The data for this research consisted of the 114 African American students who dropped out of a Red Clay School District high school between the 2015-2016 and 2019-2020 school years. Statewide during the same time, 255 students dropped out of high school. The data used were from publicly available sources via the State of Delaware Department of Education's website. All the relevant cases in the dataset were used to analyze data on Red Clay School District high school funding. Dropout data on when (measured by using the grade (9th, 10th, 11th, and 12th) an African American student dropped out of high school were also analyzed.

Data Collection

Publicly available data for this quantitative study were obtained from the State of Delaware Department of Education's public website. Correlational data from 2015-2020 were used on the nominal variables, school district funding and African American drop out, to determine if there was an association between the two variables. No personally identifying information was included in the data set. I kept data confidential by backing them up on my laptop during data analysis. The data were removed and stored on a flash drive in a locked cabinet for a period of five years, and then destroyed. I was the only one who had access to the data. Though, I consulted with an independent party if clarity was needed to interpret some of the data.

Records relating to 2015 through 2020 dropouts were used for the research study. The data used in this research study was from the Delaware Department of Education's website. For each year 2015 through 2020, the data included:

- Aggregate data regarding the total number of students in each freshman, sophomore, junior, and senior class.
- Aggregate data regarding the total number of students who dropped out that year in each freshman, sophomore, junior, and senior class.
- Aggregate data regarding the race of those who dropped out in each freshman, sophomore, junior, and senior class; and
- Aggregate data regarding the average cost per student.

Data Analysis

The data were imported into and analyzed using SPSS, which was also used to run a data analysis to answer the research question. Specifically, a correlation analysis was performed at .05 level of significance to determine statistical significance of the variables. I conducted a correlation analysis to examine the relationship among the independent variable, school funding, and the independent variable, student dropout. A correlation analysis was done to examine the relationship among the independent variable, school funding, and the independent variable, dropout. Pearson correlation was also used to measure the degree of the relationship between the nominal variables funding and dropout. A Pearson correlation is a number between -1 and +1 that indicates to which extent two variables are linearly related (Geert van den Berg, 2015). Since the data used in the research study were publicly available secondary data, they were considered clean, which improves reliability.

Definitions

The key terms that were associated with this quantitative research study were as follows.

Black or African American: A person having origins in any of the Black racial groups of Africa (U.S. Census Bureau, 2021).

Dropout: Any student who leaves school for any reason before graduation or completion of a program of studies without transferring to another elementary or secondary school (Bonneau, 2015).

Educators: One who instructs or teachers. In my study, educators refer to administrators, teachers, and/or principals (Baker & Weber, 2016).

Equity: Achieved when all students receive the resources they need so they graduate prepared for success after high school. In my study, equity refers to education and measures educational successes (Barth, 2016).

High-poverty schools: Schools that typically have higher percentages of students of color (Morgan, 2020).

Inequity: Unequal distribution of funding in education (Center for Education, 2016).

Low income: Families and children are defined as low-income if the family income is less than twice the federal poverty threshold (U.S. Census Bureau, 2021).

Socioeconomic status (SES): Socioeconomic status is the social standing or class of an individual or group (African American Psychological Association, 2021).

White or Caucasian: A person having origins in any of the original peoples of Europe, the Middle East, or North Africa (U.S. Census Bureau, 2021).

Assumptions

According to Field (2013), the following assumptions are common among correlation and descriptive analyses:

- The dependent variable must be continuous.
- The observations in the data are independent of one another.
- The dependent and independent variables need to be in a linear relationship.
- The variables should not contain significant outliers.

- The dependent variable should be approximately normally distributed.
- Compared data needs to show similar variances (specific for linear regression).

The first two assumptions were dependent on the research design. The dependent variable of dropout was measured in terms of number of students who dropped out in relation to the school population. This is a continous variable. The data were recorded for the 2015-2020 school years and are independent of each school year during that period with limited chance for repeated measurements.

Assumption 3 of linear relationship was inspected using a scatter diagram (Figure 1). Visual inspection of the scatter diagram indicated that the two variables have some linear relationship, and the coefficient of determination (R^2) that summarized the proportion of variance in the dependent variable associated with the independent variable indicates that this proportion is around 14%. This value is often between 0 and 1, with values close to zero indicating no linear relationship.

The assumption on outliers was assessed using a visual tool of box plot (Figure 2). There were three data points on dropout with outlier values, as shown below. The data analysis did not indicate an outlier with the school funding variable. On the assumption of normality, the data were inspected visually using a histogram generated from both the dependent variable (dropout) and independent variable (funding) (Figure 3). Both variables show normally distributed data based on the approximate symmetric and bell-shaped normal curves.

As the relationship between inequity in school funding and student dropout had not been investigated, I attempted to fill this knowledge gap using a positivism paradigm.

A positivism paradigm involved having one reality that could be measured (Patel, 2015). Equity theory asserts that society has a vested interest in persuading people to behave fairly and equitably (Fowler & Brown, 2018). A philosophical assumption was made that school funding was not disbursed fairly and equitably in the high schools in the Red Clay School District, and therefore, there was a correlation between that and the African American dropout rate.

Archival data were used in the research study to determine if inequity in school funding was associated with African Americans dropping out of high school. As such, an assumption was made that the original archival data on district level funding and dropout would have been appropriately cleaned and ready to be used by other researchers. Clean data refers to the computational procedures to automatically identify errors in large datasets (Hellerstein, 2008). An additional assumption made was that increasing school funding may reduce the number of African American student dropouts. A final assumption was that the results of the study may be used to improve future school district funding.

Scope and Delimitation

In research, scope refers to the depth at which the research area was explored. Thus, delimitations outline the boundaries of the study. The issue of inequity in school funding was an aspect of the research problem chosen for further exploration in my study. A delimitation of this research study was the participants. By only using African American students who have dropped out a high school in the Red Clay School District, I imposed an intentional constraint.

Boundary Delimitations

The population boundaries of the research study included having only African American students who dropped out of a Red Clay high school in the study. Other participants of the study could include participants of other races. Additionally, participants from other school districts in the State of Delaware can also be used in the research study.

The theory most related to the area of study was Bandura's (1977) social learning theory. Social learning theory asserts that new behaviors are learned by imitation and considers how environmental and cognitive factors influence learning and behavior. This was not investigated because the study was examining if school funding had a correlation on when an African American student dropped out. Equity is not a learned behavior.

Population Delimitations

The population for this research study was students who dropped out of a Red Clay School District high school between 2015 and 2020. The sample for this research study was African Americans who dropped out of a Red Clay School District high school between 2015 and 2020. Having only African American students in the research was a potential weakness of the study, as there are students of other races who have dropped out of high schools in the Red Clay high schools who were not included in this research study. These delimitations could have constraints on the validity of the data.

Generalizability

The study examined all African Americans who dropped out of a Red Clay high school between 2015 and 2020. Based on the data used and analyzed, generalizations

were made about African American high school dropouts in the district. Thus, the results of the study were not generalizable to African Americans who attend high schools in other districts in Delaware. Results of the study were also not generalizable to students of other races who dropped out of high school.

Limitations of the Study

According to Price and Murnan (2004), a limitation is the systematic bias that the researcher did not control, and which could affect the results of a study. A limitation of the study was that it would only include data from the largest school district in the State of Delaware. This limited the generalizability of the results to other school districts in the state. Having a population from only one race was also a limitation of this quantitative study.

Potential Bias Limitations

I attended a school serving mostly African American students, which could have been a bias that influenced the outcome of the study. While collecting the data I looked for anything that may have triggered an emotion. If necessary, I would have reflected on those emotions and released them to conduct the study without bias, but that was unnecessary. Eliminating the bias alleviated unnecessary problems during the research study. In this case, one way to reduce the potential for bias was the decision to analyze data quantitatively instead of qualitatively, using means such as interviews. To remain neutral throughout the duration of the research study, I took mental breaks and physical breaks as needed from analyzing the data. Additionally, I did not take any of the findings personally.

Trustworthiness

Trustworthiness was maintained throughout the study. I was aware of potential personal biases while conducting the study; thus, analyzing secondary data via SPSS was a means to minimize personal influences. All data used were analyzed and included in the results of the study. SPSS, a valid statistical software, was used to analyze the data using statistical test measures. The threats to internal validity were controlled. In addition, the opinion and criticism of others was also sought and accepted throughout the process of the research. This was done by asking for feedback from educational advocates and former teachers and incorporating the information into the research study.

External Validity Limitations

External validity is whether causal relationships can be generalized to different measures, persons, settings, and times (Steckler & McLeroy, 2011). This is important in quantitative studies to be able to draw general conclusions. The population of the quantitative study may not have been representative of the Red Clay School District dropout population. African American students who dropped out of a Red Clay high school were the target population for the study. The population may have had an external validity limitation that correlated to the results of the study. Replication of the study using a different population could be conducted in the future to address external validity limitation. For my study, I focused on African American students.

Internal Validity Limitations

Internal validity is the extent to which you can be confident that a cause-and-effect relationship established in a study cannot be explained by other factors (Kaya,

2015). The population of the study was an internal validity limitation. Using only African American students in this research study could have limited the results. To address internal validity limitations, I ensured the use of rich statistical data from the Delaware Department of Education on school district funding and student dropout.

Significance of the Study

This quantitative research study examined the correlation between school funding inequities and when an African American student dropped out of a Red Clay high school. According to the Wilmington Education Improvement Commission (2015), (The Commission), the changing composition and diverse needs of Delaware's students has increased the demand on Delaware's public education system. Delaware needs policies, curricula, teachers, and administrators that can meet the needs of an increasingly diverse population Wilmington (The Commission, 2015). The Commission recommended changes to the Delaware education funding system to better meet the increasingly complex needs of students in poverty and from diverse racial and ethnic backgrounds (The Commission, 2015).

The study will be significant to policymakers, school administrators, teachers, community members and families because of its potential to bring attention to the effect inequity in school funding has on African Americans in the Red Clay School District. Policies and programs could be implemented to promote and enforce the importance of an equitable and quality education for all students. Policies can also be implemented to ensure that low-income students receive additional resources necessary to graduate from high school.

Significance to Public Policy

The results of my study could be used for social change in Delaware's education system by providing valuable data to policymakers to reconsider the weighted funding formula for poverty schools and increase funding and resources to schools serving Delaware's most vulnerable population. The Commission maintained that Delaware needs policies, curricula, teachers, and administrators that can meet the needs of an increasingly diverse population, as well as more targeted resources to provide all students a robust and high-quality education, regardless of their income-status or special needs (The Commission, 2015). Theory and research-based recommendations from my study could help policymakers, school administrators and teachers to develop and/or strengthen current educational policies on equity in school funding and implement programs to help increase the quality of education that low-income students receive, and thus increase the graduation rate of African American high school students.

Significance to Social Change

The potential implication for positive social change because of my study is the potential increase in funding and resources to schools serving Delaware's most vulnerable population. School administrators could use the data to compare it to current equity policies and determine what can be done to address existing inequity in school funding to ultimately ensure that all students are given a chance to receive a quality education.

Summary

Educational inequity has been an issue in the educational system throughout the United States for many years (Baker & Weber, 2016; Cascio & Reber, 2013; Condron & Roscigno, 2003; Wood et al., 2016). The issue remains problematic in high poverty schools in Delaware and has a profound effect on African American students. According to data from the 2015-2025 Delaware Equity Plan, impoverished schools have higher rates of teacher turnover, larger shares of new hires than low-poverty schools, are more likely to have a larger share of first-year teachers, and are more likely to place lower-achieving students with less experienced teachers (DDOE, 2015). Thus, the primary focus of my study was to examine the effect that inequities in school funding had on when an African American student dropped out of high school in the Red Clay School District between 2015 and 2020. Addressing the issues of inequity in school funding and when an African American dropped out of high school could allow more students to obtain a quality education. It could also provide better opportunities to assist students with completing high school. Having more people with a high school credential can be cost effective for society and it could help to decrease crime and the cost of healthcare (Shelden, 2011).

Chapter 1 provided the introduction of the research study. The background of the study, problem statement, purpose of the study, research question, theoretical framework, nature of the study, definitions, assumptions, scope and delimitations, limitations and summary were also outlined. Existing literature on school dropout and school funding, as well as gaps in literature, will be discussed further in Chapter 2, along with the (a) the

literature search strategy, (b) theoretical foundation, (c) literature review, (d) and the summary.

Chapter 2: Literature Review

Introduction

There was limited literature that examined the association between school district funding and when an African American student dropped out of high school. Thus, the purpose of this quantitative study was to examine the association, as the issue with dropping out of school is the negative impact that it could have on future opportunities for students. According to Rich et al. (2019), inequity in school funding can have negative impacts on Black students. Scholarly articles on school resource inequities, school district funding, school finance reform, educational outcomes, school achievement, achievement gaps, and dropout factors were analyzed for this research study.

Chapter 2 detailed the literature reviewed for the study. It includes (a) the literature search strategy, (b) theoretical foundation, (c) literature review, (d) and a summary. Existing literature on dropout, school funding, and gaps in the literature are reviewed and discussed further in this chapter.

Literature Search Strategy

Walden University's Library databases were used as sources through which to obtain scholarly articles. The databases used were SAGE Journals Online, Education Research Complete, Academic Search Complete/Premier, Dissertations and Theses @ Walden University, EbscoHost, ERIC - Educational Resource Information Center, ProQuest, and SocINDEX with Full Text. Some of the keyword search and combination terms used included *inequity in school funding*, *school funding* AND *poverty*, *schools*,

poverty, African Americans AND *school*, and *recent dropout statistics* and *African Americans*.

Additional keyword search and combination terms that were used include the following: *equity* AND *funding, equity* AND *funding high school dropouts, African Americans, high school* AND *dropouts, resource distribution* AND *school funding. Inequity, schools* AND *funding, urban education, education equity* AND *young adolescents, urban high school* AND *dropout rate* AND *African Americans and schools* were also combination terms that were used to search databases for peer-reviewed articles from January 2014 to January 2022. Database searches were also conducted using older dates in order to obtain some history of inequity in school funding and resources, as well as other causal factors that have been associated with dropping out of school.

A mixture of the aforementioned keyword and term searches were used to navigate the different databases for relevant literature when searches produced little current research. Specifically, a combination of the terms *African Americans, high school,* AND *dropout* was used to search the Education Research Complete database. Keyword combination searches such as *resource equity* AND *high school, and resource equity* AND *funding* were used to search the ERIC database. The keyword *high school dropouts* was also used to search this database.

The following combination searches were conducted in the Academic Search Complete database to retrieve relevant articles: *equity, school* AND *funding, equity* AND *funding,* AND *resource distribution and funding. Resource distribution* AND *schools,* AND *African American, dropouts,* AND *high school* were used to search the SocINDEX

database. The SAGE Journals Online database was searched using the key term *resource equity*. In addition, Dissertations and Theses @ Walden University database were searched using the keyword *education*.

Research articles were found using a combination of word searches in the Education Research Complete database. Such word searches included *disadvantaged students, school funding* AND *inequity; disadvantaged students, African American,* AND *school district funding; disadvantaged students, school budgets, and resources;* and *African American, urban schools,* AND *students*. These searches produced articles on current literature regarding inequity in resources in schools. There was a limited amount of research that specifically examined the impact of school funding on dropping out. Causal factors of dropout were reviewed to find out if school funding would be mentioned as one of the factors.

Theoretical Foundation

Equity theory was used in this quantitative study to examine the association between school funding and when an African American dropped out of high school. Equity theory involves determining whether the distribution of resources is fair. The propositions of equity theory are that men and women are wired up to try to maximize pleasure and minimize pain, society has a vested interest in persuading people to behave fairly and equitably, given social pressures, people are most comfortable when they perceive that they are getting roughly what they deserve from life and love and, people in inequitable relationships will attempt to reduce their distress via a variety of techniques (Miles et al., 2015). When originally designed, equity theory was about business and

salaries. It was criticized by many, even Adams himself (Fowler & Brown, 2018). This made Adams revise and clearly define equity and inequity. He then stated, “inequity exists for person whenever he perceives that the ratio of his outcomes to inputs and the ratio of other’s outcomes to other’s inputs are unequal” (Fowler & Brown, 2018, p. 20).

A limited number of studies have been conducted on inequity in school funding and the impact it had on African Americans leaving school. There are studies that have been done on the causal impacts of African American students dropping out of high school, and inequity and inequalities in school funding and resources. The literature on causal factors of dropout is plentiful. The current study added to literature on school funding and student drop out.

Equity theory has been used in old and current educational research studies. Heise (1998) used equity theory in his study: Equal Educational Opportunity, Hollow Victories, and the Demise of School Finance Equity Theory: An Empirical Perspective and Alternative Explanation to address school finance equity. Fowler and Brown (2018) also used equity theory to determine achievement gaps in low-income students in their study: Data-Driven Decisions: Using Equity Theory to Highlight Implications for Underserved Students.

Equity theory is considered to be one of the most valid frameworks to understand human attitudes and motivation as it focuses on two sides: the input and the outcome (Al-Zawahreh & Al-Madi, 2012). The result of inequity is tension. Felt injustice will lead to dissatisfaction, anger, and guilt. If an individual experiences a deficit, it results in anger, and if he or she receives more than others, a feeling of guilt develops. People will feel

angry and dissatisfied when they are getting less of what they expect in comparison to what they input, and people also will feel guilty if they receive more than their worth (Al-Zawahreh & Al-Madi, 2012).

The drawback of equity theory is that it has not accounted for individual differences and for diverse cultures. By utilizing equity theory through a social justice lens, Fowler and Brown (2018) highlighted how data are currently being used to solve the "what" and not the "why" as related to achievement gaps for marginalized students in urban settings. Equity theory was used to look at the fairness in the distribution of funding in the Red Clay school district. An analysis of the variables, school funding and student dropout, was conducted to examine correlation.

Literature and Research Based Analysis

After desegregation, school finance reform was the most important education policy change in the United States in the last half century (Casio and Reber, 2013). While the effects of the early reforms on school finance have been well studied, there is little research regarding finance reforms on student achievement (LaFortune et al., 2016). Many studies have been conducted on inequities and inequalities that exist in funding for schools serving mostly African American students. Fewer studies have been done on the impact that inequity in school funding have on when an African American decides to drop out of high school. The gap in literature that this research study was designed to address was if inequity in school funding had an impact on when African Americans dropped out of a Red Clay high school.

Literature Review

Traditional School Funding

Public education in the United States often comes under harsh criticism for failing to perform at the levels of other developed nations. Public education in the United States is provided through fifty-one distinct education systems that are governed by fifty-one distinct states (including the District of Columbia) accountability and governance systems, all of which are funded largely by state and local government taxes (Baker et al., 2016). This is not the case in other developed countries, where the federal government funds both public and private education (Baker et al., 2016).

State investments in elementary and secondary schooling vary widely. For example, Massachusetts and New Jersey education systems compare favorably to even the highest performing nations. This is because, on average, the children in those states are economically better off; not only are their parents better educated, but their schools are better funded (Baker et al., 2016). States like Florida, on the other hand, do not perform as well against international competition. Many of the lower performing states are among those spending the least on their schools (Baker & Weber, 2016). These same states have less economic capacity than other states to raise the revenue needed for their schools (Baker et al., 2016).

The United States made many remarkable achievements in education. According to Morgan (2020), there are many reasons for the inequities in school funding. One reason noted is school districts with the highest percentages of students of color receive an average of about $1,800 less per student of state and local funding than the districts

with the fewest students of color. Another reason came back in 2016 when it was found that the school districts with the largest concentrations of students of color received $23 billion less in funding than those with mostly white students, even though they served a similar number of students. Since property taxes are low in high-poverty districts, schools with higher percentages of students of color, schools in these areas receive smaller shares of funding from local sources (Morgan, 2020).

One of the ways to address the inadequate funding that high-poverty districts receive is to implement reforms designed to provide more money for the schools that need it most. Delaware's funding system has been around since World War II and only tweaks have been made to the 80-year-old funding system over the years (Education Equity Delaware, 2020). Delaware is only one of nine states that uses a resource-based formula (Education Equity Delaware, 2020). This funding formula does not use a per-student amount as the basis for funding. In a resource-based funding formula, the cost of education is based on the cost of the resources needed to deliver instruction (Allegretto et al., 2022). The category of students considered in Delaware's funding policy are English-language learners, low-income students, students with disabilities, and career and technical education (CTE) programs (Rodel, 2021).

There are both strengths and weaknesses to using a resource-based funding formula. One strength of the resource-based funding formula is that it provides districts with a predictable level of resources (Education Equity Delaware, 2020). Another strength of a resource-based funding formula is that it allows policymakers to see what their education dollars are funding. A weakness of a resource-based funding formula is

that students' needs are not considered (Education Equity Delaware, 2020). Another weakness of the resource-based funding formula is that does not allow districts to easily move funding around based on district or students' need (Education Equity Delaware 2020).

School districts and charter schools in Delaware get their funding from a mix of state, local, and federal money. Most funding comes from the state. According to the Vision Coalition of Delaware (2019), state revenue for schools is 59%. Local revenue accounts for 33% of school funding and 8% of Delaware school funding comes from federal funds. The state portion pays for teacher and school personnel salaries, energy costs, among other costs (DDOE, 2020). Local taxes make up the local source of school funding and typically fund capital projects, general operations, charter payments, and more (DDOE, 2020).

Delaware funds schools based on the count of students that school districts conduct each year (Education Equity Delaware, 2020). The count is based on student attendance and takes place once a school year typically around September 30th. Once the student count is completed and verified by the state Department of Education, the state takes the number of students in each building and converts them into units. A unit is a state resource needed to support a classroom such as salaries for teachers and school personnel, energy and building costs (Education Equity Delaware, 2020). Dollars are usually tied to the use of a specific unit, most often an individual teacher, administrators, or other staff position.

There are two major issues when counting students: how often to count and whether to count attendance or enrollment. Counting attendance means counting who is actually present, while counting enrollment means counting students enrolled on a school roster (Education Equity Delaware, 2020). Since the student count determines how units are calculated and allocated to schools each year, it is a critical component of the funding system. The 150th General Assembly considered legislation to change the student count. It did not pass. The bill proposed Delaware's current single day unit count system shift to a "multiple single day count" method which would allow school districts to participate in an optional mid-year unit count and qualify for additional funding (Education Equity Delaware, 2020).

Cascio and Reber (2013) discussed Title I funding in their research study. They found that funds from Title I were initially distributed based on the counts of poor children. The study outlined disparities in funding in schools. The results of the study showed Title I funding narrowed the gap in per-pupil school spending between richer and poorer states for about a decade, but the program is small relative to the existing poverty gaps in school spending (Cascio & Reber, 2013). The study confirmed established knowledge of the intent of the Title I program and the existence of the poverty gap that exists in educational funding.

Educational Inequity

The school finance reforms that began in the early 1970s and accelerated in the 1980s caused some of the most dramatic changes in the structure of K–12 education spending in U.S. history (Jackson, 2018). Some schools are feeling the effects of finance

reforms that were created more than twenty years ago. Research data has suggested that states that adopted funding systems that distribute money more equitably see rising levels of student achievement (American University, 2020). Inequity in school funding has to continually be addressed in order for all students to have access to the quality resources needed to achieve and succeed in school.

Being born into poverty nor being born African American should dictate the educational opportunities provided in a public school. Students of color tend to be the students who attend schools with the highest rates of poverty causing resegregation. Resegregation leads to lower quality schooling for students of color (Cramer et al., 2017). The issue is not to decide whether funding should be allocated to schools or to students; the issue is that both education and social services must be available equitably to meet the needs of each student individually (Darling-Hammond, 2019).

Policies have been in place to ensure equity in schools. The No Child Left Behind (NCLB) law which is the main law for K–12 general education in the United States from 2002–2015 held schools accountable for how kids learned and achieved, but it also penalized schools that did not show improvement (USDOE, n.d.). In December 2015, President Obama signed into law Every Student Succeeds Act (ESSA). This law is designed to hold schools accountable for how students learn and achieve and to provide equal opportunities for all students. According to the US DOE (n.d), the law:

> …advances equity by upholding critical protections for America's disadvantaged and high-need students, requires that all students in America be taught to high academic standards that will prepare them to succeed in college and careers,

> ensures that vital information is provided to educators, families, students, and communities through annual statewide assessments that measure students' progress toward those high standards, and, helps to support and grow local innovations, maintains an expectation that there will be accountability and action to impact positive change in our lowest-performing schools (p.1).

Several research studies have been conducted that show school finance reform has an impact on outcomes. Jackson et al. (2016) found increases in spending from school reform resulted in students completing more years of school. Increases in spending also resulted in increased adult earnings and reduced adult poverty (Jackson et al., 2016). They conducted a quantitative study that investigated the effects of changes in per-pupil spending on long-run educational and economic outcomes. This quantitative study looked at district level funding and educational outcomes.

Candelaria and Shores (2019) had a similar finding to the Jackson et al. (2016) study. They also found a correlation between the increase in school spending and positive educational outcomes. Their quantitative study explored the causal impact of court-ordered finance reform. Candelaria and Shores (2019) found that states with court cases that overturned a state's financial system had an effect on revenues and graduation rates. This quantitative study examined the association between school district funding and its impact on high school dropouts.

Lafortune et al. (2018) studied the impact of post-1990 school finance reforms on absolute and relative spending and achievement in low-income school districts. They conducted a quantitative study using an event study research design. The results showed

that reforms lead to sharp, immediate, and sustained increases in spending in low-income school districts and indicate that increased school spending may have economically important effects (Lafortune et al., 2018). This quantitative study used publicly available data from the Delaware Department of Education's website to answer the research question.

Lee and Polachek (2018) found that increased school spending led to increased high-school graduation rates. Their study analyzed how changes in school expenditures affect dropout rates on data from 466 school districts in New York during the 2003-2004 to the 2007-2008 school years. A regression discontinuity design was used in this quantitative research study to compare school expenditures per pupil and school districts where budget referenda passed and failed by narrow margins (Lee and Polachek, 2018). The results of their study indicated that increases in school expenditures reduce New York State dropout rates. This is the same outcome that this quantitative research achieved.

Atchison (2019) conducted a comparative case study to examine the impact of court cases on inequity of resource distribution across New York school districts. Similarly, the State of Delaware was sued over funding inequity in high-poverty schools serving low-income students (Court of Chancery, 2018). This quantitative study examined funding inequity in a Delaware school district. Atchison's (2019) study is similar to the research study in that it examined inequity in school district funding and its impact on educational outcomes for students.

Lueken and Shuls (2019) suggested that policymakers create a unified funding system to support a robust public education system. The goal of their research was to give state lawmakers data on how to achieve a universal system of public education through ideal education finance systems to increase educational opportunity. The researchers focused on equity, efficiency, and opportunity to help with fostering a robust system of public education. Equity in funding was the independent variable used in this research study.

Epstein (2011) examined the problem of intrastate fiscal inequity. The quantitative study showed that low-income children tend to be concentrated in low-income school districts, and these children often attend schools that receive far fewer resources per pupil despite their greater need (Epstein, 2011). The data demonstrated that many states are not fairly funding their school districts. The quantitative study examined school district funding in Red Clay high schools to determine if there was an association between school funding and when an African American students dropped out of high school.

Delaware spends a great deal to support public education, but the current funding system does not include any recurrent targeted funding for low-income students or EL students (The Commission, 2015). In January 2018, the ACLU and Delawareans for Educational Opportunity, an association of concerned parents and community leaders that includes parents of low-income students, students with disabilities and English language learners, sued the State of Delaware claiming that the current funding system does not equitably serve students in poverty, English Language Learners (ELL), and students with

disabilities while placing emphasis on the issue of delayed property reassessment in Delaware (Court of Chancery, 2018). The lawsuit was settled in October 2020. Under the settlement, Governor Carney must propose that the General Assembly make Opportunity Funding permanent by 2023 and the state should grow the pot of money from $35 million to $60 million by 2025 with schools having to report how that money is being spent annually (ACLU Delaware, 2020).

Equitable educational opportunities are important for students' success. The ESSA (2015) that was signed by President Obama on December 10, 2015, which replaced the 2002 No Child Left Behind (NCLB) Act, aimed to reduce inequity and improve educational outcomes for all students (Egalite et al., 2017). The laws were passed to ensure that students receive a fair and equitable education. Improving educational outcomes that include quality education for all students could have a positive impact on the overall society.

School funding matters when it comes to student's educational outcomes. Several research studies have been conducted on equity in school funding (Darling-Hammond, 2019; Egalite et al., 2017; Rich et al., 2019. According to Darling-Hammond (2019) studies have often been inclusive due to dataset limitations and statistical methods. New Castle County Councilman, Jea P. Street (2013) argued that it takes more money to educate poor children living in poverty. Mr. Street fights for equality in education and collaborates with elected officials to try to get a funding formula implemented in the State of Delaware to at least ensure equal funding in schools serving high populations of African American students (J. Street, personal communication, March 1, 2013).

Councilman Street has been advocating for the injustice being done to students of color for 30 years. The publication addressed key fundamental flaws with equity in Delaware's educational system. Inequity in school funding was a variable that was further examined in this quantitative research study.

Literature suggested that schools serving disadvantaged students receive additional monies, such as Title I, to ensure that there are programs implemented to address their needs (Baker & Weber, 2016). The Title I program is designed to provide additional educational support to disadvantaged children (Red Clay Schools, n.d.). The primary goal of Title I is to raise student achievement in the areas of reading, writing, and mathematics. Title I provides supplemental educational services so that all children have a fair, equal and significant opportunity to obtain a high-quality education (Red Clay Schools, n.d.).

Researchers have found various findings in their respective studies regarding school funding. Cascio and Reber (2013) found that schools used Title I funds to make capital investments, to lower taxes and to move state and local revenues away from the poorer schools receiving Title I funds. Vaught (2009) found that monies received for remedial classes for disadvantaged students were used to implement advanced courses for higher achieving students. Lake and Hill (2008) found that monies that schools receive are not being used impactfully. DeLuca et al., (2009) found that funds from the state levels were not equally distributed once the funds reached the district levels. While Title I funding was not examined in this research study, the study took a deeper look into school funding in the Red Clay School District.

Baker and Weber (2016) examined the relationship between school funding, resource allocation, and achievement among students from low-income families. This quantitative study, like Baker et al's. (2016) quantitative study, examined the association between school funding and dropout. Like many researchers, Baker et al. (2016) conducted a study to explore achievement gaps and trends in low-income students. The results of the study indicated that state and federal policies should focus on improving finance systems to ensure equitable funding. They also suggested making access to resources for children from low-income families a key strategy to improve outcomes and to close achievement gaps (Baker et al., 2016).

Vaught (2009) discussed the practice of a weighted student formula to help decrease the disparities in education and achievement. Delaware does not have a weighted student formula. A weighted student formula will provide an equitable method of allocating state funds to the students with the highest need (Delaware Department of Education, 2015). The weighted student formula works in two ways. First, specific dollar amount will be allocated to educate each student enrolled and secondly, additional money will be given to educate students with identified characteristics that impact their learning and achievement (Delaware Department of Education, 2015). A weighted student formula could help to create equity in funding in Delaware schools.

Kim and Taylor (2008) conducted a qualitative study that looked at the cycle of inequality in education. The authors examined an alternative high school from a critical perspective to determine whether the school benefited students to the extent that it broke the cycle of educational inequality. This research study examined an inequality in

education, school funding. Although the research methodology for this research study was quantitative, the researcher examined the ways in which school funding is disbursed in poverty schools to determine inequity and if it had an impact on African American students dropping out of a Red Clay high school.

Dumas and Nelson (2016) conducted a research study on inequity and inequality in school funding. The variables examined in the studies are the same as the variables that were examined in this research study, funding, and dropout. The researcher examined the impact that inequity in school funding had on when African Americans dropped out of high school. Critical Race Theory was used as Dumas and Nelson's (2016) framework. Equity theory was the theoretical framework used in this research study to determine if a relationship existed between inequity in school funding and student drop out.

Verstegen (2015) focused on funding gaps between rich and poor school districts. The study addressed the question: Is public education equitable and does it provide an equal opportunity to all children and youth? Equity and funding gaps were key concepts discussed in the study. Equity was a variable that was studied in the current research study. Equity in public school funding is a critical issue facing all communities and has been addressed by the courts in all but five states (Verstegan, 2015). This quantitative study examined the impact the inequity in school funding had on when an African American students dropped out of a Red Clay high school.

Baker et al. (2010), like Verstegen (2015), conducted a quantitative study looking at equity in school funding. Their study explored fairness in school funding to deepen the understanding of public education stakeholders and policymakers about the condition of

the nation's fifty state finance systems. My study, also a quantitative study, examined school funding. The data illustrated the importance of fairness in school funding as the essential precondition for the delivery of a high-quality education throughout the states (Baker et al., 2010). The results of the study found that the states must develop finance systems designed to provide a sufficient level of funding that is fairly distributed so that all students could have the opportunity to learn.

Storz (2008) addressed educational inequity in a qualitative study. There were over 250 urban young adolescents interviewed in the study. The youth stated that they were aware of the educational inequities that existed in their schools (Storz, 2008). The results of the study found that educational inequity had a negative impact on the participant's education. Like the study conducted by Storz (2008), my study examined educational inequity and the impact on youth in schools.

Darling-Hammond's (2004) quantitative study also examined inequities in schools. She researched current disparities in educational access. A question addressed in the study was: How does teacher quality matter for equal educational opportunity? (Darling-Hammond, 2004). The study illustrated the relationship between race, educational resources, and student achievement. Additionally, the study posed reforms needed to equalize opportunities for all students to learn. The study related to this research study by using the same methodology, and similar variables. The author established knowledge on the right for all students to receive a quality education.

Knight's (2019) quantitative study viewed equity in resources in school districts. One of the research questions examined the extent of association between district per-

student funding and teacher resource gaps between high and low poverty schools and between high and low minority schools within school districts (Knight, 2019). This research study was quantitative. It examined the association between school district funding and the impact that it had on the dropout rate of African American students.

In the article, investing for student success, Darling-Hammond's (2019) research question of: How should we invest resources to achieve high-quality education in ways that redress the effects of inequities and historical discrimination was explored. This quantitative study examined inequities in school district funding and its impact on the dropout of African American students. Darling-Hammond (2019) suggests implementing a purposeful funding system that allows all schools to support high quality teaching for every child.

Several studies have been conducted on resource equity. The studies examined school funding, school finance reform, resource allocation, and school funding and fairness to determine their association with overall student achievement. Little research studies have examined the association between school funding and dropout. This quantitative research study examined the variables to determine if there was an association between student dropout and school funding.

Dropout Factors

Understanding why students drop out of school is the key to addressing the problem. Like other forms of educational achievement, the causes of dropping out are influenced by an array of proximal and distal factors related to both the individual student and to the family, school, and community settings in which the student lives (Rumberger,

2020). Dropout rates are higher for some demographic groups: males have higher dropout rates than females; Blacks and Hispanics have higher dropout rates than Asians and Whites; and students from low-income families have higher dropout rates than students from high income families (Rumberger, 2020).

Researchers have conducted many studies on high school dropouts, and it continues to remain an issue (Bottiani et al., 2017). Some of the factors that have been found to lead to dropping out of high school are socioeconomic status, race, peer pressure, poor educational performance, lack of interest in education, living conditions, fatherless homes, lack of participation in extracurricular activities, being pushed or pulled out of school, academic tracking, and lack of support from family and school officials (Bottiani et al., 2017). Flaws in the education system have led lawmakers to create legislation to try to address the issues. Educational inequities have also led politicians to use education as a platform. A factor that has not been linked to African Americans dropping out of high school is inequity in school funding. Inequity in school funding was the factor examined in this research study to examine if an association existed student dropout.

Understanding the reasons for dropping out of high school is important in order to be able to address the issue. McDermott et al. (2019) found personal, family, school, and neighborhood to be factors that predict dropout. Their mixed-methods study examined how and whether short and long-term experiences had an impact on dropout. The current quantitative study also examined whether school funding had an association on drop out.

Moreover, the study examined association that school district funding had on when an African American student dropped out of a Red Clay high school.

Like McDermott et al. (2019), Blazer and Gonzalez Hernandez (2018) indicated individual, academic, family-related, and school-related factors to be associated with dropping out. They found high dropout rates for non-Hispanic Black students, students eligible for free/reduced price lunch, and students with disabilities. School-related factors consisted of disengagement, alienation, and school policies and practices (Blazer & Gonzalez Hernandez, 2018). School funding was not specified as being one of Blazer and Gonzalez Hernandez's school-related factors associated with dropout. The factor was used in my research study to determine if there was an association with dropout.

The Kotok et al. (2016) study also focused on school-related dropout factors. The researchers looked at school climate and dropping out of school in the era of accountability. They found that students with low performances had a feeling of isolation from school as early as the seventh grade. (Kotok et al., 2016). Data from the High School Longitudinal Study of 2009 (HSLS:09), a large nationally representative sample of US high school students was used to employ multilevel structural equation modeling (SEM) to examine the relationship between school characteristics and the likelihood that a student will drop out of high school (Kotok et al., 2016). The current research study was a quantitative study that used archival data to answer the research question of What is the association between funding and when an African American student dropped out of a Red Clay high school.

Wood et al.'s (2017) study had an additional focus on education. They conducted a study that examined school-related issues associated with dropout in order to offer suggestions for prevention. The researchers looked at student and school level predictors that are associated with dropout to gain a better understanding of how to prevent dropout. They did this using ecological theory which conveys how different environmental factors influence one's identity development and life choices (Wood et al., 2017). The researchers addressed equitable distribution of resources as well as predicators of dropout. Wood et al. (2017) and the current research study used funding as a variable to examine.

Zorbaz and Özer (2020) also conducted a quantitative study using ecological theory. They used a hierarchical linear model (HLM) to examine the effects of the variables in student and school systems on dropout. Although the approach was different, the findings were similar to other research studies on dropout factors. They found the dropout is not solely due to the characteristics of the students, but to other factors such as school environment (Zorbaz and Özer, 2020).

Bradley and Renzulli (2011) examined other factors that are associated with dropping out of school. They asserted that Black students have a higher likelihood of being pushed or pulled out of school compared to white students (Bradley and Renzulli, 2011). Their study offered a model with three outcomes: in school, pushed out or pulled out, instead of two outcomes that are often used in studies. Data were used from the Educational Longitudinal Survey and found that for Black students, differences in SES explain higher likelihoods of being either pushed or pulled out as compared to white

students (Bradley and Renzulli, 2011). My study was also quantitative using publicly available data and dropout as a variable. The study related to other literature in the field by confirming established knowledge that socioeconomic status played a role in Black students dropping out of school.

Freeman and Simonsen (2015) conducted a quantitative study that focused on additional dropout factors. They asserted that most dropout research has focused on identifying risk and protective factors or describing prevention programs. They stated that little information about impactive practices or policies and integration and implementation exist (Freeman and Simonsen, 2015). The researchers argue that no single risk factor can predict dropout, but the identification of low or failing grades across time may be the most accurate single predictor. This research study was quantitative. The study examined two variables, inequity in school funding and when an African American student dropped out of high school to determine if there was association.

Hoover and Cozzens (2016) also looked at behavioral risk factors to determine if an association existed with graduation from high school. They found that correlations do exist between certain behavioral risk factors and graduation. The researchers conducted a quantitative study to examine the variables. Graduation rates continue to be problematic for school systems in the United States (Hoover & Coozens, 2016). The current quantitative study focused on factors leading to African American students leaving school before graduating.

Amdouni et al. (2017) identified many factors for dropping out of high school. They noted that many of the factors are interrelated, and it is hard to determine which

factor causes the other. Some of those factors that were identified in their quantitative study are socio-economic status, academic disengagement, behavioral disengagement, family dynamics, attitudes, values and beliefs about education, school structures, school resources, student body characteristics, school environment, academic policies and practices, supervision and discipline policies and practices, location and type of school, demographic characteristics and community environment as well as challenges associated with learning certain subjects and concepts (Amdouni et al., 2017). Their quantitative study focused on factors related to social influences. They sought to lower the number of dropout students using school resources, and factors that can be managed within schools. This quantitative research study examined the impact of a school resource, funding, on dropping out.

Little research has been done to specifically examine the relationship between inequity in school funding and the impact on dropping out of school. My study extended and built upon knowledge in the discipline as it added to the existing literature on inequity in education. This research study also extended knowledge in the discipline by proposing another possible causal factor of African Americans dropping out of high school.

Summary

Many educational research studies have been conducted on drop out. Studies have been conducted on causal factors of dropping out of school (Freeman & Simonsen, 2015). Studies have shown that schools receive additional funding to serve disadvantaged children (Baker & Weber, 2016). According to Kotok et al. (2016), high poverty schools

have fewer resources such as qualified teachers compared to non-poverty schools. No study has been conducted to determine whether school district funding was associated with students dropping out of high school.

Some of the themes that were found in the literature are that Black males face social, academic, and cultural concerns that interfere with their academic potential and that teacher impact can influence student performance (Bell, 2014). Another theme that was found in the literature was that schools receive additional funding for serving disadvantaged children. The themes in the literature review guiding this research study were school inequity and dropout factors. This quantitative study helped to partly fill the existing gap in the literature on the association between school district funding and when African American students dropped out of high school.

Chapter 2 provided a literature search strategy for the literature review. The theoretical foundation of the literature was discussed. A critique of the literature on school district funding and its association with when African American students dropped out of high school was also included in chapter 2. Chapter 3 outlined the methodology, research design and rationale, sampling procedures, the data analysis, threats to validity, and ethical considerations.

Chapter 3: Research Method

Introduction

The purpose of this quantitative study was to examine the association between inequity in school funding and when (grades 9th, 10th, 11th, or 12th) African American students dropped out of a high school in the Red Clay School District. Chapter 3 includes the research design and rationale for the study. Methodology and recruitment and participation of participants are also discussed in the chapter. The data analysis plan, threats to validity and ethical considerations are detailed in Chapter 3. The research design section defines the type of research design, the population and sample, the instrument, and the procedures used for the study.

Research Design and Rationale

This quantitative study included a correlational designed that examined the association between school funding and when African American students dropped out of a high school in the Red Clay School District. A correlational design was appropriate for the study because it compared both the dependent variable, when African American students dropped out of high school, and the independent variable, school district funding, without the variables having to be manipulated. Data on student dropout and school funding used in my study were from publicly available archival data from the State of Delaware Department of Education. Data were retrieved for the academic school years 2015-2020. A sampling procedure was not needed as all the relevant cases in the dataset were used. The sample was analyzed using Pearson correlation and linear regression. A Pearson correlation coefficient was computed to assess the linear

relationship between the variables. A linear regression was used to predict when a student dropout out based on the value of the school funding received.

Quantitative research produces results that can be projected to a larger population (Patton, 2002). The population of the study was chosen to understand the relationship between the dependent variable, when an African American student dropped out of high school, and the independent variable, school district funding. Quantitative research also allows the researcher to examine correlational relationships (Patton, 2002). For the purpose of this research study, inequity in school funding and when African American students dropped out of a high school in the Red Clay School District were not being controlled.

According to Rutberg and Bouikidis (2018) one may choose quantitative research if a lack of research exists on a particular topic. The lack of literature that exists on inequity in school funding was also a reason for using a quantitative method. A qualitative or mixed methods research study would not have produced the quantifying data needed for the purpose of this research study. Qualitative data are not numerical, and numerical data were needed for this research study.

Correlational design is used in quantitative studies because it allows researchers to observe the phenomena and identify if a relationship exists (Rutberg & Bouikidis, 2018). Correlational research is a non-experimental research method where the researcher measures two variables and studies the statistical relationship between the variables. Correlational research design investigates relationships between variables without the researcher controlling or manipulating any of them (Bhandari, 2021). The retrieved data

is this research study were analyzed to determine if an association existed between when African American students dropped out of high school and school district funding. The design choice is consistent with research designs needed to advance knowledge in the public policy discipline because it allowed me to thoroughly investigate the research problem and to logically explain what was observed. In contrast, a descriptive study only establishes associations between variables.

Research Question and Hypotheses

RQ: What is the association between school funding and when African American students dropped out of a high school in the Red Clay School District?

$H_0$1: There is no association between school funding and when (the grade) an African American student dropped out of a high school in the Red Clay School District.

$H_1$1: There is an association between school funding and when (the grade) an African American student dropped out of a high school in the Red Clay School District.

Methodology

Population

The population for this quantitative study was the 114 African American students who dropped out of a high school in the Red Clay School District during the 2015-2020 academic school years. These years were selected to include available data from five more recent academic school years. It was important to note that there is limited dropout data from mid-March to mid-June 2020 due to the COVID-19 mandate that closed schools for two weeks, and then had students complete the remainder of the school year virtually. However, it was important for this research to include the most recent available

data. Discussions regarding any potential issues with the 2019-2020 school data were included in Chapters 4 and 5.

Red Clay School District serves areas in New Castle County, Delaware. According to the 2020 U.S. Census, New Castle County had a population of 570,719 people. The populations consist of 64.6% White, 26.4% African American and 10.4% Hispanic individuals. At the time of the study, New Castle County employed 285,000 people. The largest industries were healthcare and social assistance, finance, insurance, and retail trade. The highest paid industries were mining, quarrying, oil and gas extraction, utilities, and manufacturing.

Red Clay School District serves over 16,000 students from early childhood to adulthood. It is Delaware's largest school district. According to the Delaware Department of Education (2020), the population enrolled in the Red Clay School District during the 2018-2019 school year was 20.41% African American, 42.12% White, 26.97% Hispanic, 6.72% Asian, 0.32% Native African American, and 3.43% Multi-Racial. In 2019-2020 the population was 20.46% African American, 41.81% White, 27.21% Hispanic, 6.45% Asian, 0.3% Native African American, and 3.72% Multi-Racial (Delaware Department of Education, 2020).

Sampling and Sampling Procedures

The sample for my study were the 37 African American students who dropped out of the ninth, tenth, eleventh and twelfth grades in the Red Clay School District between 2015-2020. Since the sample size for the proposed research study was small (37), the entire population was studied. The population and sample size were well defined and

represented the number of African American students who dropped out of one of the seven Red Clay high schools during the 2015-2016 and 2019-2020 school years. The number of African American students that dropped out and the respective school years are listed below in the Table 1.

Table 1

Red Clay High School Dropouts 2015-2020

School Year	Number of Dropouts
2016	20
2017	33
2018	16
2019	33
2020	12

Pearson correlation was used to measure the degree of the relationship between the nominal variables funding and dropout. The specific reason for this quantitative research study was to examine if there was correlation between school funding and when African American students dropped out of a high school in the Red Clay School District. To maintain integrity of the study, five years of data, 2015-2020, were analyzed. The study excluded dropouts of other races to avoid lumping a lot of data together and making the meaning of the data difficult to see.

African American students were the only sample chosen for the research study because of the overall higher number of dropouts among minorities in the district. The chosen sample included African American students who dropped out of a Red Clay high school between 2015 and 2020 to examine the relationship between African American dropouts and school funding. The Red Clay School District was chosen because it had the

highest number of high schools out of all of the New Castle County school districts (www.redclayschools.com).

Data Collection

Publicly available, archival data were obtained from the State of Delaware Department of Education's website, www.doe.k12.de.us. By nature, archival data does not require the use of informed consent forms. Data from 2015-2020 that were retrieved included school district funding total, funding/cost per student, when (i.e., year and grade) an African American dropped out of high school, and gender of dropout. Research data retrieved for the research study remained anonymous because there were no identifiers provided. Data were kept confidential and backed up on my laptop during data analysis. After the analysis, data were removed and are stored on a flash drive in a locked cabinet for a period of five years after study completion and then will be destroyed. I was the only one who had access to the data.

Reliability

Reliability in research studies refers to the extent to which a research instrument consistently has the same results if it is used in the same situation on repeated occasions (Heale & Twycross, 2015). In this research study, the variables student dropout and school funding were analyzed in SPSS to determine if an association existed between school funding and when a student dropped out of Red Clay high school. Data were sorted in groupings to be analyzed for trends. The desired outcome was that there was a statistical association. To maximize reliability, I proposed that other researchers could

conduct a quantitative study using Pearson correlation and linear regression to assess the relationship between student dropout and school funding and obtain the same results.

Validity

Validity is defined as the extent to which a concept is accurately measured in a quantitative study (Heale & Twycross, 2015). Construct validity was used in this quantitative study to measure the statistical relationship between school funding and when a student dropped out of high school. Construct validity refers to whether you can draw inferences about test scores related to the concept being studied (Heale & Twycross, 2015). Equity theory, as it related to being fair in the disbursement of funds in poverty schools, was proposed to measure school district funding to produce valid results in order for my study to be replicated in the future. To maximize validity, SPSS was used to analyze the data instead of trying to do this by hand.

Instrumentation

Instrumentation is the process by which the tools to collect data are selected (Pangaro & Shea, 2015). For this study, I retrieved 5 academic years, 2015-2020, of publicly available data from the State of Delaware Department of Education's website on school funding and drop out. Using archival data improved reliability due to the breadth and depth of data itself. Archival data is typically already cleaned and stored in an electronic format, such as Excel. According to Hellerstein (2018), data cleaning consists of identifying, fixing, and removing data errors, and data screening involves not using data with more than 10 % of the data missing. Having archival data that was complete and unduplicated allowed me to produce more accurate results. By using archival data, I

was also able to spend less time collecting the data and more time analyzing it since the data were readily available.

Data Analysis Plan

Retrieved data were imported into and analyzed using SPSS Software. SPSS is a quantitative research computer program. SPSS is a powerful statistical software platform that offers a user-friendly interface and a robust set of features (Ozgur et al., 2015). Advanced statistical procedures in SPSS helps to ensure high accuracy and quality decision making (www.ibm.com). SPSS is a valid and reliable research instrument used in quantitative research (Ozgur et al., 2015). SPSS was used to tests the hypothesis and answer the research question of what is the association between funding and when an African American student dropped out of a Red Clay School District high school?

The researcher gave specific commands in SPSS to analyze the data. SPSS was used to code, organize, and perform necessary statistical tests on archival data. Specifically, a correlation analysis was performed at .05 level of significance to determine statistical significance of the variables, funding, and dropout (Kang, 2021). A correlation analysis was conducted to examine the relationship between the independent variable, school funding, and the dependent variable, dropout. A Pearson correlation was used to measure the degree of the relationship between the nominal variables funding and dropout. A Pearson correlation is a number between -1 and +1 that indicates to which extent two variables are linearly related (Geert van den Berg, 2015).

A table was generated in SPSS using district data on when a participant dropped out of high school (dropout grade) and school funding data from the Delaware

Department of Education's website. A correlation analysis was performed to determine if a relationship existed between the two variables. SPSS was used to test the hypothesis that inequity in school funding had a correlation on when African American students dropped out of high school. The results of the data were presented in tables generated in SPSS to determine relevancy to the study.

Threats to Validity

External Validity

External validity measures generalizability (Grundy & Deterding, 2019). The population of this research study was a threat to external validity. The study included solely African American students who dropped out of a Red Clay School District high school between 2015 and 2020. Therefore, the study could only be applied to the Red Clay School District. The study was not intended to provide generalizable findings, rather to determine correlation between inequity in school funding and when African American students dropped out of a Red Clay high school. To address external validity, I included all African American dropouts rather than a specific gender.

Internal Validity

Internal validity involves statistical inferences about casual effects (Grundy & Deterding, 2019). This research study did not generalize to other school districts from 2015-2020. Not including all of the students in the dropout count was a threat to internal validity. Students who dropped out of school between 2015 and 2020, before or after the enrollment count was conducted, may or may not have been included in the district's dropout count. This could mean that the dropout numbers are inflated or deflated as

districts chose whether or not to include those numbers in their overall dropout count. Internal validity was addressed by using all of the Red Clay dropout data on African Americans between 2015 and 2020.

Construct Validity

Construct validity refers to whether you can draw inferences about test scores related to the concept being studied (Hease & Twycross, 2015). Construct validity was addressed by measuring the strength of the relationship between the independent and dependent variables. Generalizability was a threat to construct validity because only one race was included in the research study. This issue could be addressed in future studies by including participants from other races.

Ethical Considerations

Obtaining the consent of the participants was not necessary since there were not any human participants used in the quantitative study. Data collection for the RQs was performed using publicly available data from the State of Delaware Department of Education's website. Data were stored on the researcher's secured password laptop, who was the only person with access. Data will be destroyed after five years. Since obtaining participant consent was not necessary, the proposed procedures did not need to be approved by Walden's Institutional Board (IRB) before conducting the study (Connelly, 2014).

Summary

Chapter 3 detailed the steps of this quantitative research design that sought to answer the research question and the null hypothesis. In this chapter, I also explained the

(a) research design and rationale, (b) methodology, (c) population and sample, (d) data collection, (e) reliability and validity, (f) data analysis plan, and (g) threats to external and internal validity. Chapter 4 included trends and patterns in the statistical relationship between the student funding and school dropout as well as the correlational relationship between the variables.

Chapter 4: Results

Introduction

The purpose of this quantitative correlation study was to examine the association between school funding and when (grades 9th, 10th, 11th, or 12th) an African American student dropped out of a Red Clay high school. The independent variable was school funding, and the dependent variable was when (the year) an African American student dropped out of a Red Clay district high school. The study was essential for enhancing public awareness of existing school budget allocations and their potential effects on an African American students' likelihood of dropping out of school.

This chapter aligned the findings of the analyses with the research questions of the study, which was to examine the association between school funding and student drop out. The findings included a description of the demographic characteristics of the sample population, the descriptive statistics of the main variables included, statistical assumptions analysis, and Pearson correlation and linear regression analysis findings. The sections included are as follows: 1) introduction; 2) data collection; 3) results of analysis; and 4) summary.

Data Collection

The State of Delaware Department of Education's public website provided secondary, freely accessible data that were utilized in my study. After downloading data on school funding and student dropout, I extracted data only relevant to African American students. Next, I eliminated data for all years except 2015-2020. Then, I further refined the data for the Red Clay School District. The resulting student data set included

only drop out years for African American students who attended a Red Clay high school during the academic years 2015-2020. The resulting student funding data set included only funding per student during the academic years. All data were downloaded in Microsoft Excel format.

Study Sample

The student population and sample for my study were African American students who dropped out of a Red Clay high school between 2015 and 2020. A total sample of 37 data points were successfully extracted from the secondary data, as shown in Table 2 below. Thirty-seven is the combined total of students who dropped out of a Red Clay high school between 2015 and 2020. The school year 2017 had the highest number of dropouts recorded, representing about 46% of the data points. Male students represented the majority with 68% of the students whose dropouts were recorded. Although there were dropouts in each of the academic years studied, there were no student dropouts recorded for grades 11 and 12 in any of the school years (DDOE, 2020). All of the student dropouts occurred in grades 9 and 10.

According to Long (2017), the transition from middle school to high school is a big due to a students' academic workload increase, their independence, and other responsibilities. In Red Clay Consolidated School District, grade 9 recorded the highest number of dropouts at 57%. The aforementioned data are consistent with statewide data, in which largest number of dropouts were from students enrolled in the 9th grade, and students enrolled in 12th grade represented the lowest proportion of students who dropped out (DDOE, 2020).

Table 2

Demographic Characteristics of the Sample Population

Categorical Variables	Frequency	% of Total Dropouts
School Year		
2016	8	21.6
2017	17	45.9
2018	3	8.1
2019	9	24.3
Gender		
Female	12	32.4
Male	25	67.6
Grade		
Grade 9	21	56.8
Grade 10	16	43.2
Grade 11	0	0
Grade 12	0	0

Results

The purpose of my study was to examine the relationship between school funding and in what grade (9^{th}, 10^{th}, 11^{th}, or 12^{th}) African American high school students dropped out in the Red Clay district. I developed two hypotheses that were tested using Pearson correlation and linear regression, and the results of the analyses determined whether I accepted or rejected either hypothesis. This section presented the findings of the statistical analyses for the research question.

Descriptive Statistics

The descriptive analysis involving the dependent (student dropout) and independent (school funding) variables in the study is presented in Table 3 below. The funding among the schools had an average of 16,525 dollars. Skewness and kurtosis are both important measures of the data's shape of a distribution. Skewness is a measure of symmetry or asymmetry of data distribution, and kurtosis measures whether data is heavy-tailed or light-tailed in a normal distribution (Wang & Chen, 2017). The

histogram, for example, is a common chart that can provide a general idea of the shape, but the two numerical measures of skewness and kurtosis provide a more precise assessment. Why should we be concerned? Testing for normality in many statistical inferences requires that a distribution be normal or nearly normal. A normal distribution has zero skewness and kurtosis. So, if the distribution is close to those values, it is most likely from a normal distribution. The skewness and kurtosis from my study were relatively small (around zero figure of normal distribution) indicating that the data had higher chance of being normally distributed. Student dropout had relatively large skewness and kurtosis, with the highest student dropout being reported at around ten percent (10%) and lowest student dropout being three percent (3%).

Table 3

Descriptive Statistics for School Funding and African American Student Dropout

Parameters	Funding (US Dollars)	Dropout Percentage (%)
N	37	37
Minimum	15,682	3.00
Maximum	17,389	9.50
Mean	16,524.68	4.80
Standard Deviation	636.38	1.63
Skewness	0.23	1.42
Kurtosis	-1.29	1.82

Assumption Analysis

For inferential analysis involving the dependent and independent variables, I proposed the use of both Pearson correlation and linear regression to assess the relationship between the student dropout (dependent) and school funding (independent). Despite the fact that these statistical methods are quite robust, there are always assumptions that the data must meet in order for the study to use these statistics conclusively and obtain valid results.

Six assumptions were identified, and the corresponding findings are presented in this section. The following assumptions are common among the two tests:

- The dependent variable must be continuous.
- The observations in the data are independent of one another.
- The dependent and independent variables need to be in linear relationship.
- The variables should not contain significant outliers.
- The dependent variable should be approximately normally distributed

Data need to show homoscedasticity (specific for linear regression), which means the spread of the data points around the regression line is similar across the range of values of the independent variable (Field, 2013). The first two assumptions were dependent on the research design: the dependent variable of dropout was measured in terms of number of students who dropped out in relation to the school population. This was a continous variable. The data were recorded for the 2015-2020 school years, and the observations in the data are independent of one another.

Assumption 3 of linear relationship was inspected using a scatter diagram (Figure 1) . Visual inspection of the scatter diagram indicated that the two variables had linear relationship, and the coefficient of determination (R^2) that summarizes the proportion of variance in the dependent variable associated with the independent variable indicated that this proportion was around 14%. This value is often between 0 and 1, with values close to zero indicating no linear relationship.

The assumption on outliers was assessed using a visual tool of box plot (Figure 2). There were three data points on student dropout with outlier values, as shown below. The analysis did not show any outlier values with school funding.

Figure 1

Scatter Diagram Showing the Linear Relationship between Student Dropout and School Funding

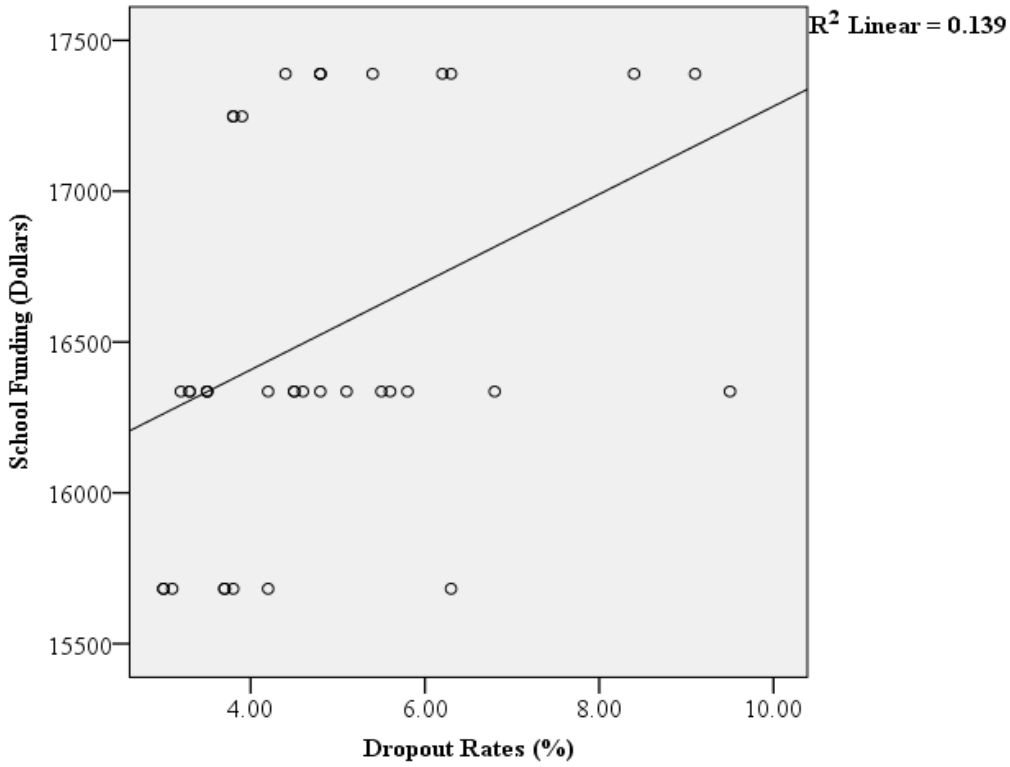
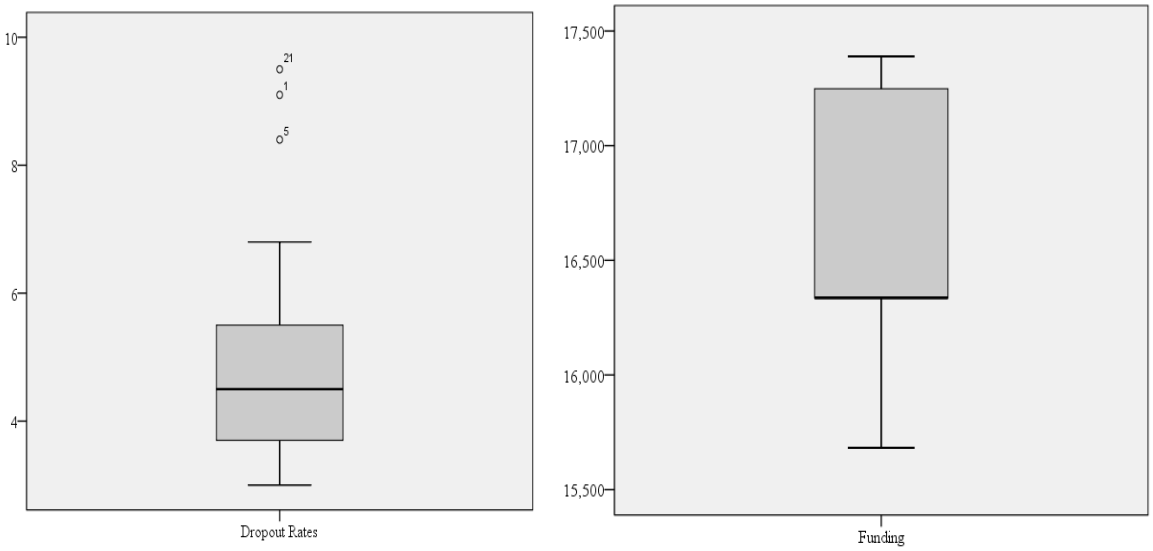


Figure 2

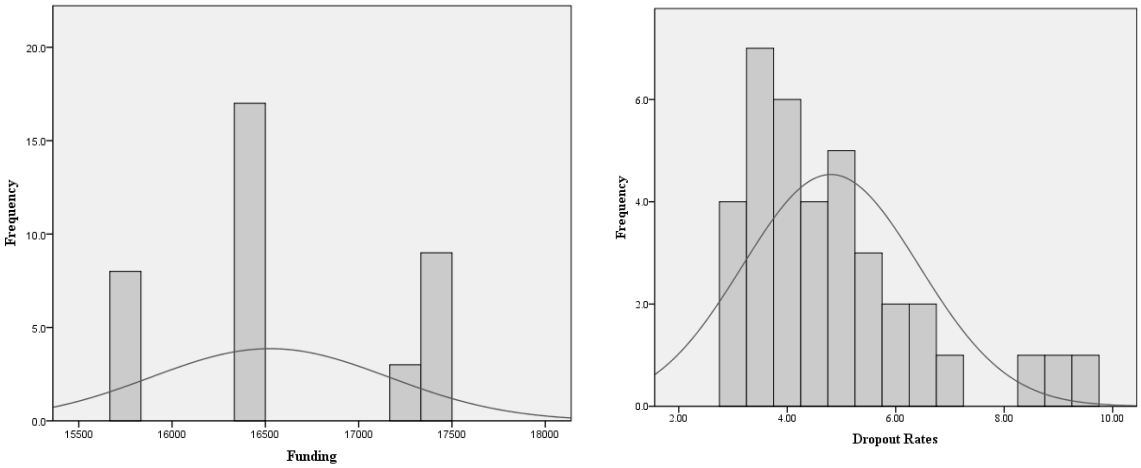
Box Plots of Student Dropout and School Funding



On the assumption of normality, the data were inspected visually using a histogram generated from both the dependent variable (dropout) and independent variable (funding) (Figure 3). Both variables show normally distributed data based on the approximate symmetric and bell-shaped normal curves.

Figure 3

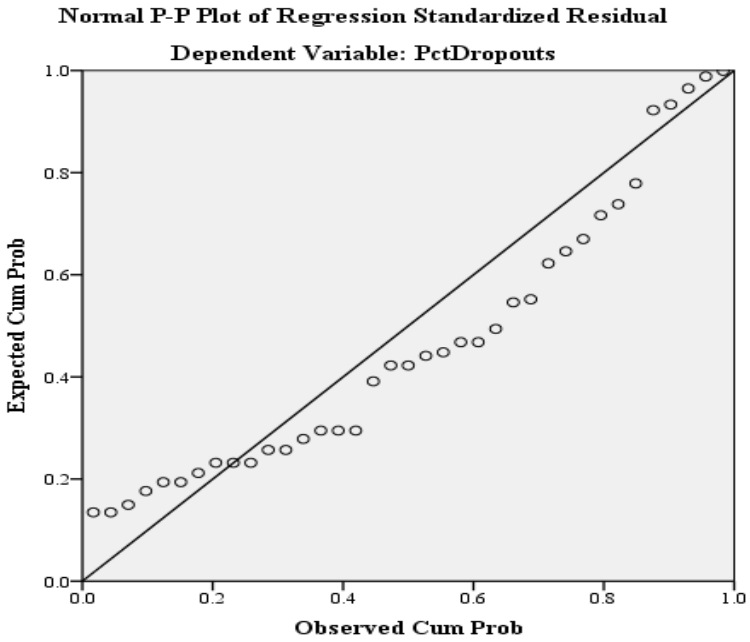
Histogram with Normal Curve of School Dropout and School Funding



To inspect for homoscedasticity, a scatterplot of the residuals was created (Figure 4). Homoscedasticity refers to a statistical concept that assumes that the variance of the errors in a data set is constant across all levels of the independent variable (Yang et al., 2019). In simpler terms, it means that the spread of the data points around the regression line is similar across the range of values of the predictor variable. For example, in a scatter plot, if the data points are scattered evenly around the regression line, then the data is said to be homoscedastic. On the other hand, if the data points are scattered more widely at one end of the plot and more narrowly at the other end, then the data are said to be heteroscedastic. This would indicate that the variance of the errors is not constant across the range of values of the predictor variable (Yang et al., 2019). Visual inspection of the graph indicated there are points equally distributed above and below the regression line. This indicated the data passed this assumption.

Figure 4

Scatter Plot Showing the Regression Standardized Residual of the Dependent Variable (Dropout)



Research Question Analysis

The research question for the study was: What is the association between school funding and when an African American student dropped out of a Red Clay high school?

Correlation Analysis

A Pearson correlation coefficient was conducted to assess the linear relationship between student dropout and school funding. There was a positive correlation between the two variables, r (35) = .37, p = .02. This correlation is statistically significant at the 0.05 level (2-tailed). The p-value obtained from a 2-tailed test represented the probability of obtaining a result as extreme or more extreme than the observed result, assuming the null hypothesis is true, in both the positive and negative directions of the distribution

(UCLA Statistical Consulting Group, 2021). The results indicated that as school funding increased, student dropout decreased.

Linear Regression

The study utilized linear regression to predict when a student dropped out of a Red Clay School District high school based on the value of the school funding received. The output from the simple linear regression analysis is presented in Table 4 and Table 5. Results of the multiple linear regression indicated that there was a significant effect between the school funding and gender on dropout, ($F (2, 19.86) = 4.47$, $p = .002$, $R^2 = .46$). The individual predictors were examined further and indicated that school funding ($t = 2.091$, $p = .04$) was significant predictors in the model. Gender was not statistically significant ($t = -1.727$, $p = .09$). The results from the multiple linear regression indicated that for each one unit increase in school funding, there was a decrease in student dropout by 0.001%, when gender was held constant.

Linear regression analysis measures the relationships between continuous predictor and target variables (Hope, 2020). It assumes that the relationships between two variables are linear. The simplicity of linear regression made it the optimal choice for analyses with my small sample size. Linear regression also made the models easy to interpret and understand.

Table 4

Association Between Student Dropout and School Funding at Red Clay High Schools

Characteristics	Obs.	Mean [SD[1]]	Univariate analysis Coefficient [95% CI[2]]	P-Value	Multivariate Analysis[3] Coefficient [95% CI[2]]	P-Value
Gender						
Female	12	5.56 [2.06]	Reference	0.05		0.09
Male	25	4.44 [1.26]	-1.118 [-2.231 – -0.006]		-0.919 [-2.000 – 0.162]	
Grade						
Grade 9	21	5.03 [1.57]	Reference	0.3		
Grade 10	16	4.50 [1.71]	-0.533 [-1.630 – 0.564]			

Table 5

The Association between African American Student Dropouts and School Funding at Red Clay High Schools

Characteristics	Observation	Mean [SD[1]]	Univariate Analysis Coefficient [95% CI[2]]	P-value	Multivariate Analysis[3] Coefficient [95% CI[2]]	P-value
Gender						
Female	12	5.56 [2.06]	Reference	0		0.09
Male	25	4.44 [1.26]	-1.118 [-2.231 – -0.006]		-0.919 [-2.000 – 0.162]	
Grade						
Grade 9	21	5.03 [1.57]	Reference	0.3		
Grade 10	16	4.50 [1.71]	-0.533 [-1.630 – 0.564]			
School Funding	37	4.80 [1.63]	0.001 [.000 – 0.002]	0.02	0.001 [0.000 – 0.002]	0.04

Note: [1] - Standard Deviation; [2] - Confidence Interval; [3] - Those variables with $p < .1$ were included in the multivariate analysis.

Summary

The purpose of my study was to assess the association between African American student dropout and school funding in Red Clay School District high schools. The

research question was examined, and results were generated based on linear regression. Linear regression showed an impact on the level of school funding on when an African American dropped out. The study is vital to increasing the greater community's knowledge of the current school funding allocations and the potential association that it has on when an African American student dropped out of a Red Clay high school.

The research study revealed that the variables, school funding and student dropout, had a linear relationship and the coefficient of determination (R^2) that summarized the proportion of variance in the dependent variable associated with the independent variable indicated that this proportion was around 14%. The skewness and kurtosis were relatively small (around zero figure of normal distribution). The indicated that the data had a higher chance of being normally distributed. The variable student dropout had relatively large skewness and kurtosis. The highest student dropout was around 10%, and the lowest student dropout was 3%.

Based on the findings of this research study, there was an association between student dropout and school funding. The study revealed that the problem of student dropout was associated with inadequate school funding. While this issue was related to inequalities in society, this research demonstrated that the high numbers of student dropout that is recorded in many parts of the United States, could also be due to inadequate school funding.

Chapter 5 outlined the purpose and nature of this quantitative study. Findings were described, interpreted, and summarized in this chapter. Limitations of the study were discussed in Chapter 5. Recommendations for further research and some strengths

of the study were also discussed in Chapter 5. Additionally, implications for positive social change and the conclusion were included in Chapter 5.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this quantitative correlation study was to examine the association between school funding and when (grades 9th, 10th, 11th, or 12th) an African American student dropped out of a Red Clay School District high school. The independent variable was school funding, and the dependent variable was when (the year) an African American student dropped out of a Red Clay School District high school. I sought to provide responses to the research question: What is the association between school funding and when an African American student dropped out of a Red Clay high school? I also tested the null hypothesis that there is no statistical association between when a student dropped out and school funding for African American students in a Red Clay School District high school.

I computed a correlation analysis using a Pearson correlation coefficient to assess the linear relationship between student dropout and school funding. A positive correlation between the two variables, r (35) = .37, p = .02 was shown. This correlation was statistically significant at the 0.05 level (2-tailed). In addition, results of the multiple linear regression indicated that there was a significant effect between school funding and gender on dropout, (F (2, 19.86) = 4.47, p = .002, R2 = .46). The individual predictors were examined further and indicated that school funding (t = 2.091, p = .04) was a significant predictor in the model; however, gender was not statistically significant (t = -1.727, p = .09)

Interpretation of the Findings

The finding that there was a correlation between student dropout and school funding offers more insight on the role of funding consistent with the literature. The literature acknowledged that there is an issue with funding inequities in high-poverty schools (DDOE, 2015). According to Garcia and Weiss (2017), in disadvantaged schools, there are fewer resources than in affluent districts, less experienced personnel, decreased access to mental health and health assistance, and behavioral and academic difficulties. The issue of inequities in school funding formed the basis for the development of appropriate policies to enhance equity. For instance, due to educational inequalities, President Obama signed the ESSA (2015) into law on December 10, 2015 (DDOE, 2015). The ESSA (2015) has provisions that advance equity by upholding crucial protections for America's underprivileged and high-need students while maintaining an expectation that there will be accountability and action to bring about positive change in our lowest-performing schools. Nonetheless, the issue of inequity in school funding is still evident. This necessitates further research studies like the current study to be conducted to further understand the topic.

The findings from my study acknowledged that there are inequities in school funding, which is consistent with the literature. Due to the negative impacts that are associated with inequities in school funding, different states in the United States have allocated different support resources. For instance, Delaware has a unit system that distributes revenue to sustain staffing based on a September 30th enrollment count in each

school district (Kelly and Chesser (2019). This is how funding for public education in Delaware is currently and has been allocated for many years.

Delaware's school funding system was created 80 years ago (Rodel, 2021). There have been a few tweaks to the system along the way, but it still largely assumes that all students are the same (Rodel, 2021). Several research analysts have acknowledged an issue with school funding in Delaware that needs to be further examined (Education Equity Delaware, 2020; Rich et al., 2019; Rodel, 2021, Vision Coalition of Delaware, 2021).

Inequities in education have been widely studied and are consistent with this research study. According to Baker et al. (2016), correlational relationships exist between school funding, resource allocation, and achievement among students. This is an indication that the issue of inequities in school funding could be a cause for student drop out. Similarly, Dumas and Nelson (2016) conducted a research study on inequity and inequality in school funding that showed that inequity in school funding persists.

Verstegen (2015) emphasized the disparity in financing between wealthy and underfunded school districts. The research study focused on the issue of whether public education is fair and offers all students an equal chance to succeed. The study's primary ideas included equity and financial disparities (Verstegen, 2015). It was noted in the study that the courts, in all but five states, have addressed the crucial issue of equity in public school funding, which affects all communities (Verstegan, 2015).

In qualitative research involving approximately 250 urban young adolescents, Storz (2008) addressed educational inequity where participants noted that they

were conscious of the educational disparities present in their institutions. While scholars have acknowledged the issue of inequities in school funding among the schools, there was a lack of empirical evidence that showed the relationship between dropout and school funding. The current study extended knowledge to the literature by providing recent data relating to the impact of school funding on student dropout.

This research study also added insight from existing studies that were conducted regarding the issue of student dropout. Rumberger (2020) asserted that the solution to the issue of dropout lies in comprehending the reasons for student dropout. Similar to other educational successes, a variety of proximal and distal variables pertaining to the particular student as well as the family, school, and community settings in which the student lives can have an impact on the reasons for dropping out (Rumberger, 2020).

While Rumberger (2020) indicated that there are numerous variables that contribute to dropout, he recommended that additional studies are conducted for greater understanding on this topic. The current research study was conducted to further the position by Rumberger (2020) and to understand the attributes that are associated with school funding and student dropout. My study showed a correlation between dropping out and inadequate school funding, thereby adding more knowledge and understanding of these phenomena. The current study confirmed a similar finding from previous studies by indicating that schools in the Red Clay School District also record high levels of student dropout due to school funding.

The current study also provided data relating to the prevalence of student dropout and school funding. The findings based on Red Clay School District high schools

indicated that funding is a predictor to dropping out among African American students at 0.37. This showed that out of the African American students in Red Clay high schools who dropped out of school, funding attributed to this by 37%. This data indicated a high level of high school dropout among African American students. The findings coincide with those from previous studies (Gordon et al., 2020; Hassan & Carter, 2021) that African Americans face challenges in school that contributes to their dropout.

Among African Americans students, those from low-income families recorded a high rate of dropout at 5.8% (Tieken & Montgomery, 2021). According to previous studies, African Americans are ranked second in dropping out after Hispanic students (Borman et al., 2021). The current study provided more insight by demonstrating the precise impact of school funding. While previous studies have shown social-economic status as a contributing factor of dropping out, especially among minorities, there was a lack of specific data on whether school funding was also a contributing factor (Borman et al., 2021). This gap has been partly filled by this research study, as I only examined high schools in one district in the state of Delaware.

The findings that gender and school funding had an impact on student dropout in Red Clay high schools, added more insight relating to the research topic of whether there was an association between school funding and when (the year) a student dropped out of a Red Clay high school. Previous studies have shown that there were disparities in dropping out of high school. Dropout of male students was higher than that of females by 4.7% (Starr & Simpkins, 2021). McDermott et al., (2019) and Rumberger (2020) indicated that males are more likely to dropout than females. Further, Blacks and

Hispanics are more likely to dropout than Asians and Whites, and students from low-income families are more likely to dropout than students from high-income families (Rumberger, 2020).

While the study by Rumberger (2020) indicated that gender, race, and income could be associated with dropping out, the current study examined the issue of gender in student dropout and school funding. These findings add more insight to scholarly work done by Rumberger (2020) and McDermott et al., (2019) by showing the influence of student dropout on gender as impacted by school funding levels. However, the findings from the current study indicated that there was no impact on gender and funding at a coefficient of 0.47, which added more insight to the research topic.

Findings from the current study supported the propositions of equity theory. Equity theory was developed by John Stacey Adams in 1963, positing that resources should be fairly distributed. Adams argued that inequalities based on birth characteristics, natural endowment, and historical circumstances are underserved (Alvarez-Cuadrado et al., 2009). Adams asserted that resources should be distributed equitably to people regardless of their races, history, or natural attributes (Alvarez-Cuadrado et al., 2009). In relation to education settings, every student should have access to equal education, resources, and opportunities, regardless of their socio-economic status, race, or geographic location (Ward, 2020).

In the United States, education equity is viewed from a funding context. States and local resources rely on funding for public schools (Miles et al., 2015). Local school

districts are charged with the role of raising the bulk of funds for students in order to facilitate the provision of resources and carry out teaching roles (Ward, 2020).

The current study highlighted that in the Red Clay School District, students are dropping out of high school due to a lack of funding. Specifically, this has been demonstrated from the correlation results that 37% of dropouts were among African American students was due to the lack of adequate funding. This depicts that a significant number of African American students who dropped out of high school do not have resources that would help them to complete high school.

The lack of access to a quality education for African American students due to inadequate funding and poor social-economic status conflicts with the propositions of John Stacy Adams' equity theory. The theory asserts that resources are distributed fairly. The high number of male student dropouts and students dropping out in the 9th and 10th grades in the Red Clay School District is consistent with statewide data (DDOE, 2020).

This research study supported the fundamental propositions of equity theory by revealing that inequities in school funding could be a factor in when African American students drop out of a Red Clay high school. Equity theory helped me make sense of the results of my data analysis. The data analysis showed a correlation between school funding and when students dropped out of a Red Clay high school. The correlation demonstrated that resources are not being distributed fairly in Red Clay high schools.

Using equity theory provided a suitable framework for answering the RQ: What is the association between school funding and when (the year) an African American student dropped out of a Red Clay high school? The results of the study did not align with John

Stacy Adams' assertion that resources are distributed equitably regardless of race, history, or natural attributes. School funding is not distributed fairly to schools in the Red Clay School District. This was recognized when a correlation between school funding and student dropout was found in this research study. Findings from the current research study support the need to increase funding to combat the education inequities that African American students face in high schools in the Red Clay School District.

A couple of theory and research-based recommendations from my study could help policymakers, school administrators, and teachers to develop and/or strengthen current educational policies on equity in school funding. One recommendation is to distribute resources equitably in all schools so that all students have the same resources needed to succeed. Another recommendation relating to equity theory is to implement programs to help increase the quality of education that students receive to increase the graduation rate of African American students.

Limitations of the Study

My study had some limitations that were beyond the control of the researcher. First, the study only included data from the largest school district in the State of Delaware. This limited the generalizability of the results to other school districts in the state. A second limitation of this quantitative study is due to focus on a single race, i.e., African American students. Interpretation of the data were also a limitation of the research study. From an external validity perspective, the correlational relationships were limited to the extent to which findings could be generalized to different measures, persons, settings, and times (Steckler & McLeroy, 2011). This is important in quantitative

studies to be able to draw general conclusions. The population of quantitative study was not a complete representation of the Red Clay School District's dropout population. African American students who dropped out of a Red Clay high school between 2015 and 2020 were the target population for the study.

Researcher bias could also affect the interpretation of the findings. I attended a high school that served mostly African American students during my first 2 years. My experience in my first two years of high school could have potentially been a bias that influenced the outcome of my study. To avoid allowing my personal experiences and thoughts to get into the research, I took specific steps to remain neutral throughout the duration of the study. I did not make any judgements with regards to the data collection or analysis. I took mental breaks and listened to calming music. I also took physical breaks and went for neighborhood walks throughout the data collection and data analysis process in order to stay energized and motivated. I used data using quantitative analysis, which helped in eliminating bias as opposed to using a qualitative method.

Recommendations

This quantitative study was based on archival data. As such, data were used from the Delaware Department of Education for 2015-2020. The findings from the study were limited to the variables, student dropout and school funding. This meant that the findings from my study were restricted to only those attributes and no further examination was done. Based on that, further studies could be conducted using a qualitative phenomenological or case study design to provide a greater in-depth understanding of the issue of school funding and student dropout. A qualitative study method is appropriate for

providing an in-depth understanding of the issue through probing questions asked through interviews. The current study was descriptive and outlined the issue without providing an answer to the question “why” and “how” school funding impacted when students dropped out.

The current study focused on only two variables: when (grade) students dropped out and school funding. While scholars such as Freeman and Simonsen (2015) acknowledged that no single variable could be used to predict the relationship between school funding and student dropout, there is a need to have a more comprehensive study that involves more variables. A study could therefore be conducted encompassing more variables such as all races, all genders and all New Castle County high schools, as predictor variables to dropout based on empirical data. By conducting a more comprehensive study, the actual contribution of the variables by evaluation of their coefficients, could add more insights to the important topic on student dropout and school funding.

Based on the findings from this research study, when a student dropped out of high school is associated with school funding. Numerous recommendations can be made based on the findings from the study. First, it is recommended that the state of Delaware develops policies that promote equity in school funding. In high-poverty schools, it is essential to have adequate funding to ensure that the student dropout is low. Secondly, based on the finding that dropping out is more evident among African Americans and Hispanics, it is recommended that prevention programs like Communities in Schools, who surround students with a community of support, empowering them to stay in school

and achieve in life, continue to remain funded to increase graduation rates among minorities (Communities in Schools, 2023).

Implications

Delaware does not have a complete and integrated plan to address the issue of poverty and education for children and families in Delaware in a long-term and cost-effective way (Rodel, 2021). The findings of my study could bring about positive social change in Delaware by bringing attention to how current school funding affects African American high school students. The results of the study can help key stakeholders understand how monies are spent in high-poverty schools and the impact that it has on African American students. The results can also help stakeholders ensure that schools are provided with sufficient financial support for each of their students to benefit from a quality education.

Implications to Public Policy

This quantitative study provided valuable data about how inequity in school funding is significant for African American students dropping out of high school. The study added to the literature by providing data on inequity in school funding and student dropout in Red Clay high schools. The results of the study will give policymakers, school administrators, teachers, and families up-to-date data on school funding and when students drop out of high school. Policymakers and school administrators will have access to recent data on when African American students dropped out of high school and school funding that can be used to create policies to support African American students in their efforts to complete high school.

Implications to Social Change

My study contributed positively to social change. In particular, the results of my study can be used to make a difference in Delaware's education system by increasing funding and educational resources to schools that serve the state's most vulnerable population. This can be done by giving policymakers data to help them rethink the weighted funding formula for low-income schools. A weighted funding formula distributes resources to schools in ways that more accurately reflect the funding level that students may require, and it provides principals with expanded flexibility in the use of funds (Tuchman et al., 2022).

The Commission said that Delaware needs policies, curricula, teachers, and administrators who can meet the needs of a more diverse population, as well as more targeted resources to give all students, no matter their income or special needs, a strong and high-quality education (The Commission, 2015). The recommendations from my study, which are based on theory and research, can help policymakers, school administrators, and teachers improve current policies on equity in school funding and put in place programs to help improve the quality of education for low-income students and, as a result, raise the number of African American high school graduates.

From a social perspective, based on the findings from my study, educators could use the data to create and implement programs to keep African American students in school and prevent them from dropping out. This could be a positive social change. School administrators can also use the data to compare it to current equity policies to determine what can be done to address the inequities in school funding. The data can also

be used to set up programs to give low-income students the extra resources that may be needed to succeed in school. Parents can use the data to advocate for fair funding in schools and make sure that all students have access to a quality education. Teachers can use the results of the study to help improve the quality of education for all students in their classrooms.

From a methodological perspective, I found that from my study and previous studies, student dropout encompasses numerous variables that cannot be exhaustively studied in a single research study. However, I would recommend that another research study is conducted using a qualitative methodology with a clear depiction of the underlying variables that are clearly defined as predictors of student dropout. This can be in the form of developing and validating instruments of measuring and predicting dropping out. The developed instrument such as a questionnaire should cover various aspects to have a holistic view of the topic on student dropout and school funding.

Implications to Equity Theory

The results of my research study revealed that inequities in school funding had a correlation to African American students dropping out of high school. The results of this quantitative study did not align with John Stacy Adams' assertion. It is recommended that equity theory be used in a qualitative study to examine the association between school funding and when students dropped out of high school. The study should include all of the high schools in New Castle County as well as students of all races to determine if inequity in school funding has an association on when students drop out. Conducting a

study of this magnitude will allow the results of the study to be applied to a broader group of people, which my research study did not.

Conclusion

This quantitative research study revealed that the issue of dropout among African American students was associated with inadequate school funding. A Pearson correlation was used in my research study to assess the linear relationship between student dropout and school funding. The results showed a positive correlation between the two variables. The correlation was statistically significant at the 0.05 level (2-tailed). A linear regression was also conducted on student dropout and school funding. The results indicated that there was a significant effect between school funding and gender, on dropout.

The dropout issue is aggravated by the fact that finance reforms on school funding that were created 20 years ago led to the adoption of a new funding system that did not adhere to the principle of equity. Therefore, the issue of inequity in school funding should be addressed so that more students from minority backgrounds are afforded a quality education. Inequity in school funding is a societal issue, not only a Delaware issue, and should be addressed in an effort to help combat the issue of student drop out.

References

Al-Zawahreh, A. & Al-Madi, J. F. (2012). *The utility of equity theory in enhancing organizational effectiveness.* http://www.eurojournals.com/EJEFAS.htm

Allegretto, Sylvia A, Emma García, and Elaine Weiss. (2022). Public education funding in the U.S. needs an overhaul. How a larger federal role would boost equity and shield children from disinvestment during downturns. https://www.files.eric.ed.gov/fulltext/ED622919.pdf

Alvarez-Cuadrado, F., & Van Long, N. (2009). A mixed Bentham–Rawls criterion for intergenerational equity: Theory and implications. *Journal of Environmental Economics and Management*, *58*(2), 154-168. https://doi.org/10.1016/j.jeem.2009.04.003

Amadeo, K. (2021). What is educational equity, and why does it matter? https:// www.thebalancemoney.com/equity-in-education-4164737

Amdouni, B., Paredes, M., Kribs, C., & Mubayi, A. (2017). *Why do students quit school? Implications from a dynamical modelling study*. https://royalsocietypublishing.org

African American Psychological Association. (2021). *Socioeconomic status*. https://www.apa.org/topics/socioeconomic-status

American Civil Liberties Union. (2020). In Re: Delaware public schools litigation. Opinion. https://www.aclu-de.org/sites/default/files/73166967_county-track-post-trial-merits-final.pdf

American University School of Education. (2020). *Inequality in public school funding: Key issues & solutions for closing the gap*. https://soeonline.american.edu/bloginequality-in-public-school-funding/

Atchison, D., Baker, B., Boyle, A., Levin, J. & Manship, K. (2017). Explore the quality of school-level expenditure. *Data: Practices and lessons learned in nine sites*. www2.ed.gov/about/offices/list/opepd/ppss/reports.html.

Baker, B., Sciarra, D., David, G. & Farrie, D. (2010). *Is school funding fair? A national report card*.www.schoolfundingfairness.org

Baker, B. D., & Weber, M. (2016). State and school finance inequity and the limits of pursuing teacher equity through departmental regulation. *Educational Policy Analysis Archives, 24*(47), 1-36. http://dx.doi.org/10.14507/epaa.v24.2230

Baker, B. D., Weber, M., Srikanth, A., Kim, R., & Atzbi, M. (2016). *The real shame of the nation: The cause and consequences of interstate inequity in public school investments*.https://www.shankerinstitute.org/sites/default/files/The%20Real%20Shame%20of%20the%20Nation.pdf

Barth, Patte. (2016). *Educational Equity. What does it mean? How do we know when we reach it?* https://www.nsba.org/-/media/nsba/file/cpe-educational-equity-research-brief-january-2016

Bell, E. E. (2014). Graduating Black Males: A Generic Qualitative Study. https://files.eric.ed.gov/fulltext/EJ1043551.pdf

Bhandari, P. (2021). *An introduction to correlational research.* https://www.scribbr.com/methodology/correlational-research/

Biddle, B.J. and Berliner, D.C. (2002) Small Class Size and Its Effects. *Educational Leadership*, 59, 12-23.

Blazer, C., & Gonzalez-Hernandez, PhD, V. (2018). Student dropout: Risk factors, impact of prevention programs, and effective strategies. *Research Brief, 1708,* 1-19.

Bonneau, K. (2015). *Brief 3: What is a Dropout?* https://www.purdue.edu/hhs/hdfs/fii/wp-content/uploads/2015/07/s_ncfis04c03.pdf

Borman, G. D., Choi, Y., & Hall, G. J. (2021). The impacts of a brief middle-school self-affirmation intervention help propel African American and Latino students through high school. *Journal of Educational Psychology*, *113*(3), 605.

Bothamley, J. (1993). *Dictionary of theories*. Gale Research International Ltd.

Bottiani, J. H., Bradshaw, C. P., & Mendelson, T. (2016). A multilevel of racial disparities in high school discipline: Black and White adolescents' perceived equity, school belonging, and adjustment problems. *Journal of Educational Psychology*, *109*(4), 532-545. https://www.doi.org/10.1007/s10964-015-0411-0

Bowers, A. J., Sprott, R., & Taff, S. A. (2013). Do we know who will dropout? A review of the predictors of dropping out of high school: Precision, sensitivity and specificity. *The High School Journal,* Dec 2012-Jan 2013, 77-100. https://academiccommons.columbia.edu

Bradley, C. L. & Renzulli, L. A. (2011). *The complexity of non-completion: Being pushed or pulled to drop out of high school*. *Social Forces, 90* (2), 521-545 https://doi.org/10.1093/sf/sor003

Candelaria, C. A., & Shores, K. A. (2019). Court-ordered finance reforms in the adequacy era: Heterogenous causal effects and sensitivity. *Education Finance and Policy, 14*(1), 61-87. https://doi.org/10.1162/edfp_a_00236

Cascio, E. U., & Reber, S. (2013). The poverty gap in school spending following the introduction of Title I. *African American Economic Review: Papers and Proceedings, 103*(3), 423-427. http://dx.doi.org/10.1257/aer.103.3.423

Communities in Schools. (2023). https://www.communitiesinschools.org

Condron, D. J., & Roscigno, V. J. (2003). Disparities within: Unequal spending and achievement in an urban school district. *Sociology of Education, January 2003, 76*(1) 18-36.

Connelly, L. M. (2014). Ethical considerations in research. *MedSurg Nursing, 23*(1), 54 https://link.gale.com/apps/doc/A360608990/AONE?u=anon~616546d7&sid=googleScholar&xid=eed7e906

Court of Chancery of the State of Delaware. (2018). *Delawareans for Education Opportunity, NAACP Delaware State Conference of Branches v. John Carney, Susan Bunting, Kenneth A. Simpler, Susan Durham, Brian Maxwell, Gina Jennings*. https://www.aclude.org/sites/default/files/field_documents/deo_v_carney_complaint_final.pdf

Cramer, E., Little, M. E., & Alvarez McHatton, P. (2018). *Equity, equality, and standardization: Expanding the conversations*. https://journals.sagepub.com/doi/pdf/10.1177/0013124517713249

Darling-Hammond, L. (2019). *Investing for student success: Lessons from state school finance reforms*. https://learningpolicyinstitute.org/product/investing-student-success-school-finance-reforms-report

Darling-Hammond, L. (2007). The flat Earth and education: How America's commitment to equity will determine our future. *Educational Researcher,* Aug/Sep 2007; 36 (6) 318-334. http://dx.doi.org/10.3102/0013189X07308253

Davis, L. E., Ajzen, I., Saunders, J., & Williams, T. (2002). The decision of African American students to complete high school: An application of the theory of planned behavior. *Journal of Educational Psychology*, *94*(4) 810-819. https://www.doi.org/10.1037/0022-0663.94.4.810

Delaware Department of Education. (2020). 2019-2020 *Delaware Dropout Summary*. FINALDropout Summary Report19-20.pdf (doe.k12.de.us)

Delaware Department of Education. (2020). *Report of educational statistics 2018-2019 finance information*. http://www.rodelde.org/ataglance/#school-finance

Delaware Department of Education. (2015). *Plan to ensure equitable access to excellent educators for all students (2015-2025).* https://www2.ed.gov/programs/titleiparta/equitable/deequityplan082515.pdf

Delaware Department of Education. (2015). *Weighted Student Funding Model.* Mtg 4 Weighted Student Funding Model - Delaware Department of Education.pdf

(doe.k12.de.us)

DeLuca B. M., Takano K., Hinshaw S. A., & Raisch D. C. (2009). Are the "best" teachers in the "neediest" schools? An urban intradistrict equity inquiry. *Education and Urban Society*, 41(6), 1-25.

Dine, C. J, MD, McGaghie, W.C., PhD, Pangaro, L., MD, and Shea, J. A., PhD. (2015). Instrumentation, Data Collection, and Quality Control. https://depts.washington.edu/dbpeds/Review%20Criteria%20For%20Research%20Manuscripts.pdf#page=86

Dumas, M. J. & Nelson J. D. (2016). (Re)Imagining Black Boyhood: Toward a Critical Framework for Educational Research. *Harvard Educational Review, (86)*1, 27–47. https://doi.org/10.17763/0017-8055.86.1.27

Economic Times, The. (2019). *Equity Theory*. https://economictimes.indiatimes.com/definition/equity-theory

Education Equity Delaware (2020). *Modernizing Delaware's School Funding System.* https://delawareschoolfunding101.com

Egalite, A. J., Fusarelli, L. D., & Fusarelli, B. C. (2017). *Will decentralization affect educational equity? The every student succeeds act*. https://journals.sagepub.com/doi/abs/10.1177/0013161X17735869

Epstein, D. (2011). Measuring equity in school funding. https://www.americanprogress.org/article/measuring-inequity-in-school-funding/

Fan, W., & Wolters, C. A. (2012). School motivation and high school dropout: The mediating role of the educational expectation. *British Journal of Educational*

Psychology, 84, 22-39. https://doi.org/10.1111/bjep.12002

Field, A. (2013). Discovering statistics using IBM SPSS statistics (4th ed.). SAGE Publications.

Fowler, D. J., & Brown, K. (2018). Data-Driven Decisions: Using Equity Theory to Highlight Implications for Underserved Students. *AASA Journal of Scholarship & Practice. Winter 2018, 14(4).* 18-28.

Freeman, J., & Simonsen, B. (2015). Explore the impact of policy and practice interventions on high school dropout and school completion rates: A systematic review of the literature. *Review of Educational Research, 85*(2). 205-248. http://dx.doi.org/10.3102/0034654314554431

Garcia, E., & Weiss, E. (2017). *Education inequalities at the school starting gate: Gaps, trends, and strategies to address them*. https://www.epi.org/publication/education-inequalities-at-the-school-starting-gate/

Geert van den Berg, R. (2015). *Pearson correlations–Quick tutorial*. https://www.spss-tutorials.com/pearson-correlation-coefficient/

Goertzen, M. J. (2017). Introduction to quantitative research and data. *Library Technology Reports*. 53(4), 12-18. https://journals.ala.org/index.php/ltr/article/view/6325/8274

Gordon, E. K., Hawley, Z. B., Kobler, R. C., & Rork, J. C. (2021). The paradox of HBCU graduation rates. *Research in Higher Education*, *62*(2), 332-358. https://doi.org/10.1007/s11162-020-09598-5

Grundy, D., & Deterding, S. (2019). Validity threats in quantitative data collection with

games: A narrative survey. *Simulation & Gaming*, 50(3), 302-328.

Guggenheim, D. (2011). Waiting for "Superman". Hollywood, Calif., Paramount Home Entertainment.

Harwell, M. (1999). Evaluating the validity of educational rating data. *Educational and Psychological Measurement, 59*(1) 25-37. https://doi.org/10.1177/0013164499591002

Hassan, H. H., & Carter, V. B. (2021). Black and White female disproportional discipline K–12. *Education and Urban Society*, *53*(1), 23-41. https://doi.org/10.1177/0013124520915571

Heale, R., & Twycross, A. (2015). *Validity and reliability in quantitative studies*. http://dx.doi.org/10.1136/eb-2015-102129

Heise, M. (1998). *Equal Educational Opportunity, Hollow Victories, and the Demise of School Finance Equity Theory: An Empirical Perspective*. https://scholarship.law.cornell.edu/cgi/viewcontent.cgi?article=1544&context=facpub

Hellerstein, J. M. (2018). Quantitative data cleaning for large databases. https://dataresponsibly.github.io/courses/documents/Hellerstein_2008

Hoover, J., & Coozens, J. (2016). Dropout: A study of behavioral risk factors among high school students. *The International Journal of Educational Organization and Leadership 23*(4) 13-23.

Hope, T. (2020). *Linear regression*. https://www.sciencedirect.com/science/article/pii/B9780128157398000043

Jackson, C. K. (2018). *Does school spending matter? The new literature on an old question*. Cambridge, MA: National Bureau of Economic Research. https://doi.org/10.3386/w25368

Jackson, C. K. (2018). *Does school spending matter? The new literature on an old question*. Cambridge, MA: National Bureau of Economic Research. https://doi.org/10.3386/w25368

Jackson, C. K., Johnson, R. C., & Persico, C. (2016). The effects of school spending on educational and economic outcomes: Evidence from school finance reform. *The Quarterly Journal of Economics, 131*(1), 157-218. https://doi.org/10.1093/qje/qjv036

Kang, H. (2021). Sample size determination and power analysis using the G*Power software. *Journal of Educational Evaluation for Health Professions, 18*(17). doi:10.3352/jeehp.2021.18.17

Kaya, C. (2015). *Internal validity: A must in research designs*. https://academicjournals.org/journal/err/article-full-text-pdf/01aa00749743

Kelly, C. G., & Chesser, M. C. (2019). *Delaware school administrator funding analysis*. https://udspace.udel.edu/bitstream/handle/19716/24085/School-Administrator-Funding-Analysis-FINAL.pdf

Kim, J. H., & Taylor, K. A. (2008). Rethinking alternate education to break the cycle of educational inequality and inequity. *The Journal of Educational Research.* March/April, *101*(4) 207-219. https://www.doi.org/10.3200/JOER.101.4.207-219

Knight, D. S. (2019). Are school districts allocating resources equitably? The Every

Student Succeeds Act, Teacher experience gaps, and equitable resource allocation. *Educational Policy, 33*(4) 615-649.

Kotok, S., Ikoma, S., & Bodovski, K. (2016). School climate and dropping out of school in the era of accountability. *African American Journal of Education* 122, 569-599. https://eds-b-ebscohost-com.ezp.waldenulibrary.org

Lafortune, J., Rothenstein, J., & Schanzenbach, D.W. (2018). School finance reform and the distribution of student achievement. *African American Economics Journal: Applied Economics, 10*(2), 1-26. https://doi.org/10.3386/w22011

Lake, R. & Hill, P. T. (2018). School funds should follow students, not perfect institutions. https://www.brookings.edu/articles/www.brookings.edu

Lee, K.-G. & Polachek, S. W. (2018) Do school budgets matter? The effect of budget referenda on student dropout rates, Education Economics, 26:2, 129-144, doi: 10.1080/09645292.2017.1404966

Long, C. (2017). *Some of the surprising reasons why students drop out of school*. https://www.nea.org/advocating-for-change/new-from-nea/some-surprising-reasons-why-students-drop-out-school

Lueken, M. F., & Shuls, J. V. (2019). *The future of K-12 funding: How states can equalize opportunity and make K-12 funding more equitable*. https://files.eric.ed.gov/fulltext/ED595038.pdf

Maciejewski, M. L. (2020) Quasi-experimental design, Biostatistics & Epidemiology, 4:1, 38-47, doi:10.1080/24709360.2018.1477468

Martin, C., Boser, U., Benner, M., & Baffour, P. (2018). *A Quality Approach to School*

Funding: Lessons Learned from School Finance Litigation. https://www.AfricanAmericanprogress.org/issues/education-k-12/reports/2018/11/13/460397/quality-approach-school-funding

McDermott, E. R, Donlan, A. E., & Zaff, J. F. (2019). Why do students drop out? Turning points and long-term experiences. *The Journal of Educational Research, 112*(2) 270-282.

morganMeckler, L. (2019). Report finds $23 billion racial funding gap for schools. https://www.washingtonpost.com/local/education/report-finds-23-billion-racial-funding-gap-for-schools/2019/02/25/d562b704-3915-11e9-a06c-3ec8ed509d15_story.html

Miles, S. R., Cromer, L. D., & Narayan, A. (2015). Applying Equity Theory to Students' Perceptions of Research Participation Requirements. *Teaching of Psychology*, *42*(4), 349–356. https://doi.org/10.1177/0098628315603252

Morgan, H. (2020). *Making America #1 in education with three reforms*. https://doi.org/10.1080/00098655.2019.1685847

Ozgur, C., Kleckner, M., & Li, Y. (2015). *Selection of statistical software for solving big data problems for business students and universities*. https://journals.sagepub.com/doi/pdf/10.1177/2158244015584379

Pagani, L. S., Vitaro, F., Tremblay, R. E., McDuff, P., Japel, C., & Larose, S. (2008). When predictions fail: The case of unexpected pathways toward high school dropout. *Journal of Social Issues, 64*(1) 175-193. Retrieved from https://eds-a-ebscohost-com.ezp.waldenulibrary.org

Patel, S. (2015). *The research paradigm, methodology, epistemology and ontology explained in simple language*. http://salmapatel.co.uk/academia/the-research-paradigm-methodology-epistemology-and-ontology-explained-in-simple-language

Patton, M. Q. (2002). *Quantitative research & Evaluation methods*, (3rd ed.). Thousand Oaks: SAGE.

Price, J. H., & Murnan. J. (2004). Research limitations and the necessity of reporting them. *American Journal of Health Education* (*35)*, 66-67

Red Clay Schools. (n.d.). *Title I: School. Family. Community*. https://www.redclayschools.com/Page/589

Rezigalla A. A. (2020). Observational Study Designs: Synopsis for Selecting an Appropriate Study Design. *Cureus*, *12*(1), e6692. https://doi.org/10.7759/cureus.6692

Rich, Ph.D., D., Sherretz, K., Qaissaunee, H., & Missan, M. (2019). *Child Poverty Policy in Delaware: A Focus on Education.* Institute for Public Administration.

Rodel. (2021). *Delaware public education at a glance*. www.rodel.org

Rumberger, R. W. (2020). The Economics of Education (2nd Ed): A comprehensive overview. *Atlantic Press*. 149-158. https://doi.org/10.1016/B978-0-12-815391-8.00012-4

Rutberg, S. & Bouikidis, C. (2018). Focusing on the Fundamentals: A Simplistic Differentiation Between Qualitative and Quantitative Research. https://328250766_Focusing_on_the_Fundamentals_A_Simplistic_Differentiation_Between_Qualitative_and_Quantitative_Research/publication/328250766_Focusing_on_the_Fundamentals_A_Simplistic_Differentiation_Between_Qualitative_and_Quantitative_Research

Sargrad, S., Harris, K. M, Partelow, L., Campbell, N., & Jimenez, L. (2019). *A Quality Education for Every Child: A New Agenda for Education Policy.* https://www.African Americanprogress.org/issues/education-k-12/reports/2019/07/02/471511/quality-education-every-child/

Schott Foundation for Public Education. 2015. *Black Lives Matter*. http://blackboysreport.org/national-summary

Shelden, R. (2011). *Education as crime prevention*. www.sheldensays.com/eduandcrime.htm

Smiley, T. (2011). *Too important to fail*. www.pbs.org

Starr, C. R., & Simpkins, S. D. (2021). High school students' math and science gender stereotypes: relations with their STEM outcomes and socializers' stereotypes. *Social Psychology of Education*, *24*(3), 273-298. https://doi.org/10.1007/s11218-021-09611-4

Steckler, A., & McLeroy, K. R. (2011). The Importance of External Validity. *African American Journal of Public Health 98*(1) 9-10. https://doi.org/10.2105/AJPH.2007.126847

Storz, M. G. (2008). Educational inequity from the perspectives of the who live it: Urban middle school students' perspectives on the quality of their education. *Urban Review*, 40:247-267. http://dx.doi.org/10.1007/s11256-008-0083-0

Tieken, M. C., & Montgomery, M. K. (2021). Challenges Facing Schools in Rural America. *State Education Standard*, *21*(1), 6-11. https://doi.org/10.5040/9781350172036.0013

Tuchman, S., Gross, B., & Chu, L. (2022). *Weighted student funding and outcomes. Implementation in 18 school districts.* doi: https://www.tandfonline.com/doi/abs/10.1080/0161956X.2022.2109917

UCLA Statistical Consulting Group. (2021). *Introduction to SAS*. https://stats.oarc.ucla.edu/sas/modules/introduction-to-the-features-of-sas/

United States Census Bureau. (2021). *About.* https://census.gov/topics/population/about/race.html

U.S. Department of Education. (n.d.). *Every Student Succeeds Act (ESSA).* https://www.ed.gov/essa?src=rn

Vaught, S. E. (2009). The color of money: School funding and the commodification of African American children. *Urban Education, 44*(5) 545-570. http://dx.doi.org/10.1177/0042085908318776

Verstegen, D. A. (2015). On doing an analysis of equity and closing the opportunity gap. *Education Policy Analysis Archives, 23*(41) 1-20. http://dx.doi.org/10.14507/epaa.v23.1809

Vision Coalition of Delaware. (2021). *Fair & efficient funding*.

https://visioncoalitionde.org/core-areas/fair-and-efficient-funding

Vision Coalition of Delaware. (2019). *Delaware Education Funding Convening*. https://visioncoalitionde.org/wp-content/uploads/2019/11/10.8.10-Covening-Slides_Final-summary.pdf

Wang, P., and Chen, G. Q. (2017). *Basic characteristics of Taylor dispersion in a laminar tube flow with wall absorption: Exchange rate, advection velocity, dispersivity, skewness and kurtosis in their full time dependence.* https://doi.org/10.1016/j.ijheatmasstransfer.2017.02.051

Ward, C. (2020). Theories of justice underpinning equity in education for refugee and asylum-seeking youth in the US: considering Rawls, Sandel, and Sen. *Ethics and Education*, *15*(3), 315-335. https://doi.org/10.1080/17449642.2020.1774721

Wilmington Education Advisory Committee. (2015). *Strengthening Wilmington education: An action agenda*. Wilmington: Wilmington Education Advisory Committee.

Wood, L., Kiperman, S., Esch, R. C., Leroux, A. J., & Truscott, S. D. (2017). Predicting dropout using student- and school-level factors: An ecological perspective. *School Psychology Quarterly, 32*(1) 35-49. https://dx.doi.org/10.1037/spq0000152

Yang, K., Tu, J., & Chen, T. (2019) *Homoscedasticity: an overlooked critical assumption for linear regression*. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6802968/

Zorbaz, O. and Özer, A. (2020). Do Student Characteristics Affecting School Dropout Risk Differ from One School to Another? https://www.researchgate.net/publication/340441316_Do_Student_Characteristics_Affecting_School_Dropout_Risk_Differ_from_One_School_to_Another