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UNIVERSITY OF NORTHERN COLORADO

Greeley, Colorado

The Graduate School

A CONTEMPORARY UNDERSTANDING OF THE EFFECTS OF
THE THIRD WAVE OF SCHOOL FINANCE LITIGATION

A Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Education

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College of Education and Behavioral Sciences
Department of Leadership, Policy, and Development:
Higher Education and P-12 Education
Leadership and Policy Studies

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Entitled: *A Contemporary Understanding of the Effects of the Third Wave of School Finance Litigation*

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ABSTRACT

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School finance litigation is often conceptualized as occurring in three waves, with the most recent wave, the third wave, beginning in 1989. Third wave litigation argues for improvements in school funding by claiming that schools are inadequately funded, resulting in students being deprived of their constitutional right to a certain level of education. Despite this third wave' thirty-one year history, its effects remain understudied. In this secondary data analysis thirty-three cases where plaintiffs prevailed and twenty-nine cases where defendants prevailed were used to examine the effects of third wave school finance litigation on school funding and student achievement, and to determine whether any observed effects changed over time. The findings indicate that litigation is associated with small, but non-significant, improvements in school funding, and when those parties arguing for improved school adequacy prevail, student achievement improves. There is little evidence that litigation's effectiveness has been changing over time. These findings suggest that litigation, especially where the plaintiffs prevail, can improve student outcomes, but this change is likely to be small.

DEDICATION

To all those who are curiously, seeking knowledge and truth.

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Where does one begin, and how can I ever thank all those who contributed towards helping me become who I am? Words can never fully articulate the level of debt I owe others who have supported me throughout my academic career. I have benefited from an amazingly supportive family. My mother's support and unfailing love and encouragement coupled with my father's sagacious advice echoing words of wisdom provided a firm foundation for success. My wife, what can I say other than thank you for your patience, knowledge, and support through this process. Those who gave me a chance and believed in me, encouraging me over the many stops along the way, thank you. To all those countless people who have shaped my thoughts and who I am, I owe a debt that I can never repay. For all my academic advisors, teachers, and mentors who never gave up on me, who helped mold my thoughts, provided opportunities, and guided me in this process – thank you all! I am blessed with great friends, family, teachers, and mentors – I stand on the shoulders of giants and am a product of others. Thank you all for your dedicated help over the years.

TABLE OF CONTENTS

CHAPTER	Page
I. INTRODUCTION.....	1
Statement of the Problem: School Finance Challenges.....	3
Three Waves of School Finance Litigation.....	3
Scope of the Research.....	4
Research Questions and Methodology.....	5
Definition of Terms.....	6
Conclusion.....	8
II. LITERATURE REVIEW.....	10
History of School Finance Litigation.....	10
Contextual Background: <i>Roberts v. Boston</i> to <i>Brown v. Board</i>	10
The Transition Years: <i>McInnis v. Shapiro</i> to <i>Burrus v. Wilkerson</i>	13
The First Wave of School Finance Litigation: <i>Serrano v. Priest</i> to <i>San Antonio v. Rodriguez</i>	14
Key Cases and Legal Arguments.....	14
The Legacy of the First Wave of School Finance Litigation.....	17
The Second Wave of School Finance Litigation: <i>Robinson v. Cahill</i> To the Big Three in 1989.....	18
Key Cases and Legal Arguments.....	18
The Legacy of the Second Wave of School Finance Litigation.....	19
The Third Wave of School Finance Litigation: The Big Three Cases.....	20
Legal Argument and Implications of <i>Helena v. State</i>	20
Legal Argument and Implications of <i>Edgewood v. Kirby</i>	21
Legal Arguments and Implications of <i>Rose v. Council</i>	21
The Legacy of the Third Wave of School Finance Litigation.....	23
Challenges of the Third Wave of School Finance Litigation.....	24
Underlying Assumptions and Background of the Third Wave of School Finance Litigation.....	24
The Legal Position of Education in American Society.....	24
The Relationship of the Judicial System and School Funding.....	25
The Relationship Between School Funding and Educational Outcomes	27
Challenges of Linking Court Cases to Tangible Changes.....	32
Problem and Rationale: The Gap in the Literature.....	33
Conclusion.....	35
III. RESEARCH METHODOLOGY.....	36
Research Questions.....	36
Research Hypothesis.....	37

	Aim 1.1 Hypothesis.....	37
	Logic for Aim 1.1.....	37
	Aim 1.2 Hypothesis.....	38
	Logic for Aim 1.2.....	38
	Aim 2.1 Hypothesis.....	38
	Logic for Aim 2.1.....	38
	Aim 2.2 Hypothesis.....	39
	Logic for Aim 2.2.....	39
	Researcher's Paradigm.....	39
	Research Methodology.....	40
	Data Overview.....	41
	Creation of Dataset One: Obtaining and Defining the Variables.....	41
	Funding Data.....	41
	Student Achievement Data.....	43
	Court Case Selection Overview.....	44
	Court Case Selection Step One: Creating the Comprehensive List.....	45
	Court Case Selection Step Two: Refining the List.....	46
	Court Case Selection Step Three: Litigation Classification.....	47
	Dataset One Consolidation.....	48
	Creation of Dataset Two: Processing the Initial Dataset.....	49
	Statistical Analysis for Aim 1.1 and Aim 2.1.....	50
	Reliability and Validity.....	52
	Limitations.....	52
	Conclusion.....	54
IV	FINDINGS.....	55
	Reliability and Validity of the Data.....	56
	Results.....	56
	Preliminary Analysis of the Data.....	57
	Results for Aim 1.1: The Effects of the Judge' Ruling on School Finance Metrics.....	60
	Results for Aim 1.2: The Temporal Effects of the Judge's Ruling on School Finance Metrics.....	62
	Results for Aim 2.1: The Effects of Judges' Ruling on Student Achievement Metrics.....	64
	Results for Aim 2.2: The Temporal Effects of the Judges' Rulings on Student Achievement Metrics.....	65
	Conclusion.....	68
V	DISCUSSION.....	70
	Research Question.....	70
	Discussion of Research Question One.....	71
	Aim 1.1 Analysis & Discussion: How Does Litigation Effect Student Funding.....	71

Aim 1.2 Analysis & Discussion: How Does Litigation Effect Student Funding Over Time.....	73
Discussion of Research Question Two.....	74
Aim 2.1 Analysis & Discussion: How Does Litigation Effect Student Achievement.....	75
Aim 2.2 Analysis & Discussion: How Does Litigation Effect Student Achievement Over Time.....	79
Implications for Research and Policies.....	80
Future Research.....	83
Conclusion.....	85
REFERENCE.....	97
APPENDIX	
A. INSTITUTIONAL REVIEW BOARD APPROVAL.....	100
B. MASTER LIST OF EXAMINED COURT CASES.....	102
C. SELECTED COURT CASES SUMMARY.....	114

LIST OF TABLES

Table.	Page
1 Overview of School Finance Litigation’s Three Waves	5
2 Inclusion and Exclusion Criteria.....	46
3 Descriptive Statistics (Mean, Median, Standard Deviation, and Range) Showing the Percent Change in Each Variable From the Year of Adjudication (Y) to Four Years after (Y4).....	58
4 Statistical Assumption Test Results.....	59
5 Statistical Test Results Showing the Difference Between Situations Where Defendants Were Victorious, Where Plaintiffs Were Victorious and Where There was no Litigation.....	61
6 Spearman Correlation Coefficient (r) Documenting the Temporal Relationship Between the Years of Adjudication and the Legal Outcomes for the Various School Funding Metrics.....	63
7 Statical Test Results Showing the Difference Between Situations Where Defendants Were Victorious, Where Plaintiffs Were Victorious and Where there Was No Litigation.....	64
8 Spearman Correlation Coefficient (r) Documenting the Temporal Relationship Between the Years of Adjudication and the Legal Outcome for the Various School Funding Metrics.....	67
9 List of Third Wave Court Cases.....	104
10 List of Selected Court Cases.....	116

LIST OF FIGURES

Figure		Page
1	Change in Fiscal Effort and Per-Pupil Funding from Y0 to Y4.....	61
2	The Temporal Relationship Between the Years of Adjudication and the Legal Outcomes for Fiscal Effort and Per-Pupil Funding.....	63
3	Change in Graduation Rates and 8 th Grade NAEP Math Test Scores from Y0 To Y4.....	65
4	Temporal Relationship Between the Years of Adjudication and the Legal Outcomes for the Various School Funding Metrics.....	68

CHAPTER I

INTRODUCTION

Education has long been recognized as an essential element of civilized society. Ancient Greek philosophers from Xenophon (trans.2001) to Aristotle (trans.1999) believed education was an integral method of dispensing virtue. In Asia, the philosophical teachings of Confucianism mark the centrality of education in the maintenance of societal structure (Confucius, trans.2012). In his 1796 farewell address, George Washington echoed the message of these ancient philosophers by linking democracy's success to the mass dispersion of education (Washington, 1796). More recently, the late Chief Justice Earl Warren stressed the importance of education by suggesting that education is the most important governmental function (*Brown v. Board of Education of Topeka*, 1954).

This research focused on education within American school system and according to Labaree (1997), the American public school system was founded upon a triad of goals: to improve citizenship, equalize treatment of all citizens, and expand access for all. Education directly benefits those receiving it as well as their families. As the American education reformer Horace Mann wrote in 1848, "Education, then, beyond all other devices of human origins, is the great equalizer of the conditions of men – the balance-wheel of the social machinery" (Massachusetts Board of Education, 1849. P. 59). Over a century and a half later, Hanushek and Lindseth (2009) echoed the same sentiment by suggesting that education broadly affects society and is indispensable for all students to be able to achieve the American Dream (Hanushek &

Lindseth, 2009). Education remains societally important due to its connection to civic duty (Jacobs, 2010; Ratner, 1985), social mobility (Simon-Kerr & Sturm, 2010), and national security (Hanushek & Kimko, 2000; Ratner, 1985).

Despite the documented value of education, educational opportunities in the United States have long remained heterogeneously distributed and often segregated along racial and socioeconomic lines (Kozol, 1991). Thomas Jefferson's vision of establishing a "system of general instruction, which shall reach every description of our citizens from the richest to the poorest" (1818, para. 13) remains elusive. Part of the reason for the evasiveness of the Jeffersonian dream is the belief that education is not sufficient to overcome educational learning gaps (Ratner, 1985). The Coleman Report began to promote this view in the mid twentieth century. In their seminal research *Equality of Educational Opportunities* (colloquially known as the Coleman Report), Coleman et al. (1966) concluded that school resources were unable to overcome a child's social status.

Although the research methods and findings of the Coleman Report are controversial (Downey & Condron, 2016), the disparity in educational outcomes between privileged and marginalized students in the United States persists (Rebell, 2017). Modern school financial litigation (SFL) rarely focuses directly on the racial component of disparities in educational outcomes. The exploration of the interaction between SFL and race exceeds the scope of this research. However, it is worth noting that some factors associated with this achievement gap include culturally insensitive pedagogy (Chunoo & Callahan, 2017), teachers' lower expectations for Black and Brown students (Carter, Mustafaa, & Leath, 2018), cultural confusion between primarily White teachers and their ethnically diverse student population (Clotfelter, Ladd, &

Vigdor, 2010), and the disproportionate representation of ethnically diverse students in the least funded school systems (Paschall, Gershoff, & Kuhfeld, 2018).

Statement of the Problem: School Finance Challenges

Arguably, the insufficient allocation of financial resources remains the largest impediment to the improvement of school outcomes (Baker, 2011; Burtless, 1996). The original funding design for most school districts involved the concept of local control, a reliance on local property taxes (Gillespie, 2010). As property values are linked with the residents' socioeconomic status, school districts with high local real estate values may tax residences at lower rates while simultaneously generating greater wealth (Kramer, 2002). The outcome of this desire for local control results in vast funding disparities between school districts.

To combat these funding and student achievement disparities, most states have initiated some form of equalization formula (Hoxby, 2001). Taxing local property wealth created 82.7% of the average school district's budget in 1929 (Riddle, 1990). By 1989, local property taxation accounted for only 43.7% of the average school district's budget (Riddle, 1990), and in 2015 this number has dropped even further to 40.7% (National Center for Education Statistics, 2019a). These changes represent an increase in federal and state funding and an increase in equity between school districts within the same state. However, funding inequity remains persistent despite these changes and is a primary impetus for SFL (Lafortune, Rothstein, & Schanzenbach, 2018).

Three Waves of School Finance Litigation

Legal challenges to school funding formulas represent one method that people have used to improve school funding and student achievement. As shown in Table 1, SFL is considered to have occurred in three waves (Buszin, 2012; Thro, 1990). While some debate exists as to when

the first wave began some sources suggesting during the 1960s (Thro, 1993) and others suggesting as late as 1971 (Saleh, 2011) – it is generally accepted that this wave argued for improvements using the Fourteenth Amendment’s Equal Protection Clause.

The second wave of SFL began in 1973 and concluded in 1989 (Thro, 1990). According to Thro (1990), this second wave emphasized equity and sought an egalitarian funding system. This wave based its arguments primarily on education clauses in state constitutions. Litigants in the third wave argued for educational improvements by emphasizing the importance of an adequate or minimum education level, relying on the state constitution’s education clause (Thro, 1993).

Scope of the Research

The third wave of SFL began in 1989 and relies primarily on challenging state school funding levels where students fail to receive an “adequate” education (Thro, 1990). Despite the third wave’s 30-year history, its effects remain poorly understood. Much of the research surrounding this wave is contradictory and antiquated, with most studies originating before 2010. As this form of litigation continues today, it is essential to gain a deeper and contemporary understanding of its effects.

In this dissertation contextual history of SFL was provided, first reviewing several pertinent historical cases predating SFL before exploring the precedent-setting decision for each of the landmark cases within the three waves of SFL. Upon establishing the legal rationale for SFL, I explore the underpinnings and assumptions associated with the third wave of school finance litigation. In doing so, I discuss previous research linking funding and student outcomes, investigate the judicial system’s ability to produce funding changes, and thematically outline findings from previous research. Furthermore, this dissertation outlines the ways that the

outcomes and effectiveness of the third wave of SFL were explored. It concludes with a discussion of how these results align with previous research and additional ideas for further research are outlined.

Table 1

Overview of School Finance Litigation's Three Waves

Litigation Wave	Overview
First Wave	<ul style="list-style-type: none"> Argued in the federal court system for improvements in education funding using the Fourteenth Amendment's Equal Protection Clause Began with <i>Serrano v. Priest</i> (1971) Concluded with <i>San Antonio v. Rodriguez</i> (1973)
Second Wave	<ul style="list-style-type: none"> Argued at the state level for equity and sought an egalitarian funding system, basing its arguments on education clause found in states' constitutions Began with <i>Robinson v. Cahill</i> (1973) Concluded with a triad of adjudications in 1989
Third Wave	<ul style="list-style-type: none"> Argued for the importance of providing an adequate or minimal education funding level by relying on the state constitution's education clause Began with <i>Helena v. State</i> (1989), <i>Edgewood v. Kirby</i> (1989) and <i>Rose v. Council</i> (1989) This wave is ongoing

Note. This table was adapted from Thro (1993).

Research Questions and Methodology

This project's purpose is to broadly identify and understand the effects that the third wave of SFL has on specific funding and achievement metrics. To accomplish this goal, I examined how funding and student achievement have changed after different types of judicial rulings. This involved creating a distinct dataset based upon published data from a variety of federal, state, and university sources and then uses this dataset to answer the following two research questions:

- Q1 How does the adjudication date and outcome of school finance litigation affect funding as measured by per-pupil funding and fiscal effort?
- Q2 How does the date of occurrence and outcome of school finance litigation affect student academic achievement as measured by student graduation rates and 8th-grade National Assessment of Educational Progress (NAEP) math scores?

In answering these questions, the Kruskal-Wallis test (the non-parametric ANOVA test), was used to explore whether an exposure, the judge's ruling – classified as a plaintiff or non-plaintiff victory – affects the dependent variable (funding or student achievement metrics). The second analysis involved using a correlation test to determine how the effect of the treatment (school finance litigation) changed throughout the third wave. For this research, the individual state values for funding levels and student achievement metrics were compared by looking at the difference between the year of adjudication (Y0) and four years after adjudication (Y4). The specific variables are fiscal effort, per-pupil revenue, high school graduation rates, and 8th-grade NAEP math scores. This four-year time frame was selected to ensure sufficient time for an observable effect to take place (Lockridge & Maiden, 2014).

Definition of Terms

Adequate Education - A base level of education that was argued for by plaintiffs in the third wave of SFL (Thro, 1990). In many states, this educational floor uses Kentucky's definition of an adequate education established by *Rose v. Council* (1989).

Defendant - The party or parties on the receiving end of the plaintiff's claim (Alexander & Alexander, 2011). In this research, defendants are often the state, or state representatives assigned to allocate school funding.

Education Provision - A provision in every state's constitution that stipulates the state's legal obligation to educate its students (Ratner, 1985). There are two types of educational

provisions, and establishment provision and an equality.

Equal Protection Clause - A clause in either the state or federal constitution that guarantees equal protection for all citizens, thereby protecting everyone's fundamental rights (Alexander & Alexander, 2011).

Equality Provision - The state's constitutional clauses equivalent to the Equal Provision Clause found in the Fourteenth Amendments of the US Constitution (Alexander & Alexander, 2011; Baker & Welner, 2011).

First Wave of School Finance Litigation - A term for a specific form of SFL that extended from *Serrano v. Priest* (1971) to *San Antonio v. Rodriguez* (1973) (Thro, 1990). In this wave, litigants attempted to use the 14th Amendment, often called the Equal Protection Clause of the U.S. Constitution, to obtain equality of funding throughout the states (Thro, 1990).

Fiscal Effort - A metric that provides a uniform method that compares the ratio of school expenditures to the overall tax base (Owings & Kaplan, 2013).

Fiscal Neutrality - A legal concept first argued in *Serrano v. Priest* (1971), where plaintiffs argued for funding equality between school districts (Thro, 1990).

Fundamental Right - An unearned right founded in moral law, protected in either the US or State Constitutions that are provided for all citizens (Alexander & Alexander, 2011).

Plaintiff - An individual or group initiating litigation (Alexander & Alexander, 2011). In this research, plaintiffs are the parties seeking to change the funding system through the judicial system.

School Finance Litigation - School finance litigation (SFL) is litigation aimed at changing some aspect of how schools are funded, or the amount of funding being provided for the school

systems (Baker, 2011).

Second Wave of School Finance Litigation - A term for a specific type of SFL commonly argued after *San Antonio v. Rodriguez* (1973) to a triad of adjudication in 1989 (Thro, 1990). Litigation in this wave argued for equity by claiming that the state constitution's education clause was being violated by vast funding disparities between school districts resulting in a violation of the Equal Protection Clause (Thro, 1990).

Strict Judicial Scrutiny - A rigorous legal test used to determine if a fundamental right of a suspect class of people has been appropriately abrogated by a state or federal agency (Heise, 1995).

Suspect Class - A legal term to describe a group of people that is: a) distinguishable, b) historically discriminated against, and c) politically powerless (*San Antonio v. Rodriguez*, 1973).

Third Wave of School Finance Litigation - Beginning in 1989 with *Helena v. State* (1989), *Edgewood v. Kirby* (1989), and *Rose v. Council* (1989), this ongoing form of SFL is argued at the state level. The primary reasoning for these cases is founded on the argument that funding levels are insufficient to provide all students an adequate education required by the education clause found within the state's constitution (Thro, 1990).

Conclusion

Since 1989, school finance litigation involves challenging state school funding systems where students fail to receive an "adequate" education (Thro, 1990). However, despite nearly 30 years of adequacy litigation during the third wave, its effects remain poorly understood, with most research on this topic originating before 2010.

This form of litigation is a risky proposition. Lawyers arguing the case have no certainty of recuperating their cost: the district's counsel in *Lake View School District v. Huckabee* (2002) received \$9,338,035 in attorney fees, while the judges in *Helena v. State* (1989) prevented the plaintiff's lawyers from receiving any remuneration from the state. Furthermore, despite *Rose v. Council's* (1989) delineation of what an adequate education entails, objectively quantifying the cost to provide this level of education remains elusive (Odden, Goetz, & Picus, 2007). Therefore, a contemporary understanding of these questions is important because disparities in the American school system persists.

Any individual or group exploring whether to pursue SFL to try and improve student outcomes could benefit by increasing and contemporizing their understanding of its effects. Simultaneously, state representatives liable to being dragged into a lengthy and costly judicial process would benefit from an improved understanding of likely outcomes. Ultimately, SFL is about improving student outcomes and, consequently, it has wide-reaching effects that extend far beyond the individuals receiving the education. There are regional benefits to an educated society (Figlio & Lucas, 2004), national benefits (Ratner, 1985), and global benefits (Hanushek & Kimko, 2000). The results of this research are broadly applicable in that it has the potential to improve our understanding of this form of litigation and its impacts on society.

CHAPTER II

LITERATURE REVIEW

Starting before the adjudication of the first SFL case, this legal review covers the salient aspects of litigated cases that preceded SFL, before describing the details of the essential cases from the first three waves of SFL. Next, I explore several key assumptions underpinning the third wave of SFL. These include philosophical questions such as whether the courts should intervene in legislative decisions, the overall effectiveness of judicial intervention, and whether additional money improves schools' effectiveness. This section concludes by delineating the difficulties faced by those attempting to correlate educational outcomes with court rulings. These themes set the stage for the final section, wherein I outline a key knowledge gap and briefly explain the importance of enhancing our understanding in this area.

History of School Finance Litigation

SFL is classified into three waves (Saleh, 2011), with the first wave beginning with *Serrano v. Priest* (1971). This was the first Supreme Court case to adjudicate specifically on SFL. However, the historical backdrop of this litigation began over 120 years earlier with *Roberts v. City of Boston*, henceforth cited as *Roberts v. Boston* (1849).

Contextual Background: *Roberts v. Boston* to *Brown v. Board*

In the mid-nineteenth century, schools in Massachusetts were legally racially segregated (Baltimore & Williams, 1985). At this time, Sarah Roberts, an African American child, was

denied admission in the local White primary school (*Roberts v. Boston*, 1849). This led Sarah's father, Benjamin Roberts, to employ the judicial system to correct this injustice. The Roberts' legal argument relied primarily on the Massachusetts constitution, which stipulates that "all men, without distinction of color or race, are equal before the law" (MA Const. Art. I § I, IV). Despite their litigation making it to the Massachusetts Supreme Court, the final result was fruitless, and even potentially destructive as it was subsequently cited in *Plessy v. Ferguson* (1896) in defense of the separate-but-equal doctrine.

Another preliminary judicial court case was *Plessy v. Ferguson* (1896), a case that challenged the constitutionality of an 1890 Louisiana General Assembly Act that allowed for segregated rail cars. In *Plessy v. Ferguson* (1896), an individual who was seven-eighths White defied his relegation to the African American side of the segregated cars and chose to challenge the legality of this law. Mr. Plessy argued that "the mixture of colored blood was not discernible in him, and that he was entitled to every right, privilege, and immunity secured to citizens of the United States of the white race" (*Plessy v. Ferguson*, 1896, p. 541). He challenged the Louisiana General Assembly Act by arguing that the act violated the principles of the Thirteenth and Fourteenth Amendments. In doing so, he initiated a process that culminated with the United States Supreme Court ruling in favor of the "separate but equal" doctrine. The court found that the segregation of people was not slavery and, therefore, threw out the challenge grounded in the Thirteenth Amendment. In examining the constitutionality of the Louisiana General Assembly Act in light of the Fourteenth Amendment, the judges on the Supreme Court found that "separate but equal" accommodations were not discriminatory. Interestingly, the Supreme Court cited *Roberts v. Boston* (1849) to support the common practice and legality of segregated schools in

their decision (*Plessy v. Ferguson* 1896, p. 544). This doctrine would last until the Supreme Court overruled its previous decision in *Brown v. Board of Education of Topeka* (1954).

Brown v. Board of Education of Topeka (1954) – henceforth cited as *Brown v. Board* (1954) – was one of the most important civil rights court cases ever adjudicated by the United States Supreme Court. This class action lawsuit involved plaintiffs arguing against the legally segregated school systems established by *Plessy v. Ferguson* (1896). In brief, the plaintiffs argued that the legally segregated schools were not equal and as a result, the government was depriving African American students of their fundamental right to an education. Consequently, the government’s action caused the deprivation of a fundamental right for a suspect class of people.

As subsequently defined by the court case of *San Antonio v. Rodriguez* (1973), a suspect class is a group of individuals who are obviously distinguishable, historically discriminated against, and politically powerless. When a government agency deprives an individual, or groups of individuals, of their fundamental rights guaranteed by the Equal Protection Clause of the Fourteenth Amendment, then a more stringent legal test called strict judicial scrutiny is applied. This test increases the probability of finding a violation of fundamental rights (*San Antonio v. Rodriguez*, 1973).

Plaintiffs in *Brown v. Board* (1954) alleged that the fundamental rights of a suspect class of people were being violated, and asked judges to apply the rigorous concept of strict judicial scrutiny under the Equal Protection Clause of the Fourteenth Amendment, which states that “[n]o state shall deny to any person within its jurisdiction the equal protection of the laws” (U.S. Const. Amend. XIV). In applying this scrutiny, the judges in *Brown v. Board* (1954) decided that

the segregated school system was unconstitutional. This argument allowed for both a plaintiff victory and the abolition of the segregated system.

The impacts of *Brown v. Board* (1954) were vast and exceed the scope of this paper. In this case, judges ruled firmly against segregation by proclaiming that segregation violated the Fourteenth Amendment and denied children of color equal protection (*Brown v. Board*, 1954). In light of SFL, *Brown v. Board* (1954) briefly established education as a right that must be available to all on equal grounds. Explicitly, these judges wrote, “[W]here a State has undertaken to provide an opportunity for an education in its public schools, such an opportunity is a right which must be made available to all on equal terms” (*Brown v. Board*, 1954, p. 493). Although the designation of education as a fundamental right was short-lived, *Brown v. Board* (1954) provided the legal logic used by plaintiffs in subsequent SFL litigation.

The Transition Years: *Mclnnis v. Shapiro* to *Burruss v. Wilkerson*

While much of the newer research employing the three wave construct of SFL cites *Serrano v. Priest* (1971) as the beginning of the first wave (Allen, 2018; Saleh, 2011), the creator of this classification system suggests that this wave’s inception began in the preceding decade in district-level courts (Thro, 1990). In the late 1960s, two nearly identical court cases challenged the constitutionality of funding systems for public schools, and although these two cases were never heard in courts past the district level, *Mclnnis v. Shapiro* (1968) and *Burruss v. Wilkerson* (1969) may have started the first wave of SFL.

The litigants in *Mclnnis v. Shapiro* (1968) claimed that the Illinois school funding system: violated their Fourteenth Amendment rights to equal protection and due process because they permitted wide variations in expenditures per student from district to district, thereby providing some students with a good education and depriving others, who have equal or greater

educational need (p. 329). In this case, the judges in the district court's adjudication sided with the defendant because of difficulty setting a standard to determine whether school funding violates the Constitution. The district court also found that the state had instituted a rational policy and cited the lack of a constitutional requirement for funding to be administered based upon student needs (*McInnis v. Shapiro*, 1968).

In a virtually identical case, *Burruss v. Wilkerson* (1969), litigants argued just one year later that Virginia's funding formula was unconstitutional. This case was dismissed at the district court level because, among other things, the judges found that the litigants in *Burruss v. Wilkerson* (1969) presented virtually the same logic presented in *McInnis v. Shapiro* (1968). While plaintiffs were not victorious in either *McInnis v. Shapiro* (1968) nor *Burruss v. Wilkerson* (1969), the attorneys in *Serrano v. Priest* (1971) successfully adopted the legal logic of these cases.

The First Wave of School Finance Litigation: *Serrano v. Priest* to *San Antonio v. Rodriguez*

Key Cases and Legal Arguments

Building upon the logic established by *Brown v. Board* (1954), the California Supreme Court ruled in what has since become known by some as the first court case of the first wave of SFL (Heise, 1995). In *Serrano v. Priest* (1971), the plaintiffs challenged three interrelated aspects. First, they challenged the funding system used to pay for schools. During this time, California school districts derived 90% of funding from local property taxes (*Serrano v. Priest*, 1971, p. 592). As property values vary significantly between locations, this property value disparity allowed wealthy school districts to tax at lower rates while simultaneously receiving substantially more money than a property-poor district could receive with a higher tax rate (*Serrano v. Priest*, 1971, p. 592). Secondly, the plaintiff argued that judges should understand

Article IX of Section 4 of the California Constitution as “a system of common schools, [that] requires uniformed educational expenditures” (*Serrano v. Priest*, 1971, p. 596). Finally, the plaintiffs argued that wealth was a suspect classification and education a fundamental right. The plaintiffs believed that the funding system prevented poor students from receiving their constitutionally protected right of education and, therefore, the courts should apply the strict scrutiny test in declaring the funding system unconstitutional. The plaintiffs were partially successful. Although the judges ruled that the California Constitution did not require a uniform funding system, they did side with the plaintiffs in the other aspects of this challenge.

Serrano v. Priest (1971) relied heavily on logic established in *Brown v. Board* (1954) and subsequently described by Wise (1968). This case successfully sought to define education as a fundamental right. The judges found that the school funding system was unconstitutional because it resulted in vast disparities in funding and ultimately led to divergent student outcomes. This was seen as a violation of the Equal Protection Clause of the Fourteenth Amendment and a form of discrimination against the poor, depriving them of a fundamental right to education.

The legal ramifications of this case were short-lived. While this case had the potential to establish a precedent wherein the poor are classified as a suspect class and education viewed as a constitutionally protected fundamental right, its results were quickly overturned by the United States Supreme Court in *San Antonio Independent School District v. Rodriguez* (1973). However, *Serrano v. Priest* (1971) ushered in the first wave of SFL (Heise, 1995). It brought great hope for equity across the nation. On the heels of its adjudication, litigants from many other states began the process of filing similar complaints (Thro, 1990). *San Antonio Independent School District v. Rodriguez* (1973), hereafter cited as *San Antonio v. Rodriguez* (1973),

represented one such case that percolated through the judicial system and ultimately led to a United States Supreme Court ruling that irrevocably altered the landscape of SFL.

Shortly after *Serrano v. Priest* (1971), the hope for securing equal education for all through litigation was palpable. However, a U.S. Supreme Court hearing in October of 1973 changed the litigation landscape. *San Antonio v. Rodriguez* (1973), a case hotly debated through the Texas courts, eventually made it to the U.S. Supreme Court, where a 5-4 decision definitively altered our understanding of education's place in American society.

The essence of the case involved the same logic used in California's *Serrano v. Priest* (1971). The plaintiffs argued that education was a fundamental right by utilizing logic provided by judges in *Brown v. Board* (1954) and then corroborated at the state Supreme Court level by *Serrano v. Priest* (1971). Upon establishing education as a fundamental right, the lawyers argued that a funding system primarily relying on local property taxes was causing vast disparities between students' educational outcomes. As people tend to live near others of similar socioeconomic status (Peterman, 2018), the lawyers argued that the funding system was a form of government action discriminating against the poor, who are a suspect class. Should the plaintiff's logic hold, the United States Supreme Court would have been required to apply the strict scrutiny test in determining whether a group – in this case, the poor – were being denied a right under the Equal Protection Clause of the Fourteenth Amendment.

Despite the district court's adjudication favoring the plaintiffs, the U.S. Supreme Court ruled decisively against the plaintiffs (*San Antonio v. Rodriguez*, 1973). The Supreme Court judges found that the poor were not a suspect class and, therefore, not eligible for strict scrutiny or protection under the Fourteenth Amendment. This in itself is significant. However, the finding that education is not a federally protected fundamental right "guaranteed by the Constitution"

(*San Antonio v. Rodriguez* 1973, p. 2), was an even further deviation from the view espoused by judges in *Brown v. Board* (1954), who had found that, “[w]here a State has undertaken to provide an opportunity for an education in its public schools, such an opportunity is a right which must be made available to all on equal terms” (*Brown v. Board*, 1954, p. 493).

The ramifications of *San Antonio v. Rodriguez* (1973) were extensive. First, it established that the poor were not classified legally as a suspect class at the federal level (Thro, 1990). This decision significantly favored the wealthy, while obviating a slew of unfilled challenges that could protect the economically disadvantaged (Saleh, 2011). The second ramification of this case was that it shifted SFL from the federal courts to the state courts. In doing so, it ended the first wave of financial litigation.

Finally, this court ruling established that education was not a fundamental right according to the Constitution of the United States. This is significant, as it removes some of the legal protections that education could have received. *San Antonio v. Rodriguez* (1973) marked the end of the first wave of SFL (Heise, 1995).

The Legacy of the First Wave of School Finance Litigation

After *Serrano v. Priest* (1971) multiple states filed SFL, but few culminated in adjudications before *San Antonio v. Rodriguez* (1973) decisively removed the possibility of success at the level of the U.S. Supreme Court (Thro, 1990). This wave remains the shortest-lived wave of SFL and it resulted in some unintended consequences. In California, after *Serrano v. Priest* (1971), state school funding experienced a phenomenon called leveling-down (Lafortune et al., 2018). Leveling-down occurs when courts find that the disparities of school funding – often due to local control and funding schools through local property taxes – are inappropriate (Lafortune et al., 2018). This leaves the state with essentially two options: it can

either increase funding so the least-funded school districts receive more money, or it can cap the tax amount of the wealthiest school districts. The latter is what occurred (Lafortune et al., 2018). While *Serrano v. Priest* (1971) was successful in improving equity, its intent was also to improve the conditions of the lowest-funded school districts. However, one of its unintended effects was that less overall money flowed into the school system as wealthier school districts collected less money because they were prevented from retaining their additional resources due to the leveling-down phenomenon.

The Second Wave of School Finance Litigation: *Robinson v. Cahill* to the Big Three in 1989

Key Case and Legal Arguments

The first court case in the second wave of financial litigation was *Robinson v. Cahill* (1973). This case found that school district funding, which largely relied upon local property taxes (accounting for 67% of overall funding), was a violation of New Jersey's Education Provision (*Robinson v. Cahill*, 1973). The New Jersey Education Provision requires the state to furnish "a thorough and efficient system of free public schools" (*Robinson v. Cahill*, 1973, p. 516). Through this adjudication, the New Jersey Supreme Court signified that there was an association between state's fiscal inputs and the quality of education, and in doing so found that funding school districts primarily from local property taxes resulted in a disparity in educational opportunities. Specifically, the New Jersey Supreme Court found that "any service to which equal protection is found to apply, it would follow that if the money is raised by local taxation in a way which permits a different dollar expenditure per affected resident, the program is invalid as to the beneficiaries unless a State aid programs fills in the gap" (*Robinson v. Cahill*, 1973, p. 483).

The legal logic used in *Robinson v. Cahill* (1973) is typical of cases argued within the second wave of SFL. This logic was similar to that used at a national level in the first wave of SFL. However, second wave cases avoided using the U.S. Constitution and its Equal Protection Clause in favor of relying on the state's constitution and its Establishment Provision, which is roughly equivalent to the Fourteenth Amendment of the U.S. Constitution (DeMoss, 2003).

All states have constitutional guidelines for education (DeMoss, 2003) and most states, with Mississippi being the sole exception (Thro, 1998), explicitly require some degree of state-sponsored education through their Establishment Provision (Ratner, 1985). According to Thro's (1998) analysis of constitutional wording, 17 state constitutions oblige legislators to maintain a system of free public education, 18 state constitutions possess a general educational quality provision, and 14 state constitutions contain more rigorous stipulations. If funding formulas prevent educational opportunities that are constitutionally protected by the state, plaintiffs have a legal argument (DeMoss, 2003). As poor students can be classified at the state level as a suspect class, they become eligible for protection under the state's equivalent of the Fourteenth Amendment (Baker & Welner, 2011). Relying on the state constitutions' Equality Provisions (Baker & Welner, 2011), plaintiffs in the second wave of SFL attempted to use the courts to achieve horizontal equity in per-pupil spending; something commonly called fiscal neutrality (Koski, 2010).

The Legacy of the Second Wave of School Finance Litigation

Fiscal neutrality, the ambitious goal of the second wave, may have contributed to its overall impotence. Kramer (2002) reported that this wave produced 16 cases, seven which were adjudicated in favor of the plaintiff, while nine were decided for the defendant. While Thro (1990) concluded that this wave yielded seven plaintiff victories and 15 defeats, neither author

documented a substantial success rate across this form of litigation. Ultimately, the second wave of SFL was only moderately successful and eventually gave way to a new era of SFL, which began in 1989 when three state Supreme Courts heard cases that ushered in the third wave (Heise, 1995).

The Third Wave of School Finance Litigation: The Big Three Cases

While SFL's second wave relied on the state's Equal Protection Clause alone, the third wave added to this by arguing that state funding formulas failed to provide sufficient funds to deliver an adequate education to all students (Moore, 2009). This shotgun approach was far more effective than the single-argument strategy of the second wave of SFL (Thompson & Crampton, 2002). Depending on the source, researchers believe that either *Rose v. Council* (1989) started this wave (Glenn, 2008), or they report that it began through a triad of adjudication that included *Rose v. Council* (1989), *Helena v. State* (1989), and *Edgewood v. Kirby* (1989) (Hackney, 1993; Heise, 1995; Lockridge & Maiden, 2014; Moore, 2009).

Legal Arguments and Implications of *Helena v. State*

The Montana Supreme Court adjudicated the first of the three pertinent 1989 court cases in *Helena Elementary School District v. the State of Montana* (1989), henceforth cited as *Helena v. State* (1989). In this case, the Montana Supreme Court evaluated the effectiveness of funding the Foundation Program, a state program designed to equalize funding levels between school districts (Montana Education Association, n.d). The Montana Supreme Court decided in favor of the plaintiffs, who argued that the state's system of educational funding "violated the [state's] constitutional guarantee of equal educational opportunities" for all Montana students (*Helena v. State*, 1989, p. 684). While the majority of the court's ruling involved an extensive examination

of taxation and federally funded Native schools, it concretely linked funding and educational adequacy – a central component of the third wave of SFL. The judges ruled that:

[a]s a result of the failure of the state to adequately fund the Foundation Program, forcing excessive reliance by local districts ... the State had failed to provide systems of quality public education, providing each student with the quality of educational opportunities guaranteed under the Constitution. (*Helena v. State* 1989, p. 691).

Legal Arguments and Implications of *Edgewood v. Kirby*

Shortly after the adjudication of *Helena v. State* (1989), *Edgewood Independent School District v. Kirby* (1989) hereafter cited as *Edgewood v. Kirby* (1989) – was heard by the Texas Supreme Court. Litigants relied on the state constitution’s education provision to argue that wide variations in local property values and, subsequently, tax revenue were generating vast disparities in per-pupil funding levels. Funding levels per student varied by nearly 10-fold within a single county, depending on the school district (*Edgewood v. Kirby*, 1989, p. 390). The judges found this disparity to violate Texas’s Constitutional Education Provision that dictates the existence of an “efficient” means of dispensing a “general diffusion of knowledge” (*Edgewood v. Kirby*, 1989, p. 390). In a 9-0 decision, the Texas Supreme Court sided with the plaintiffs, ruling that per-pupil spending that ranged from \$2,112 to \$19,333 within a single county was unconstitutional (*Edgewood v. Kirby*, 1989, p. 392).

Legal Arguments and Implications of *Rose v. Council*

Rose v. Council for Better Education (1989) was the third major education funding court case adjudicated in 1989. Heard by the Kentucky Supreme Court, this case is often cited as the start of the third wave of financial litigation (Gillespie, 2010). The plaintiffs argued that the

Kentucky school funding system violated Section 183 of the Kentucky Constitution, which states “[t]he General Assembly shall ... provide for an efficient system of common schools throughout the States” (KY Const § 183). *Rose v. Council* (1989) was among the first cases to argue that every student should receive an adequate education rather than what had been traditionally argued: an equitable education (Heise, 1995).

In *Rose v. Council* (1989), the plaintiffs argued that Kentucky school funding was inefficient and failed to satisfy the constitutionally protected minimum threshold for educational standards. Importantly, this case established the precedent that anyone with a “real and substantial interest in the subject matter of the litigation” would have standing to sue (*Rose v. Council*, 1989, p. 202). The judges also found that the Kentucky system of common school was not efficient, thereby violating the mandate set forth in Section 183 of Kentucky's Constitution (*Rose v. Council*, 1989, p. 190). Finally, the judges established education as a fundamental right in Kentucky and thus eligible for protection under the law. The judges did not equivocate in assigning the responsibility for amending this issue to the Kentucky General Assembly, thus balancing the authority of the legislative and judicial branches of government.

While there are several important outcomes of this decision, quite possibly the most essential aspect of this case is that the decision in *Rose v. Council* (1989) established a definition of an adequate education. The definition set forth by *Rose v. Council* (1989) has subsequently been applied directly or indirectly in many other states (McDonald, Hughes, & Ritter, 2004). Specifically, *Rose v. Council* (1989) defined seven characteristics of an efficient system of common schools:

- (1) sufficient oral and written communication skills to enable students to function in a complex and rapidly changing civilization;

- (2) sufficient knowledge of economic, social, and political systems to enable the student to make informed choices;
- (3) sufficient understanding of governmental processes to enable the student to understand the issues that affect his or her community, state, and nation;
- (4) sufficient self-knowledge and knowledge of his or her mental and physical wellness;
- (5) sufficient grounding in the arts to enable each student to appreciate his or her cultural and historical heritage;
- (6) sufficient training or preparation for advanced training in either academic or vocational fields so as to enable each child to choose and pursue life work intelligently; and,
- (7) sufficient levels of academic or vocational skills to enable public school students to compete favorably with their counterparts in surrounding states, in academics or in the job market (*Rose v. Council*, 1989, p. 223).

The Legacy of the Third Wave of School Finance Litigation

Owing to a variety of factors, the third wave of SFL began far more successfully than the previous two waves. Of its first 22 cases, 15 were plaintiff victories (Thompson & Crampton, 2002). This high success rate has been partly attributed to its simplicity (Heise, 1995), its alignment with humanity's sense of fairness (Koski & Reich, 2006), and its allowance for the maintenance of sacrosanct local control (Gillespie, 2010). Another key distinction between the second and third wave is that third wave arguments employ state education provision clauses as opposed to the Equal Protection Clause used in the preceding wave (Moore, 2009). This seemingly inconsequential change is essential, as it allows for plaintiff victories without requiring the courts to label the poor as a suspect class – something that judges are often

reluctant to do as this opens the floodgates for potential litigation (Koski & Reich, 2006). Third wave litigation seeks to establish a funding floor (Koski & Reich, 2006), and as opposed to the second wave's goal for fiscal neutrality (Koski, 2010), the third wave does not prevent affluent school districts from retaining their wealth. This mitigates the leveling-down side effect from previous waves. Finally, third wave litigation allows plaintiff victories with minimal judicial interference into the legislative branch of the government (Buszin, 2012). This issue remains important as the courts are often concerned with overextending their influence into legislative matters (Simon-Kerr & Sturm, 2010).

Challenges of the Third Wave of School Finance Litigation

Despite the initial effectiveness of the third wave of SFL, it is not without shortcomings. While this wave requires less judicial interference into legislative matters than previous waves, the extent of interference it does require has nonetheless limited its success (Moore, 2009; Simon-Kerr & Sturm, 2010). Researchers have also suggested a decrease in its effectiveness over time (Simon-Kerr & Sturm, 2010). Finally, Thompson and Crampton (2002) argue that the adequacy standard is so low, judicial success is only a Pyrrhic victory and falls short of fulfilling the Jeffersonian desire for our public education system.

Underlying Assumptions and Background of the Third Wave of School Finance Litigation

The Legal Position of Education in American Society

Education has never been declared a fundamental right by the federal government or by the U.S. Supreme Court (Saleh, 2011). At the same time, compulsory attendance laws deprive students of their constitutionally protected Fourteenth Amendment right of liberty (Ratner, 1985). This abrogation of rights can only legally be tolerated if accomplishing a legitimate

government interest (Alexander & Alexander, 2011, p. 286; *Meyer v. State of Nebraska*, 1923). In 1973, the U.S. Supreme Court ruled that education is not a constitutionally protected fundamental right (*San Antonio v. Rodriguez*, 1973). However, before *Brown v. Board* (1954) and California's Supreme Court decision in *Serrano v. Priest* (1971) education was interpreted by many to indicate that education was a fundamental right. This logic formed the cornerstone of the first wave of SFL (McDonald et al., 2004). After the U.S. Supreme Court clearly articulated that education was not a federally protected fundamental right in *San Antonio v. Rodriguez* (1973), this debate was taken up in state judicial systems during the second wave of SFL (Thompson & Crampton, 2002). At the state level, the wording in the state constitution defined whether education was a fundamental right or not (Heise, 1995). Some states defined education as a fundamental right, while others did not (Thompson & Crampton, 2002). The third wave of SFL side-steps the question of whether education is a fundamental right by focusing on its importance and the necessity of providing an adequate education (Lafortune et al., 2018). While the exact definition of education is fluid, all three waves of SFL rely on the assumption that education is of great importance to society.

The Relationship of the Judicial System and School Funding

While the judicial system has a long history of exploring the legality of school funding systems, some argue that the courts neither have the capacity nor experience to decide these matters (Hanushek & Lindseth, 2009). Judges are cognizant of the distinct line between the judicial and legislative systems (Moore, 2009), and some courts have purposefully avoided hearing SFL cases due to the wariness of judicial overreach (Simon-Kerr & Sturm, 2010).

Another concern with appealing to the judiciary is the question as to whether the courts have been successful in creating improvements in education. These improvements may come in

the form of state inputs such as increasing per-pupil funding, reducing class size, and improving teacher qualifications, or outputs such as student graduation rates, college aptitude tests, and student testing (Hanushek, 2003). Holistically, SFL has produced mixed results.

Some cite the persistence achievement disparities rooted in race as evidence that the courts are an ineffective tool to create change (Buszin, 2012; Glenn, 2009; Hanushek & Lindseth, 2009; Lafortune et al., 2018). Thompson and Crampton's (2002) review found that most multi-state studies failed to find any association between successful adjudications from the third wave of SFL and either funding or student test scores. There are also varying accounts as to the success rate of this form of litigation. Thro's (1993) early analysis of the third wave of SFL found that plaintiffs were successful in 70% of litigated cases, while a recent analysis by Weiler, Cornelius, and Brooks (2017) identified plaintiff victories in only 47% of adequacy cases. Interestingly, a 2017 study documented a diminishing impact on funding metrics in the more recent era of third wave litigation (Condrón, 2017). However, most studies document a positive association between third wave cases and increased school inputs and student outputs.

One such study by Jordan, Brown, and Gutiérrez (2010) found that court-mandated financial reform improved funding for low-income school districts at a greater rate than legislative reform. Lafortune et al. (2018) documented an association between judicial decisions and subsequent improvements in student outputs. Another study documented that a 4-12% increase in per-pupil spending produced a 5-8% increase in graduation rates after judicial intervention (Candelaria & Shores, 2015). Glenn's (2008) study contradicted the findings of Thompson and Crampton (2002) by linking successful litigation to improved student outcomes. Specifically, this study found that adequacy lawsuits had a small yet positive relationship with student achievement (Glenn, 2009). Finally, the link between litigation and student

improvements was indirectly corroborated by Glenn's (2009) study which found that students in areas with no litigation had the lowest mean test scores.

Relationship Between School Funding and Educational Outcomes

While it is established that courts can prompt legislative increases in school funding, the next logical question is whether money can overcome the various challenges students face outside of the school system that contribute to the educational achievement gap. The role of school funding formulas in reducing the student achievement gap, and whether education can reduce this gap, remains controversial.

Among the earliest empirical research into this question comes from the Coleman Report (Coleman et al., 1966). This study suggested that education was unable to reduce the achievement gap, and its findings have reverberated through the literature until relatively recently (Coleman et al., 1966; Hanushek, 2003; Ratner, 1985). The Coleman Report has by default been cited as evidence that increasing school funding levels cannot achieve the stated goal of leveling education achievement (Ratner, 1985). Learning is associated with opportunity, ability, motivation, and luck (Jacobs, 2010), and while the state can directly control the opportunities it provides through its funding formulas (Hanushek, 1986), control of students' innate abilities, motivations, and luck remains elusive.

Hanushek's research findings oppose the idea that increased school funding will improve student outcomes (Hanushek, 1979; Hanushek, 1986; Hanushek, 2003; Hanushek, 2016). In 1986, he argued that "[t]he conclusion that schools are not operating in an economically efficient manner has obvious implications for school policy. The clearest one is simply that increased expenditures by themselves offer no overall promise for improving education" (Hanushek, 1986, p. 1116). Later he wrote, "The central conclusion is that the commonly used input policies – such

as lowering class size or tightening the requirements for teaching credentials – are almost certainly inferior to alternative incentives” (Hanushek, 2003, p. 1).

In his seminal work, *The Economics of Schooling: Production and Efficiency in Public Schools*, Hanushek (1986) substantiated his conclusions by employing the vote-counting technique (Hanushek, 1986). While this technique, which categorizes and tallies data according to their outcomes, is valid and commonly used in education law research (Mawdsley & Permuth, 2006, p. 32), it requires uniformity in the quality of the studies being examined (Allen, 2017). Hanushek’s (1986) research is criticized for over counting results (Krueger, 2003) and dubious quality of some of the studies included in his analyses (Hedges, Laine, & Greenwald, 1994). A subsequent meta-analysis of the same data using increased stringency found opposite results to those of Hanushek (Greenwald, Hedges, & Laine, 1996).

Since the onset of the third wave of SFL, studies have found variable results as to whether money affects students’ learning outcomes. Johnson, Jackson, and Persico (2014) found no discernible effect of increasing spending on wealthy students’ outputs. Similarly, a Dutch study failed to find any association between student outputs and increasing funding for technology and teacher salaries (Leuven, Lindahl, Oosterbeek, & Webbink, 2007). This study found that increasing funding for technology lowered student performances (Leuven et al., 2007). Finally, the ever-persistent achievement gap suggests that more money does not necessarily ensure greater educational outcomes (Buszin, 2012).

When examining the role of school funding in educational outcomes, Rebell’s (2017) review of adequacy litigation offers important insight: “For the courts to rule in the plaintiffs’ favor in these cases, the judges had to find, explicitly or implicitly, a positive correlation between increased school funding and the quality of educational opportunities” (Rebell, 2017, p. 186). In

all successful adequacy challenges, plaintiffs have demonstrated links between state inputs into education and student achievement (Jacobs, 2010). Since the onset of the third wave of SFL, 34 of 40 state courts found an association with school funding and student outcomes (Rebell, 2017). In states where SFL failed, the defendants' lawyers were able to navigate away from explicitly examining the relationship between money and student outcomes (Rebell, 2017).

Empirical research on the relationship between funding and student outputs can be grouped into studies that explore this question at the state, national, or international level. At the state level, Roy (2011) explored the impact of school finance reform on students from lower socioeconomic backgrounds and ultimately found that school finance reform increased funding and led to improvements in student test scores in Michigan (Roy, 2011). Similarly, Hyman (2017) demonstrated that a 10% increase in Michigan's education spending boosted several key metrics: for each \$1,000 increase in per-pupil funding, college attendance and graduation rates increased by 7% and 11%, respectively (Hyman, 2017). Krueger (2003) examined the effect of reduced class sizes brought about by the Tennessee Student Teacher Achievement Ratio Program. In this study, the author found that a reduction in class size was beneficial for student learning, especially for younger grades (Krueger, 2003). As teacher salaries comprise the bulk of school budgets, decreasing class sizes represents a substantial financial commitment (Hanushek, 1986).

When exploring the relationship between money and student achievement on the national level, the data is sparse. Using data that predates the third wave of SFL, Card and Payne (2002) documented that improving funding equity by increasing spending through financial reform narrowed the racial achievement gap in SAT scores. Johnson et al. (2014) documented that a 20% increase in spending during primary and secondary school improved poor students'

educational attainment by 0.93 years, while increasing their graduation rate by 23%, adult wages by 24.6%, family income levels by 52.2%, and reducing incidents of adult poverty by 19.7%. Despite these positive gains, a study by Johnson et al. (2014) found that increasing financial support had little effect for students from wealthy families. Finally, Lafortune et al. (2018) demonstrated that an increase of \$1,000 in per-pupil spending reduced the achievement gap by approximately one fifth.

Internationally, research from the United Kingdom has documented a link between spending and student achievement. One study found that a 40% increase in education spending substantially improved students' learning and mitigated the disparities in achievement for economically disadvantaged pupils (Holmlund, McNally, & Viarengo, 2010). Another study demonstrated that an increase of £1,000 per year improved student test scores by 6% of a standard deviation (Nicoletti & Rabe, 2018).

Every study and metric used to determine student output has caveats. These may be applying the findings of broad studies such as Card and Payne (2002) to specific geographic locations or the converse – applying geographic-specific studies, such as Krueger (2003), to the national level. In a similar vein, to what extent are findings derived from the United Kingdom, like Nicoletti and Rabe (2018) applicable within the American school system? The scope is an important factor that must be considered when examining the transferability of the results of research exploring funding's effect on student achievement.

Upon establishing the appropriate geographic scale, the metrics chosen for analysis represent another factor requiring examination. There are a limited number of metrics available for longitudinal studies. State-level testing metrics have been used in some research (Roy, 2011). However, heterogeneity between state requirements may increase the complexity and render

state-level testing as less viable (Linn, Baker, & Betebenner, 2002). College entrance exams are one metric that is used in some studies (Card & Payne, 2002; Roy, 2011). This metric's benefit is that there is a lengthy database, disaggregated by student-specific factors, that is publicly available (National Center for Education Statistics, 2019a). Some caveats noted by Card and Payne (2002) are that this test is not uniformly provided for all students, the percent of students taking this assessment varies substantially between states, and this test is designed to predict college success, not document learning. NAEP student testing represents another metric that was used in this form of research (Lafortune et al., 2018). This test's primary caveat rests in its recency, only being available at the state level since 1990, and even then not available every year (National Center for Education Statistics, 2009).

Other longitudinal studies used students' lifetime achievement to gauge the effect of K-12 funding. Aspects like graduation rates (Hyman, 2017), education attainment (Johnson et al., 2014), and career earning potential (Johnson et al., 2014) have been examined to see if increasing funding positively alters student outcomes. These metrics are useful; however, longitudinal data tracking outcomes for student populations are difficult to obtain, thereby limiting the possible scope of studies (Johnson et al., 2014). Additionally, for some metrics like graduation rates, there are questions concerning the validity of these metrics and the uniformity and fidelity that states use in documenting their data (Warren, 2005). Furthermore, as many of these metrics are achieved by students several years after graduation, it is difficult to account for all the possible confounding factors that may have accounted for these achievements (Johnson et al., 2014).

Challenges of Linking Court Cases to Tangible Change

Most research exploring the outcomes of SFL uses a correlation-based research design (Lafortune et al., 2018; Rebell, 2009). However, correlation does not necessarily equate to a causative relationship (Zar, 1999), and establishing a concrete link between SFL and actual change in the education system only increases the complexity of these analyses.

An initial challenge in understanding the outcomes of SFL is classifying the type of SFL. Litigation often employs a shotgun approach, arguing for improvements in school funding while utilizing a variety of legal tactics (Baker & Welner, 2011). Consequently, it can be difficult to codify cases into discrete categories as many third wave adequacy cases simultaneously advocate for funding equity in addition to other legal arguments (Baker & Welner, 2011).

The next challenge involves understanding the verdict, its implementation, and the budgeting criteria used to determine appropriate funding levels. Verdicts can involve the judge ruling in favor of all or part of the plaintiffs' concern (Moore, 2009). Therefore, classifying court cases as either plaintiff or defendant victories remains challenging. Even after delineating the type of litigation and deciphering the victor, not all judgments involve a mandate for change, and some mandated changes remain unrealized (Heise, 1995).

There is no consistent or uniformly accepted technique for determining appropriate funding levels following SFL, and thus it is difficult to establish a consistent metric that demonstrates whether new funding models are adequate (Odden, Goetz, & Picus, 2007). Methods of deciding appropriate funding levels remain highly contested (Hoxby, 2001); there are four techniques commonly used to identify appropriate funding levels and each has benefits and drawbacks (Odden, Picus, & Goetz, 2010). The first method – the historical spending method – uses the previous budget as a template for the allocation of subsequent resources

(Moore, 2009). The econometric technique advocated by Odden et al. (2010) involves sophisticated mathematical modeling to determine the precise level of resources needed in the following years. If using the professional judgment method, practitioners determine appropriate funding levels based on their prior experiences. Finally, the successful school method is based on the observation of budgeting practices from high-achieving schools and modeling the budgeting practices of these school districts (Moore, 2009).

Methodological choices also add complexity to the analysis of SFL and its effects. These include applying appropriate statistical methods and controlling for extenuating circumstances and factors associated with school and student characteristics (Nicoletti & Rabe, 2018).

Litigation can have unintended consequences such as leveling-down after *Serrano v. Priest* (1971), and researchers must seek to understand both the intended and unintended side effects of the litigation and factor these effects into their final observations (Hoxby, 2001). Researchers must also be attentive to the nuances of each case to ensure that all cases meet appropriate inclusion criteria (Moore, 2009). For example, the effectiveness of an adequacy case seeking to ameliorate inadequacies specifically in special education funding for a single school district should not be judged in the context of the state's overall per-pupil funding level. Finally, it is also difficult to determine the appropriate length of time after an adjudication that must pass before attempting to examine its effects (Baker & Welner, 2011).

Problem and Rationale: The Gap in the Literature

Of the recent studies on this topic, little comparable research exists. Most research considering the effects of SFL and its outcomes are either limited in scope or explore tangential aspects to the study proposed here. Candelaria and Shores (2015) explored the link between litigation and student improvement in a handful of states. Within this limited subset, they found

litigation increased funding, and funding increased student learning. In 2016, a New Jersey study found a positive relationship between school financial resources and student achievement (Neal, 2016). Two years later, Liscow (2018) published a study that focused on the effects of all three waves of SFL on school funding. Although this study found a link connecting court adjudication and increased school funding, its methods prevented a closer examination of the specific effect of the third wave of SFL. The bulk of Liscow's (2018) research explored litigation's association with taxation and determined that the entirety of school finance litigation produced improvements in school spending.

Several studies have focused on the relationship between per-pupil funding and student outputs. In Michigan, Hyman (2017) found a positive link between money and student outcomes, especially for the poor. In the same year, Condrón (2017) published a study exploring the effects of the third wave of school finance litigation on funding equity. This research focused on cases between the years of 1990 and 2011 and found that adequacy litigation was an effectual tool to improve funding equity, but also that adequacy litigation's effectiveness had diminished between the first and second decades of the third wave (Condrón, 2017). Internationally, research from the United Kingdom documented a link between funding levels and improvements in student outcomes (Nicoletti & Rabe, 2018). This research here builds upon these studies furthering our understanding of the effects of the third wave of SFL by assessing its impacts at the national level on state fiscal input, per-pupil funding levels, student graduation rates, and 8th-grade scores on the NAEP exam.

Lafortune et al. (2018) investigated court-ordered school finance reform and its connection with the student NAEP scores. Although similar to the proposed study in some ways, Lafortune et al. (2018) used a data set extending from 1989 to 2013, while my proposed research

includes more recent data up to 2016. Lafortune et al. (2018) examined the effects of third wave SFL cases 10 years after adjudication, an interval they described as arbitrary. Since their data set ends in 2013, the most recent court case they examined occurred in 2003. In contrast, I examined the effects of adequacy SFL four years after the date of adjudication. This four-year time frame is consistent with the work of Lockridge and Maiden (2014) and capitalizes on the findings of Liscow (2018), who determined that court-mandated funding changes had the greatest effect three to five years after adjudication. Using this shorter interval, my research was able to analyze court cases adjudicated as recently as 2012.

Finally, Lafortune et al. (2018) examined the effect of both court-ordered and legislative financial reform from the adequacy era. My research is narrower in its scope, exclusively studying the effects of state Supreme Court adjudications, including both plaintiff victories and defeats, within the third wave of SFL.

Conclusion

SFL has gone through three waves, with litigants in each wave attempting to leverage the judicial system to improve educational inputs to achieve better educational outcomes. While each wave was inspired by and relied on different legal arguments, in each case linking the court's decision with tangible changes presents an assortment of methodological obstacles. Building upon previous work, the proposed study applied complementary methods to enhance our understanding of the association between litigation and student and funding outcomes in the most recent wave of SFL.

CHAPTER III

RESEARCH METHODOLOGY

Chapter 3 provides information and context about the research questions and their subsequent hypotheses and aims. It details how the data was acquired and analyzed, and concludes by addressing the limitations of this study.

The difficulty in school finance litigation research rests primarily on establishing a direct link between litigation and student outcomes (Moore, 2009). As there are too many contributing factors to account for all variables, definitively connecting litigation to student performance remains problematic (Moore, 2009). This may account for the lengthy history of third wave SFL and the dearth of published papers on this topic. This project provides clarity for a portion of our existing knowledge gap while contemporizing and enhancing our understanding of the effects of third wave SFL on funding and student achievement.

Research Questions

Through improving our understanding of school finance litigation, it is possible to determine if the judicial system remains a viable path toward equity. This research seeks to contemporize our knowledge of third wave SFL's relationship between funding and student performance, as well as furthering our understanding of its effectiveness throughout the third wave. To my knowledge, the proposed research represents the most current examination of this

form of litigation and provides a detailed assessment of how third wave SFL's effects have changed over time. This research answers the following overarching questions and their subsequent aims:

- Q1 How does the adjudication date and outcome of school finance litigation affect funding as measured by per-pupil funding and fiscal effort?
- Aim 1.1 Determine whether the judge's ruling in third wave SFL cases (original plaintiff vs. original defendant victory) affects the state's fiscal effort and per-pupil funding.
 - Aim 1.2 Characterize whether there is evidence of a decreasing effect size between third wave SFL cases and associated changes in the state's fiscal effort and per-pupil funding across time.
- Q2 How does the date of occurrence and outcome of school finance litigation affect student academic achievement as measured by student graduation rates and 8th-grade National Assessment of Educational Progress (NAEP) math scores?
- Aim 2.1 Determine whether the judge's ruling in third wave SFL cases (original plaintiff vs. original defendant victory) affects student graduation rates and NAEP 8th-grade math scores.
 - Aim 2.2 Characterize whether there is evidence of a decreasing effect size between third wave SFL cases and associated changes in student graduation rates and NAEP 8th-grade math scores across time.

Research Hypotheses

Aim 1.1 Hypothesis

State fiscal effort and per-pupil funding will be measurably improved in states where plaintiffs were victorious in third wave SFL, but not in the states where defendants prevailed.

Logic for Aim 1.1

Most studies document a positive relationship between adequacy litigation and improved funding levels (Candelaria & Shores, 2015; Card & Payne, 2002; Johnson et al., 2014). I expect to find that funding metrics will substantially improve where plaintiffs prevail. Based upon Glenn's (2009) findings that the effect of litigation on funding was greatly reduced when the

defendants prevailed, I expect to observe a minimal improvement in funding in SFL cases won by defendants.

Aim 1.2 Hypothesis

Third wave SFL has become less effective in its ability to improve state fiscal effort and per-pupil funding over the course of the third wave of SFL.

Logic for Aim 1.2

When examining funding equity, Condron (2017) found that the impact of the third wave of SFL was diminished in the second decade compared to the first decade of litigation. This study corroborated previous state-specific research (Steinberg & Quinn, 2015). Furthermore, one recent study suggests that this form of litigation has a lower probability of success today (Weiler et al., 2017) than it did at the start of the third wave (Thro, 1993). Consequently, if the third wave's ability to correct funding inequality is waning, I expect to find diminished impacts on school funding metrics as well.

Aim 2.1 Hypothesis

Plaintiff victories in third wave SFL cases will be positively associated with statewide improvements in student graduation rates and 8th-grade NAEP scores, but this effect will be small.

Logic for Aim 2.1

Among other improvements, significant increases in funding caused by litigation-encouraged financial reform have been associated with elevated SAT scores (Card & Payne, 2002) and state testing scores (Glenn, 2008) in select populations of students. However, the broader effects across all students – without selecting for specific, at-risk populations – are less clear. Therefore, I expect that the comparatively macro-perspective used in my study will likely

lessen the strength of this previously found association. This is because studies linking litigation and student achievement have found the greatest effects for at-risk students, while I propose to examine the effects on a statewide level across all students (Candelaria & Shores, 2015; Jordan et al., 2010).

Aim 2.2 Hypothesis

Third wave SFL has become less effective in its ability to improve student graduation rates and 8th-grade NAEP scores over the course of the third wave of SFL.

Logic for Aim 2.2

As described in Aim 1.2, previous studies have found that the effectiveness of the third wave of SFL may be diminishing (Condrón, 2017; Steinberg & Quinn, 2015). Furthermore, litigants in the third wave are less likely to win their cases today than when the third wave of SFL began (Thro, 1993; Weiler et al., 2017). Therefore, I expect that the ability of third wave SFL to drive change in student achievement metrics has also waned over time.

Researcher's Paradigm

This research was approached with a realist ontological perspective and along a research paradigm consisting of an objectivist epistemology coupled with a post-positivist theoretical perspective. The ontological stance was selected because this perspective is congruent with my belief that reality exists whether or not it is perceived (Given, 2008). According to Crotty (1998), people holding an objectivist epistemology believe that “[t]hings exist as meaningful entities independently of consciousness and experience ... they have truth and meaning residing in them as objects, and that careful research can attain that objective truth and meaning” (pp. 5-6). This concept, when applied to the individual is an active process requiring each individual to collaborate and rely on shared truths (Rand, 1979) to learn, as Vrasidas (2000) describes, the

only “one true and correct reality” (p. 3). This epistemology is appropriate for this research because I am intent on uncovering national patterns associated with a specific form of litigation. These patterns either exist or do not, independent of whether or not they are quantified and understood.

I approached this research with a post-positivist theoretical perspective. According to Howell (2013), “positivists consider an external reality exists that can be understood completely, whereas post-positivists argue that even though such a reality can be discerned it may only be understood probabilistically” (p. 32). The belief in an extant reality is important to my conceptualization of the universe. However, a purely positivistic certainty prevents free will – something I consider sacrosanct. Therefore, I favor a post-positivism theoretical perspective over a strict positivist stance. While we cannot know for certain the effects of adjudication, I believe it is possible to predict most responses when given sufficient data.

Research Methodology

While most education law research utilizes the systematic inquiry technique, falling neither into traditional qualitative nor quantitative groupings (Mawdsley & Permuth, 2006), my research was a form of secondary data analysis (Payne & Payne, 2004). Secondary analysis takes existing data and applies novel methods to analyze it (Kiecolt & Nathan, 1985). Consequently, this research was reviewed by the University of Northern Colorado’s Institutional Review Board and approved as an Exempt Status (Appendix A). Therefore, this research is a secondary data analysis, and it involves looking at questions that transcend the original purpose for which the data was collected (Heaton, 2008). I created a distinct dataset based upon published data from a variety of federal, state, and university sources and explore the relationships between the courts and student funding and achievement in a unique way.

Data Overview

The data was not readily available in the needed format, therefore I created two datasets. The first dataset, called Dataset One, was a compilation of distinct data that was used to create Dataset Two, a dataset showing the changes in the dependent variable after adjudication. Dataset One was a dataset spanning from 1986 through 2016. This dataset contained the pertinent third wave court cases, state-level information for the four dependent variables in question: per-pupil funding, fiscal effort, student graduation rates, and NAEP 8th-grade math scores. A list of the sixty -two selected SFL court cases meeting the subsequently delineated criteria was identified and classified based upon their results. This initial dataset was analyzed to calculate the change in the values of the dependent variable after adjudication. The changes in these values was consolidated into a second dataset named Dataset Two. Dataset Two was used to answer the research questions. This analysis involved using the Kruskal-Wallis test to answer Aims 1.1 and 2.1, and the Spearman Correlation test to answer Aims 1.2 and 2.2. This research used the statistical program of R, and LibreOffice Calc to analyze all data.

Creation of Dataset One: Obtaining and Defining the Variables

This section presents the independent (court cases) and four dependent research variables that were assessed in this study: fiscal effort, per-pupil funding, 8th-grade NAEP scores, high school graduation rate. I explain how this data was obtained and review variable-specific caveats. These variables were consolidated into a table called Dataset One.

Funding Data

Funding data for this research was derived from two sources. Per-pupil spending was collected from the Digest of Education Statistics, a yearly report from the National Center for Education Statistics (National Center for Education Statistics, n.d.). Per-pupil spending is the

amount of money allocated by the state for each elementary or secondary student enrolled in public school each fall. To adjust for inflation, all values were adjusted to have the same spending power as 2019 using the Consumer Price Index calculator found on the Bureau of Labor Statistics webpage (Bureau of Labor Statistics, n.d.).

Fiscal effort data is a metric providing a uniform method that compares the ratio of school expenditures to the overall tax base (SchoolFunding.Info, n.d.). Data used to calculate the fiscal effort for each state was derived from the Trends in State Support (1986-2016), a database found on Columbia University's Center for Educational Equity School Funding website. The following formula used for calculations was adapted from Owings and Kaplans' (2013) research:

$$FE = PPE \div GSP \quad (1)$$

In this formula, *FE* represents fiscal effort, *PPE* represents the state's per-pupil expenditure and *GSP* represents the gross state product – a measure of the services and products produced by the state (Owings & Kaplan, 2013).

The fiscal effort and per-pupil funding metrics were used to provide a deeper understanding of the relationship between funding and litigation. In isolation, per-pupil funding may not reflect a state's commitment to education as wealth is not homogeneously distributed throughout the United States (Burtless, 1996). Simultaneously, fiscal effort without specific funding amounts is insufficient. In 1990, both Alaska and Alabama's fiscal effort was 19%. However, Alaska's per-pupil funding was \$16,693.72 dollars compared to Alabama's \$6,587.85. In the same year the fiscal effort of Texas was 18% and this state's per-pupil funding was \$8,217.85, while West Virginia's fiscal effort was 28% with their per-pupil funding at \$8,633.77. These differences highlighted the need to couple these funding metrics to generate a deeper understanding of the relationship between the courts and school spending.

Student Achievement Data

As high school graduation rates can be difficult to calculate (Warren, 2005), graduation rates were obtained from the database Trends in State Support (1986-2016) found on Columbia University's Center for Educational Equity's webpage (SchoolFunding.Info, n.d.). This source contains a uniformly calculated nationwide graduation rate over this study's duration, 1989-2016. The second source of student achievement data comes from the National Assessment of Education Progress' (NAEP) 8th-grade math test scores (National Center for Education Statistics, 2019a). This metric was selected as these tests represent a nationally normalized, publicly available set of results that are commonly used in SFL research (Guryan, 2001; Lafortune et al., 2018). The specific comparison for the 8th-grade math test scores was the percent of students who scored at or above the NAEP's assigned proficiency score.

One caveat is that NAEP tests were only conducted every four years between 1990 and 2003, although since 2003 the test has been administered biannually (National Center for Education Statistics, 2009). As a result, NAEP test results were not available for each year. In situations where NAEP test data was not available for a direct four-year comparison, the comparison of NAEP results from one year before or after adjudication was used to compare these with the next NEAP test results from four years after. In these situations, the protocol was to prioritize the use of the NAEP test scores from one year after adjudication (Y1) and compare these with the NAEP test four years later (Y5). If NAEP data from Y1 and Y5 was not available, the NAEP test scores from one year before adjudication (Y(-1)) was used to compare these with the NAEP test results four years later (Y3). If NAEP test data was not available at these intervals

for a particular case, that case was omitted from all NAEP-related analyses. In total, 26 cases were omitted from the analysis. The three to five-year post-adjudication examination of the NAEP test helped in overcoming this limitation and enabled these results to provide a usable data source.

Court Case Selection Overview

As the intent of this research was to provide a macro understanding of third wave litigation's effects, it was imperative to select the most substantive court cases. However, there is not a recognized authoritative list of SFL court cases, and various scholars have individual distinct list of SFL court cases (W. Thro, personal communication, April 24, 2019; J. Maiden, personal communication, April 25, 2019; S. Weiler, personal communication, August 21, 2019; C. Kiracofe, personal communication, August 21, 2019). Furthermore, litigation is seldom simple and linear – any specific court cases may be argued and ruled upon multiple times at various levels in the court system, before a definitive ruling by the state supreme court (Baker & Welner, 2011).

In reviewing the available list of court cases (Education Law Center, n.d.; SchoolFunding.Info, n.d.), or in the appendices of previously published peer-reviewed literature (Lafortune et al., 2018; Liscow, 2018; Rebell, 2017; Weiler et al., 2017), different research used both entirely different court cases and different rulings on the same protracted court case. For example, Columbia University's Center for Educational Equity School Funding website (SchoolFunding.Info, n.d.) does not list *Taxpayers for Public Education v. Douglas County School District* (2015) that is identified as a Colorado case in the Education Law Center websites

(Education Law Center, n.d.). As detailed in Appendix B, this pattern was similar in the peer-reviewed literature as well. Lafortune et al. (2018) did not list Alaska's *Matanuska-Susitna Borough v. State of Alaska* (1997) that was identified in the Weiler et al. (2017) study. Both Rebell (2017), and Weiler et al. (2017) cite only the 1989 ruling for the lengthy legal battle between Edgewood Independent School District and the former Texas governor, Mr. Kirby. At the same time, Lafortune et al. (2018) cite the later ruling of *Edgewood Independent School District v. Kirby* (1991). These differences and omissions make determining an appropriate list of court cases a substantive difficulty, yet overcoming this challenge was foundational for this research.

Court Cases Selection Step One: Creating the Comprehensive List

To overcome the challenge of not having a single accepted list of third wave court cases, I constructed a comprehensive list of SFL cases adjudicated between 1989-2012 derived from websites and peer-reviewed sources. This list included both specifically delineated court cases or situations where the court case was referred to with an explicit name such as *Edgewood Independent School District v. Kirby* (1991), and where the sources cite the case with vague dateless references such as referring to a case like *Edgewood*.

Court cases cited in the following sources were used to compile this list: Columbia University's Center for Educational Equity School Funding website (SchoolFunding.Info, n.d.), the Education Law Center's State Profile webpage (Education Law Center, n.d.), and the

following peer-reviewed papers: (a) “School finance reform and the distribution of student achievement” (Lafortune et al., 2018), (b) “Are court orders sticky? Evidence on distributional impacts from school finance litigation” (Liscow, 2018), (c) “The courts’ consensus: Money does matter for educational opportunity” (Rebell, 2017), and (d) “Examining adequacy trends in school finance litigation” (Weiler et al., 2017).

Table 2

Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
<ul style="list-style-type: none"> • Was adjudicated between 1989 and 2012 • Was heard and ruled on by a State Supreme Court • Affect funding for the entire state 	<ul style="list-style-type: none"> • Was adjudicated <1989 or >2012 • Was adjudicated by a lower court or be dismissed by the State Supreme Court • Procedural rulings not affecting funding

**Court Case Selection Step Two:
Refining the List**

This initial list contained 149 court cases and once this list was created, I removed duplicate references and then identified the germane court cases. Court cases to be included in this study were: (a) adjudicated within a time frame that allows maximization of the available data, (b) decided by a State Supreme court, and (c) affected funding for the entire state. When cases had multiple adjudications, only the most pertinent rulings were included. That is, the first ruling of a case was included, as well as subsequent rulings provided that they meet the criteria outlined in Table 2 and occurred at least four years from the proceeding applicable ruling. Only rulings occurring at least four years after the initial court case are included here for the purposes

of analysis described earlier. After this refinement there were 33 cases remaining where plaintiffs prevailed and 29 cases where the defendants were victorious.

Court Case Selection Step Three: Litigation Classification

The final list of court cases took the rulings meeting the aforementioned criteria and further delineated them based upon their results pertaining to school funding. Every court case was either classified as either a plaintiff victory, defendant victory, or as mixed results. As the intended scope of this research is meant to provide an overarching understanding of SFL since 1989, this study did not distinguish the specific legal argument (e.g., equity versus adequacy) being used. This approach is consistent with most of the published research in this field (Johnson et al., 2014; Lafortune et al., 2018; Liscow, 2018; Rebell, 2017).

In the cases examined in this study, the plaintiffs are the parties seeking additional resources for schools, while the defendants are generally the state, or state representative responsible for allocating school funding amounts. Court cases were grouped by the adjudication date and ruling status: original plaintiff victory (PV; i.e., the party seeking additional resources for their school system), defendant victory (DV; i.e., the school or government entity responsible for allocating funding), or as mixed results (MX; i.e. cases lacking a clear victor).

To classify cases as PV, DV, or MX, the court summaries found in the Westlaw database and the methods described by Weiler et al. (2017) were followed. This involved examining the judge's ruling explicitly dealing with funding and seeking to understand how the judge ruled on this aspect of the case. For example, the following passage from *Lake View v. Huckabee* (2002),

would cause this case to be cited as a plaintiff victory because the courts found the school funding system to violate the Arkansas Constitution:

For the foregoing reasons, we conclude that the State has not fulfilled its constitutional duty to provide the children of this state with a general, suitable, and efficient school-funding system. Accordingly, we hold that the current school-funding system violates the Education Article of the Arkansas Constitution, and we affirm the trial court on this point. (*Lake View v. Huckabee*, 2002, p. 495)

In addition to classifying the court cases, the Westlaw database's court history feature was used to determine if there were any additional rulings that preceded or followed the court lists identified in Step One. When court cases have multiple rulings, subsequent rulings were included as long as there was a four-year time frame between adjudications, and each case meets the criteria found in Table 2. This four-year time frame is consistent with the work of Lockridge and Maiden (2014). This final list can be found in Appendix B and C. To ensure an accurate classification, a member checking procedure was modified from the research of Weiler et al. (2017), wherein the final list of cases and subsequent classifications was sent to a subject matter expert for independent review to verify that cases were classified appropriately.

Dataset One Consolidation

Upon collecting the required data for the creation of Dataset One, these dependent variables were combined and used to create a second dataset, Dataset Two. This research uses Dataset Two for its primary analysis. The first dataset spanned from 1989 to 2016 and included

the state's name, the year, and the dependent variable data (fiscal effort, per-pupil funding, high school, and high school graduation rates). Dataset Two spanned from 1989 to 2012 and reflected the change in the dependent variables data (fiscal effort, per-pupil funding, high school, and high school graduation rates) from the year of adjudication to four years after.

Creation of Dataset Two: Processing the Initial Data

Dataset One was analyzed to create a second dataset, Dataset Two. In this second dataset the dependent variable – either funding metrics or student achievement metrics – was listed showing the change between the year of adjudication (Y0) and four years after adjudication (Y4). This four-year time frame was consistent with the work of Lockridge and Maiden (2014) and capitalizes on the findings of Liscow (2018), who determined that court-mandated funding changes had the greatest effect three to five-years after adjudication.

Except for the aforementioned caveat with the NAEP 8th-grade math tests, the dependent variable comparisons involved examining the actual change in the litigated states between the year of adjudication and four years afterward. For every identified court case, the following formula was used to determine the change in the dependent variable's value:

$$\Delta DV = DV_{(Y4)} - DV_{(Y0)} \quad (2)$$

In this formula, ΔDV represents the change in the dependent variable data, $DV_{(Y4)}$ represents the dependent variable data four years after adjudication and $DV_{(Y0)}$ represents the dependent variable value for the year of adjudications. These values were examined within the specific state where the pertinent litigation occurred.

Unlike other dependent variables, per-pupil expenditure trends for many states have increased throughout the third wave, and are liable to fluctuate, exhibiting both positive and negative trends with regular economic variations (Kiracofe, Weiler, & Kopanke, 2019). Therefore, this variable was examined as a ratio, showing the percent change in per-pupil spending relative to inflation as determined by the Bureau of Labor Statistics Inflation Calculator (Bureau of Labor Statistics, n.d.). Each state with litigation was compared to itself relative to inflation by applying the following formula:

$$PPF = ((PPE_{(Y4)} / PPE_{(Y0)}) - I_{(Y0-Y4)}) \times 100 \quad (3)$$

In this formula, $PPE_{(Y4)}$ represents per-pupil expenditure four years after adjudication and $PPE_{(Y0)}$ represents per-pupil expenditure on the year of adjudication. The variable $I_{(Y0-Y4)}$ represents the inflation between the year of adjudication (Y0), and four years after adjudication (Y4).

Dataset Two included information for every identified court case and the changes in all four dependent variables, calculated in the previously mentioned way. This dataset was then analyzed with a form of the Kruskal-Wallis test to answer Aim 1.1, and Aim 2.1. Additionally, a correlation test was used to answer Aim 1.2 and Aim 2.2.

Statistical Analysis for Aim 1.1 and Aim 2.1

The aims of the statistical analysis were to identify whether a judge's ruling affects funding levels (Aim 1.1) or student achievement (Aim 2.1). The characteristics of the dependent variable data indicated that the non-parametric Kruskal-Wallis test was the appropriate metric to

use (Zar, 1999). These tests can be used to explore if there is a significant ($p < .05$) difference between the mean of three or more groups. The null hypothesis for these tests is that the groups' mean values are not significantly different (Zar, 1999). If a significant difference were identified, the Tukey post-hoc analysis would be used to determine where this significant ($p < .05$) difference exists (Zar, 1999).

The Kruskal-Wallis test was used to analyze Dataset Two. This dataset contained the change in the dependent variable between the year of adjudication (Y0) and four years after adjudication (Y4). The three groups being compared in this test were the mean change in the dependent variables for states where: (a) the plaintiff was victorious, (b) the defendant was victorious, and (c) states with no litigation. This analysis was run for all four dependent variables (fiscal effort, per-pupil funding, high school, and high school graduation rates).

The second set of sub-questions seeks to explore if there is evidence for a longitudinal change in SFL's effect during the duration of SFL's third wave. In this phase of exploration, each of the dependent variables (fiscal effort, per-pupil funding, graduation rates, and NAEP math test scores) were examined three times: once in situations where the plaintiffs were victorious, once where defendants were victorious, and once in states with no litigation. Since the sample size in all groupings exceeded the minimum required to run a correlation analysis, the Spearman Correlation test was used (Peduzzi, Concato, Kemper, Holford, & Feinstein, 1996). Because of the results of the Shapiro-Wilk, Bartlett, and Flinger-Killeen test, this correlation was examined using the non-parametric Spearman's Correlation to document if a relationship existed between these variables.

Reliability and Validity

The research questions aimed at gaining a broad understanding of the relationship between litigation's effect on funding and student achievement. Given the breadth of the scope for this project, a secondary analysis was deemed to be the most effective choice for research methodology. This form of analysis involves taking existing publicly available data, synthesizing this data, and then analyzing it in a new way (Heaton, 2008). This technique is commonly used for business and marketing (Kolb, 2008). Most concerns associated with secondary data analysis arise when this technique is used in qualitative research (Heaton, 2008). In quantitative research, the researcher should be cautious of the quality of, and access to, the data – can the data answer the questions being asked and is the data credible, available, accurate, and timely (Kolb, 2008)? When considering issues with secondary analysis, the data's validity rests with the extent of academic integrity and credibility of the university, state, or federal agency that has produced the data. The conclusions based on this research are predicated upon the presupposition that the databases produced by these institutions are accurate.

As evidenced by their uses in peer-reviewed research these sources are widely considered accurate. The NAEP data has been used to track student achievement (Lafortune et al., 2018), funding data from the National Center for Education Statistics has been used in court research (Kiracofe et al., 2019), and the Columbia University's Center for Educational Equity School Funding web pages has been used to track court rulings (Weiler et al., 2017).

Limitations

This project's purpose is to broadly identify and understand the effects that the third wave of SFL has on specific funding and achievement metrics. To accomplish this goal, I examined how funding and student achievement have changed after different types of judicial rulings.

Delineating all confounding variables is beyond the scope of this research and represents one limitation of this study. Exogenous events and additive interactions are possible confounding factors for this research (Boslaugh, 2008). Despite the chronological nature of the legal system and uniformity of my research methods, this project does not prove causation. Rather this research demonstrates whether there are trends in specific measures of student achievement and funding following third wave SFL; it cannot ascertain if litigation is the instigating agent.

The analysis of this data primarily involved two forms of statistics, the Kruskal-Wallis test and the Spearman correlation test. While each of these statistical tools are valid for answering the questions being asked, neither can document causation. The Kruskal-Wallis test can determine if the central tendencies of multiple groups are statistically similar, yet it is unable to account for confounding variables, nor can it prove causation (Zar, 1999). Similarly, the Spearman correlation test is useful in exploring the relationship between litigation and time during the third wave of SFL (Allen, 2017). However, this method cannot identify causation. While being unable to directly prove causation is a limitation of this study, the methods proposed here are appropriate and valuable to answer the research questions. These methods identify and document trends associated with SFL and the dependent variables: funding and student achievement.

Another limitation was the validity of the data. This research pulled data from multiple sources and various agencies while assuming that the data was a valid representation of the truth. The accuracy of the research rests with the veracity of data produced by the various agencies. Any conclusions based on this work will remain only as accurate as the databases from which the research was obtained. While these sources have been used in other similar research, no attempts

have been made to verify their accuracy (Kiracofe et al., 2019; Lafortune et al., 2018; Weiler et al., 2017).

A final limitation of the research was in the second student achievement metric, the NAEP 8th-grade math scores. As these tests were not administered yearly throughout this study, I am unable to apply with fidelity the desired four-year time frame between litigation and the observed results (National Center for Education Statistics, 2019b). To overcome this limitation, I took the initial NAEP score results that are within one year of adjudication and compared them with results from four to five years post-adjudication, culling cases failing to have at least a four-year time frame. This modification in the protocol still allowed the examination of the data within the three to five-year window where Liscow's (2018) research shows we should expect to observe the greatest effect of litigation. Furthermore, despite this metric reducing the number of cases, my anticipated case size should still suffice for the statistical methods being proposed. Additionally, the NAEP scores provide a better metric than other available testing data such as state test scores or college entrance exams, because the NAEP provides a uniform understanding that represents the learning of all students (National Center for Education Statistics, 2009).

Conclusion

This section builds upon the SFL background presented in the literature review. In this methodological section, I summarized my philosophical standpoint before elaborating on the way that the data was obtained, processed, and analyzed before outlining some of the limitations of the study. Chapter 4 will discuss the results produced from these methods.

CHAPTER IV

FINDINGS

School finance litigation remains a tool used by some to correct social injustices and improve student outcomes (Condrón, 2017). Beginning with *Serrano v. Priest* (1971), plaintiffs and defendants have argued the merits of state funding systems in all but five states (SchoolFunding.Info, n.d.; Thro, 1993). The five decades of litigation are conceptualized by subdividing the history into three waves, based predominantly upon the prevailing legal argument at the time (Thro, 1993). With the beginning of the third wave of SFL that began in 1989, many plaintiffs shifted their legal arguments from equity to adequacy, attempting to establish a legally protected fundamental minimum level of education for all students (Condrón, 2017; Thro, 1993). Although the third wave of SFL has been more closely studied than previous waves, there remains a dearth of evidence delineating its effects, especially in recent years.

This research explored whether third wave SFL court rulings affected school funding and student achievement, providing a contemporary understanding of third wave litigation's effects across the United States.

In this chapter, the validity and reliability of the data used in this research is discussed. Following an outline of the research questions, the results produced from the data are provided. This section concludes with an evaluation of the findings.

Reliability and Validity of the Data

Reliability is the extent that a measuring procedure will produce the same result in subsequent analysis (Carmines & Zeller, 1979; Franklin & Ballan, 2001). As this research uses publicly available data, it presupposed the reliability of the data based upon the credibility of the publishing agencies. No attempts were made to test the reliability of the data.

The validity of this research is nuanced. Validity is defined as the extent that the research design and methods will answer the research questions (Frey, 2018). As previously mentioned, this research sought to identify whether third wave litigation has an effect on funding and student achievement metrics. Trends identified for these metrics do not necessarily account for the possibility of confounding factors that may alter any specific result (Boslaugh, 2008).

Results

This research aimed to answer the following overarching questions and their subsequent sub-aims by documenting patterns associated with third wave school funding litigation.

- Q1 How does the adjudication date and outcome of school finance litigation affect funding as measured by per-pupil funding and fiscal effort?
 - Aim 1.1 Determine whether the judge's ruling in third wave SFL cases (original plaintiff vs. original defendant victory) affects the state's fiscal effort and per-pupil funding.
 - Aim 1.2 Characterize whether there is evidence of a decreasing effect size between third wave SFL cases and associated changes in the state's fiscal effort and per-pupil funding across time.
- Q2 How does the date of occurrence and outcome of school finance litigation affect student academic achievement as measured by student graduation rates and 8th-grade National Assessment of Educational Progress (NAEP) math scores?

- Aim 2.1 Determine whether the judge's ruling in third wave SFL cases (original plaintiff vs. original defendant victory) affects student graduation rates and NAEP 8th-grade math scores.
- Aim 2.2 Characterize whether there is evidence of a decreasing effect size between third wave SFL cases and associated changes in student graduation rates and NAEP 8th-grade math scores across time.

Preliminary Analysis of the Data

This research examined four dependent variables to answer the research questions and their subsequent sub-aims. The independent variables were the legal results from third wave litigation classified as defendant victories, plaintiff victories, or mixed results. Two dependent variables were funding metrics (fiscal effort and per-pupil funding), and two were student achievement variables (student high school graduation rates and 8th-grade NAEP math test scores). Data for these funding and achievement metrics from states without corresponding SFL acted as a control group.

The first funding metric, the state's fiscal effort (FE), is the ratio of school expenditures to the state's overall tax base (Owings & Kaplan, 2013). Fiscal effort was compared between the year of adjudication (Y0) and four years after (Y4). The second financial dependent variable was per-pupil funding – a measurement of state per-pupil expenditure in fall enrollment of public elementary and secondary schools (National Center for Education Statistics, 2019a). Per-pupil funding was analyzed using the four-year time frame previously articulated, but it compared the change in per-pupil spending from Y0 to Y4 relative to the national inflation rate over the same time interval.

The first student achievement dependent variable was high school graduation rates. The second student achievement dependent variable was the percent of students scoring proficient or advanced on their 8th-grade NAEP math test scores. The examination of these student achievement variables involved comparing the difference in student scores from the year of adjudication to four years after. Descriptive statistics for these variables are presented in Table 3.

Table 3

Descriptive Statistics (mean, median, standard deviation, and range) Showing the Percent Change in Each Variable from the Year of Adjudication (Y0) to Four Years After (Y4).

Variable	Cases N	# With Data	Mean	Std. Dev.	Median	Range
Fiscal Effort						
Plaintiff Victory	33	33	0.67%	2.06%	1.00%	-3.00 – 4.00%
Defendant Victory	29	29	0.24%	2.39%	1.00%	-5.00 – 5.00%
No Litigation	336	336	0.01%	3.32%	0.00%	-10.0 – 17.0%
Per-Pupil Revenue						
Plaintiff Victory	33	33	-4.16%	7.76%	-4.10%	-17.8 – 11.5%
Defendant Victory	29	29	-4.35%	8.39%	-3.70%	-17.0 – 12.3%
No Litigation	336	336	-4.92%	10.1%	-4.85%	-40.0 – 33.6%
Graduation Rates						
Plaintiff Victory	33	32	1.00%	4.77%	1.00%	-8.00 – 11.0%
Defendant Victory	29	28	0.50%	4.13%	0.50%	-11.0 – 12.0%
No Litigation	336	336	1.10%	5.42%	1.00%	-18.0 – 19.0%
Math Scores						
Plaintiff Victory	33	20	3.45%	3.11%	3.00%	-2.00 – 10.0%
Defendant Victory	29	16	1.65%	4.14%	3.00%	-8.00 – 9.00%
No Litigation	336	257	2.20%	2.94%	2.00%	-6.00 – 12.0%

Note. The values shown in Table 3 represent the change in the dependent variable's values from the year of adjudication (Y0) to four years after adjudication (Y4). The only exception to this is for per-pupil revenue which shows this four-year difference relative to inflation.

Building upon the descriptive characteristics of the data, Table 4 shows the results for the Shapiro-Wilk, Bartlett, and Flinger-Killeen tests. The Shapiro-Wilk test is a test of normality, a

data assumption of the ANOVA test and the Pearson Correlation (Shapiro & Wilk, 1965; Zar, 1999). The results of the Shapiro-Wilk test identified a significant deviation from a normal distribution for fiscal effort ($W = 0.949, p < .001$), graduation rate ($W = 0.983, p < .001$), and NAEP math scores ($W = 0.949, p < .001$). However, the Shapiro-Wilk test failed to identify a significant departure from a normal distribution for per-pupil revenue ($W = 0.983, p < .001$).

Table 4

Statistical Assumption Test Results.

Variable	Shapiro-Wilk Test		Bartlett Test			Flinger- Killeen Test		
	W	p	K ²	df	p	X ²	df	p
Fiscal Effort	0.949	< .001	-	-	-	4.47	2	.065
Per-Pupil Funding	0.994	.177	4.85	2	.089	-	-	-
Graduation Rate	0.983	< .001	-	-	-	4.19	2	.123
NAEP Math Scores	0.983	< .001	-	-	-	4.08	2	.130

Note. The Shapiro-Wilk test is a test of normality and the Bartlett test and Flinger-Killeen tests are tests of variance. Where the data is normal, the Bartlett test was used. When the data was non-normally distributed, the Flinger-Killeen test was used to test the variance.

Both the Bartlett and Flinger-Killeen tests are used to examine the homogeneity of variance (Conover, Johnson, & Johnson, 1981; Glass, 1966). The homogeneity of variance is an additional assumption of an ANOVA test (Zar, 1999). The Bartlett test is suited for data with a Gaussian distribution (Glass, 1966), and the Flinger-Killeen test is less affected by non-Gaussian datasets (Conover, et al., 1981). Based on the results of the Shapiro-Wilk test, the Bartlett test was used to explore the variation for the per-pupil funding variable. This test failed to identify a significant departure from homogeneity of variance in per-pupil funding and the corresponding

possible legal outcomes ($K^2 = 4.85$, $p = .89$). For non-Gaussian data (Shapiro-Wilk test), the Flinger-Killeen test was used to assess the variance. This test failed to identify a significant departure from a homogeneity of variance in either fiscal effort ($X^2 = 4.47$, $p = .065$), graduation rates ($X^2 = 4.19$, $p = .123$), or NAEP math test score ($X^2 = 4.08$, $p = .130$) and the corresponding possible legal outcomes (plaintiff victory, defendant victory, or no litigation) (Table 4).

Results for Aim 1.1: The Effects of the Judges' Ruling on School Finance Metrics

To test the effects of the judges' ruling on school finance metrics, a Kruskal-Wallis test was conducted. This research utilized the Kruskal-Wallis test results instead of the ANOVA because the ANOVA test requires that the data has both equal variances and a normal distribution (Zar, 1999). The assumption of normality was violated for all dependent variables except for per-pupil spending (Table 4). The results of both the Kruskal-Wallis and ANOVA tests are shown in Table 5.

Table 5

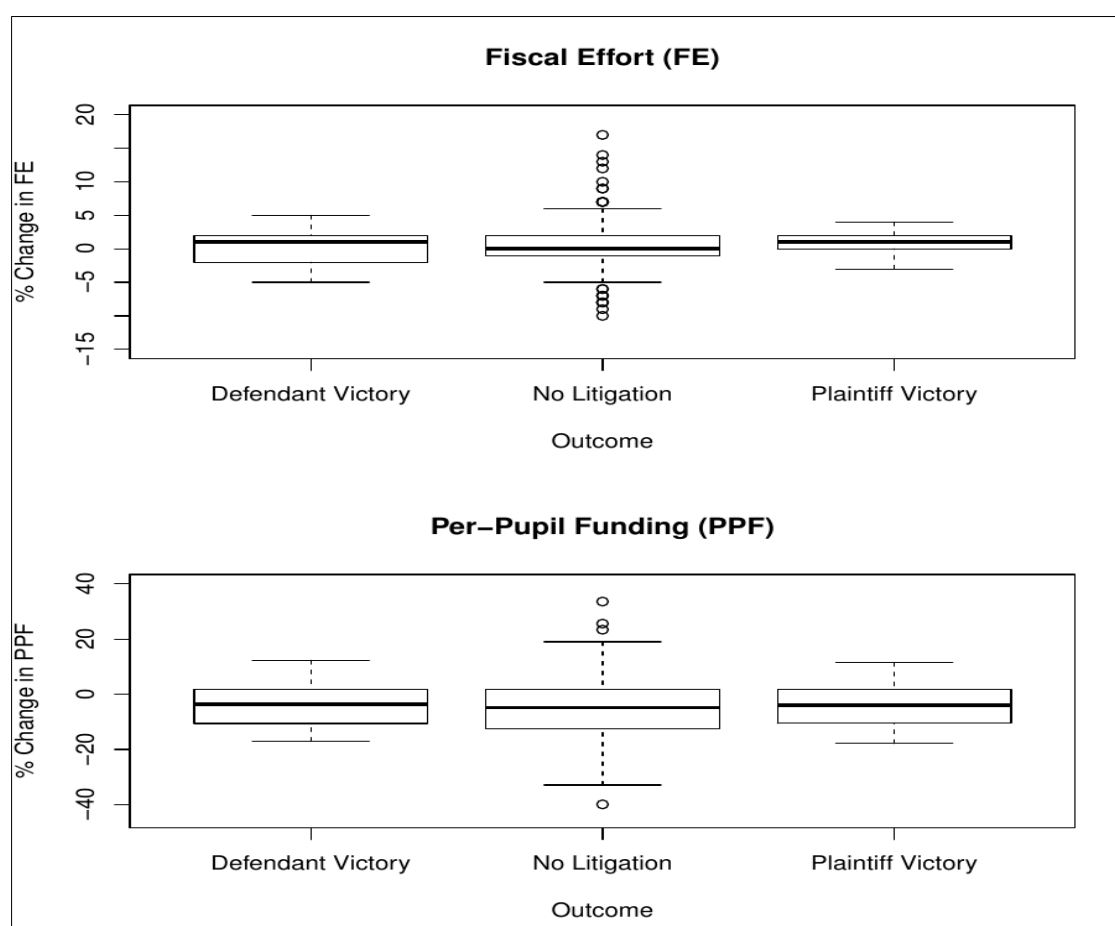
Statistical Test Results Showing the Difference Between Situations Where Defendants Were Victorious, Where Plaintiffs Were Victorious and Where There Was No Litigation.

Funding Category	Kruskal-Wallis Test			ANOVA Test		
	X^2	df	p -value	F	df	p -value
Fiscal Effort	1.73	2	.42	0.409	(2, 395)	.67
Per-Pupil Funding	0.37	2	.83	0.123	(2, 395)	.88

The Kruskal-Wallis test found no significant difference between the change in fiscal effort (Chi-square = 1.73, $p = .42$, $df = 2$) or per-pupil spending (Chi-square = .37, $p = .83$, $df = 2$) between the year of adjudication and four years after adjudication based upon the three possible legal outcomes (plaintiff victory, defendant victory, or no litigation) (Table 5).

Figure 1

Change in Fiscal Effort and Per-Pupil Funding from Y0 to Y4.



These results indicate that the legal outcome (plaintiff victory, defendant victory, or no litigation) was not associated with a significant change in funding metrics. The original hypothesis for this aim, that fiscal effort and per-pupil funding will be measurably improved in

states where the plaintiffs were victorious in third wave SFL, but not in the states where defendants prevailed, was unsubstantiated, as shown in Figure 1.

Results for Aim 1.2: The Temporal Effects of the Judges' Ruling on School Finance Metrics

To test the temporal effect of the judges' ruling on school finance metrics, a Spearman Correlation test was used. The Spearman Correlation was selected instead of a Pearson Correlation because the characteristics of the data violated the assumption of normality for all dependent variables except for per-pupil spending (Zar, 1999) (Table 4). For each of the two dependent variables (fiscal effort and per-pupil funding), the relationship was examined three times: once in situations where the plaintiffs were victorious, once where defendants were, and once in states with no litigation. For the first funding variable (fiscal effort), the Spearman Correlation test failed to identify a significant monotonic correlation between the years and changes in fiscal efforts where the plaintiffs prevailed ($r_s = 0.272, n = 32, p = .133$) or when the defendants were victorious ($r_s = -0.076, n = 29, p = .696$), or where there was no litigation ($r_s = 0.031, n = 336, p = .574$). For the second funding variable, the Spearman Correlation test failed to identify a significant monotonic correlation between the years and changes in per-pupil revenue where the plaintiffs prevailed ($r_s = 0.058, n = 32, p = .752$), when defendants were victorious ($r_s = -0.089, n = 29, p = .647$), or when there was no litigation ($r_s = -0.099, n = 336, p = .069$) (Table 6 & Figure 2).

No significant corollary relationship was found between the examined funding variables for various legal outcomes and the date of adjudication. The results fail to corroborate the initial hypothesis for this aim that predicted the effectiveness of third wave SFL would diminish over

time. No significant evidence was found indicating that litigation in the third wave of SFL has become less effective at changing fiscal effort or per-pupil funding over time.

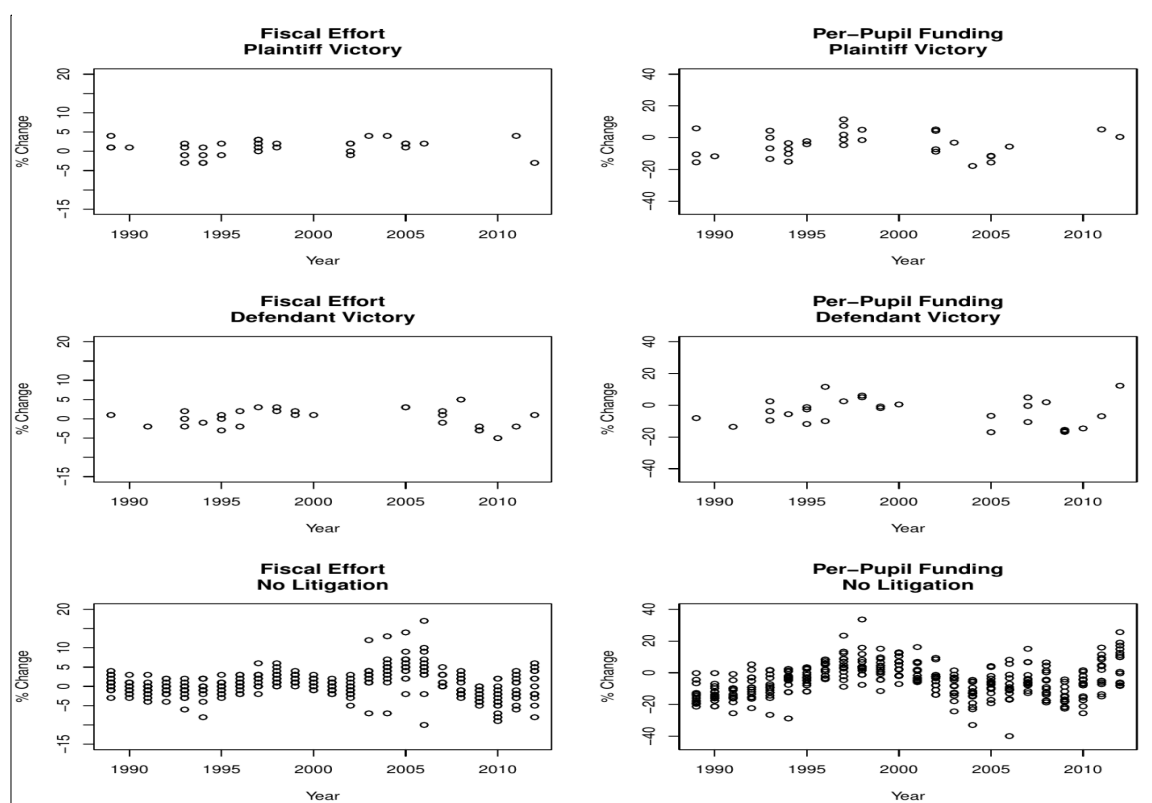
Table 6

Spearman Correlation Coefficient (r_s) Documenting the Temporal Relationship Between the Years of Adjudication and the Legal Outcome for the Various School Funding Metrics

Funding Metrics & Legal Outcomes	r_s	N	p
Fiscal Effort			
Plaintiff Victory	0.272	32	.123
Defendant Victory	-0.075	29	.696
No Litigation	0.031	336	.574
Per-Pupil Revenue			
Plaintiff Victory	0.058	32	.752
Defendant Victory	-0.089	29	.647
No Litigation	0.099	336	.069

Figure 2

The Temporal Relationship Between the Years of Adjudication and the Legal Outcomes for Fiscal Effort and Per-Pupil Funding.



Results for Aim 2.1: The Effects of the Judges' Ruling on Student Achievement Metrics

To test the effects of the judges' ruling on student achievement metrics, a Kruskal-Wallis test was conducted. This research utilized the Kruskal-Wallis test results over the ANOVA because the ANOVA test requires that the data has both equal variances and a normal distribution (Zar, 1999). The assumption of normality was violated for all student achievement dependent variables (Table 4). The results of the ANOVA test are presented in Table 7 to show similarities between these statistical tests.

The Kruskal-Wallis test found no significant difference between the changes in high school graduation rates (Chi-square = 0.614, $p = .74$, $df = 2$) or 8th-grade NAEP math testing scores (Chi-square = 3.27, $p = .2$, $df = 2$) between the year of adjudication and four years after adjudication based upon the three possible legal outcomes (plaintiff victory, defendant victory, or no litigation) (Table 7).

Table 7

Statistical Test Results Showing the Difference Between Situations Where Defendants Were Victorious, Where Plaintiffs Were Victorious and Where There Was No Litigation.

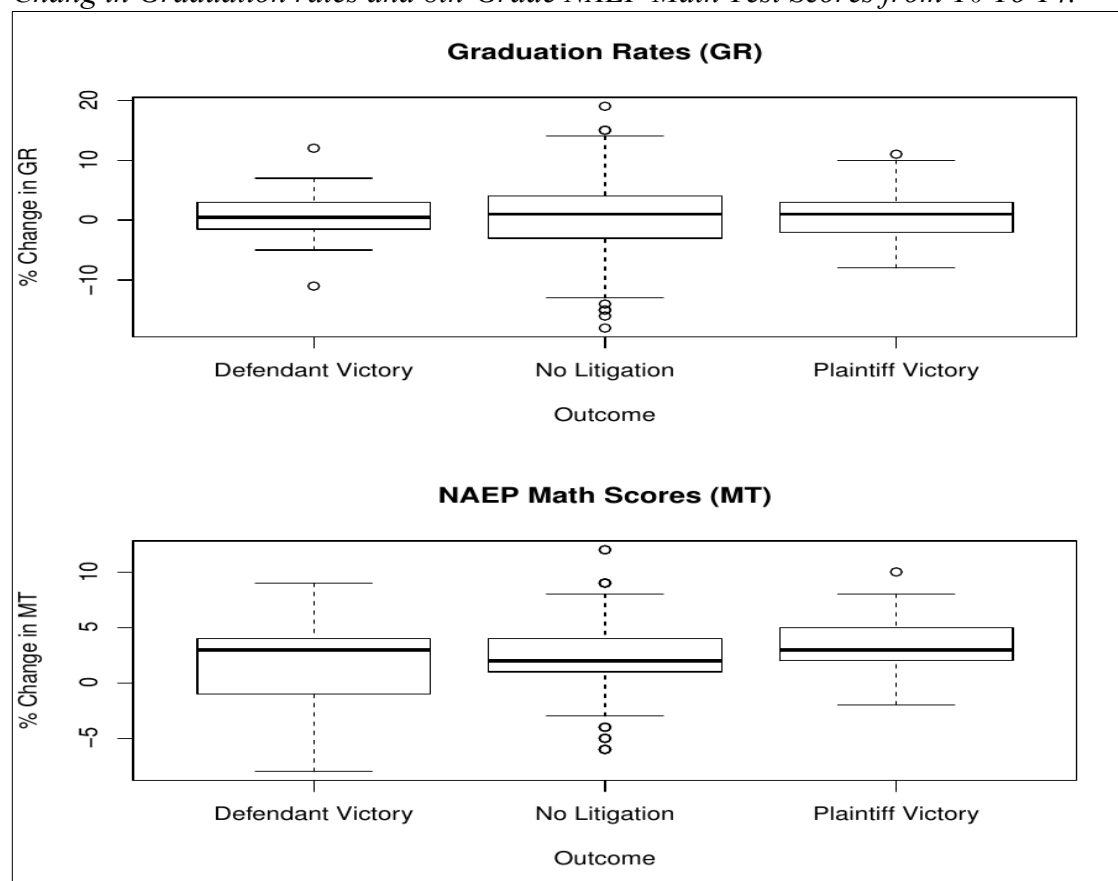
Funding Category	Kruskal-Wallis Test			ANOVA Test		
	χ^2	df	p -value	F	df	p -value
Graduation Rates	0.39	2	.830	0.166	(2, 394)	.847
Math Tests	3.23	2	.200	1.929	(2, 290)	.147

These results indicate that the legal outcomes did not significantly affect student achievement metrics (high school graduation rates and 8th-grade NAEP math scores). As shown

in Figure 3, the central tendencies of these groups (defendant victories, no litigation, and per-pupil revenue) varied insignificantly. However, the initial hypothesis predicting that plaintiff victories would be associated with a small improvement in graduation rates and NAEP scores was correct was verified despite failing to rise to the level of significance.

Figure 3

Change in Graduation rates and 8th-Grade NAEP Math Test Scores from Y0 To Y4.



Results for Aim 2.2: The Temporal Effects of the Judges' Ruling on Student Achievement Metrics

To test the temporal effects of the judges' ruling on school finance metrics, a Spearman Correlation test was used. The Spearman Correlation was selected as this test does not require a normally distributed dataset (Zar, 1999), and the characteristics of the data violated the

assumption of normality for both dependent variables (Table 4). For each of the variables, high school graduation rates and 8th-grade math test scores, the relationship was examined three times: once in situations where the plaintiffs were victorious, once where defendants were victorious, and once in states with no litigation.

For the first student achievement variable (high school graduation rates), the Spearman Correlation test identified a significant monotonic temporal correlation between the years and changes in high school graduation rates for situations where the plaintiffs prevailed ($r_s = 0.620$, $n = 32$, $p < .001$), when defendants were victorious ($r_s = 0.545$, $n = 29$, $p < .003$), and where no litigation was found, ($r_s = 0.570$, $n = 336$, $p < .001$). These results indicate that although high school graduation rates trended towards increasing in all cases, when there was a plaintiff victory, there was a stronger correlation between funding and the rate of graduation.

For the second student achievement variable (8th-grade NAEP math scores), the Spearman Correlation test failed to identify a significant monotonic correlation between the year of adjudication and the NAEP testing scores when the plaintiff were victorious ($r_s = -0.137$, $n = 20$, $p = .564$). However, the Spearman Correlation test identified a significant negative monotonic temporal correlation between the years and changes in NAEP testing when the defendants were victorious ($r_s = -0.601$, $n = 17$, $p = .01$) and in states with no litigation ($r_s = -0.343$, $n = 257$, $p = .032$). See Table 8 and Figure 4 for a scatter plot showing the temporal relationship between these variables. These results indicate that although typically there is a negative correlation between NEAP math scores and funding, this is not the case when there is a plaintiff victory.

Table 8

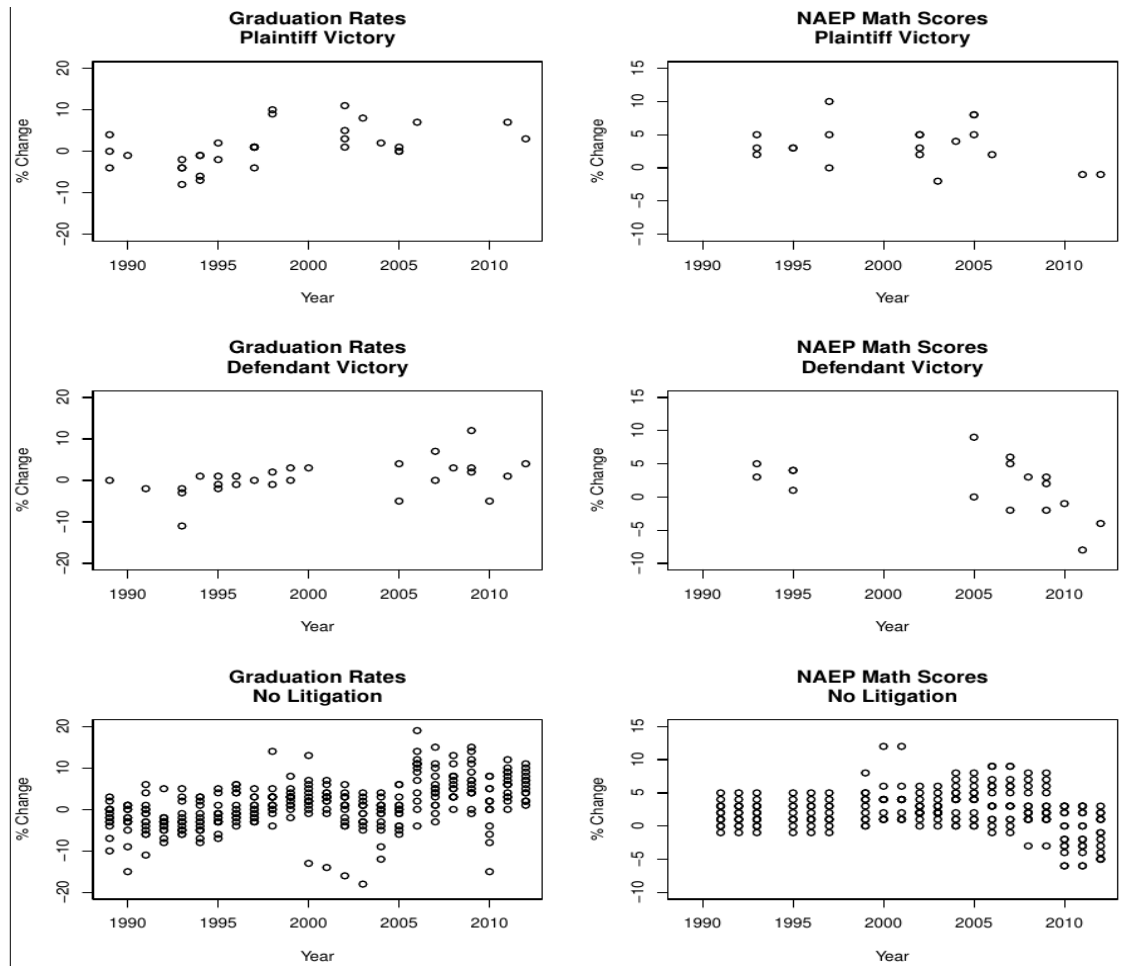
Spearman Correlation Coefficient (r) Documenting the Temporal Relationship Between the Years of Adjudication and the Legal Outcome for the Various School Funding Metrics

Funding Metrics & Legal Outcomes	r_s	N	P
Graduation Rates			
Plaintiff Victory	0.606	32	< .001
Defendant Victory	0.545	28	.003
No Litigation	0.526	336	< .001
Math Tests			
Plaintiff Victory	-0.137	20	.564
Defendant Victory	-0.601	17	.011
No Litigation	-0.128	257	.032

Throughout this study, there was an overall trend of increasing graduation rates and decreasing math test results, suggesting that other factors may be contributing to these trends. In the initial hypothesis, I predicted that the effectiveness of the third wave of SFL would diminish over time. Across all groupings, this hypothesis was false for graduation rates. However, when examining the math test scores, there was a negative relationship that was statistically significant when defendants prevailed. No significant correlation was identified for situations where plaintiffs prevailed.

Figure 4

Temporal Relationship Between the Years of Adjudication and the Legal Outcomes for the Various School Funding Metrics



Conclusion

This research failed to identify any significant differences in changes in fiscal effort, per-pupil revenue, high school graduation rates, and scores in 8th-grade NAEP math tests between legal outcomes (plaintiff victory, defendant victory, and no litigation). When these variables were examined for changes in effect over time, there was not a significant correlation between the year of adjudication and legal outcome (plaintiff victory, defendant victory, and no litigation) for

either fiscal effort or per-pupil revenue. The Spearman Correlation identified a positive significant correlation between the years of adjudication and graduation rates for all legal outcomes.

The correlation between the years of adjudication and NAEP math scores was more nuanced and universally negative. In states with no litigation or when defendants were victorious, the Spearman Correlation test identified a significant negative correlation between the years and changes in NAEP testing. When the plaintiffs prevailed, the Spearman Correlation failed to identify a significant correlation between the year of adjudication and changes in NAEP scores.

CHAPTER V

DISCUSSION

This research explored the interactions between adequacy litigation and school funding and student achievement. The intent of this project was to further our understanding of how a specific legal outcome may induce changes in funding variables (fiscal effort and per-pupil funding) or student achievement metrics (high school graduation rates and 8th-grade NAEP test scores). These comparisons involved exploring how the medians of these variables changed after litigation for situations where plaintiffs were victorious, where defendants prevailed, or where there was no litigation. A secondary focus of this research was to examine whether these relationships changed over time.

Research Questions

The findings of this project contribute to our understanding of the effectiveness of litigation at improving school funding and, ultimately, student achievement. Litigation remains a tool used to try to change the lives of traditionally under-served students. Therefore, it is imperative to have a current and clear understanding of the effects of litigation. The two guiding questions that directed this research were:

- Q1 How does the adjudication date and outcome of school finance litigation affect funding as measured by per-pupil funding and fiscal effort?
- Q2 How does the date of occurrence and outcome of school finance litigation affect student academic achievement as measured by student graduation rates and 8th-grade National Assessment of Educational Progress (NAEP) math scores?

Discussion of Research Question One

To better understand how adjudication date and outcome of school finance litigation affect school funding, as measured by per-pupil funding and fiscal effort, two sub-aims were examined. Aim 1.1 explored the different outcomes for the two dependent funding variables (fiscal effort and per-pupil funding) among states with no litigation, states where defendants had prevailed, and states where the plaintiff was victorious. Aim 1.2 examined whether these dependent variables changed over time, based on date of adjudication. These questions, once answered, provide a richer understanding of whether litigation affects funding and, if so, whether this relationship has changed over time.

Aim 1.1 Analysis & Discussion: How Does Litigation Effect Student Funding

There was no statistically significant difference between the central tendencies for the changes in fiscal effort or per-pupil funding for states based upon legal outcome (plaintiff victory, defendant victory, or no litigation). Although findings were non-significant, descriptive statistics indicated certain trends:

1. Changes in both fiscal effort and per-pupil funding were improved where litigation occurred, regardless of whether there was a plaintiff or defendant victory.
2. Plaintiff victories led to relatively greater increases in fiscal effort and per-pupil funding compared to cases where defendants were victorious or there was no litigation.

These findings show that for funding variables, there was a distinct pattern of the weakest change in states without litigation, while the greatest change occurred in states where plaintiffs prevailed. This suggests that all third wave SFL litigation – regardless of whether the plaintiff or defendant is victorious – has a positive association with funding metrics. This positive

association is strongest when plaintiffs are victorious, corroborating the findings of previous research.

Some authors have suggested that litigation is a tool that can invoke change by goading sessile legislators into action, regardless of the outcome (Lockridge & Maiden, 2014; Thompson & Crampton, 2002). This could explain why the mean improvements in funding metrics were higher in states where litigation occurred compared to states where no litigation had taken place. If, as Lockridge and Maiden (2014) proposed, the filing of litigation, and not the results, caused the change, it would be expected that both the defendant and plaintiff victories would be associated with a higher degree of funding change. However, as plaintiff victories were associated with the greatest improvements in the examined funding metrics, the hypothesis suggesting that litigation's primary effect is to provoke legislators into action tells only part of the story.

Plaintiff victories were associated with the maximum, albeit non-significant, funding outcomes. These findings align with those of Candelaria and Shores (2015) who also documented a non-significant increase in school revenue from third wave litigation. Third wave SFL's monetary improvements have traditionally been focused on improving funding equity for at-risk students (Candelaria & Shores, 2015; Johnson et al., 2014). This equitable improvement often comes with additional finance resources derived from increased taxes (Kramer, 2002; Simon-Kerr & Sturm, 2010). Although the link between money and student outcome is debated (Hanushek, 1986; Hanushek, 2003), influx of money is often credited as a causal agent for the improvements in student outcomes (Hyman, 2017; Roy, 2011). The primary purpose of the third wave of SFL is ensuring an adequate education is provided for all students (Thro, 1993), and the

additional funding associated with this form of litigation is often directed towards the least funded school systems (Lafortune et al., 2018).

Closer scrutiny is warranted to understand possible confounding factors that may be affecting school funding metrics. These results align with other studies documenting small, non-significant improvements in school funding associated with third wave litigation (Candelaria & Shores, 2015; Johnson et al., 2014). However, the trends identified here suggest that litigation remains a viable tool to increase financial resources for underfunded school systems. This indicates that litigation has the power to improve funding, and where plaintiffs are victorious, these effects may be even greater.

Aim 1.2 Analysis & Discussion: How Does Litigation Effect Student Funding Over Time

This analysis did not demonstrate a statistically significant relationship between either fiscal effort or per-pupil funding and the date of litigation. These results indicate that SFL has not become decreasingly effective in its ability to affect fiscal effort or per-pupil funding over the course of the third wave. Within the third wave, the date of adjudication does not appear to have an effect on whether or not SFL will change funding. However, there were non-significant trends that warrant discussion.

Notably, there was a positive association between time and the funding variables when plaintiffs were victorious, and this association was negative where defendants prevailed. This pattern held for both fiscal effort and per-pupil funding. It is plausible that these insignificant relationships could be evidence of a slowly growing trend that may become significant in future years. Johnson et al. (2014) found student improvement, caused by funding changes at the state level, was associated with non-significant improvements when examined after only a few years.

However, when students were at schools that received additional revenue over their entire K-12 career, these non-significant incremental improvements became quite substantial, attributing up to 0.9 years' worth of learning for students traditionally underserved by schools (Johnson et al., 2014). If the incremental patterns identified in this research persist, this nonsignificant pattern could become significant. Additional observations are warranted to monitor if these trends continue.

Few have examined whether school funding modifications in response to third wave litigation have changed over the last three decades. Condrón (2017) found that third wave SFL was associated with improved funding equity in the early years of SFL's third wave (1990-2001) but not after 2001. This improvement may reflect the initial effectiveness of third wave SFL, or possibly one of two national trends. Corcoran and Evans (2015) reported that a national trend of improved equity occurred from 1972 to 2000. Additionally, the probability of plaintiffs receiving favorable results from a third wave SFL case has waned in recent years (Simon-Kerr & Sturm, 2010). Holistically, there was little compelling evidence produced from this research that suggested litigation, resulting in either plaintiff or defendant victories, had a changing effectiveness over the course of the third wave.

Discussion of Research Question Two

In order to understand how the date of adjudication and outcome of third wave SFL affects student achievement as measured by high school graduation rates and 8th-grade NAEP math test scores, two sub-aims were examined. First, Aim 2.1 explored if there were differences in the two student achievement variables (high school graduation rates, and NAEP test scores) among states with no litigation, states where defendants prevailed, and states where the plaintiffs

were victorious. Aim 2.2 examined whether these dependent variables changed over time, based on date of adjudication.

Aim 2.1 Analysis & Discussion: How Does Litigation Effect Student Achievement

No statistically significant differences were identified between the central tendencies for changes in high school graduation rates or 8th-grade NAEP math scores based upon the legal grouping (plaintiff victory, defendant victory, or no litigation). While not statistically significant, the mean high school graduation rate and 8th-grade NAEP math test scores followed the predicted pattern and were higher when plaintiffs prevailed. The descriptive statistics indicate the following patterns:

1. There were greater mean improvements in student outcomes when plaintiffs prevailed than when defendants were victorious.
2. Only where plaintiffs prevailed, was third wave SFL was associated with improved student achievement outcomes.

Holistically, when all legal outcomes were evaluated, these findings associated greater mean value changes with states where the plaintiffs prevailed, except in high school graduation rates. In this category (high school graduation rates), a mere one-tenth of a percent separated non-litigated states from plaintiff victories. The fact that plaintiff victories were associated with the greatest, albeit non-significant, improvements in student achievement aligns with much of the published literature on this topic (Glenn, 2006; Glenn, 2009). Of the studies examining the relationship between the courts and high school graduation rates, most research fails to link significant changes in student achievement with the results of litigation, yet plaintiff victories are

often associated with small, but positive improvements in graduation rates (Card & Payne, 2002; Glenn, 2006; Glenn, 2009; Johnson et al., 2014).

Fewer researchers have examined the effects of third wave SFL on NAEP test scores. Lafortune et al. (2018) examined the effects of funding changes – some of which were caused by third wave SFL – on NAEP scores. Their work documented a small improvement in NAEP scores when changes in funding formulas increased funding levels (Lafortune et al., 2018). Contrastingly, Lockridge and Maiden (2014) failed to identify a significant association between NAEP test scores and third wave SFL (Lockridge & Maiden, 2014). The results produced from this research align with previous research. Like the findings of Lockridge and Maiden (2014), litigation failed to be significantly linked to improved student outcomes on NAEP test scores. However, when examined in light of the funding variables (Aim 1.1) the descriptive statistics corroborated the findings of Lafortune et al. (2018) when plaintiffs were victorious. Where plaintiffs prevailed, there was an insignificant improvement in funding and student's NAEP scores.

Interestingly, not all third wave SFL was associated with improved student achievement outcomes; only in cases where the plaintiffs were victorious were student achievement gains evident. As improved funding is widely linked to improved student outcomes (Candelaria & Shores, 2015; Card & Payne, 2002; Roy, 2011), and the initiation of litigation was associated with improved funding (Corcoran & Evans, 2015; Lockridge & Maiden, 2014), it was expected that student achievement outcomes in litigated states would be higher than those of students in non-litigated states. However, this was not found to be the case, even though third wave SFL – regardless of whether plaintiffs or defendants were victorious – was associated with improved funding metric trends. These results align with the findings of Glenn (2006), who reported that

neither filing a lawsuit nor defendant victories were associated with improvements in student achievement. These findings were counter-intuitive and contribute to our understanding of the relationship between litigation, money, and student achievement. There was an observed improvement in funding from all litigation, and if money improves student achievement, this should result in improved student outcomes. However, this was not observed, suggesting that there are other causative factors at play.

These results build upon previous work while contemporizing our understanding of litigations' effect on student achievement. There is conflicting evidence whether litigation is associated with student improvements. Some studies have suggested that litigation is positively associated with gains in student outcomes (Glenn, 2006; Glenn, 2008; Johnson et al., 2014), while others are less optimistic (Hoxby, 2001; Thompson & Crampton, 2002). This research suggests that litigation has a non-significant, but positive association with improved student outcomes when plaintiffs prevail. The data indicates that third wave SFL litigation remains a viable avenue to improve student outcomes.

Many scholars attribute increased funding translates into improved student outcomes (Hyman, 2017; Roy, 2011). While the link between money and student outcomes has been challenged (Hanushek, 1986; Hanushek, 2003; Rebell, 2017), the results of the present study found that plaintiff victories were associated with the greatest improvements in funding and also the best student achievements results.

The observed positive associations between litigation and increases in school funding metrics, regardless of the outcome, builds upon, contemporizes, and corroborates previous research into the relationship between the courts and student achievement (Lockridge & Maiden, 2014; Thompson & Crampton, 2002). Traditional views in this area of research suggest that

improved funding should improve student outcomes (Rebell, 2017). Although not rising to the level of significance, litigation was found to improve funding and, when plaintiffs prevailed, student outcomes. If funding is directly associated with improved student outcomes, then all changes in student achievement resulting from third wave litigation should have followed the same pattern observed for the funding metrics. Instead, it was documented that all litigation (regardless of outcome) was associated with improved funding changes but only plaintiff victories were associated with improved student outcomes. The traditionally held belief that more money results in better outcomes, juxtaposed with these results, suggests the existence of additional layers of complexity that were not captured in this study.

Third wave SFL is effective at improving outcomes, but the chances of winning have lessened (Simon-Kerr & Sturm, 2010; Thro, 1993; Weiler et al., 2017). This trend has been associated with the separation of powers doctrine and the judicial system's increasing reluctance to interfere in legislative matters (Obhof, 2003; Obhof, 2019). Additionally, there is evidence that legislators who are forced to enact funding changes by the judicial system show less fidelity to maintaining and monitoring increased funding (Baker & Welner, 2011). When these facts, coupled with the need to invest resources wisely to improve student outcomes (Hanushek, 1986; Hanushek, 2003; Rebell, 2017) are considered, it is possible that a lack of legislative oversight ensuring the greatest return in student achievement is the cause. This theory could provide an explanation for the findings presented here: that all litigation was associated with increased funding, but that although funding is widely associated with increased student outcomes (Holmlund et al., 2010; Hyman, 2017; Nicoletti & Rabe, 2018), when defendants were victorious, student achievement lagged. Additional research in this area is needed to explore how the increased resources are invested.

Aim 2.2 Analysis & Discussion: How Does Litigation Effect Student Achievement Over Time

There was a significant, positive relationship for all groups (plaintiff victories, defendant victories, and no litigation) over time for high school graduation rates. Conversely, the 8th-grade NAEP test scores decreased for all situations examined (plaintiff victories, defendant victories, and no litigation) over the course of third wave SFL, and this trend rose to the level of significance when either there was no litigation or when the defendants were victorious. Plaintiff victories were associated with less significant declines.

It was anticipated that the effectiveness of third wave litigation would decrease over time. Consequently, these results only partly support the initial prediction. While not statistically supported for the high school graduation rates, the fact that the mean changes in graduation rates for litigated states were not higher than the non-litigated states represent an unexpected caveat. This pattern and these results suggest that graduation rates over the third wave of SFL are more indicative of national trends than the effects of litigation. The results from the court may not be a sensitive enough indicator for understanding the influence of funding changes on student outcomes.

The universally positive relationship identified between improvements in high school graduation rates and the third wave of SFL indicates that the probability of a student graduating has increased since the start of the third wave. However, as these results were significant for all groups, this may reflect the national trends of increased high school graduation rates more than any effects produced from litigation (Harris, 2002). If litigation was the instigating agent of this change, there should be a noticeable difference between litigated states and the control group;

however, this difference was not identified. The correlation results indicate that the strength of the relationship was greater in states with litigation and strongest when the plaintiffs prevailed.

The results for the 8th-grade NAEP scores supported the initial prediction. However, it remains difficult to disentangle the observed results from national trends. The trends observed between litigation and the 8th-grade NAEP math tests followed national trends for these tests (National Center for Education Statistics, 2019b). At a national level, 8th-grade NAEP math test scores rose steadily until 2015, when the pattern of ever-increasing test scores ceased. As this research compared the difference from the year of adjudication to four years after, this drop is evident in the decline observed in 2011 and beyond. More defendant victories have occurred in recent years of third wave SFL (Simon-Kerr & Sturm, 2010), which, in conjunction with national trends, may account for some of these observations. However, this does not fully account for the observed patterns. Another explanation could be derived from the research of Condrón (2017) who found that the effectiveness of the judicial system for improving funding equity has been waning in recent years. Although funding equity and NAEP test scores are different metrics, these patterns of diminishing effectiveness may reflect similar underlying factors (Condrón, 2017). Possible factors affecting litigation's effectiveness suggested by Condrón (2017), were national education policy changes, and fluctuation in national economic vigor.

Implications for Research and Policies

Litigation is an expensive and risky proposition. There is no certainty of the outcome, and to achieve a definitive ruling from a state supreme court takes years (Baker & Welner, 2011). Often the intended changes in student achievement, if ever realized, may take place from years after the date of adjudication (Liscow, 2018). For example, the lengthy legal battle, *McCleary v. Washington State*, was first filed in 2007 (Education Law Center, n.d.), was ruled upon by the

State Supreme court in 2012 (SchoolFunding.info, n.d.). *McCleary v Washington* did not create a substantial funding change until 2018 (Richards, Artime, & Benjamin, 2019; Yared, 2019), and its effects on student achievements were only realized after the 2018 school year. This potentially long time frame is coupled with the decreasing probability of successfully litigating a third wave case in recent years (Simon-Kerr & Sturm, 2010; Thro, 1993; Weiler et al., 2017) and the persistent uncertainty of recuperating the cost for this protracted legal battle (*Helena v. State*, 1989; *Lake View School District v. Huckabee*, 2002). Additionally, there is an emotional aspect of litigation: this tool may create adversarial relationships that make compromise difficult between two groups that share a common desire: improving student achievement (Hanushek, 2016; Rebell, 2017). When these factors are associated with the meager and often non-statistically significant results obtained in this research (Glenn, 2006; Glenn, 2008), there is a legitimate question as to whether this tool is the best avenue towards enhancing school funding and student improvement outcomes.

The findings of this project provide a contemporary understanding of the effects of the third wave of SFL on certain metrics of school funding and student achievement. The results from this research suggest that litigation is a viable tool to achieve small improvements for both school funding and student achievement. However, due to the macro scope of this research, these results should be viewed as a springboard to further understand litigation and its effects as the findings were largely not statistically significant. A deeper examination of the results from this research produced the following three compelling findings:

1. The presence of litigation was associated with improved per-pupil funding that approached significance when the plaintiffs prevailed.

2. Litigation that resulted in a plaintiff victory was associated with the greatest gains in student achievement metrics.
3. When litigation resulted in a defendant victory, there were improvements in funding metrics, but not in student achievement.

For any party seeking to use litigation as a tool to ensure that all students are receiving an adequate education, these findings have serious implications. Third wave SFL litigation was shown to improve funding, but that is not the ultimate aim of school finance litigation (Thro, 1993). Improved school funding, without corresponding improvements in student outcomes, ultimately leads to an increase in bureaucratic waste (Hanushek, 2016). Rather, the intent of third wave SFL is to improve funding so that student achievement will follow (Thro, 1993). These results indicate that litigation is an effective tool to obtain small funding improvements, but to be successful these plaintiffs must be willing to see the process through. SFL within the third wave was found to be primarily effective at improving student outcomes when plaintiffs prevail. As more courts are becoming cautious of judicial interference (Obhof, 2019), and there seems to be a lower probability of successfully arguing these cases to a decisive victory at a state supreme court level (Simon-Kerr & Sturm, 2010; Thro, 1993; Weiler et al., 2017), potential litigants should exhaust all other avenues towards improvements.

School finance litigation should be viewed as just one tool in a comprehensive toolbox geared towards improvements in education. In isolation, SFL is not a panacea capable of rectifying all adequacy issues, its returns were found to be small and consistently less than desired.

Nevertheless, third wave litigation does show the potential to create substantive change. As a last resort, when all other avenues to achieve the desired change have been exhausted,

litigation has the potential to improve school and student outcomes. For example, in the state of Washington, the sequela of *McCleary v. Washington* (2012) resulted in the 2018 state budget for K-12 schools increasing by 8 billion additional dollars in funding (Richards et al., 2019; Yared, 2019). These findings corroborate previous research and suggest that third wave SFL couples the possibility of producing great improvements (Richards et al., 2019; Yared, 2019), with the probability of achieving merely meager ameliorations in funding and student achievement (Baker & Welner, 2011; Glenn, 2009). School financial litigation may be used as part of a comprehensive strategy to work toward improving student outcomes.

Future Research

The findings presented here show several distinct gaps in our understanding of the effects of third wave litigation. There is the need to understand the mechanics behind the observed phenomenon identified in Aim 1.1 that all third wave litigation—regardless of the outcome—is associated with school funding improvements. While this finding aligns with previous research (Lockridge & Maiden, 2014; Thompson & Crampton, 2002), the specific impetus for these funding improvements has not been thoroughly explored. A qualitative study with retired legislators would assist in improving our understanding of how the threat and process of third wave SFL litigation was viewed and resulted in improved funding. Was the threat of litigation a sufficient impetus to drive improvements in funding, or must third wave litigation be filed as Lockridge and Maiden (2014) suggest?

Another aspect that needs further examination is how litigation's effectiveness relates to the wording within the state constitution's education provision and the state's

geographic location. This research did not explore these aspects, but it is plausible that constitutional and regional aspects may have influenced some of the outcomes from this project. The legal obligation to educate students varies considerably (DeMoss, 2003; Thro, 1998). It is conceivable that third wave SFL's changing probability of success, observed in this study and others (Simon-Kerr & Sturm, 2010; Thro, 1993; Weiler et al., 2017), could be accounted for by the litigants selectively challenging funding formulas in states with more onerous constitutional obligations. The relationship between the state's constitution and geographical location remains an under-examined factor in exploring the effects of third wave litigation. Additionally, regional observations are also warranted. How does SFL litigation affect per-pupil funding and fiscal effort in adjacent states? Answers to these fundamental questions are needed to characterize the mechanism of how litigation invokes changes within the state and region.

Future research should be geared towards deepening our understanding and tracking of how school revenues are being spent. It is not clear why successful litigation was associated with improved student achievements and why defendant victories were linked to improved funding but not student achievement; an increased understanding of how money is being allocated may provide insight into this phenomenon. Based on the research of Liscow (2018) and Lockridge and Maiden (2014), this research used a single time point of four years to look for a change in the values of the dependent variable. It is possible that the resulting change in the dependent variables may be different depending upon the legal outcome, and perhaps this study used an inappropriate time frame. Further research should examine the ideal time frame after litigation to observe effects and

provide a detailed explanation of how litigation-induced funding changes are being spent and how funding changes affected different populations of students. A finer scope examining litigation's effectiveness is still needed to elucidate our understanding of these findings.

Conclusion

Over the last thirty-one years, third wave school finance litigation has argued that the funding of the American school system was inadequate. This form of litigation has occurred in every region of the USA. Despite this lengthy history, there remains a lack of research exploring the effects of this wave of litigation. This dearth of knowledge is especially acute in recent years forcing those considering litigation to gauge its effectiveness based on possibly outdated research. Most existing studies do not directly examine the effects of litigation. Rather they focus on the sequela of school finance reform, which may or may not have resulted from third wave litigation. Of the studies directly examining third wave SFL, most are over five years old and are relying on data from the early 2000s. It is problematic to craft policy relying on the possibly anachronistic view of third wave SFL.

The preponderance of this dated body of research suggests that third wave litigation was associated with small, nonsignificant improvements in school funding directed towards increasing funding and student achievement in predominantly under-served areas. Some have suggested that third wave SFL is waning in its effectiveness, and even argued that it is no longer a viable tool to improve school funding and student achievement. This study's major contribution was to contemporize our understanding of third wave SFL, validate many of these historic findings, and challenge the assumption that third wave SFL is waning in its effectiveness over time. Unlike most previous research, this study focused on the entire third wave and

analyzed the relationship between this form of litigation and school funding and student achievement. Most of the previous research was far narrower in scope.

The key findings from this research were to substantiate that litigation continues to subsist as an effective tool to improve educational outcomes but is not a panacea capable of ameliorating all funding inadequacy. Third wave SFL was associated with small, nonsignificant improvements in funding, and when the plaintiffs prevailed this form of SFL was linked to improved student achievements. No substantial evidence was found suggesting that the effectiveness of litigation has changed throughout the third wave. There remains a lack of understanding detailing how third wave litigation is perceived by legislators, both from states experiencing litigation and adjacent states. Additional research is needed to explore the ways that public funds are invested and the likely outcomes derived from these investments as they pertain to education.

In conclusion, this study provides a current understanding of the effects of third wave SFL. Corroborating earlier research, third wave SFL remains a tool that when used successfully is capable of improving funding and student achievement. Its effectiveness has varied little.

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APPENDIX A
INSTITUTIONAL REVIEW BOARD APPROVAL



Institutional Review Board

DATE: April 14, 2020

TO: Jason Kopanke, Ed.S.

FROM: University of Northern Colorado (UNCO) IRB

PROJECT TITLE: [1590192-1] A Contemporary Understanding of the Effects of the Third Wave of School Finance Litigation

SUBMISSION TYPE: New Project

ACTION: APPROVAL/VERIFICATION OF EXEMPT STATUS

DECISION DATE: April 14, 2020

EXPIRATION DATE: April 14, 2024

Thank you for your submission of New Project materials for this project. The University of Northern Colorado (UNCO) IRB approves this project and verifies its status as EXEMPT according to federal IRB regulations.

We will retain a copy of this correspondence within our records for a duration of 4 years.

If you have any questions, please contact Nicole Morse at 970-351-1910 or nicole.morse@unco.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Northern Colorado (UNCO) IRB's records.

APPENDIX B
MASTER LIST OF EXAMINED COURT CASES

Appendix B consists of a table (Table 9) detailing all court cases gleaned from the examined sources (see Methodology section for greater detail). This table documents information for all the possible court cases including the names of the lawsuits, the states where they were argued, the year, and their legal citations. Additionally, each court case in the final column is listed as either included or excluded. Court cases meeting the selection criteria were labeled included and their adjudication status was listed as either plaintiff victory (PV), defendant victory (DV), or as mixed results (MX). As these cases were obtained from research possessing focuses which were tangential to the intent of this project, this final column also identifies the six possible reasons for excluding cases from this study. The rationale for each exclusion was provided and coded as; (1) A – excluded because the ruling involved a procedural clarification, (2) B – excluded because the ruling was not at the highest level, (3) C – excluded because the ruling was within four years of a previous ruling on the same case, (4) D – excluded because the ruling was beyond the specified time frame for this study (1989-2012), (5) E – excluded because the state Supreme Court did not hear the case, and (6) F – excluded because the ruling was tangential to a school finance litigation case.

Table 9*List of Third Wave Court Cases*

Lawsuit	State	Year	Citation	Inclusion/Exclusion & Rational
<i>Alabama Coalition for Equity v. Hunt</i>	AL	1993	624 So. 2d 107	Included - PV
<i>Pinto v. Alabama Coalition For Equity</i>	AL	1995	662 So2d 894	Excluded - A
<i>Ex Parte James</i>	AL	1997	713 So2d 869	Excluded - A
<i>James v. Alaba-ma</i>	AL	2002	836 So.2d 813	Excluded - A
<i>Kasayulie v. State</i>	AK	1999	Case No. 3AN-97-3782	Excluded - B
<i>Matanuska-Susitna Borough v. State of Alaska</i>	AK	1997	931 P.2d 391	Included - DV
<i>Moore v. State</i>	AK	2007	Case No. 3AN-04-9756 Civil (Alask. Super. Ct.)	Excluded - B
<i>Roosevelt v. Bishop</i>	AZ	1994	877 P.2d 806	Included - PV
<i>Hull v. Albrecht</i>	AZ	1997	950 P.2d 1141	Excluded - C
<i>Hull v. Albrecht</i>	AZ	1998	960 P.2d 634	Included - PV
<i>Crane Elementary School District v. State of Arizona</i>	AZ	2006	Ariz. Ct. App. 2006	Excluded - B
<i>Cave Creek unified School District et al. v. State</i>	AZ	2013	308 P.3d 1152	Excluded - D
<i>Lakeview v. Huckabee</i>	AR	1994	Case No. 92-5318, (Ark. Chancery Court)	Excluded - B
<i>Tucker v. Lake View Sch. Dist. No. 25</i>	AR	1996	917 S.W.2d 530	Excluded - E
<i>Lakeview vs Huckabee</i>	AR	2000	10 S.W.2d 892	Excluded - A
<i>Lakeview v. Huckabee</i>	AR	2002	91 S.W.3d 472	Included - PV

Lawsuit	State	Year	Citation	Inclusion/Exclusion & Rational
<i>Lakeview v. Huckabee</i>	AR	2004	142 S.W.3d 643	Excluded - A
<i>Lakeview v. Huckabee</i>	AR	2004	189 S.W.3d 1	Excluded - A
<i>Lakeview v. Huckabee</i>	AR	2005	208 S.W.3d 93	Excluded - A
<i>Lakeview v. Huckabee</i>	AR	2005	210 S.W.3d 28	Excluded - A
<i>Lakeview v. Huckabee</i>	AR	2005	214 S.W.3d 810	Excluded - A
<i>Lakeview v. Huckabee</i>	AR	2007	257 S.W.3d 879	Included - DV
<i>Lajuan v. Colorado State Board of Education</i>	CO	1982	649 P.2d 1005	Excluded - D
<i>Lobato v. State</i>	CO	2009	218 P3d 358	Excluded - A
<i>Sheff v. Oneill</i>	CO	1996	678 A.2d 1267	Excluded - A
<i>Carroll-Hall v. Rell</i>	CT	2007	44 Conn L. Rptr. 224	Excluded - B
<i>Coalition for Justice in Education Funding v. Rell</i>	CT	2010	990 A.2d 206	Excluded - A
<i>Coalition for Adequacy and Fairness in School Funding v. Lawton Chiles</i>	FL	1996	680 So. 2d 400	Included - DV
<i>Bush v. Holmes</i>	FL	2006	919 So.2d 392	Excluded - F
<i>Citizens for Strong Schools, Inc. v. Florida State Board of Ed.</i>	FL	2009	78 So.3d 605	Excluded - B
<i>Schroeder v. Palm Beach County Sch. Bd.</i>	FL	2009	10 So.3d 1134	Excluded - B

Lawsuit	State	Year	Citation	Inclusion/Exclusion & Rational
<i>Haridopolos v. Citizens for Strong Schools, Inc.</i>	FL	2012	81 So.3d 465	Excluded - E
<i>Idaho Schools for Equal Education Opportunity v. State I</i>	ID	1993	850 P.2d 724	Included - DV
<i>Idaho Schools for Equal Education Opportunity v. State</i>	ID	1995	912 P.2d 644	Excluded - D
<i>Idaho Schools for Equal Education Opportunity v. State</i>	ID	1998	976 P.2d 913	Included - DV
<i>Idaho Schools for Equal Education Opportunity v. State</i>	ID	2004	97 P.3d 453	Excluded - A
<i>Idaho Schools for Equal Education Opportunity v. State</i>	ID	2005	129 P.3d 1199	Included – PV
<i>Committee for Educational Right v. Edgar</i>	IL	1996	672 N.E.2d 1178	Included - DV
<i>Lewis E v. Spagnolo</i>	IL	1999	710 N.E.2d 798	Included - DV
<i>Carr v. Koch</i>	IL	2011	960 N.E. 2d 640	Excluded - A
<i>Carr v. Koch</i>	IL	2012	981 N.E.2d 326	Included - DV
<i>Booner v. Daniels</i>	IN	2009	907 N.E.2d 516	Included - DV
<i>Meredith v. Pence</i>	IN	2013	984 N.E.2d 1213	Excluded - D
<i>King v. State</i>	IA	2012	818 N.W.2d 1	Excluded - A
<i>Unified SD No. 229 Et. Al. v. State of Kansas</i>	KS	1994	256 Kan. 232	Excluded - F

Lawsuit	State	Year	Citation	Inclusion/Exclusion & Rational
<i>Montoy v. State</i>	KS	2005	120 P.3d 306	Excluded - A
<i>Montoy v. State</i>	KS	2005	112 P.3d 923	Included - PV
<i>Rose v. Council for Better Education</i>	KY	1989	790 S.W.2d 186	Included - PV
<i>Charlet v. Legislature</i>	LA	1997	701 So2d 182	Excluded - A
<i>Charlet v. Legislature</i>	LA	1998	730 So.2d 934	Excluded - A
<i>School Administrative District No. 1 v. Commissioner</i>	ME	1995	659 A.2d 854	Included - DV
<i>Bradford v. Maryland State Board of Education I</i>	MD	1996	387 Md. 353, 875 A.2d 703	Excluded - D
<i>Bradford v. Maryland State Board of Education II</i>	MD	2005	875 A.2d 703	Included - M
<i>McDuffy v. Secretary</i>	MA	1993	615 N.E.2d 516	Included - PV
<i>Julie Hancock and others v. Commissioner of Ed. and Others</i>	MA	2005	822 N.E.2d. 1134	Included - DV
<i>Skeen v. Minnesota</i>	MN	1993	505 N.W.2d 299	Included - DV
<i>Durant v. State</i>	MI	1997	566 N.W.2d 272	Included - PV
<i>Durant v. State</i>	MI	2002	654 N.W.2d 329	Excluded - B
<i>Committee for Educ. Quality v. Missouri</i>	MO	1994	878 S.W.2d 446	Included - DV
<i>Committee for Educ. Quality v. Missouri</i>	MO	1998	967 S.W.2d 63	Excluded - A

Lawsuit	State	Year	Citation	Inclusion/Exclusion & Rational
<i>The Committee for Educational Equity v. State</i>	MO	2009	294 S.W.3d 477	Included - DV
<i>Helena Elementary School District No. 1 v. State</i>	MT	1989	769 P.2d 684	Included - PV
<i>Montana Rural ed. Association v. Montana</i>	MT	1993	Case No.: BDV-91-2065	Excluded - B
<i>Columbia Falls Public School District No. 6 v. State</i>	MT	2005	109 P.3d 257	Included - PV
<i>Montana Quality Education Coalition v. Montana</i>	MT	2008	Case No: BDV-2002-528 (Mont. Dist. Ct.)	Excluded - B
<i>Bismarck Public Sch. Dist. No. 1 v. North Dakota</i>	ND	1994	511 N.W.2d 247	Included - M
<i>Gould v. Orr</i>	NE	1993	506 N.W.2d 349	Included - DV
<i>Douglas County School District v. Johanns</i>	NE	2005	694 N.W.2d 668	Included - DV
<i>Nebraska Coalition for Educational Equity and Adequacy v. Heineman</i>	NE	2007	731 N.W.2d 164	Included - DV
<i>Guinn v. Angel</i>	NV	2002	71 P.3d 1269	Excluded - F
<i>Nevadans for Nevada v. Beer</i>	NV	2006	142 P.3d 339	Excluded - F
<i>Claremont v. Governor I</i>	NH	1993	635 A.2d 1375	Included - PV
<i>Claremont v. Governor II</i>	NH	1997	703 A.2d 1353	Included - PV

Lawsuit	State	Year	Citation	Inclusion/Exclusion & Rational
<i>Claremont v. Governor</i>	NH	1998	712 A.2d 612	Excluded - D
<i>Claremont v. Governor</i>	NH	1998	725 A.2d 648	Excluded - D
<i>Claremont v. Governor III</i>	NH	1999	744 A.2d 1107	Excluded - D
<i>Claremont v. Governor IV</i>	NH	2002	794 A.2d 744	Included - PV
<i>Londonderry v. State</i>	NH	2006	907 A.2d 988	Excluded - A
<i>Londonderry School District SAU #12 v. State</i>	NH	2008	958 A.2d 930	Excluded - A
<i>Abbott v. Burke</i>	NJ	1990	575 A.2d 359	Included - PV
<i>Abbott v. Burke</i>	NJ	1994	643 A.2d 575	Included - PV
<i>Abbott v. Burke</i>	NJ	1997	693 A.2d 417	Excluded - D
<i>Abbott v. Burke</i>	NJ	1998	710 A.2d 450	Included - PV
<i>Abbott v. Burke</i>	NJ	2000	751 A.2d 1032	Excluded - D
<i>Abbott v. Burke</i>	NJ	2002	790 A.2d 842	Excluded - A
<i>Abbott v. Burke</i>	NJ	2004	857 A.2d 172	Excluded - A
<i>Abbott v. Burke</i>	NJ	2004	852 A.2d 185	Excluded - A
<i>Abbott v. Burke</i>	NJ	2006	901 A.2d 299	Excluded - A
<i>Abbott v. Burke</i>	NJ	2008	956 A.2d 923	Excluded - F
<i>Abbott v. Burke</i>	NJ	2009	971 A.2d 989	Excluded - D
<i>Abbott v. Burke</i>	NJ	2011	20 A.3d 1018	Included - PV
<i>Zuni School District v. State Reform Educational Financing Inequities Today (REFIT) v. Cuomo</i>	NM	1999	Case No. CV-98-14-II	Excluded - B
<i>Paynter v. State</i>	NY	1995	655 N.E.2d 647	Included - DV
<i>Paynter v. State</i>	NY	2001	290 A.D.2d 95	Excluded - A
<i>Paynter v. State</i>	NY	2002	711 N.E.2d 832	Excluded - A
<i>Paynter v. State</i>	NY	2002	779 N.Y.S.2d 186	Excluded - A

Lawsuit	State	Year	Citation	Inclusion/Exclusion & Rational
<i>Paynter v. State</i>	NY	2003	797 N.E.2d 1225	Excluded - A
<i>Campaign for Fiscal Equity v. State</i>	NY	2003	801 N.E.2d 326	Included - PV
<i>Campaign for Fiscal Equity v. State</i>	NY	2006	861 N.E.2d 50	Excluded - D
<i>Hussein v. State</i>	NY	2011	914 N.Y.S.2d 464	Excluded - A
<i>Leandro v. North Carolina</i>	NC	1997	488 S.E.2d 249	Included - PV
<i>Leandro v. North Carolina</i>	NC	1999	468 S.E.2d 543	Excluded - B
<i>Hoke County Board of Education v. the State of North Carolina</i>	NC	2004	599 S.E.2d 365	Included - PV
<i>De Rolph v. State</i>	OH	1997	677 N.E.2d 733	Included - DV
<i>De Rolph v. State</i>	OH	1997	678 N.E.2d 886	Excluded - D
<i>De Rolph v. State</i>	OH	1998	699 N.E.2d 518	Excluded - D
<i>De Rolph v. State</i>	OH	2000	728 N.E.2d 993	Excluded - D
<i>De Rolph v. State</i>	OH	2001	754 N.E.2d 1184	Excluded - D
<i>De Rolph v. State</i>	OH	2001	758 N.E.2d 1113	Excluded - D
<i>De Rolph v. State</i>	OH	2002	780 N.E.2d 529	Included - DV
<i>State v. Lewis</i>	OH	2003	789 N.E.2d 195	Excluded - A
<i>Oklahoma Education Association v. State</i>	OK	2007	158 P.3d 1058	Included - DV
<i>Coalition for Equitable School Funding v. State</i>	OR	1991	811 P.2d 116	Included - DV
<i>Withers v. Oregon</i>	OR	1995	891 P.2d 675	Excluded - B
<i>Pendleton School Dist. v. State</i>	OR	2008	185 P.3d 471	Excluded - B
<i>Pendleton School Dist. v. State</i>	OR	2009	217 P.3d 175	Excluded - A

Lawsuit	State	Year	Citation	Inclusion/Exclusion & Rational
<i>Marrero v. Commonwealth</i>	PA	1998	709 A.2d 956	Excluded - B
<i>Marrero v. Commonwealth</i>	PA	1999	739 A.2d 110	Included - DV
<i>City of Pawtucket v. Sundlun</i>	RI	1995	662 A.2d 40 40	Included - DV
<i>Abbeville County School District, et al., v. The State of South Carolina, et al.</i>	SC	1999	515 S.E.2d 535	Excluded - A
<i>Abbeville County v. State</i>	SC	2005	Case No. 93-CP-31-0169 (S.C. Ct. Com. Pl.)	Excluded - B
<i>Abbeville County v. State</i>	SC	2014	767 S.E.2d 157	Excluded - D
<i>Olson v. Guindon</i>	SD	2009	771 N.W.2d 318	Excluded - A
<i>Davis v. the State of South Dakota</i>	SD	2011	804 N.W.2d 618	Included - DV
<i>Tennessee Small School Systems v. McWheter I</i>	TN	1993	851 S.W.2d 139	Included - PV
<i>Tennessee Small School Systems v. McWheter II</i>	TN	1995	894 S.W.2d 734	Excluded - D
<i>Tennessee Small School Systems v. McWheter III</i>	TN	2002	91 S.W.3d 232	Included - PV
<i>Edgewood Independent School District v. Kirby I</i>	TX	1989	777 S.W.2d 391	Included - PV
<i>Edgewood Independent School District v. Kirby II</i>	TX	1991	804 S.W.2d 491	Excluded - C
<i>Carrolton Farmer's Branch ISD v. Edgewood ISD</i>	TX	1992	826 S.W.2d 489	Excluded - C
<i>Edgwood IV</i>	TX	1995	893 S.W2d 450	Included - PV

Lawsuit	State	Year	Citation	Inclusion/Exclusion & Rational
<i>West Orange-Cove ISD v. Neeley</i>	TX	2003	107 S.W.3d558	Excluded - A
<i>West Orange-Cove ISD v. Neeley</i>	TX	2005	176 S.W.3d 746	Included - M
<i>Brigham v. State</i>	VT	1997	692 A.2d 384	Included - PV
<i>Scott v. Commonwealth</i>	VA	1994	443 S.E.2d 138	Included - DV
<i>Federal Way School District v. State</i>	WA	2009	219 P.3d 941	Included - DV
<i>School District's Alliance for Adequate Funding of Special Educ. v. Washington</i>	WA	2009	202 P.3d 990	Excluded - B
<i>School District's Alliance for Adequate Funding of Special Educ. v. Washington</i>	WA	2010	244 P.3d 1	Included - DV
<i>McCleary v. State</i>	WA	2012	269 P.3d 227	Included - PV
<i>West Virginia ex rel. Board of Educ. v. Bailey</i>	WV	1994	453 S.E.2d 368	Included - PV
<i>Tomblin v. Gainer</i>	WV	1995	Case No. 25-1268 (W.V. Circ. Ct.)	Excluded - B
<i>Tomblin v. West Virginia State Board of Education</i>	WV	2003	Case No. 25-1268 (W.V. Circ. Ct.)	Excluded - B
<i>Board of Educ. of the County of Kanawha v. West Virginia Bd. of Educ.</i>	WV	2006	639 S.E. 2d 893	Included - PV
<i>Kukor v. Grover</i>	WI	1989	148 Wis. 2d 469	Included - DV
<i>Vincient v. Voight</i>	WI	2000	2000 WI 93	Included - DV

Lawsuit	State	Year	Citation	Inclusion/Exclusion & Rational
<i>Campbell County School District v. State I</i>	WY	1995	907 P.2d 1238	Included - PV
Wyoming v. Campbell County Sch. District	WY	2001	19 P.3d 518	Excluded - A
Wyoming v. Campbell County Sch. District	WY	2001	32 P.3d 325	Excluded - A
Campbell County v. Wyoming	WY	2008	181 P.3d 43	Included - DV

APPENDIX C
SELECTED COURT CASES SUMMARY

Appendix C contains Table 10. This table provides information about each court case and the states where they originated from. Details for how all court cases were identified is outlined within the Methodology section of the research. For Each court case, there is information about the state and the court case. The pertinent details about the court cases include its name, state, year of adjudication, legal citation information, and legal result. For all court cases, there were three possible adjudicatory outcomes. Each adjudication's result was codified as having a plaintiff victory (P), defendant victory (D), or mixed results (M). In addition to the court case information, the selection method for the state Supreme Court was identified based on the work of Glick and Emmert (1987) and codified as partisan election, nonpartisan election, legislative election, gubernatorial appointment, or merit selection. Finally, the headings also show the political leaning of the states— the party of the active president (National Archives, n.d.), and the political affiliation of the state's governor (National Governors Association, n.d.). These political leanings were identified and then codified as either Democrat (D) or Republican (R), or Independent (I).

Table 10*List of Selected Court Cases*

Court Cases	State	Year	Citation	Legal Results	Court Selection Method	State Political Learning
<i>Alabama Coalition for Equity v. Hunt</i>	AL	1993	624 So. 2d 107	P	Partisan Election	Presidential R Governor D
<i>Matanuska-Susitna Borough School Dist. v. State</i>	AK	1997	931 P.2d 391	D	Merit Selection	Presidential R Governor D
<i>Roosevelt Elementary School Dist. No. 66 v. Bishop</i>	AZ	1994	877 P.2d 806	P	Merit Selection	Presidential R Governor R
<i>Hull v. Albrecht</i>	AZ	1998	960 P.2d 634	P	Merit Selection	Presidential D Governor R
<i>Lake View School Dist. No. 25 of Phillips County v. Huckabee</i>	AR	2002	91 S.W.3d 472	P	Partisan Election	Presidential R Governor R
<i>Lake View School Dist. No. 25 v. Huckabee</i>	AR	2007	257 S.W.3d 879	D	Partisan Election	Presidential R Governor D
<i>Coalition for Adequacy and Fairness in School</i>	FL	1996	680 So. 2d 400	D	Partisan Election	Presidential R Governor D

Court Cases	State	Year	Citation	Legal Results	Court Selection Method	State Political Learning
<i>Funding, Inc. v. Chiles</i>						
<i>Idaho Schools for Equal Educational Opportunity v. Evans</i>	ID	1993	850 P.2d 724	D	Nonpartisan Election	Presidential R Governor D
<i>Idaho Schools for Equal Educational Opportunity v. State</i>	ID	1998	976 P.2d 913	D	Nonpartisan Election	Presidential R Governor R
<i>Idaho Schools for Equal Educational Opportunity v. State</i>	ID	2005	129 P.3d 1199	P	Nonpartisan Election	Presidential R Governor R
<i>Committee for Educational Rights v. Edgar</i>	IL	1996	672 N.E.2d 1178	D	Partisan Election	Presidential D Governor R
<i>Lewis E. v. Spagnolo</i>	IL	1999	710 N.E.2d 798	D	Partisan Election	Presidential D Governor R
<i>Carr v. Koch</i>	IL	2012	981 N.E.2d 326	D	Partisan Election	Presidential D Governor D
<i>Bonner ex rel. Bonner v. Daniels</i>	IN	2009	907 N.E.2d 516	D	Merit Selection	Presidential D Governor R

Court Cases	State	Year	Citation	Legal Results	Court Selection Method	State Political Learning
<i>Rose v. Council for Better Educ., Inc.</i>	KY	1989	790 S.W.2d 186	P	Nonpartisan Election	Presidential R Governor R
<i>Montoy v. State</i>	KS	2005	112 P.3d 923	P	Merit Selection	Presidential R Governor D
<i>School Administrative Dist. No. 1 v. Commissioner, Dept. of Educ.</i>	ME	1995	659 A.2d 854	D	Gubernatorial Appointment	Presidential D Governor I
<i>Maryland State Bd. of Educ. v. Bradford</i>	MD	2005	875 A.2d 703	M	Merit Selection	Presidential D Governor R
<i>McDuffy v. Secretary of Executive Office of Educ.</i>	MA	1993	615 N.E.2d 516	P	Gubernatorial Appointment	Presidential D Governor R
<i>Hancock v. Commissioner of Educ.</i>	MA	2005	822 N.E.2d 1134	D	Gubernatorial Appointment	Presidential D Governor R
<i>Skeen v. State</i>	MN	1993	505 N.W.2d 299	D	Nonpartisan Election	Presidential D Governor R
<i>Durant v. State</i>	MI	1997	566 N.W.2d 272	P	Nonpartisan Election	Presidential D Governor R

Court Cases	State	Year	Citation	Legal Results	Court Selection Method	State Political Learning
<i>Committee for Educational Equality v. State</i>	MO	1998	967 S.W.2d 63	D	Merit Selection	Presidential D Governor D
<i>Committee for Educational Equality v. State</i>	MO	2009	294 S.W.3d 477	D	Merit Selection	Presidential R Governor R
<i>Helena Elementary School Dist. No. 1 v. State</i>	MT	1989	769 P.2d 684	P	Nonpartisan Election	Presidential R Governor R
<i>Columbia Falls Elementary School Dist. No. 6 v. State</i>	MT	2005	109 P.3d 257	P	Nonpartisan Election	Presidential R Governor D
<i>Bismarck Public School Dist. No. 1 v. State By and Through North Dakota Legislative Assembly</i>	ND	1994	511 N.W.2d 247	M	Nonpartisan Election	Presidential R Governor R
<i>Gould v. Orr</i>	NE	1993	506 N.W.2d 349	D	Merit Selection	Presidential R Governor D
<i>Douglas County School Dist. 0001 v. Johanns</i>	NE	2005	694 N.W.2d 668	D	Nonpartisan Election	Presidential R Governor R

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<i>Nebraska Coalition for Educational Equity and Adequacy (Coalition) v. Heineman</i>	NE	2007	731 N.W.2d 164	D	Nonpartisan Election	Presidential R Governor R
<i>Claremont School Dist. v. Governor</i>	NH	1993	635 A.2d 1375	P	Gubernatorial Appointment	Presidential D Governor R
<i>Claremont School Dist. v. Governor</i>	NH	1997	703 A.2d 1353	P	Gubernatorial Appointment	Presidential D Governor D
<i>Claremont School Dist. v. Governor</i>	NH	2002	794 A.2d 744	P	Gubernatorial Appointment	Presidential R Governor D
<i>Abbott by Abbott v. Burke</i>	NJ	1990	575 A.2d 359	P	Gubernatorial Appointment	Presidential R Governor D
<i>Abbott by Abbott v. Burke</i>	NJ	1994	643 A.2d 575	P	Gubernatorial Appointment	Presidential D Governor R
<i>Abbott by Abbott v. Burke</i>	NJ	1998	710 A.2d 450	P	Gubernatorial Appointment	Presidential D Governor R
<i>Abbott ex rel. Abbott v. Burke</i>	NJ	2011	20 A.3d 1018	P	Gubernatorial Appointment	Presidential D Governor R

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<i>Reform Educational Financing Inequities Today (R.E.F.I.T.) v. Cuomo</i>	NY	1995	655 N.E.2d 647	D	Partisan Election	Presidential D Governor R
<i>Campaign for Fiscal Equity, Inc. v. State</i>	NY	2003	801 N.E.2d 326	P	Partisan Election	Presidential D Governor R
<i>Leandro v. State</i>	NC	1997	488 S.E.2d 249	P	Partisan Election	Presidential R Governor D
<i>Hoke County Bd. of Educ. v. State</i>	NC	2004	599 S.E.2d 365	P	Partisan Election	Presidential R Governor D
<i>DeRolph v. State</i>	OH	1997	677 N.E.2d 733	P	Nonpartisan Election	Presidential D Governor R
<i>DeRolph v. State</i>	OH	2002	780 N.E.2d 529	P	Nonpartisan Election	Presidential R Governor R
<i>Oklahoma Educ. Ass'n v. State ex rel. Oklahoma Legislature</i>	OK	2007	158 P.3d 1058	D	Merit Selection	Presidential R Governor D
<i>Coalition for Equitable School</i>	OR	1991	811 P.2d 116	D	Nonpartisan Election	Presidential R Governor D

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<i>Funding, Inc. v. State</i>						
<i>Marrero ex rel. Tabalas v. Com.</i>	PA	1999	739 A.2d 110	D	Partisan Election	Presidential D Governor R
<i>City of Pawtucket v. Sundlun</i>	RI	1995	662 A.2d 40	D	Legislative Election	Presidential D Governor D
<i>Davis v. State</i>	SD	2011	804 N.W.2d 618	D	Nonpartisan Election	Presidential R Governor R
<i>Tennessee Small School Systems v. McWherter</i>	TN	1993	851 S.W.2d 139	P	Partisan Election	Presidential D Governor D
<i>Tennessee Small School Systems v. McWherter</i>	TN	2002	91 S.W.3d 232	P	Partisan Election	Presidential R Governor R
<i>Edgewood Independent School Dist. v. Kirby</i>	TX	1989	777 S.W.2d 391	P	Partisan Election	Presidential R Governor R
<i>Edgewood Independent School Dist. v. Meno</i>	TX	1995	893 S.W.2d 450	P	Partisan Election	Presidential R Governor R
<i>Neeley v. West Orange-Cove Consol. Independent School Dist.</i>	TX	2005	176 S.W.3d 746	M	Partisan Election	Presidential R Governor R

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<i>Brigham v. State</i>	VT	1997	692 A.2d 384	P	Merit Selection	Presidential D Governor D
<i>Scott v. Commonwealth</i>	VA	1994	443 S.E.2d 138	D	Legislative Election	Presidential R Governor R
<i>Federal Way School Dist. No. 210 v. State</i>	WA	2009	219 P.3d 941	D	Nonpartisan Election	Presidential D Governor D
<i>School Districts' Alliance for Adequate Funding of Special Educ. v. State</i>	WA	2010	244 P.3d 1	D	Nonpartisan Election	Presidential D Governor D
<i>McCleary v. State</i>	WA	2012	269 P.3d 227	P	Nonpartisan Election	Presidential D Governor D
<i>State ex rel. Bd. of Educ. for County of Randolph v. Bailey</i>	WV	1994	453 S.E.2d 368	P	Partisan Election	Presidential D Governor D
<i>Board of Educ. of County of Kanawha v. West Virginia Bd. of Educ.</i>	WV	2006	639 S.E.2d 893	P	Partisan Election	Presidential R Governor D

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<i>Kukor v. Grover</i>	WI	1989	436 N.W.2d 568	D	Nonpartisan Election	Presidential R Governor D
<i>Vincient v. Voight</i>	WI	2000	614 N.W.2d 388	D	Nonpartisan Election	Presidential R Governor R
<i>Campbell County School Dist. v. State</i>	WY	1995	907 P.2d 1238	P	Merit Selection	Presidential R Governor R
<i>Campbell County School Dist. v. State</i>	WY	2008	181 P.3d 43	D	Merit Selection	Presidential R Governor D

