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THE INFLUENCE OF STUDENT MOBILITY ON

GRADE 5

NEW JERSEY ASSESSMENT OF SKILLS AND KNOWLEDGE SCORES

Kent Antonio Thompson

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Submitted in partial fulfillment of the
requirements for the degree of
Doctor of Education

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SETON HALL UNIVERSITY
COLLEGE OF EDUCATION AND HUMAN SERVICES
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APPROVAL FOR SUCCESSFUL DEFENSE

Doctoral Candidate, **Kent A. Thompson,** has successfully defended and made the

required modifications to the text of the doctoral dissertation for the **Ed.D.** during this

Spring Semester 2015.

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The mentor and any other committee members who wish to review revisions will sign
and date this document only when revisions have been completed. Please return this
form to the Office of Graduate Studies, where it will be placed in the candidate's file and
submit a copy with your final dissertation to be bound as page number two.

Abstract

This cross-sectional, correlational, explanatory study sought to explain the influence of student mobility on the total percentage of students who scored Proficient or Advanced Proficient (TPAP) on the New Jersey Assessment of Skills and Knowledge (NJ ASK) on both Grade 5 Language Arts Literacy and Mathematics in 2010-2011. The analysis included simultaneous and hierarchical regression models for student, school, and faculty variables. All data explored in this study pertained to 696 public elementary schools in New Jersey during the 2010-2011 academic year. The results of this study revealed that student mobility had no statistically significant influence on proficiency levels on the Grade 5 Language Arts Literacy and Mathematics section of the NJ ASK in 2010-2011.

Keywords: student mobility, NJ ASK, proficiency levels, socioeconomic status

Dedication

Arnold Adolphus Thompson and Myrtle Mae Thompson
"Be good to others but be good to yourself first."
"If you can't be good, be careful."

To Katherine Ann Lundy

Thank you for your endless love and support over the past three years. Words can never

convey my gratitude for all your support for me to accomplish this monumental achievement.

To Shawn Arnold Thompson

Allow my hard work ethic to inspire you to want more in life; control your destiny.

To My Students (1999 – 2014):

I dedicate this work to the many students I encountered over the years. I hope you see in

yourself what I've always seen in you, success. It's your turn!

To My Brothers Christopher, Wayne, and Warren:

Thank you for your patience during the past three years. I am able to return to some form

of normalcy without having a pen or book in hand. Time to face life.

To Travis Johnson:

Thank you for keeping me grounded in the reality of unlimited success.

To Ashleigh Clarke, Walter Huggins, and Christopher Mowatt (The Fellas):

Thank you remaining a "brethren" during this latest journey. It seems as if I've been

going to school forever. Go Utes!

To The Swift Family:

Thank you for those moments of relaxation playing MiMi, going to a concert, or just

watching a movie. I often resisted and y'all persistently insisted.

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CHAPTER I

INTRODUCTION

Background

Officials at the New Jersey Department of Education (NJDOE) have repeatedly stated that criterion-referenced standardized tests provide an important snapshot of student learning. Accountability policies that utilize high-stakes tests to ascertain learner's progress and teacher effectiveness have been in use in New Jersey in one form or another since the inception of the high school exit exam in 1989. But societal conditions often interfere with learner's ability to demonstrate their knowledge on standardized tests (Sirin, 2005). Poverty, student mobility, gender, race, and special education needs can influence achievement on standardized tests (Titus, 2007). Accountability policies fail when they do not take into account the influence of non-academic issues of learners on standardized test output.

New Jersey school districts are mandated to administer yearly high-stakes tests to gather data on student achievement for accountability purposes (Marchant, 2004). Bureaucrats at the NJDOE originally claimed that the New Jersey Assessment of Skills and Knowledge (NJ ASK) accurately assessed levels of student learning in Mathematics and Language Arts Literacy. The NJ ASK Technical Report (NJDOE, 2011g) described the NJ ASK as "an integrated program of testing, accountability, and curriculum and instructional support" (p. 1). Prior to the inception of the Partnership for Assessment of Readiness for College and Careers (PARCC), the NJ ASK was administered to all students in Grades 3 through 8 and one time in high school to quantify academic achievement on a scale of 100-300, with 100-199 representing Partially Proficient, 200-249 representing Proficient, and a score of 250-300 representing Advanced Proficient. (NJDOE, 2011g, p. 109).

NJDOE bureaucrats utilized the assessment results as a reporting tool to meet guidelines of the No Child Left Behind (NCLB) legislation. The NCLB legislative act requires that schools meet annual achievement objectives. The NJ ASK scores were primarily used to report annual measurements of student achievement to state and government stakeholders (federal, state, local) in order to satisfy the accountability mandates of NCLB. In addition to state and federal accountability requirements, local school district officials often use NJ ASK scores as a decision-making tool for placing students in academic course sequences and securing resources (Tienken, 2008).

The use of state assessment results to make important decisions about student placement into academic tracks is potentially troublesome given the various out-of-school factors that can influence those results (Tienken & Orlich, 2013). The transition of students from Grade 5 to Grade 6 is one transition where NJ ASK 5 results are used by some school administrators to make decisions about which middle school academic tracks, basic skills, or gifted and talented programs students are assigned (Solarzano, 2008; Tienken, 2008).

Student Mobility

Student mobility is an issue that influences student achievement on standardized tests and thus could influence the accountability decisions made by state and federal education agencies as well as influence the decisions made by school administrators about student academic placements. Student mobility refers to the change in school enrollment during or prior to completion of a full academic year (Strand & Demie, 2007). The movement of families can be caused by financial hardships, job relocation, or military service obligations. Changes in learning settings prior to completion of an academic year tend to offset student achievement.

The literature identifies student mobility as a factor that can negatively impact academic success. Because student mobility is outside the control of students, school administrators, and teachers, some educators and students might be getting punished for factors that they are unable to regulate (Rumberger, 2003; Tienken & Orlich, 2013). Student mobility can create learning gaps in content. When accrued over long periods of time, content learning gaps "negatively impact the academic achievement of mobile students" (Dalton, 2013, p. 35).

The negative learning conditions caused by mobility can challenge the ability of mobile students to remain on task while adjusting to a new social setting and to teachers, administrators, and academics (Offenberg, 2004).

Statement of the Problem

Student mobility influences performance on standardized achievement tests (Rhodes, 2007; Titus, 2007). Much of the existing literature focuses on the influence of mobility on graduation from high school. Further quantitative research is needed to understand how mobility influences student achievement in the elementary grades, specifically at the important transition point from elementary school in Grade 5 to middle school in Grade 6. The existing relational, quantitative, and explanatory literature on the topic of the influence of student mobility on student achievement on high-stake tests of Language Arts and Mathematics in the upper elementary grades is limited. Furthermore, little is known specifically about the influence of student mobility on Grade 5 achievement in Language Arts and Mathematics on the NJ ASK 5. It is difficult for school administrators, teachers, and policy makers to develop appropriate interventions if the strength of the influence on a problem is unknown.

Purpose of the Study

My purpose for this study was to explain the relationship between student mobility and performance on high-stakes tests in Language Arts Literacy (LAL) and Mathematics among fifth-grade students at schools serving average-income populations and schools serving low-income populations in New Jersey. Utilizing the 2010-2011 NJDOE dataset, I analyzed the relationship between student mobility and NJ ASK 5 LAL and mathematics scores. Correlational statistical tests were utilized to ascertain the strength and direction of the relationship among variables.

Research Questions

I sought to explore the influence of student mobility on the percentage of students who score Proficient or above on the NJ ASK 5 Mathematics and Language Arts sections. The study was guided by the following overarching research question: What is the influence of student mobility on the percentage of students who score Proficient or above on the NJ ASK 5 mathematics and language arts sections when controlling for other student and school factors that are known to influence achievement?

Four specific research questions emerged:

1. What is the strength and direction of the relationship between the percentage of student mobility in a school and the percentage of Grade 5 students scoring Proficient and above on the NJ ASK Language Arts Literacy section?

2. What is the influence of student mobility in schools that serve a low-socioeconomic student population on the percentage of students who score Proficient or above on the NJ ASK 5 Language Arts section when controlling for student and school-level variables that influence achievement?

3. What is the strength and direction of the relationship between the percentage of student mobility in a school and the percentage of Grade 5 students scoring Proficient and above on the NJ ASK Mathematics section?

4. What is the influence of student mobility in schools that serve a low-socioeconomic student population on the percentage of students who score Proficient or above on the NJ ASK 5 Language Arts section when controlling for student and school-level variables that influence achievement?

Null Hypotheses

Null Hypothesis 1: No statistically significant relationship exists between the percentage of student mobility in a school and the percentage of Grade 5 students scoring Proficient and above on the NJ ASK Language Arts Literacy section.

Null Hypothesis 2: No statistically significant relationship exists between the percentage of student mobility in a school and the percentage of Grade 5 students scoring Proficient and above on the NJ ASK Mathematics section.

Null Hypothesis 3: No statistically significant relationship exists between student mobility in schools that serve a low-socioeconomic student population on Grade 5 NJ ASK student achievement in Language Arts Literacy when controlling for student and school-level variables that influence achievement.

Null Hypothesis 4: No statistically significant relationship exists between student mobility in schools that serve a low-socioeconomic student population on Grade 5 NJ ASK student achievement in Mathematics when controlling for student and school-level variables that influence achievement.

Design and Methodology

This correlational, explanatory, cross-sectional research design with quantitative methods used 2010-2011 publicly available data from the NJDOE. Results from NJ ASK for Grade 5 for 2011 were analyzed. I examined the influence of student mobility on teacher, student, and school variables that correlate with proficiency levels in Language Arts Literacy and Mathematics. The sample for this study consisted of 696 public elementary schools in New Jersey that administered NJ ASK in Grade 5 for 2010-2011. Data from each of the 696 public elementary schools were utilized in a multiple regression and a hierarchical regression analysis using the "Simultaneous" or "Enter" method. Simultaneous regression creates a prediction model based on a limited number of predictors (Leech, Morgan, & Barrett, 2008).

Independent/Predictor Variables

Independent variables associated with student, staff, and school were identified from the 2010-2011 New Jersey School Report Card. The primary focus of this study is the influence of student and school variables, if any, on academic achievement for 2010-2011 (see Table 1).

Table 1

2010-2011 New Jersey School Report Card Subgroups

Staff Information	Student Information	School Information
Faculty Mobility	Proficiency of economically disadvantaged tested in Mathematics	Instructional Time
Faculty Attendance	Proficiency of economically disadvantaged tested in Language Arts Literacy	
Advanced Degree (MA+)	Total Proficient and Advanced Proficient for Mathematics	
	Total Proficient and Advanced Proficient for Language Arts Literacy	
	Student Mobility	
	Percentage of students with disabilities	

Dependent/Outcome Variables

District percentages of students scoring Proficient or above on the NJ ASK 5

Mathematics and Language Arts sections were the dependent variables. NJ ASK 5 is a criterion-

referenced assessment used by the New Jersey Department of Education to measure how well

students have mastered knowledge and skills in the New Jersey Core Curriculum Content

Standards (NJCCCS) that were created by the State Department of Education. Scoring range for

NJ ASK 5 is 0 – 300 with categories of Partially Proficient (<200), Proficient (200-249), and

Advanced Proficient (250-300). The NJ ASK 5 is also used to measure the Annual Yearly

Progress (AYP) required by the federal government's No Child Left Behind (NCLB) Act to

identify schools in need of additional services or restructuring. Teachers and administrators use

NJ ASK assessments as a diagnostic tool for students in need of remedial training (NJDOE,

2014). The NJDOE and local school districts often use NJ ASK scores as a decision-making tool

for student placement and securing assignments (Tienken, 2008).

Conceptual Framework

Student mobility has a demonstrated influence on academic achievement and other school

outputs, including lower scores on high-stakes tests, increased rates of absenteeism, increased

grade retention, and increased risk of high school dropout. Mehana and Reynolds's (2004) meta-

analysis revealed negative effects of mobility on the academic achievement of students. Strand

(2002) and Strand and Demie (2007) revealed elementary students experience greater rates of

mobility than older students. Crowley (2003) noted that mobility negatively affects academic

performance. The focus of these studies tends to target the primary grades or high school as a

pivotal point in academic achievement. Overall, the construct for my study rests on the notion

that mobility is an influence at important transition points in the K-12 academic career of

students, and thus, more needs to be known about student mobility at the elementary school to

middle school transition.

Significance of the Study

Researchers have conducted numerous studies on student mobility and its effects on

academic success and performance on standardized achievement tests (Rhodes, 2007; Titus,

2007). Mobility is defined as movement of students from one school or district to another prior

to promotion or grade completion (Gruman et al., 2008). Although much of the existing

literature focuses on the influence of mobility on high school graduation (a measure of academic

success), there is a paucity of literature on the influence of student mobility on student performance on high-stake tests of Language Arts and Mathematics in the upper-elementary grades. My study extends the extant literature on the influence of student mobility on student achievement by creating a bridge between the literature taught in the primary grades and the literature taught in high school..

Findings from this study will hold significance to school administrators who use high-stakes tests to make academic-track placements in middle school (Tienken, 2008). More specifically, New Jersey school administrators and teachers could benefit from the study's findings that might provide a rationale for the need to develop solutions for offsetting influences relating to mobility and student achievement, as measured by performance on the NJ ASK 5 in the content areas of Language Arts Literacy and Mathematics.

Limitations of the Study

Several limitations exist for this study of student mobility and NJ ASK 5 scores. First, mobility is not recorded according to actual student moves within an academic year (Rumberger, 2003) but rather by percentage of student population leaving or entering school. Due to this variation in data recording, study findings may not reflect the true impact of student mobility on each individual student's performance on the NJ ASK 5.

Second, due to limiting the research to only NJ ASK 5 scores for 2011, previous data on mobility for cumulative effect are unknown. A third limitation is that the cause of student mobility is unknown and unable to be quantified. It is possible that different causes for mobility produce differentiated results. Additionally, the data set did not distinguish between different forms of mobility.

Furthermore, due to the use of the NJ ASK 5 scores as the dependent variable, certain biases might exist that hinder analysis of mobility as it relates to economically disadvantaged students' performance; a high percentage are minorities living below the poverty level.

The correlational design limits the ability to draw cause-and-effect conclusions about the impact of student mobility on standardized-test results.

Delimitations of Study

This study is delimitated in five areas:

1. This study is based on data collected from the 2010-2011 NJ ASK Grade 5 scores for Language Arts Literacy (LAL) and Mathematics.

2. Reviewers are cautioned when generalizing findings to other populations of students. Results may or may not hold true for other grade levels' NJ ASK 3, 4, 6, 7, or 8 data.

3. This study does not address the various types of mobility that might influence academic achievement.

4. The results of this research may or may not be typical of other grade-level performance as measured by NJ ASK 3, 4, 6, 7, or 8.

5. Interpretation of variables that signify academic achievement is limited to NJ ASK 5 scores only.

Definition of Terms

Achievement Gap – variance of student achievement between socioeconomic groups as defined by district factor group.

Annual Yearly Progress (AYP) – The NCLB requires that all students meet state-determined proficiency levels by 2014 and that schools demonstrate annual yearly progress

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toward this goal. For New Jersey, students must reach 100% mastery in Language Arts Literacy and Mathematics (NDOE, 2011a).

Average Class Size – Average class size for elementary schools (Pre-K through Grade 8) is based on the enrollment per grade divided by the total number of classrooms for that grade. For elementary grades, the state average is the statewide total enrollment for each grade divided by the statewide total number of classrooms in that grade (NJDOE, 2011a).

District Factor Group (DFG) – The system the State of New Jersey uses to identify the socioeconomic status of schools and school districts. The factor groups range from A, which has the lowest socioeconomic status, to J, which is considered a wealthy district (NJDOE, 2011b).

Faculty Attendance Rate – This is the average daily attendance for the school's faculty. It is calculated by dividing the total number of days present by the total number of days contracted for all faculty members (NJDOE, 2011b).

Enrollment by Grade – Grade-level enrollment is obtained from the school districts' New Jersey Standards Measurement and Resource for Teaching (NJ SMART) state submission. NJ SMART is a comprehensive data warehouse, student-level data reporting, and unique statewide student identification (SID) system (NJDOE, 2011a)

Faculty Mobility Rate – This represents the rate at which faculty members come and go during the school year. It is calculated by using the number of faculty who entered or left employment in the school after October 15 divided by the total number of faculty reported as of that same date (NJDOE, 2011b).

High-Stakes Testing (HST) – High-stakes testing involves the use of standardized instruments designed to measure student progress toward established educational goals. Schools

and districts are held accountable for students who do not make progress (Amerin & Berliner, 2002).

Limited-English-Proficient (LEP) students – This term denotes the percentage of LEP students in the school. It is calculated by dividing the total number of students who are enrolled in Limited-English-Proficient programs by the total enrollment (NJDOE, 2011a).

New Jersey Assessment of Skills and Knowledge (NJ ASK) 3, 4, 5, 6, 7, and 8 – The NJ ASK is New Jersey's statewide assessment system comprised of state tests designed to measure student progress in the attainment of the Core Curriculum Content Standards. Under the No Child Left Behind Act of 2001 (NCLB), all states are required to assess student progress in Language Arts and Mathematics in Grades 3-8 and Grade 11. The state also assesses science in Grades 4 and 8 (NJDOE, 2011g).

No Child Left Behind (NCLB) – The NCLB Act is a federal law passed in 2001 that aims to raise the standardized-test scores of all students to 100% proficiency in Language Arts Literacy and Mathematics by 2014 (USDOE, 2002).

Student Attendance Rate (SAR) – The student attendance rate reflects the grade-level percentages of students on average who are present at school each day. These rates are calculated by dividing the sum of days present in each grade level by the sum of possible days present for all students in each grade. The school and state totals are calculated by the sum of days present in all applicable grade levels divided by the total possible days present for all students (NJDOE, 2011a).

Student/Faculty Ratio – This is the number of students per faculty member. It is calculated by dividing the reported October 5 school enrollment by the combined full-time

equivalents (FTEs) of classroom teachers and educational support services personnel assigned to the school as of October 15 of the school year (NJDOE, 2011a).

Student Mobility Rate – This is the percentage of students who entered and left during the school year. The calculation is derived from the sum of students entering and leaving after the October 15 enrollment count divided by the total enrollment (NJDOE, 2011a).

Organization of the Study

In Chapter 2, I present a review of literature on high-stakes testing, student mobility, and student achievement. In Chapter 3, I explain the methodology and procedures used to analyze NJ ASK 5 data for this study. Chapter 4 presents results from the statistical findings of the study. In Chapter 5, I provide conclusions and recommendations for policy and practice.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

The purpose of this study was to explain the relationship between student mobility and performance on high-stakes tests in Language Arts Literacy (LAL) and Mathematics among fifth grade students at schools serving average-income populations and schools serving low-income populations in New Jersey. The main research question guides the review of literature and comprises the following sections: historical overview of high-stakes testing, new era of high-stakes testing, student mobility, student mobility and academic achievement, New Jersey Report Card variables, and theoretical framework.

The purpose of this literature review was to identify and evaluate empirical studies and landmark works that attempt to explain the significance, if any, of the relationship between student mobility and student achievement on high-stakes testing. The aim was to provide school administrators, teachers, policymakers, and researchers with evidence that might be informative about the association between student mobility and academic achievement.

Literature Search Procedures

Boote and Beile's (2005) framework for conducting a scholarly literature review guided the selection and presentation of literature in this chapter. The literature was accessed through EBSCOhost, ProQuest, Academic Search Premier, Google Scholar, and ERIC as well as online print and print editions of peer-reviewed educational journals. Sections of literature review may include, but not are limited to, quasi-experimental, meta-analytical, experimental, and/or non-experimental group studies. Key terms were used to search databases: high-stakes testing, student mobility, academic achievement, curriculum change and high-stakes testing, retention,

English-language learner, academic success, No Child Left Behind (NCLB), pros of high-stakes testing, cons of high-stakes testing, and history of high-stakes testing.

Inclusion and Exclusion Criteria for Literature Review

Studies that met the following criteria were included in this review:

1. Peer-reviewed publications or government reports

2. Experimental, quasi-experimental, correlational/relational, non-experimental with control groups, or quantitative empirical control group research designs

3. Published within last 12 years, with the exception of relevant seminal sources

4. Educational policy and research books specializing in high-stakes testing, school reform, and accountability

5. Quantitative meta-analyses.

Historical Overview of High-Stakes Testing in Education

Twentieth century "standardized assessments" have been used to decide student proficiency levels at the district level and achievement levels in specific subject matter at the individual school level (Nichols & Berliner, 2007). The rationale for increased high-stakes testing is led by accountability. The Elementary and Secondary Education Act (ESEA) of 1965 proved to be a watershed moment for the American public education system by establishing a framework for increased accountability of schools regarding specific student outcomes (Amrein & Berliner, 2002).

Multiple concerns remain in America regarding high-stakes testing driving education reform in PK-12 (Hursh, 2008). Reform efforts are geared toward high-stakes testing, primarily measuring student achievement and school effectiveness (Thompson & Allen, 2012). Nichols and Berliner (2007) offer their summation that the existing emphasis on using tests for making

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important decisions about students, teachers, and administrators in the elementary and secondary schools—and also for evaluating the schools and school systems those students attend—can be traced back to the 1965 authorization of the ESEA.

One of the Jeffersonian principles of the American education system is preparing citizens to participate actively in democratic decision-making (Tienken & Orlich, 2013). The authors of the *Cardinal Principles of Secondary Education* emphasized the importance of applying knowledge, wherein the instruction of subject matter is not measured as an independent, or "logically organized science," but rather as the "ability to apply knowledge to activities of life" (National Education Association of the United States, Commission on the Reorganization of Secondary Education, 1918, p. 2). Tienken and Orlich (2013) emphasized the importance of education to a nation's ability to remain a productive society of thinkers capable of competitiveness on a global scale.

State and federal legislators have enacted numerous mandates to measure the output from the American public school system since the launch of Sputnik I. The current form of measurement is via results from state-mandated standardized testing. Standardized testing has been the centerpiece of educational reforms since the release of *A Nation at Risk* (U.S. Department of Education National Commission on Excellence in Education, 1983). From the 1983 *A Nation at Risk* report to the 2001 No Child Left Behind Act (NCLB), the American education system has been pressured to measure student success appropriately.

Legislators have enacted numerous laws to measure the American system of education from the 1950s to present in the form of high-stakes testing. The launch of Sputnik by the Soviets in 1957 propelled American education into an on-going race for intellectual superiority. From A Nation at Risk Report in 1983 to No Child Left Behind Act (NCLB) in 2002, the

American education system has been under pressure to measure student success. NCLB

mandates high-stakes testing in language arts and mathematics in grades 3-8 and once again in

high school, prior to graduation.

Policymakers have sought to reinstate the importance of science with annual high-stakes

tests in fourth, eighth, and eleventh grades (USDOE, 2010). The notion of 100% proficiency by

all students in Language Arts, Mathematics, and science by 2014 began to erode with dismal

performance following the early implementation of NCLB (Gay, 2007). Policymakers sought

other methods to promote rigor in and accountability of schools. The restructuring of NCLB in

2010 for the more aggressive Common Core State Standards (CCSS) and upcoming Partnership

for Assessment of Readiness for College and Careers (PARCC) in 2014 has refocused student

achievement as the central theme for policymakers to promote academic rigor in and

accountability of schools (Weckstein, 2003).

Regardless of NCLB outcomes, the education system is once more shifting methods of

learning to address measurements of accountability that may enhance the progress of public

education. The Common Core State Standards (CCSS) represent the current accountability

system measuring academic achievement (Phillips & Wong, 2012).

New Era of High-States Testing in Education

The Common Core State Standards (CCSS) era and corresponding national testing, in

which New Jersey will participate, will be conducted via the Partnership for Assessment of

Readiness for College and Careers (PARCC). The focus on test results as measures of

accountability will likely not dissipate. Experts in the fields of policy and research have

advocated for adequate measurements of student success but have failed to reach consensus on

methodologies (Zhao, 2009). Numerous methods of high-stakes testing offer mixed conclusions

among researchers who report comparisons between achievement trends and policy recommendations regulating uniform measures of accountability (Nichols, Glass, & Berliner, 2006).

Educational leaders are challenged with the effects of high-stakes testing on student achievement and school effectiveness to meet increasing levels of proficiency in Language Arts, Mathematics, and science. Policymakers continue to enact mandates to ensure that students master English, Mathematics, and science and that teachers deliver instruction that supports learning regardless of negative effects to individuals or learning environments. Nichols, Glass, and Berliner (2006) contend that as students and teachers work harder, accountability measures increase.

Zhao (2009) maintains that consensus is necessary for proper measurement of achievement. Moreover, Nichols and Glass (2006) referred to the flaws of high-stakes testing that hinder learning beyond prescribed content knowledge. Therefore, a review of the existing literature relative to high-stakes testing, specifically the influence of mobility on high-stakes testing and the significance of mobility on high-stakes testing was helpful.

High-stakes testing has played a prominent role in American education for over a century and has become "ubiquitous" in U.S. education (Barton, 2002). Supporters of high-stakes testing believe that the quality of American education can be vastly improved by introducing a system of rewards and sanctions that are triggered by students' standardized-test performance (Raymond & Hanushek, 2003). Opponents worry about the consequences of testing contributing to unintended and corrupt educational practices (Jones, Jones, & Hargrove 2003; Nichols, Glass, & Berliner, 2006). Rewards and sanctions have become associated with state-mandated assessments.

School-district officials may attach monetary incentives for administrators and teachers in high-performing schools. Consequently, school personnel who are deemed non-proficient face possible withholding of salary increments or termination. Supporters and opponents must contend with shifts in education from the purpose of providing life-long learning to fleeting standards of knowledge. Methods of measurements that negate content knowledge, regardless of substance, create results lacking meaningful interpretations.

Transformation through High-Stakes Testing and Accountability

The transformation of the American education system has occurred through high-stakes testing (Kim & Sunderman, 2005). High-stakes testing with support from policymakers has influenced the learning environment. Yet, high-stakes testing provides a mere snapshot measurement of student knowledge without factoring in methods of instruction (Koretz, 2005). Results of high-stakes testing may not support the intended purpose of student achievement (Amrein & Berliner, 2002). Furthermore, high-stakes testing for accountability contributes minimally to student achievement and may have adverse effects (Elmore, 2002).

States and school districts rely heavily on the promise of high-stakes testing to identify gaps in student learning, but reporting tools lack proper measurement of student achievement (Hanushek, Kain, & Rivkin, 2004). The validity of high-stakes testing to measure student achievement accurately lacks support (Tienken & Orlich, 2013).

Reporting tools measure only one level of student learning, as defined by high-stakes testing (Marzano, 2003). However, high-stakes testing is the focus of accountability in the Common Core era. Academic achievement requires a foundation grounded in theory and application of knowledge for success beyond limited assessments.

Global Competition of High-Stakes Testing

The need to ensure student academic success on a narrow set of measures, by evaluating academic performance through some form of high-stakes testing is a growing trend across the globe (Organization for Economic Cooperation Development, 2012). For example, the Program for International Student Achievement (PISA) was administered in 2000 by the Organization for Economic Cooperation Development (OECD) to evaluate the quality and efficiency of the school systems of almost 70 countries. PISA claims to measure students' ability to apply reading, writing, and science knowledge. The OECD and PISA represent educational driving forces for economic development and national competitiveness (Sjoberg, 2012).

Global competition may align curriculum and instruction with an assessment that transforms content knowledge into practical application of skills and knowledge. Adoption of CCCS seemingly creates a bridge between students' ability to learn and then apply skills to meaningful tasks—the primary goal of PISA.

Impoverished Influence on High-Stakes Testing

The success of the United States in increasing its standing on the PISA assessment would require a series of policy steps to curtail dismal educational results that exist across impoverished areas of the country (OECD, 2012). Poverty creates handicaps for students from pre-school through high school (Beatty, 2010). The systematic development of structured learning environments requires removing patterns of targeted failure for the most vulnerable members of society—impoverished school-aged children. Beatty argued that poverty merging with academic or social limitations might hinder students' performance for years, negatively impacting the scope of their learning. Socioeconomic factors create burdens on learning that can have life-long implications for success or failure.

High-stakes testing has etched itself into the grand narrative of America's public school system (Madaus, Russell, & Higgins, (2009). A rationale exists to identify forms of student success that account for teacher and school accountability regardless of socioeconomic status.

Student Mobility

Mobility has become a way of life for some families who seek adequate housing, safe neighborhoods, and quality schools. Approximately 100.2 million residents of the United States moved from one domicile to another between 2005 and 2010 (Ihrke & Faber, 2012). Roughly 1.5% moved from abroad; 21.6 moved within the same county; 6.7% moved to a different county within the same state, and another 5.6% moved to a different state (Ihrke & Faber, 2012).

School-aged children are among the highly mobile in American society. Approximately 45% of the population between the ages of five and nine years moved between 2005 and 2010. The 10-14-year age group saw roughly 35% of its population move, and about 48% of 15-19 year-olds moved within the same time period (Ihrke & Faber, 2012).

New Jersey is not immune to student mobility. Between 2011 and 2012, 133,985 residents moved to New Jersey from different states. Moreover, 60,749 individuals living abroad relocated to New Jersey (Ihrke & Faber, 2012), and many of those who moved were children. Regardless of circumstances, many more individuals and families move out of New Jersey.

The impact of student mobility extends beyond an individual to entire learning environments (Rumberger, 2002). Classrooms adjust to student dynamics. Teachers and administrators have no control over student mobility but might be able to help ameliorate the effects with adequate procedures and resources to ensure continuous learning (Weckstein, 2003).

Characteristics and Causes of Student Mobility

Residential mobility is the most common cause of student mobility. Moving without changing school is as common as changing schools without changing residence for many students. Crowley (2003) reported, "Children who move from one domicile to another may also move from one school to another" (p. 22). Residential mobility might involve relocation to more favorable living arrangements or a more suitable educational setting. Crowley further cautions that "frequent moves, moves determined by external forces rather than parental choice and moves that do not result in significant housing improvements will be detrimental to children" (2003, p. 23). Residential stability is crucial to family structure.

"The nature and quality of education parents provide is influenced by the housing in which the family resides" (Crowley, 2003, p. 23). Modifications to family structure frequently impact school enrollment. Residential mobility is often related to financial hardship due to parental employment or modification in household structure from two-parent households to single-parent household or vice versa (Hartman, 2003). Stress in family structure such as maritial separation or divorce may result in residential mobility and may contribute to disruption of the learning environment.

Economic status alters residence and learning environments. Families are affected by residential mobility creating shifts in student mobility (Crowley, 2003). Ethnicity and socioeconomic status tend to predict student mobility. Poor and minority families are more mobile than their middle-class and White counterparts. "The negative effects of residential mobility are most burdensome for children who are poor and who are members of racial minorities" (Crowley, 2003, p. 23). Lower socioeconomic status increases probability of

residential mobility. Minority families tend to be renters rather than homeowners. Blacks tend to

relocate more often than other minorities.

Student Mobility Effect on Academic Achievement

Under NCLB and NCLB waiver systems, students are tested regardless of grade-level

readiness. For example, an individual student in Grade 5 performing on a third-grade level

would be administered a fifth-grade high-stakes test, regardless of socioeconomic or disability

factors. Marchant (2004) noted, "It is the consequences and concern regarding those

consequences that impact students, and those consequences are significant" (p. 3). Grade-level

readiness might impact student performance on high-stakes tests required by the NCLB

legislation (Marchant, 2004). Student perceptions of learning misalign with high-stakes testing.

Paris (as cited in Marchant, 2004) states the following:

> It is because of what is at stake that students learn to value or fear standardized tests.
>
> Students come to devalue learning and schooling, and shift their emphasis to, "Is this
>
> going to be on the test?"

Students are challenged to meet current grade-level standards when they lack mastery of

prior grade level knowledge. Marchant (2004) noted, "Such that, if a cut-off score equates to

40% percentile, the decision makers know that's approximately 40% of the test-takers that will

not "pass" the test" (p. 3). Basic grade-level skills are essential for students to perform

effectively on high-stakes tests (Marchant, 2004). Students on grade level might perform better

on high-stakes tests. The lack of grade-level readiness poses significant challenges for mobile

students to meet high-stakes testing standards of proficiency. "Consequently, much can and

should be done both to prevent some types of mobility, especially those caused by school factors,

and to mitigate some of the harmful effects from mobility" (Rumberger, 2002, p. 2). Moreover,

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school officials are challenged to provide adequate instruction regardless of student mobility and grade-level readiness. Mobile students might encounter additional hurdles to achievement with grade-level content when attending schools with different curriculum and pacing guides. Hartman (2003) observed the following:

> The major education reforms put forward smaller classes and schools, lower teacher/student ratios, better-trained teachers, improved physical plant and facilities, the increased emphasis on testing and accountability, etc.—all are seriously undermined, if not made irrelevant, if the classroom is a revolving door (p. 1).

Meta-Analysis

Reynolds, Chen, and Herbers (2009) "assessed the effect of school mobility on achievement and dropout in 16 studies from 1990-2008 that included pre-mobility achievement" (p. 1). " . . . mobility was defined as any change in schools between kindergarten and high school" (Reynolds, Chen, & Herbers, p. 5). Sample sizes of 16 studies had a weight of 2,000 with 1,286 being the next largest sample size. Researchers used pre-mobility scores as a predictor variable for reading and mathematics achievements.

Researchers classified 9 of the 16 studies as demonstrating a high level of statistical/methodological control because they included at least three of the four categories of covariates (p. 7). These investigators used multiple-regression analysis "to assess whether study characteristics (e.g., type of mobility measure, grade level, prior achievement, and family SES) predict variation in effect size." Reynolds et al. (2009) "converted all estimates to the standardized mean difference (Cohen's *d*) or standard deviation (SD) units" (p. 8).

Academic achievement tends to decrease with increased mobility. Non-mobile students (those who remain in a school through the academic year) tend to show significantly greater

academic achievement when compared to their mobile counterparts (Reynolds, Chen, & Herbers, 2009). Mobility often creates a gap in learning. Performance measures show significant decline in grade-level achievement for language arts and mathematics (Hartman, 2003; Marchant, 2004; Rumberger, 2002). Controlling for mobility might substantially increase achievement in the elementary years of learning. Decreasing mobility might improve the academic performance of economically disadvantaged students by lessening time away from formal instruction. Academic performance in language arts and mathematics tend to diminish with low school-attendance (Crowley, 2003).

<div style="text-align:center">

New Jersey Report Card Variables

Staff Variables

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Faculty Credentials

D' Agostino and Powers (2009) conducted an analysis of 123 studies from 1920 through 2004 about teachers' test scores and academic performance in course preparation. Authors note, "Requiring candidates to take a test was construed as a means to ensure that preservice programs maintained high and uniform academic standards and provided candidates the opportunity to develop a wide range of skills necessary to teach effectively" (pp. 146-147). "Driven by a prevailing belief that many preservice programs lacked rigor, overemphasized teaching courses, and taught a narrowly defined and often irrelevant set of teaching approaches, states relied on paper-pencil tests to ensure public protection from poor practice" (D'Agostino & Powers, 2009, p. 149). Effect sizes were computed from correlation estimates for random effect models by conducting modified weighted regression analysis. Nearly 30% of the effect sizes, however, were based on preservice measures of performance; and about 30% of effects were based on a variety of other criteria, including third-party observation, self-appraisals, student evaluations, and student test scores (D'Agostino & Powers, 2009, p. 157).

Among indicator types, it is evident that GPAs yielded larger effects than any type of teacher test. The average weighted GPA effect of .25 was greater than the content and professional knowledge test effects (.17 for both) and the basic skills test effect (.09); and because none of the teacher effect estimates were greater than or equal to the 95% lower bound estimate of .23 for GPA, the difference was statistically significant, $p<.05$. (p. 160). Effects derived from preservice measures were significantly larger, $p<.05$, than in-service effects. Validity coefficients were relatively large until the 1930s and dropped significantly from the 1940s onward. Since the 1970s, there has been a slight but steady decline in effect size magnitude, and studies conducted over the last 15 years have yielded rather diminutive coefficients.

Most of the more recent studies were based on contemporary tests or present university grading practices (D'Agostino & Powers, 2009, p. 160). Validity coefficients for secondary teachers were slightly higher than elementary teachers, but the difference was not statistically significant. Disaggregating GPA by type of course (education major, student teaching courses, and overall undergraduate) revealed that GPA in teaching produced a larger effect, .29(95% CI: .24-.34), than overall undergraduate GPA, .24 (95% CI: .21-.27), and education major GPA, .22 (95% CI: .18-.26) (D'Agostino & Powers, 2009, p. 161). GPAs taken together yielded a .11 greater effect than all teacher tests combined, which was statistically significant, $p<.01$.

Clotfelter, Ladd, & Vigdor (2007) reported findings from their longitudinal analysis of teacher credentials and student achievement from North Carolina in Grades 3, 4, and 5, spanning years 1995-2004. "The levels of regressions are based on about 1.8 million observations for students in grades 3, 4, and 5. The gains regressions are based on about 1 million observations and represent gains for fourth and fifth graders alone" (Clotfelter et al., 2007, p. 675).

Teachers with more experience are more effective in raising student achievement than those with less experience (Clotfelter et al., 2007). Experienced teachers tend to employ best practices to engage student learning. Clotfelter et al. (2007) found a negative relationship between indicator variables in the math scores, which suggests that teachers who stay are less effective than those who leave, a pattern implying that our estimates of the returns to teaching experience are actually underestimates. Researchers conclude that raising student achievement is partially attributed to teacher experience.

Teachers earning graduate degrees exert no statistically significant effect on student achievement and may display a negative coefficient (Clotfelter et al., 2007). Graduate degrees may keep effective experienced teachers in the profession (Clotfelter et al., 2007, p. 677). Clotfelter et al. (2007) contend the following:

The estimates indicate that the teachers who received their degree prior to entering teaching or any time during the first five years of teaching were no less or no more effective than other teachers in raising student achievement. However, those who earned a master's degree more than five years after they started teaching appear to be somewhat less effective on average than those who do not have a graduate degree (p. 677).

Teacher licensure reflects the type of preparation prior to entering a profession. Clotfelter et al, (2007) observed "negative effects on achievement for those with 'other' types of provisional or emergency licenses, with the estimates ranging from -0.033 to -0.059 across the level and gains model for math and -0.017 to -0.024 for reading" (p. 678). National Board Certification confers certification on the more effective teachers. Coefficients range from 0.024 to 0.055 standard deviations for math and from 0.026 to 0.038 standard deviations for reading (Clotfelter et al, 2007, p. 679).

Qualities of undergraduate programs call into question the effectiveness of teacher preparation. "Teachers who scored 2 or more standard deviations above the average boosted student gains by 0.068 standard deviations relative to the average teacher, and teachers who scored 2 or more standards deviations below the average reduced achievement gains by 0.062 standard deviations" (Clotfelter et al., 2007, p. 679). Institutions' competitive ranking does not make a teacher any more effective on average relative to teachers from other institutions (p. 680).

Clotfelter et al. (2007) found teachers with weak credentials adversely affect math more than reading achievement. "For math, total effect for having a weak teacher ranges from -0.150 to -0.206 standard deviations and for reading from 0.081 to -0.120 standard deviations" (p. 680). Subject teacher experience impacts student achievement. Subject teacher experience for one or two years of experience for math ranged from -0.093 to -0.134 and for reading -0.049 and -0.077 (Clotfelter et al., 2007, p. 680-681).

Teacher preparation brings into question undergraduate academic programs and types of certifications required by professions (D'Agostino & Powers, 2009). National Board Certification creates higher standards of teacher accountability that transforms to greater student achievement (Clotfelter et al., 2007). Evaluation of teacher GPAs is a greater indication of ability to promote student achievement (D'Agostino & Powers, 2009). Not attaining graduate degrees adversely affects teacher retention and achievement of those having less than five years experience in the profession (Clotfelter et al., 2007).

Faculty Mobility

For this paper, "Hire Today, Gone Tomorrow: New Teacher Classroom Assignments and Teacher Mobility," Feng (2010) "examined whether new teachers were assigned to the

"toughest" classrooms and the impact of such assignment on new teacher mobility" (p. 4). Feng

utilized 1999-2000 School and Staff Survey (SASS), the 2000-2001 Teacher Follow-Up Survey

(TFS), and the Florida Education Data Warehouse (FLEDW) to "cover all Florida public school

teachers who taught during the 1997/98 and 2003/04 school years" (p. 4) to observe mobility

characteristics of 500,458 teachers. Utilizing multinomial logit regression models and

multinomial logit hazard regression models, Feng (2010) was able to illustrate the relationship

between classifications of teacher mobility and the characteristics of classroom assignments.

Intra-district teacher mobility was similar to the national rate of 3.43%, inter-state teacher

mobility was 0.86%, teacher mobility in private schools within the state was 0.09%, and teacher

mobility in private schools in other states was 0.05% (Feng, 2010, p. 20).

Feng (2010) reported, "Teachers with fewer than two years experience were teaching in

schools with lower than average student achievement levels and a higher number of disciplinary

incidents per student compared with teachers with greater than six years of experience" (pp.21-

22). School level minority student enrollments are negatively correlated with teacher retention in

Florida. From this study of teacher mobility in Florida, Feng (2010) concludes the significant

finding that even after controlling for general school environment, classroom settings are

correlated with teacher mobility in both SASS-TFS and FLEDW datasets (p. 25). According to

Feng (2010):

> . . . the effect of initial teaching assignments on teacher mobility and turnover, assigning
>
> new teachers to the "toughest" classrooms could have two possible results. One is to
>
> exacerbate the exodus of teachers from public schools and the other is to lower the
>
> average experience level of the teacher workforce and ultimately reduce student
>
> achievement (p. 3).

Guin (2004) studied a large urban district serving 47,000 students with 4,500 certified staff in 97 schools divided by income and race. Teacher turnover rate refers to a teacher new to a school in a given year (Guin, 2004). Staff Climate Survey (SCS) data from 2000-01, 2001-02, and 2002-03 school year were measurements of teacher turnover. A sample of 15 schools were asked to participate in the study. "Unfortunately, only five schools agreed to participate in this study resulting in a less diverse sample from a geographic and turnover perspective (Guin, 2004, p. 5).

Guin (2004) performed correlations between student demographics and achievement. Positive correlations between teacher turnover and minority students within a school were present (Guin, 2004, p. 6). "Correlation between student performance and turnover rate were also significant, but negative. Schools with higher rates of turnover had fewer students meeting standards on statewide assessments in both reading (Pearson Correlation:-.306. (Sig. 2-tailed): .000, n=418), and math (Pearson Correlation: -.282, Sig. (2-tailed): .000) (Guin, 2004, p. 7). All correlations between teacher turnover and school climate (school climate, teacher climate, principal leadership, teacher influence, feeling respected, and teacher interactions) were negative. Teacher interactions were found to be significant (Guin, 2004, p. 8).

Borman and Dowling (2008) noted, "In addition to efforts to improve the supply of teachers, an interesting amount of research and policy rhetoric has addressed the issue of teacher attrition from the profession and has explored factors that may help retain a greater proportion of the existing teaching force" (Borman & Dowling, 2008, p. 369). Authors examined 34 studies that included teacher demographics, teacher qualifications, school organizational characteristics, school resources, and student body characteristics. Studies reported teacher attrition outcomes

for 19 or 34 studies as logged odds ratios derived from multivariate models, and the remaining

15 studies reported proportions and means (Borman & Dowling, 2008, p. 373).

A Borman and Dowling study of teacher demographic characteristics contrasted 19

studies of male and female teachers and 12 studies comparing White and non-White minority

teachers. Four studies considered marital status as a positive indicator of attrition (Borman &

Dowling, 2008, p. 378). The 19 studies of gender as an indicator of attrition suggest that the

differences between men and women are statistically significant (z=2369967.00, p<.01), and the

odds of men leaving teaching are approximately three fourths of those for women. Alternatively,

by taking the inverse of the odds ratio of 0.77, the result suggests that the odds of women leaving

the profession are 1.30 times those of men. The effect size of teacher race/ethnicity was also

statistically significant (z=91752.76, p<.01), indicating that White teachers are 1.36 times more

likely to leave teaching than non-White minority teachers (Borman & Dowling, 2008, p. 385).

Teacher qualification demographics comprised 13 studies comparing attrition rates of

teachers with a graduate degree to teachers having an undergraduate degree or less. Specialty

areas in which teachers received their training was the subject of a number of studies. Studies

examined elementary and secondary teachers for attrition. Six studies compared attrition for

teachers trained in math or science to teachers having other subject specialties (Borman &

Dowling, 2008, pp. 378-379). The evidence from these studies suggested that the odds of

teachers with a graduate degree leaving teaching were somewhat greater than those for teachers

without a graduate degree (z=672.12, p<.01) A science or math undergraduate degree was

associated with odds of attrition approximately twice those for teachers with other undergraduate

degrees (z=532.34, p<.01). By taking the inverse of the odds ratio of 0.38, the result suggested

that teachers without a certificate had odds of leaving the profession that were 2.63 times greater

than those teachers with a certificate. Secondary teachers had higher odds of attrition relative to special education teachers (z=129706.81, p<.01), but the effect size of 1.02 was very slight. Compared to science and math teachers, the odds of attrition for teachers of any other secondary level subject were 1.12 greater (z=72952.62, p<.010). When secondary science teachers were compared to elementary school teachers, though, their odds of attrition were nearly 1.5 times greater (z-5.44, p<.01). Comparing the odds of attrition for all elementary teachers to those for all secondary teachers, elementary teachers were only 1.02 times more likely to leave the profession, but the difference was of statistical significance (z=79049.05, p<.01) (Borman & Dowling, 2008, p. 387).

School organizational characteristics comprised six studies contrasting attrition rates of teachers working in schools located in an urban or suburban area to those of teachers working in schools located in rural areas. Six additional studies examined the attrition rates of teachers working in public schools relative to those for teachers working in private schools. Three studies used a measure of level of administrative support, which was a 5-point Likert-type scale, for predicting the probability of attrition (Borman & Dowling, 2008, pp. 379-380). The odds of attrition for teachers from urban and suburban schools were only slightly greater than those for teachers from rural schools (1.13), but this effect size was statistically significant (z=176316.27, p<.01). Studies suggested teachers in private schools experienced odds of attrition that were 2.27 times those of teachers from public schools (z=-3354113.00, p<.01). Administrative support using a 5-point Likert-type scale revealed a reduction in the odds of attrition associated with more positive ratings of support (z=2.09, p<.05) (Borman & Dowling, 2008, p. 390).

School resources examined average class size in three studies associated with the

probability of leaving the teaching profession, and two others investigated the relationship between average student-teacher ratio and attrition. The outcome for schools' average class sizes (z=1.82) and student-teacher ratios (z=1.22 revealed no statistically significant differences for either moderator (Borman & Dowling, 2008, p. 390).

Student body characteristics commonly reviewed included the school's socioeconomic composition, student achievement levels, and racial/ethnic composition. The odds of teacher attrition were 1.05 greater for schools with high-SES populations (z-27.37, p<.01). Schools with higher percentages of students qualifying for free or reduced-price meals had higher odds of teacher turnover (z=3.19, p<.01). Schools that had high or above-average achievement scores had lower odds of attrition among their teachers than did schools with lower achievement scores (z= 3.72, p<.01). Higher percentages of students with poor achievement performances were associated with increased odds of attrition (z=8.88, p<.01). Attrition among teachers in predominately minority schools were up to three times greater than those in majority-White schools. Continuous measures of minority students indicated that schools with higher percentages of minorities suffered higher odds of teacher attrition than did schools with fewer minority students (z=5.53, p<.01) (Borman & Dowling, 2008, p. 393).

Teacher mobility greatly impacts academic achievement in low-SES schools (Guin, 2004). Administrative support may lessen yearly mobility of novice teachers (Feng, 2010). Assignments of new-teachers to problematic classes may increase mobility (Borman & Downling, 2008). Class-size and student-teacher ratio have no statistically significant impact on teacher mobility (Guin, 2004). High minority population schools show significant teacher mobility (Borman & Dowling, 2008). Teachers with advanced degrees demonstrate greater mobility (Feng, 2010).

School Variables

Instructional Time

Instructional time is the amount of time students are directly engaged in learning in the classroom. Findings from a study conducted by Gallo and Odu (2009) indicated that instruction time had a strong positive correlation with student achievement in algebra classes at Hillsborough Community College in Florida. Gallo and Odu did a quantitative analysis by looking at 116 students taking Algebra I. Twenty students participated in the algebra class three times a week—Monday, Wednesday, and Friday—for 50 minutes. Seventy-nine students took Algebra I twice a week for 75 minutes, and 17 students took the algebra class one day a week for 165 minutes. All students had to complete a demographic survey and pre-assessment. The demographic survey revealed that the study sample was a good representation of the students in the other 27 community colleges. Using multiple regression analysis, Gallo and Odu concluded that the students who took the algebra class three times a week for 50 minutes consistently did better on standardized math assessments than students taking Algebra I one day a week (Gallo & Odu, 2009). Their findings were similar to the findings of Lazari (2007).

Lazaris's (2007) study sample included 7,542 students taking college algebra courses in a four-year period at Valdosta State University in Georgia. Lazari used a multiple regression analysis to review the relationship of instruction time of students taking algebra three times a week and students taking algebra two times a week and student achievement. Lazari found that in five of seven semesters, students who took algebra three times a week performed statistically significantly better on final exams compared to students taking algebra twice a week (Lazari, 2007).

Student Variables

Free or Reduced Lunch (SES)

Socioeconomic status (SES) and its influence on student achievement have been studied for many years. Overwhelmingly, research has shown that students from lower SES families tend to perform poorly when compared to students from higher SES, affluent families (USDOE, 2003). Using the dataset from the Early Childhood Longitudinal Study (ECLS) for the year 2000, Stull (2013) concluded that a family's SES is the most strongly related variable to a child's achievement. She conducted a quantitative study that examined ethnicity, level of parent education, SES, gender, school environment, and student age. Taking into account all the other variables, SES had a strong positive correlation with student achievement. For every one point higher on the family's SES scale, a student's achievement score increased by 3.389 points. However, students classified as minorities experienced a decrease on student achievement scores. When looking at SES and ethnicity, Stull concluded that ethnicity was statistically significant. Being classified as a minority reduced the student's achievement score by 5.097 points when compared to non-minority students (Stull, 2013).

Sirin (2005) conducted a meta-analysis study of K-12th grade students, which was consistent with Stull's (2013) findings. When taking into account student grade level, minority status, school location, parent education, and gender, Sirin concluded that SES had a strong impact on student achievement. A family's SES had both a direct and indirect relationship to student achievement on standardized tests. Sirin looked at 42 studies conducted from 1982 to 2000 that included over 101,157 students. The sample size in his meta-analysis ranged from 26 students to 21,263 students. A weighted regression analysis showed that there were no statistically significant associations between publication year and the effect size. Sirin also concluded that the magnitude of the relationship between SES and student achievement was

contingent upon several factors: student characteristics, school location, student grade level, parental involvement in the student education process, and minority status (Sirin, 2005).

Student Mobility

Finch, Lapsley, and Baker-Boudissa (2009) conducted a study on Indiana Charter Schools (ICS) and the impact of mobility on academic achievement. Sample size for this study was 647 students, Grades 2 through 6 for years, 2003 through 2006. Researchers report 83% of students received free or reduced lunch, 25% received special education services, and 15% Title 1 programs. Additionally, the mean student-teacher ratio was 22.8 and the mean level teacher experience was 5.5 years. Student academic competency for state assessment was 43% (Finch et al., 2009)

Data analysis using the multilevel Cox proportional hazard model for the dependent variable and independent variables for this study of mobility and Indiana Charter Schools (Finch et al., 2009) found the following:

> The Cox model allowed for inclusion of both categorical and continuous independent variables, and the results are expressed in terms of the strengths and nature of the relationship between the independent variables and the time until a student leaves an ICS (or is censored) in the form of a regression-like coefficient (p. 7).

Student mobility can negatively impact academic outcomes, including achievement test scores and graduation rates (Finch et al., 2009). Researches found that 350 (54.1%) left the ICS system prior to completing all available grades. First-year student attrition was 10.5% of attendance. Second-year student attrition was 23% of attendance with 2.3% leaving ICS in third year (Finch et al., 2009). Mobility from charter schools increases the burden on public schools.

Herbers et al. (2012) evaluated Minneapolis Public Schools (MPS) early academic achievement as a predictor for later academic achievement for 18,011 students categorized as homeless or high residential mobility (HHM) in Grades 3 through 8 from 2005 through 2009. Socioeconomic status was used as a risk factor for academic achievement along with Oral Reading Assessment (ORA) in first grade to predict future academic success. Herbers et al. (2009) noted the following:

> Similar to other children who experience poverty, children identified as homeless or highly mobile (HHM) are more likely than more advantaged peers to be from ethnic minority backgrounds, to experience higher levels of adversity, to have less access to adequate nutrition and physical or social resources, and to suffer from more physical or mental health problems (p. 366).

Researchers utilized an accelerated longitudinal design with random effects for intercept and slope to account for individual variation in achievement trajectories (Herbers et al, 2009). Herbers et al. (2009) contend the following:

> To better understand the emergence of these gaps and differential risk, the present study was designed to examine the predictive significance of an oral reading assessment (ORA) in first grade as an early indicator of academic risk and as a moderator of risks associated with mobility and poverty for later learning, indexed by achievement in third grade and subsequent growth in both reading and math.

Herbers et al. (2009) found 55% of students qualified for free meals and 31% were categorized as not qualifying as HHM. Higher ORA scores in first grade math transferred to third grade with gradual decline through eighth grade. HHM students had lower than average achievement in math. HHM students' reading achievement was greater compared to students

receiving free meals but less than non-HHM population (pp. 368-370). Herbers et al. (2009) convey the following:

> Children who begin school with academic readiness skills and are prepared to engage with teachers, peers, and curricula likely have success in their earliest school experiences that support their motivation for learning and other opportunities that schools may offer them (p. 371).

Parke and Kanyongo (2012) studied the influence of mobility across ethnicities and SES in a large northeastern school district serving 32,000 students in Grades 1 through 12 from 2004-2005. African-American students represented 57% of the student population. Caucasian students represented 38% of the student population. Asian, Hispanic, and American Indian accounted for 6% of the student population. Student population eligible for free or reduced lunch was 64% (Parke & Kanyongo, 2012).

Researchers utilized chi-square analysis to answer the first research question to identify significant relationships between grade level and attendance. Researchers utilized a two-factor analysis of variance (ANOVA) to address the interaction of mobility on mathematics achievement. Researchers utilized Chi-square and ANOVA for examination of mobility at school level for each high school (Parke & Kanyongo, 2012, p. 164).

Parke and Kanyongo (2012) found 80% of Grade 1 students were stable, and the percentage decreased to 47% by Grade 5. Mobile students were lowest in Grade 1 with only 9% but drastically increased to 47% by Grade 5. Grade level and attendance mobility relationship was significant, $X^2(12, N=11,796) = 1096.49$, $p<.001$, with the moderate effect size (.305). Middle school mobility and attendance was significant, $X^2(6, N= 7,597) = 404.27$, $p <.001$, with correlation of .231. Stable attenders decreased from Grades 6-8 (from 77% to 56%), whereas the

percentage of mobile attenders increased (from 7% to 20%). High school mobility and attendance was significant, $X^2(9, N=9,839) = 215.79$, $p<.001$, with a less than strong correlation of ($r=.148$). The authors noted the following:

> With respect to the school, mobility negatively impacts long-range school planning and imposes more demands on administrative staff to keep accurate academic records up- to-date, incorporate new students into classes, and provide support and other services to the mobile students (p. 166).

The relationship between ethnicity and attendance-mobility was significant for elementary grades $X^2(6, N=11,796) = 468.41$, $p<.001$, having a low correlation ($r=199$). Middle school grades ethnicity and attendance-mobility was significant $X^2(6, N=7,597) = 180.59$, $p<.001$, with low correlation ($r=.154$). High school grades ethnicity and attendance-mobility were significant $X^2(6, N=9,839) = 652.20$, $p<.001$, with strong correlation ($r=.257$). Blacks were more mobile than other ethnicities (Parke & Kanyongo, 2012, p. 166).

Student attendance-mobility had a significant impact on mathematics scores ($p<.001$. Tukey analysis indicated that the mean math score for stable attenders (1332) was significantly higher than the mean score of other attendees. Whites had a significantly higher mean score than Blacks (Parke & Kanyongo, 2012, p. 167).

The impact of mobility and academic achievement is visible in grade level performance of elementary students (Finch et al., 2009). Mobility decreases as students progress from elementary school to middle school. Ethnicity and low socioeconomic status are potential predictors of mobility and low academic achievement (Parke & Kanyongo, 2012). Schools with moderate to large populations of Black or other minority students receiving free or reduced lunch are susceptible to increased levels of mobility and poor academic performance (Herbers et al.,

2009).

Students with Disabilities

Reid, Gonzalez, Nordness, Trout, and Epstein (2004) analyzed 25 studies containing 2,486 participants from 1961 to 2000 on the effects of emotional/behavioral disturbance (EBD) on children's academic performance not associated with health impairments. Researchers identified children and adolescents with EBD as overwhelmingly male, behaviorally disruptive, noncompliant, verbally abusive, and aggressive (Reid et al., 2004). "Inevitably, these behaviors significantly impair a child's ability to succeed in schools and in society" (Reid et al., p. 130). EBD students typically perform one to two years below the grade level of their counterparts (Trout, Nordness, Pierce, & Epstein, 2003). Reid et al. (2004) identify characteristics of academic status associated with age, gender, race, socioeconomic status, academic subjects, and placement setting associated with EBD students.

Qualitative analysis provides evidence of academic deficits by EBD students but fail to provide the quantitative magnitude of these deficits (Reid et al., 2004, p. 131). Heterogeneous (Q_T) statistics were used to indicate effect sizes are not homogeneous across studies (p. 131). Omnibus between-class fit statistic (Q_B) and an omnibus within-class statistic (Q_W) was applied to groupings. The Q_B statistic tests whether the average effect sizes of each of the groupings are significantly different from one another, whereas the Q_W statistic tests for homogeneity of the effect sizes within each class (Reid et al., 2004, p. 132). Subgroupings with poor heterogeneous reveal variance in classification.

Reid et al. (2004) found the weighted mean age across 25 studies was 11.22 years and the weighted mean IQ was 94.89. The gender of participants was reported as 80% boys and 20% girls. Demographic information pertaining to participants was 69% Caucasian, 27% African

American, 3% Hispanic, and 1% mixed ethnicity. Academic subject areas possessed sufficient heterogeneity (Q_B=46.64, p<.05) among effect sizes to justify subcategories (e.g., reading, math). Mathematics and reading effect sizes were -.81, denoting no significant difference in other subjects ((Reid et al., 2004, p. 136). Setting contained sufficient variability among effect sizes to justify subcategories (Q_B=150.71, p<.05). EBD students performed lower than counterparts regardless of setting. Residential facilities demonstrated an effect size of -1.49, non-reporting facilities an effect size of -1.04, and -.33 for resource rooms. Researchers grouped students into two distinct categories of 12 years or older and younger than 12 years to illustrate the significance of variability (Q_B=38.88, p<.01) among effect sizes to justify use of subcategories. Bootstrap confidence intervals for both age subgroups overlapped, indicating no statistical difference between ages in the performance of students with EBD (pp. 133-138).

Bear, Minke, & Manning (2002) reviewed 61 studies of self-concept of children with learning disabilities (LD). Total participants of studies were 3,525 students with LD and 2,288 normal achieving students in Grades K-12. "Given their academic, behavioral, and social deficits, it is understandable why many children with LD would perceive themselves less favorable in these three domains of self-concept" (Bear et al., p. 405). Global self-worth extends to LD student's perception of themselves beyond academics. Low global self-worth is associated with poor academic achievement (Bear et al., 2002).

Bear et al. (2002) utilized between-class effects (Q_B) to determine differences in the homogeneity of effect sizes across levels. Homogeneity analysis tests whether sampling errors account for variability in self-concept scores or whether the variability can be accounted for by the moderator variables. Post hoc contrasts were conducted using the Scheffe method. Harter

scales and Piers-Harris scales were used to measure self-concept. Outliers were examined to see whether they might explain the heterogeneity (p. 411).

Bear et al. (2002) report that 60.1% of participants were male and 26.3% female; 37.0% were White, 10.2% African American, and 6.7% Hispanic. The mean age of the LD student sample was 11.8 years, and the mean IQ was 96.8 (p. 411). Post hoc contrasts revealed LD students in inclusive and resource rooms having lower self-perceptions than LD students in self-contained classrooms (X^2=15.47 and 50.79, respectively, p<.001). LD and non-LD students, regardless of age, are similar in self-perception. Gender indicates no difference in LD self-perception. The Piers-Harris scale yielded significantly smaller effect sizes than the Harter (X^2=107.93, p<.001) and the SDQ-1 (X^2=24.96, p<.001). Effect sizes were heterogeneous for each measure.

Students with learning disabilities typical perform one to two years behind their counterparts in reading and mathematics (Reid et al., 2004). Males comprise the majority of learning disability students. Classroom setting has no statistically significant impact on performance. The age of learning disabled students has no effect on performance. Positive self-perception of learning disabled students lessens academic, behavioral, and social deficits (Bear et al., 2002). Global self-worth nurtures positives perceptions of learning disabled students beyond academics.

New Jersey Report Card Variables: Conclusions

The relationship between independent variables and dependent variables affect student performance on the NJ ASK 5. This present study might offer some plausible interpretations between variables that influence NJ ASK 5 scores. Viewed separately, independent variables offer minimal understanding of academic achievement. Grouping variables mimic the interplay

of factors that influence success or failure on the NJ ASK 5. It is important for teachers and administrators to understand how these factors interact and how they can be utilized as tools for success.

Research indicates that faculty credentials have a positive influence on NJ ASK 5 scores; specifically, more advanced degrees influence language arts and mathematics scores. School districts that seek higher credential faculty tend to boast higher NJ ASK 5 scores. Faculty credentials align with District Factor Group (DFG) expectations of academic achievement. Highly educated faculty seek employment in affluent districts.

School attendance, student mobility, and class size should positively influence performance on NJ ASK 5. Non-mobile students attend class more frequently than mobile students. There exists a positive correlation between academic performance and class size. However, the varying levels of class sizes spanning New Jersey heavily influenced by (DFG) create disparity amongst groups. Class size tends to skew results on NJ ASK 5, illustrating a noticeable disparity in academic achievement. Affluent districts tend to have lower Grade 5 class sizes.

Instructional time varies throughout the state of New Jersey according to DFG. Utilization of instructional time should improve academic performance in Language Arts and Mathematics. The NJ ASK 5 scores may or may not be directly influenced by instructional time.

High-stakes testing correlates with the effects of SES, potentially predicting academic achievement. The NJ ASK 5, as with most high-stakes testing, is greatly influenced by SES variables (Tienken, 2008). Success or failure is limited to current testing. However, the lasting effects of SES expand beyond the NJ ASK 5 and extend to later high-stakes testing years.

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Theoretical Framework

The theoretical framework guiding this study is based on social capital theory. Sociologists have tackled for decades the interaction of individuals and their intercepting communities of resources. Researchers studying social capital have numerous hypotheses of its origin and purpose. Pierre Bourdieu (1986) focused on class and social connections to obtain economic resources. James Coleman (1988) focused on social capital to foster networks for academic success. Robert Putman (1995) attributed social capital to trust in order to promote cooperation among community members. Social capital emphasizes beneficial relationships. For purposes of this study, I relied on Coleman's (1988) connection of mobility to social capital:

> Social capital is defined by its function. It is not a single entity but a variety of single entities, with to elements in common: they all consist of some aspect of social structures, and they facilitate certain actions of actors – whether persons or corporate actors – within the structure (1988, p. S98).

Social capital is defined by the actions of individuals and community members. Individuals seek common social and economic ideologies. Communities form common needs and beliefs relating to socioeconomic status, academic achievement, and social advancement (Coleman, 1988). Social capital correlates to mutual resources and shared values of individuals and their communities. Shared-interests for social relationships beyond family form community obligations.

Social capital relies on the exchange of resources by community members for self-interest (Coleman, 1998). Membership (residency) in a community establishes a relationship of perceived norms. Social capital establishes an exchange of resources for mutual self-interest

(Coleman, 1988). Support of intellectual and academic growth reinforces expectations of the community.

Student mobility disrupts academic and community relationships by severing the building blocks of social capital. Relationships essential to formation of social capital become frail with each residency change. Students' overall social development and academic achievement begin to deteriorate with mobility. Social capital lessens community bonds with each residency move (Coleman, 19988). Peer relationships significantly influence the magnitude of mobility on academic achievement. Mobility alters the availability of resources established by community to ensure academic achievement (Coleman, 1988). Resources and relationships form the building blocks of social capital.

Mobility disrupts networks of families and communities with each shift in social and academic demands (Coleman, 1988). Social capital functions best when communities exchange resources for perceived stability. Mobility shortens beneficial effects of community resources. Members serve their community in a more comprehensive way when a potential exchange of resources exists, present or future (Coleman, 1988). Actions and resources of community members define social capital. Disruption of obligations to community (mobility) modifies shared interests and values (Coleman, 1988).

Results from the extant literature suggest that frequent mobility on the part of students has a negative overall influence on student achievement. Social capital theory is one lens through which to view the issue of student mobility, and it helps to explain why frequent mobility influences student achievement. The influence of mobility on student achievement and its connection to social capital forms an interlocking relationship of families, peers, and communities to promote student achievement. Social capital influences academic status.

Student mobility creates gaps in academic achievement, social development, and the development of social capital. Student mobility creates voids in academic and social relationships. Relocation of student and family disrupts networks. Construction of social obligations constitutes relationships between community members (Coleman, 1988). Acquisition of knowledge through social relationships develops with shared interests, socioeconomics, and academic achievement. Social relationships depend on exchanges of information (Coleman, 1998).

CHAPTER III

METHODOLOGY

Introduction

My purpose for this study was to explain the relationship between student mobility and performance on high-stakes tests in language arts literacy (LAL) and mathematics among fifth-grade students at schools serving average-income populations and schools serving low-income populations in New Jersey. Utilizing the 2010-2011 NJDOE dataset, I analyzed the relationship between student mobility and NJ ASK 5 LAL and mathematics scores. Correlational statistical tests were utilized to ascertain the strength and direction of the relationship among variables. Using quantitative methods, results can assist K-12 stakeholders to make informed decisions by initiating policies that are research-based to increase academic achievement on NJ ASK 5. Currently, a void exists in the literature concerning mobility and its influence on NJ ASK 5. This research will begin to address the limited literature on the subject.

Research Design

My purpose for this study was to explain mobility and other key variables listed on the New Jersey School Report Card that influenced the 2011 Language Arts Literacy and Mathematics achievement scores on NJ ASK 5. I used a correlational, explanatory, cross-sectional research design with quantitative methods to determine the influence of student mobility on student achievement on the Grade 5 NJ ASK mathematics and language arts literacy sections.

Creswell (2008) defined an explanatory research design as a " correlational design in which the researcher is interested in the extent to which two variables (or more) co-vary; that is, where changes in one variable are reflected in the other" (p. 58). Explanatory correlational studies have characteristics that compare two or more variables, that involve the collection of

data at one point in time, that involve participants from a single group, that use correlational

statistics tests, and that draw conclusions from statistical results (Creswell, 2008). I focused on

one point in time, 2011 NJ ASK 5 results for Language Arts Literacy and Mathematics.

Research Questions

1. What is the strength and direction of the relationship between the percentage of student mobility in a school and the percentage of Grade 5 students scoring Proficient and above on the NJ ASK Language Arts Literacy section?

2. What is the influence of student mobility in schools that serve a low-socioeconomic student population on Grade 5 NJ ASK student achievement in Language Arts Literacy when controlling for student and school-level variables that influence achievement?

3. What is the strength and direction of the relationship between the percentage of student mobility in a school and the percentage of Grade 5 students scoring Proficient and above on the NJ ASK Mathematics section?

4. What is the influence of student mobility in schools that serve a low-socioeconomic student population on Grade 5 NJ ASK student achievement in Mathematics when controlling for student and school-level variables that influence achievement?

Population and Data Source

The unit of analysis for this explanatory correlational study was school-level data from

713 elementary public schools listed in the New Jersey School Report Card that administered the

NJ ASK 5 in spring 2011 (NJDOE, 2010a). The total available population of schools consisted

of elementary schools that served Grade 5. The following schools were excluded from this

explanatory correlational study regardless of DFG:

1. Elementary schools that did not serve Grade 5 classes

2. High schools

3. Charter schools

4. Vocational and magnet schools

5. School that were missing information

Schools that did not report any portion of independent variables were omitted from the study. From an initial population of 1, 275 Grade 5 elementary schools administering the NJ ASK for 2011, 524 were omitted for missing school or student-level data. The remaining sample of 696 elementary public schools administering Grade 5 NJ ASK contained all data for school, staff, and student information.

The data source for the 2011 NJ ASK 5 results were accessed from the New Jersey Department of Education website in the form of an Excel workbook (NJDOE, 2011f). The file contained student, school, and district data on various worksheets. I was primarily interested in school data only. Individual spreadsheets were sorted to identify school-level data for Language Arts Literacy and mathematics scores only. Schools were assigned a unique identification number for sorting various school data from numerous worksheets.

Table 2

New Jersey School Numbers by DFG

District Factor Group	# of Elementary Schools
A	290
B	199
CD	177
DE	229

FG	249
GH	221
I	296
J	64

Data Collection

The New Jersey Department of Education (NJDOE) annually reports the results of high-stakes testing administered in public schools. For New Jersey, the New Jersey Assessment of Skills and Knowledge is administered in Grades 3 through 8. This study utilized publicly available data from NJDOE for 2010-2011. The dataset was downloaded and imported to Microsoft Excel. Independent and dependent variables were identified from school, staff, and student information clusters.

The primary interest was school-level analysis of data. Using a unique identifier created from county, district, and school codes, data were sorted by school level. Initial sorting of the data set was by level type, either district or school. District level data were omitted from results. Secondary sorting was a classification of school-type variable as public, charter, alternative, or vocational. School classifications that were not public were omitted regardless of fifth grade population. Final sorting was conducted for school information, staff information, and student information of school-level data. Results yielded only public school data, with fifth-grade populations reporting school information, staff information, and student information for this study of the influence of mobility on academic achievement as measured by NJ ASK.

Data Analysis

I used simultaneous multiple-regression to perform analysis of 2010-2011 NJ ASK data. Simultaneous multiple regression allows for more than one predictor variable to determine their

relationship with the dependent variable (Pallant, 2010). Data were imported to Microsoft Excel

for initial sorting of student, school, and faculty variables. To ensure data were consistent

throughout sorting, a unique identifier was given for each school included in the study.

Organization of data concluded with all variables (school, student, faculty) being associated with

a unique identifier (school level) for exporting to SPSS.

I performed simultaneous multiple-regression analysis to determine the influence, if any,

between independent and dependent variables. Simultaneous multiple-regression allows the

researcher to quantify the amount of variance of a dependent variable associated with an

independent variable (Pallant, 2010). Given the amount of school, student, and faculty variables

available for this study, simultaneous multiple-regression presented the most feasible choice to

perform statistical analysis. Simultaneous multiple-regression provides a method that includes

all independent variables (Pallant, 2010). This method sets conditions for entering variables in a

single procedure.

Following procedures outlined by Pallant (2010), I configured SPSS to perform specific

simultaneous multiple-regression analyses of variables for output evaluation. Initial output

displayed descriptive statistics, correlations, variables entered/removed[a], model summary[b],

ANOVA[a], coefficients[a], collinearity diagnostics[a], casewise diagnostics[a], residual statistics[a],

normal p-plot of regression standardized residual dependent variable, and scatterplot dependent

variable.

Simultaneous multiple-regression utilizes the stepwise method of variable entry or

removal for analysis. This process is a combination of forward and backward methods to

determine significance of independent variables with dependent variables. The equation builds

with each independent variable entry or removal from analysis. In the equation, independent

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variables having a significance of $p=.05$ remain. This method represents a complete analysis of the influence of independent variables (school, student, and faculty) on NJ ASK scores. I performed one simultaneous multiple-regression analysis for language arts literacy (see Table 3) and one for mathematics (see Table 4) of all school, student, and faculty variables. Descriptive statistics provided mean and standard deviations for each variable. Correlation tables displayed the relationship between independent variables and dependent variables. Variables entered/removed displayed which variables were used for analysis. The model summary quantifies how much the dependent variable is represented in the model. The ANOVA provides the statistical significance of the null hypothesis. Coefficients measure how much each independent variable contributes to the dependent variable. Collinearity diagnostics identify potential concerns with multiple-regression analysis. Casewise diagnostics represent standardized residuals that fall outside the predetermined range of acceptance.

Table 3

Simultaneous Multiple-Regression for Grade 5 Language Arts Literacy

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	MA, DISAB, Attendance, Fmobility, LALEtest, FATTEND, StMOB, InstrDayLength [b]	.	Enter

a. Dependent Variable: TPAPLaL

b. All requested variables entered.

Table 4

Simultaneous Multiple-Regression for Grade 5 Mathematics

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	MA, DISAB, Attendance, Fmobility, MathEtest, StMOB, FATTEND, InstrDayLength [b]	.	Enter

a. Dependent Variable: TPAPMath

b. All requested variables entered.

Instruments

My objective was to explain any relationships that existed between the mobility variable found in the existing literature to influence academic achievement of school NJ ASK scores in Grade 5 Language Arts and Mathematics. The instrument for this study consisted of total proficiency and advanced proficiency (TPAP) levels on the 2010-2011 NJ ASK Grade 5.

NJ ASK is New Jersey's criterion high-stakes test administered to students in Grades 3 through 8 in Language Arts Literacy, Mathematics, and science in Grades 4 and 8 since 1996 (NJDOE, 2011g, p. 140). According to the New Jersey Department of Education's Technical Report for 2011 (NJDOE, 2011g), the purpose of NJ ASK " . . . was designed to measure the extent to which all students at the elementary, middle, and secondary-school level have attained New Jersey's CCCS" (p. 3).

The NJ ASK Technical Report for 2011 established that scores at the Grades 3–8 level and science scores at the Grades 4 and 8 level are reported as scale scores, with score ranges as follows:

- Partially Proficient 100–199

- Proficient 200–249

- Advanced Proficient 250–300

Independent Variables

The independent variables used for this study included faculty mobility; faculty attendance; advanced degree; proficiency of economically disadvantaged tested in Mathematics; proficiency of economically disadvantaged tested in Language Arts Literacy; total Proficient and Advanced Proficient in Mathematics; and total Proficient and Advanced Proficient in Language Arts Literacy. The NJ School Report Card further divided the predictor variables into categories (Table 5).

Table 5

Study Independent Variables

Staff Information	Student Information	School Information
Faculty Mobility	Proficiency of economically disadvantaged tested in Mathematics	Instructional Time
Faculty Attendance	Proficiency of economically disadvantaged tested in Language Arts and Literacy	
Advanced Degree (MA+)	Total Proficient and Advanced Proficient for Mathematics	
	Total Proficient and Advanced Proficient for Language Arts and Literacy	
	Student Mobility	
	Percentage of students with disabilities	

Dependent Variables

Dependent variables for this study were obtained from 2011 NJ ASK scores for Grade 5 in Language Arts and Mathematics only. Students scoring < 200 are considered Partially Proficient (PP) in either Language Arts or Mathematics. Students scoring > 200 but < 250 are considered Proficient (P) in either Language Arts or Mathematics. Students scoring > 250 are considered Advanced Proficient (AP) in either Language Arts or Mathematics.

For the purpose of this study, I combined the percentage of total Proficient scores (TP) with percentage of Advanced Proficient (AP) scores to construct the dependent variable TPAP.

This resulted in the formation of the dependent variable TPAPLaL for Language Arts and

MathTPAP for Mathematics.

CHAPTER IV

ANALYSIS OF DATA

Introduction

My purpose for this cross-sectional, correlational, explanatory study was to explain the influence of student mobility on the total percentage of students who scored Proficient or Advanced Proficient (TPAP) on the NJ ASK in both Language Arts Literacy and Mathematics in Grade 5. The data analyzed included student mobility with controlled student, staff, and school variables. I sought to explain the influence of student mobility on academic achievement as measured by high-stakes testing. The results of this study serve to distinguish a contributing factor, student mobility, with its implications on academic achievement and its interplay with socioeconomics status (SES).

Independent Variables and Dependent Variables

Existing research suggested variables that influence the percentage of TPAP students on the NJ ASK in Grade 5 (see Table 6).

Table 6

Variables and Names of Independent Variables

Variable	Label	Description
Student Attendance	Attendance	Percentage of student attendance
DISAB	% Disability	Percentage of students with disabilities
InstrDayLength	InstrDayLength	The number of minutes in a school day
StMOB	StMobiity	Percentage of student mobility
FATTEND	FacAttendance	Percentage of faculty attendance
Fmobility	FacMobility	Percentage of faculty mobility
MA+	MA+	Percentage of faculty with MA+ degrees
EPct	EPct	Percentage of students eligible for free or reduced lunch
TPAPLaL	TPAPLaL	Percentage of total Proficient and Advanced Proficient scores combined for Language Arts Literacy
MathTPAP	MathTPAP	Percentage of total Proficient and Advanced Proficient scores combined for Mathematics

Publicly available data were extracted from the NJDOE website. The state of New Jersey reports annually in the summer the results of high-stakes testing administered in public schools. For New Jersey, the NJ ASK is administered in Grades 3 through 8 annually in the spring. The

dataset was downloaded and imported to Microsoft Excel. Independent variables were identified

from school, staff, and student information clusters. For the purpose of this study, only specific

school, staff, and student variables for Grade 5 were utilized for the academic year 2010-2011.

Procedure

For each subject, a three-step procedure was undertaken to determine the significant

independent variables and their relative predictive strengths. Step 1 required the use of the

"Enter" method of simultaneous multiple regression that included all eight independent variables

as outlined in Table 6. Variables were run simultaneously to determine their statistical

significance as predictors.

Step 2 required performing a backward multiple regression of all eight independent

variables. This confirmed the findings of the statistically significant variables in the first step.

This process entailed entering and then excluding variables based of their least significant value

(i.e., highest p values). The next phase of Step 2 consisted of excluding variables and

performing the regression with outstanding variables. Variables that were not statistically

significant were removed from future models. Analysis continued until the model yielded all

significant independent variables. Models containing variables greater than .10 were removed.

This final factor of Step-Two allowed variables with p values of .10 or less to remain, barring

model error of statistical significance.

Step 3 required the creation of hierarchical regression models developed from the

strongest statistically significant independent variables identified in Steps 1 and 2. Subsequent

regressions were performed with the addition of independent variables according to their

significance level from backwards analysis. This resulted in the creation of a hierarchical model

used to determine what variables influenced student performance on the NJ ASK for Grade 5 in

Language Arts Literacy and Mathematics. The hierarchical model created in Step 3 provided

relevant statistical information:

1. ANOVA table provided overall statistical significance

2. Model summary provided *R* squared and *R* squared changes of contributing variables

3. Beta values and statistically significant coefficients were noted in coefficients table

4. Tolerance and variance inflation factor (VIF) were determined in coefficients table

5. Residual statistics

In addition to the steps described above, a fourth and final step was performed. This

involved separating the population of schools based on their socioeconomic statuses. The schools

were divided into two groups: low-socioeconomic status schools (50-100% of the students were

eligible for free and/or reduced lunch) and medium to wealthy schools (0 to 49% of student

populations were eligible for free and/or reduced lunch). After the schools were separated by

SES, a hierarchical multiple regression was run separately for each group by subject.

Research Question 1: Grade 5 Language Arts Literacy

I calculated the mean and standard deviations for the dependent and independent

variables used in the regression analysis. The following table (Table 7) shows the means and

standard deviations for the dependent and independent variables used in the regression. The

mean percentage of Proficient or above scores for the Language Arts Literacy portion of NJ ASK

in Grade 5 was approximately 51% with a standard deviation of approximately 19%. The mean

percentage of students who qualified for free or reduced lunch was approximately 43%. The

mean percentage of student attendance was 95%and faculty attendance was 93 %. The mean

percentage of students classified with disability was approximately 15%. Student mobility

averaged just over 13% and faculty mobility was about 5%. The mean percentage of faculty

holding master's degrees or above was 42%.

Table 7

Grade 5 Language Arts Literacy Descriptive Statistics

	Mean	Std. Deviation	N
TPAPLaL	51.185	19.2768	696
LALEtest	42.664	33.8950	696
Attendance	95.170	6.3874	696
DISAB	14.972	11.2399	696
InstrDayLength	336.793	51.9576	696
StMOB	13.313	9.3374	696
FATTEND	93.352	14.5507	696
Fmobility	4.595	6.2230	696
MA	41.569	14.3211	696

Grade 5 Language Arts Literacy Simultaneous Multiple Regression

Next I ran the first simultaneous regression model with all the predictor variables

included. The Model Summary (Table 8) and ANOVA results tables for the initial simultaneous

multiple regression run are shown in Table 9. The ANOVA results (Table 9) showed the

regression was statistically significant ($F(8,687) = 51.979$, $p=.001$ and that the R squared for this

regression is .38. All independent variables were statistically significant contributors for

Proficient and Advanced Proficient students in Grade 5 scoring on NJ ASK section of

Mathematics.

Table 8

Grade 5 Language Arts Literacy Simultaneous Multiple Regression Model Summary[b]

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.614[a]	.377	.370	15.3029	.377	51.979	8	687	.000	1.445

a. Predictors: (Constant), MA, DISAB, Attendance, Fmobility, LALEtest, FATTEND, StMOB, InstrDayLength

b. Dependent Variable: TPAPLaL

Table 9

Grade 5 Language Arts Literacy Simultaneous Multiple Regression ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	97378.138	8	12172.267	51.979	.000[b]
1	Residual	160879.927	687	234.177		
	Total	258258.065	695			

a. Dependent Variable: TPAPLaL

b. Predictors: (Constant), MA, DISAB, Attendance, Fmobility, LALEtest, FATTEND, StMOB, InstrDayLength

The coefficients table (Table 10) identified that the statistically significant variables in the regression were the percentage of students with low socioeconomic status (LaLEPct), students with disabilities, student mobility, faculty attendance, and teachers with advanced degrees.

Table 10

Grade 5 Language Arts Simultaneous Multiple Regression Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	12.756	9.565		1.334	.183
LALEtest	-.177	.017	-.312	-10.183	.000
Attendance	.195	.091	.064	2.135	.033
DISAB	-.131	.053	-.077	-2.489	.013
1 InstrDayLength	-.012	.022	-.031	-.515	.607
StMOB	-.815	.065	-.395	-12.480	.000
FATTEND	.415	.078	.313	5.339	.000
Fmobility	-.085	.095	-.028	-.901	.368
MA	.141	.041	.104	3.395	.001

a. Dependent Variable: TPAPLaL

The backwards simultaneous regression model determined that the set of independent variables influencing the passing percentage of Grade 5 Language Arts Literacy on the NJ ASK negated faculty attendance and teachers with advanced degrees. Replacing these variables, as influencing TPAPLaL, were student attendance and instructional day length.

Table 11

Grade 5 Language Arts Backwards Regression Model ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	150024.228	1	150024.228	961.962	.000[b]
	Residual	108233.837	694	155.957		
	Total	258258.065	695			
2	Regression	150869.397	2	75434.698	486.795	.000[c]
	Residual	107388.668	693	154.962		
	Total	258258.065	695			
3	Regression	153166.918	3	51055.639	336.189	.000[d]
	Residual	105091.146	692	151.866		
	Total	258258.065	695			
4	Regression	155353.541	4	38838.385	260.798	.000[e]
	Residual	102904.524	691	148.921		
	Total	258258.065	695			
5	Regression	155647.946	5	31129.589	209.330	.000[f]
	Residual	102610.119	690	148.710		
	Total	258258.065	695			
6	Regression	157692.225	6	26282.038	180.064	.000[g]
	Residual	100565.839	689	145.959		
	Total	258258.065	695			
7	Regression	158308.290	7	22615.470	155.673	.000[h]
	Residual	99949.774	688	145.276		
	Total	258258.065	695			

	Regression	160453.076	8	20056.635	140.881	.000[i]
8	Residual	97804.988	687	142.365		
	Total	258258.065	695			

a. Dependent Variable: TPAPLaL

b. Predictors: (Constant), LALEpct

c. Predictors: (Constant), LALEpct, Attendance

d. Predictors: (Constant), LALEpct, Attendance, DISAB

e. Predictors: (Constant), LALEpct, Attendance, DISAB, InstrDayLength

f. Predictors: (Constant), LALEpct, Attendance, DISAB, InstrDayLength, StMOB

g. Predictors: (Constant), LALEpct, Attendance, DISAB, InstrDayLength, StMOB, FATTEND

h. Predictors: (Constant), LALEpct, Attendance, DISAB, InstrDayLength, StMOB, FATTEND, Fmobility

i. Predictors: (Constant), LALEpct, Attendance, DISAB, InstrDayLength, StMOB, FATTEND, Fmobility, MA

Hierarchical Linear Regression for Grade 5 Language Arts Literacy

The third step was a hierarchical linear regression. The Model Summary table (Table 12) shows the results from the regression suggested that only two variables (socioeconomics and student disability) mentioned in the previous step were significant. Added variables of significance were teachers with advanced degrees and faculty attendance. The Model Summary also determined the R squared values of each model as well as the improvement of R squared when independent variables were added to the model.

The R squared change corresponding to a particular independent variable indicated the percentage of the variation in the Language Arts Literacy portion of NJ ASK for Grade 5 passing percentages was due to the variation inherent to that particular variable. As shown in Model 1, the LALEpct (socioeconomics) variable contributed the most (58.1%) to the R squared value and was statistically significant $F(1,702)=975.869$, $p=.001$. Model 2 showed that faculty attendance

contributed 1.2% to the R squared value and was statistically significant $F(1, 701)=20.729$, $p=.001<.05$. Model 3 showed that student disabilities contributed 1.3% to the R squared value and was statistically significant $F(1, 700)=23.874$, $p=.001$. The last model showed that teachers with advanced degrees contributed 1% to the R squared value and was statistically significant $F(1, 699)=18.406$, $p=.001$. Hierarchical regression identified student mobility as having no significant impact on Proficient and Advanced Proficient scores for Grade 5 students administered the Language Arts Literacy section of NJ ASK. Socioeconomics was the overall predictor of proficiency levels for the Language Arts Literacy section of NJ ASK.

The Durbin-Watson statistic of 1.71 indicated there was no significant autocorrelation between the fitted dependent variable values and the residuals in the final regression model.

Table 12

Grade 5 Language Arts Literacy Hierarchical Regression Model Summary[e]

| Model | *R* | *R* Square | Adjusted *R* Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
					R Square Change	*F* Change	*df*1	*df*2	Sig. *F* Change	
1	.763[a]	.582	.581	12.4726	.582	975.869	1	702	.000	
2	.770[b]	.594	.592	12.3009	.012	20.729	1	701	.000	
3	.779[c]	.607	.605	12.1050	.013	23.874	1	700	.000	
4	.786[d]	.617	.615	11.9572	.010	18.406	1	699	.000	1.707

a. Predictors: (Constant), LALEpct

b. Predictors: (Constant), LALEpct, FATTEND

c. Predictors: (Constant), LALEpct, FATTEND, DISAB

d. Predictors: (Constant), LALEpct, FATTEND, DISAB, MA

e. Dependent Variable: TPAPLaL

The ANOVA results table shown below (Table 13) illustrated that the final regression model (Model 4) was significant $F(4, 699)=281.65$, $p=.001$. Contributed variables were LaLEpct, faculty attendance, student disability, and teachers with advanced degrees as influencing proficiency levels on the Language Arts Literacy section of NJ ASK for Grade 5

Table 13

Grade 5 Language Arts Literacy Hierarchical Regression ANOVA

Model		Sum of Squares	*df*	Mean Square	*F*	Sig.
	Regression	151810.977	1	151810.977	975.869	.000[b]
1	Residual	109206.559	702	155.565		
	Total	261017.536	703			
	Regression	154947.554	2	77473.777	512.012	.000[c]
2	Residual	106069.982	701	151.312		
	Total	261017.536	703			
	Regression	158445.860	3	52815.287	360.438	.000[d]
3	Residual	102571.676	700	146.531		
	Total	261017.536	703			
	Regression	161077.476	4	40269.369	281.652	.000[e]
4	Residual	99940.061	699	142.976		
	Total	261017.536	703			

a. Dependent Variable: TPAPLaL

b. Predictors: (Constant), LALEpct

c. Predictors: (Constant), LALEpct, FATTEND

d. Predictors: (Constant), LALEpct, FATTEND, DISAB

e. Predictors: (Constant), LALEpct, FATTEND, DISAB, MA

As shown in the Model 4 section of the coefficients table below (Table 14), all four predictor variables were statistically significant $p \leq .05$). Table 14 also revealed the beta (β) values associated with these variables. Faculty attendance and teachers with advanced degrees both had a positive association with NJ ASK for Grade 5 passing percentages in Language Arts

Literacy. Faculty attendance had a weak positive relationship (β=.13). Teachers with advanced

degrees had a weak positive relationship (β=.10). Conversely, both LALEPct (β -.74) and

student disability (β -.12) had negative statistically significant influence on Grade 5 NJ ASK

passing scores for Language Arts Literacy. The results confirmed LALEPct had a strong

negative relationship, while student disability had a weak negative relationship with the

independent variable TPAPLaL. Socioeconomics was the overall (74%) predictor of student

success for Grade 5 students administered the Language Arts Literacy section of NJ ASK.

Table 14

Grade 5 Language Arts Hierarchical Regression Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	*t*	Sig.
		B	Std. Error	Beta		
1	(Constant)	78.982	1.009		78.246	.000
	LALEpct	-.518	.017	-.763	-31.239	.000
2	(Constant)	64.653	3.301		19.586	.000
	LALEpct	-.507	.017	-.747	-30.725	.000
	FATTEND	.147	.032	.111	4.553	.000
3	(Constant)	65.560	3.254		20.149	.000
	LALEpct	-.511	.016	-.753	-31.431	.000
	FATTEND	.172	.032	.130	5.345	.000
	DISAB	-.202	.041	-.118	-4.886	.000
4	(Constant)	59.040	3.555		16.607	.000
	LALEpct	-.504	.016	-.742	-31.199	.000
	FATTEND	.177	.032	.133	5.546	.000
	DISAB	-.199	.041	-.116	-4.866	.000
	MA	.136	.032	.101	4.290	.000

a. Dependent Variable: TPAPLaL

The fourth and final step was to run a hierarchical linear regression for schools divided

into two groups for Language Arts Literacy; schools serving low-socioeconomic status students

(50%-100% of the students were eligible for free and/or reduced lunch), and schools serving

high-socioeconomic students (0% to 49% of student populations were eligible for free and/or

reduced lunch).

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**Research Question 2: Grade 5 Low-Socioeconomic Hierarchical
Linear Regression for Language Arts Literacy**

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As shown in Model 1 (Table 15), the LALEPct variable contributed 27% to the R squared

value and was statistically significant $F(1,340)=126.873$, $p=.001$. Hierarchical regression for

low-socioeconomic schools showed student mobility having no significant impact on dependent

variable. Socioeconomics and faculty attendance were statistically significant in predicting

Proficient and Advanced Proficient levels for Grade 5 low-socioeconomic students administered

the Language Arts Literacy section of NJ ASK. Overall, socioeconomic significantly influenced

proficiency levels for low-socioeconomic Grade 5 students in the Language Arts Literacy section

of NJ ASK.

Table 15

*Grade 5 Low-Socioeconomic Hierarchical Linear Regression Model Summary[e] for Language
Arts Literacy*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	

Model	R	R Square	Adjusted R Square	Std. Error	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.521[a]	.272	.270	10.3493	.272	126.873	1	340	.000	
2	.534[b]	.285	.281	10.2692	.013	6.325	1	339	.012	
3	.534[c]	.285	.279	10.2842	.000	.017	1	338	.897	
4	.535[d]	.286	.277	10.2935	.001	.387	1	337	.534	2.133

a. Predictors: (Constant), LALEpct

b. Predictors: (Constant), LALEpct, FacAttendance

c. Predictors: (Constant), LALEpct, FacAttendance, % Disability

d. Predictors: (Constant), LALEpct, FacAttendance, % Disability, MA+

e. Dependent Variable: TPAP LaL

The ANOVA results for low-socioeconomic schools shown below (Table 16) illustrated that the final regression model (Model 4) was statistically significant $F(4, 337)=33.738$, $p=.001$.

Table 16

Grade 5 Low-Socioeconomic Hierarchical Linear Regression ANOVA [e] for Language Arts Literacy [a]

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	13589.191	1	13589.191	126.873	.000[b]
1	Residual	36417.066	340	107.109		
	Total	50006.257	341			

		SS	df	MS	F	Sig.
	Regression	14256.188	2	7128.094	67.592	.000[c]
2	Residual	35750.069	339	105.457		
	Total	50006.257	341			
	Regression	14257.951	3	4752.650	44.936	.000[d]
3	Residual	35748.306	338	105.764		
	Total	50006.257	341			
	Regression	14298.957	4	3574.739	33.738	.000[e]
4	Residual	35707.300	337	105.956		
	Total	50006.257	341			

a. Dependent Variable: TPAP LaL

b. Predictors: (Constant), LALEpct

c. Predictors: (Constant), LALEpct, FacAttendance

d. Predictors: (Constant), LALEpct, FacAttendance, % Disability

e. Predictors: (Constant), LALEpct, FacAttendance, % Disability, MA+

As shown in the Model 4 section of the coefficients table below (Table 17), only two predictor variables were statistically significant ($p<.01$). The table also revealed the beta (β) values associated with these variables. Faculty attendance had a weak positive ($\beta=.11$) association with NJ ASK for Grade 5 passing percentages in Language Arts Literacy. Conversely, LALEPct (-.51) revealed a strong negative statistically significant influence on Grade 5 NJ ASK passing scores for language arts literacy in low-socioeconomic schools. The results confirmed the strong influence of socioeconomics on proficiency levels for low-socioeconomic Grade 5 students administered the Language Arts Literacy section of the NJ ASK.

Table 17

Grade 5 Low-Socioeconomic Hierarchical Linear Regression Coefficients[a] for Language Arts Literacy

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	78.159	1.378		56.711	.000
	LALEpct	-.497	.044	-.521	-11.264	.000
2	(Constant)	59.445	7.566		7.857	.000
	LALEpct	-.490	.044	-.514	-11.164	.000
	FacAttendance	.193	.077	.116	2.515	.012
3	(Constant)	59.501	7.589		7.840	.000
	LALEpct	-.490	.044	-.514	-11.140	.000
	FacAttendance	.194	.077	.116	2.513	.012
	% Disability	-.003	.024	-.006	-.129	.897
4	(Constant)	58.977	7.643		7.717	.000
	LALEpct	-.486	.044	-.510	-10.923	.000
	FacAttendance	.191	.077	.114	2.469	.014
	% Disability	-.004	.024	-.007	-.153	.878
	MA+	.016	.026	.029	.622	.534

a. Dependent Variable: TPAP LaL

Grade 5 High-Socioeconomic Hierarchical Linear Regression for Language Arts Literacy

As shown in Model 1 (Table 18), the LALEPct variable contributed 28% to the *R* squared

value and was statistically significant $F(1,360)=138.992$, $p=.001$. Hierarchical regression for

high-socioeconomic schools showed student mobility having no significant impact on TPAPLaL.

Socioeconomics was statistically significant in predicting Proficient and Advanced Proficient

levels for Grade 5 high-socioeconomics students administered the Language Arts Literacy

section of NJ ASK.

Table 18

Grade 5 High-Socioeconomic Hierarchical Linear Regression Model Summary[e] for Language Arts Literacy

| Model | *R* | *R* Square | Adjusted *R* Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
					R Square Change	*F* Change	*df*1	*df*2	Sig. *F* Change	
1	.528[a]	.279	.277	14.1852	.279	138.992	1	360	.000	
2	.528[b]	.279	.275	14.2045	.000	.027	1	359	.870	
3	.533[c]	.284	.278	14.1715	.005	2.673	1	358	.103	
4	.537[d]	.289	.281	14.1432	.005	2.434	1	357	.120	1.970

a. Predictors: (Constant), LALEpct

b. Predictors: (Constant), LALEpct, FacAttendance

c. Predictors: (Constant), LALEpct, FacAttendance, % Disability

d. Predictors: (Constant), LALEpct, FacAttendance, % Disability, MA+

e. Dependent Variable: TPAP LaL

The ANOVA results for high-socioeconomic schools shown below (Table 19) illustrated that the final regression model (Model 4) was statistically significant $F(4, 357)=36.241$, $p=.001$.

Table 19

Grade 5 High-Socioeconomic Hierarchical Linear Regression ANOVA[a] for Language Arts Literacy

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	27968.202	1	27968.202	138.992	.000[b]
1	Residual	72439.576	360	201.221		
	Total	100407.778	361			
	Regression	27973.591	2	13986.796	69.322	.000[c]
2	Residual	72434.186	359	201.767		
	Total	100407.778	361			
	Regression	28510.340	3	9503.447	47.321	.000[d]
3	Residual	71897.438	358	200.831		
	Total	100407.778	361			
	Regression	28997.191	4	7249.298	36.241	.000[e]
4	Residual	71410.587	357	200.030		
	Total	100407.778	361			

a. Dependent Variable: TPAP LaL

b. Predictors: (Constant), LALEpct

c. Predictors: (Constant), LALEpct, FacAttendance

d. Predictors: (Constant), LALEpct, FacAttendance, % Disability

e. Predictors: (Constant), LALEpct, FacAttendance, % Disability, MA+

As shown in the Model 4 section of the coefficients table below (Table 20), only one predictor variable was statistically significant ($p<.01$). The table also revealed the beta (β) values associated with these variables. LALEPct (β-.58) had strong negative statistically significant influence on Grade 5 NJ ASK proficiency levels for Language Arts Literacy in high-

socioeconomic schools. The results confirmed socioeconomics having a strong influence in

predicting NJ ASK 5 scores for Language Arts Literacy in high-socioeconomic schools.

Table 20

Grade 5 High-Socioeconomic Hierarchical Linear Regression Coefficients[a] for Language Arts Literacy

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	83.782	3.880		21.595	.000
	LALEpct	-.577	.049	-.528	-11.790	.000
2	(Constant)	83.545	4.145		20.156	.000
	LALEpct	-.577	.049	-.528	-11.774	.000
	FacAttendance	.003	.016	.007	.163	.870
3	(Constant)	83.870	4.140		20.258	.000
	LALEpct	-.574	.049	-.525	-11.734	.000
	FacAttendance	.004	.016	.012	.265	.791
	% Disability	-.040	.025	-.073	-1.635	.103
4	(Constant)	81.929	4.315		18.987	.000
	LALEpct	-.575	.049	-.526	-11.775	.000
	FacAttendance	.004	.016	.012	.279	.780
	% Disability	-.040	.025	-.072	-1.607	.109
	MA+	.047	.030	.070	1.560	.120

a. Dependent Variable: TPAP LaL

Research Question 3: Grade 5 Mathematics

I calculated the mean and standard deviations for the dependent and independent

variables used in the regression analysis. The following table (Table 21) shows the means and

standard deviations for the dependent and independent variables used in the regression. The

mean percentage of Proficient or above scores for the Mathematics portion of the NJ ASK in

Grade 5 was approximately 75% with a standard deviation of approximately 16%. The mean

percentage of students who qualified for free or reduced lunch was approximately 43%. The

mean percentage of student attendance was 95% and faculty attendance was 93%. The mean

percentage of students classified with disability was approximately 15%. Student mobility

averages just over 13% and faculty mobility was about 5%. The mean percentage of faculty

holding masters degrees or above was 42%.

Table 21

Grade 5 Mathematics Descriptive Statistics

	Mean	Std. Deviation	*N*
TPAPMath	74.625	16.4788	696
MathEPct	53.692	28.3641	696
Attendance	95.170	6.3874	696
DISAB	14.972	11.2399	696
InstrDayLength	336.793	51.9576	696
StMOB	13.313	9.3374	696
FATTEND	93.352	14.5507	696
Fmobility	4.595	6.2230	696
MA	41.569	14.3211	696

Grade 5 Mathematics Simultaneous Multiple Regression

Next I ran the first simultaneous regression model with all the predictor variables

included. The Model Summary (Table 22) and ANOVA results tables for the initial

simultaneous multiple regression run are shown in Table 23. The ANOVA results (Table 23)

showed the regression was statistically significant ($F(8,687) = 72.622$, $p=.001$) and that the *R*

squared for this regression was .45.

Table 22

Grade 5 Mathematics Simultaneous Multiple Regression Model Summary[b]

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.677a	.458	.452	12.2001	.458	72.622	8	687	.000	1.463

a. Predictors: (Constant), MA, DISAB, Attendance, Fmobility, MathEPct, FATTEND, StMOB, InstrDayLength

b. Dependent Variable: TPAPMath

Table 23

Grade 5 Mathematics Simultaneous Multiple Regression ANOVAs

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	86473.228	8	10809.154	72.622	.000[b]
1	Residual	102254.642	687	148.842		
	Total	188727.870	695			

a. Dependent Variable: TPAPMath

b. Predictors: (Constant), MA, DISAB, Attendance, Fmobility, MathEPct, FATTEND, StMOB, InstrDayLength

The coefficients table (Table 24) provided the statistically significant variables in the regression: MathEPct, students with disabilities, student mobility, and teachers with advanced degrees. Student mobility (β=-.181) and MathEPct (β=-.503) had the strongest influence on proficiency levels for the Grade 5 Mathematics section of the NJ ASK.

Table 24

Grade 5 Mathematics Simultaneous Multiple Regression Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	58.158	7.783		7.472	.000
MathEPct	-.293	.020	-.503	-14.372	.000
Attendance	.135	.073	.052	1.859	.063
DISAB	-.190	.042	-.130	-4.516	.000
1 InstrDayLength	.034	.018	.106	1.879	.061
StMOB	-.320	.063	-.181	-5.115	.000
FATTEND	.117	.063	.103	1.859	.064
Fmobility	-.069	.075	-.026	-.919	.358
MA	.109	.033	.095	3.298	.001

a. Dependent Variable: TPAPMath

  The backwards simultaneous regression model (Table 25) determined that the set of independent variables influencing the passing percentage of Grade 5 students taking the Mathematics portions of the NJ ASK included the same variables as above along with faculty mobility and instructional day length.

Table 25

Grade 5 Mathematics Backwards Regression ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	73267.906	1	73267.906	440.394	.000[b]
1	Residual	115459.964	694	166.369		
	Total	188727.870	695			
	Regression	73916.260	2	36958.130	223.078	.000[c]
2	Residual	114811.610	693	165.673		
	Total	188727.870	695			
	Regression	76363.554	3	25454.518	156.763	.000[d]
3	Residual	112364.316	692	162.376		
	Total	188727.870	695			
	Regression	79652.602	4	19913.151	126.151	.000[e]
4	Residual	109075.268	691	157.851		
	Total	188727.870	695			
	Regression	83909.585	5	16781.917	110.472	.000[f]
5	Residual	104818.285	690	151.911		
	Total	188727.870	695			
	Regression	84694.382	6	14115.730	93.487	.000[g]
6	Residual	104033.488	689	150.992		
	Total	188727.870	695			
	Regression	84854.526	7	12122.075	80.290	.000[h]
7	Residual	103873.344	688	150.979		
	Total	188727.870	695			

	Regression	86473.228	8	10809.154	72.622	.000[i]
8	Residual	102254.642	687	148.842		
	Total	188727.870	695			

a. Dependent Variable: TPAPMath

b. Predictors: (Constant), MathEPct

c. Predictors: (Constant), MathEPct, Attendance

d. Predictors: (Constant), MathEPct, Attendance, DISAB

e. Predictors: (Constant), MathEPct, Attendance, DISAB, InstrDayLength

f. Predictors: (Constant), MathEPct, Attendance, DISAB, InstrDayLength, StMOB

g. Predictors: (Constant), MathEPct, Attendance, DISAB, InstrDayLength, StMOB, FATTEND

h. Predictors: (Constant), MathEPct, Attendance, DISAB, InstrDayLength, StMOB, FATTEND, Fmobility

i. Predictors: (Constant), MathEPct, Attendance, DISAB, InstrDayLength, StMOB, FATTEND, Fmobility, MA

Grade 5 Mathematics Hierarchical Linear Regression

The third step was a hierarchical linear regression. The Model Summary table (Table 26) shows the results from the regression suggested that only socioeconomics, students with disabilities, student mobility, and teachers with advanced degrees mentioned in the previous step were significant. The Model Summary also determined the R squared values of each model as well as the improvement of R squared when independent variables were added to the model.

The R squared change corresponding to a particular independent variable indicated the percentage of the variation in the mathematics portion of NJ ASK for Grade 5 passing percentages due to the variation inherent to that particular variable. As shown in Model 1, the MathEPct (socioeconomics) variable contributed the most (39.2%) to the R squared value and was statistically significant $F(1,699)=499.800$, $p=.001$. Model 2 showed that student mobility contributed 1.4% to the R squared value and was statistically significant $F(1, 698)=15.901$,

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p=.001. Model 3 showed that students with disabilities contributed 1.0% to the *R* squared value and was statistically significant *F*(1, 697)=12.466, *p*=.001. The last model showed that teachers with advanced degrees contributed .08% to the *R* squared value and was statistically significant *F*(1, 696)=9.825, *p*=.001. This showed that although statistically significant, the *R* squared change contribution of student mobility to the variation of the dependent variable was extremely small. Socioeconomics was the overall predictor of student success for Grade 5 students administered the Mathematics section of the NJ ASK.

The Durbin-Watson statistic of 1.367 indicated there was no significant autocorrelation between the fitted dependent variable values and the residuals in the final regression model.

Table 26

Grade 5 Mathematics Hierarchical Linear Regression Model Summary[e]

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
					R Square Change	F Change	$df1$	$df2$	Sig. F Change	
1	.626[a]	.392	.391	12.8967	.392	449.800	1	699	.000	
2	.636[b]	.405	.403	12.7614	.014	15.901	1	698	.000	
3	.645[c]	.416	.413	12.6580	.010	12.446	1	697	.000	
4	.651[d]	.424	.420	12.5787	.008	9.825	1	696	.002	1.367

a. Predictors: (Constant), MathEPct

b. Predictors: (Constant), MathEPct, StMOB

c. Predictors: (Constant), MathEPct, StMOB, DISAB

d. Predictors: (Constant), MathEPct, StMOB, DISAB, MA

e. Dependent Variable: TPAPMath

The ANOVA results table shown below (Table 27) illustrated that the final regression model (Model 4) was statistically significant $F(4, 696)=158.223$, $p=.000$.

Table 27

Grade 5 Mathematics Hierarchical Linear Regression ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	74812.851	1	74812.851	449.800	.000[b]
	Residual	116261.054	699	166.325		

	Total	191073.905	700			
	Regression	77402.310	2	38701.155	237.644	.000[c]
2	Residual	113671.595	698	162.853		
	Total	191073.905	700			
	Regression	79396.447	3	26465.482	165.176	.000[d]
3	Residual	111677.459	697	160.226		
	Total	191073.905	700			
	Regression	80950.921	4	20237.730	127.907	.000[e]
4	Residual	110122.984	696	158.223		
	Total	191073.905	700			

a. Dependent Variable: TPAPMath

b. Predictors: (Constant), MathEPct

c. Predictors: (Constant), MathEPct, StMOB

d. Predictors: (Constant), MathEPct, StMOB, DISAB

e. Predictors: (Constant), MathEPct, StMOB, DISAB, MA

As shown in the Model 4 section of the coefficients table below (Table 28), all four predictor variables were statistically significant ($p<.01$). The table also revealed the beta (β) values associated with these variables. Teachers with advanced degrees (β=.09) had a weak positive association with NJ ASK for Grade 5 passing percentages in Mathematics. Conversely, MathEPct, student mobility, and student disability had negative statistically significant influence on proficiency levels for Grade 5 students administered the Mathematics section of the NJ ASK (-.56, -.11, -.10). The results confirmed socioeconomics having a strong negative relationship, while student mobility and student disability having a weak negative relationship with proficiency levels in mathematics for Grade 5.

Table 28

Grade 5 Mathematics Hierarchical Linear Regression Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	94.156	1.044		90.170	.000
	MathEPct	-.364	.017	-.626	-21.208	.000
2	(Constant)	95.049	1.057		89.902	.000
	MathEPct	-.320	.020	-.549	-15.711	.000
	StMOB	-.247	.062	-.139	-3.988	.000
3	(Constant)	97.470	1.253		77.774	.000
	MathEPct	-.329	.020	-.565	-16.159	.000
	StMOB	-.221	.062	-.125	-3.572	.000
	DISAB	-.152	.043	-.103	-3.528	.000
4	(Constant)	92.737	1.957		47.380	.000
	MathEPct	-.327	.020	-.561	-16.160	.000
	StMOB	-.203	.062	-.114	-3.281	.001
	DISAB	-.151	.043	-.102	-3.515	.000
	MA	.105	.033	.091	3.134	.002

a. Dependent Variable: TPAPMath

The fourth and final step was to run a hierarchical linear regression for schools divided into two groups for mathematics: low-socioeconomic status schools (50%-100% of the students were eligible for free and/or reduced lunch) and medium to wealthy schools (0% to 49% of student populations were eligible for free and reduced lunch).

Research Question 4: Grade 5 Low-Socioeconomic Hierarchical Linear Regression for Mathematics

As shown in Model 1 (Table 29), the MathEPct (socioeconomics) variable contributed 14% to the *R* squared value and was statistically significant $F(1,356)=60.732$, *p*=.001. Model 3 of the hierarchical regression for low-socioeconomic schools showed student mobility being statistically significant when associated with socioeconomics and student disability *F*(1,

354)=7.574, *p*=.006. Socioeconomics remains a significant predictor of proficiency levels of

students in Grade 5 administered the Mathematics section of the NJ ASK in low-socioeconomic

schools.

Table 29

Grade 5 Mathematics Low-Socioeconomic Hierarchical Linear Regression Model Summary[e]

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.382[a]	.146	.143	16.0430	.146	60.732	1	356	.000	
2	.383[b]	.147	.142	16.0532	.001	.549	1	355	.459	
3	.406[c]	.165	.158	15.9066	.018	7.574	1	354	.006	
4	.406[d]	.165	.156	15.9282	.000	.041	1	353	.839	1.941

a. Predictors: (Constant), MathEPct

b. Predictors: (Constant), MathEPct, StMobility

c. Predictors: (Constant), MathEPct, StMobility, % Disability

d. Predictors: (Constant), MathEPct, StMobility, % Disability, MA+

e. Dependent Variable: TPAP Math

The ANOVA results for low-socioeconomic schools shown below (Table 30) illustrated

that the final regression model (Model 4) was statistically significant *F*(4, 353)=253.706, *p*=.001.

Table 30

Grade 5 Mathematics Low-Socioeconomic Hierarchical Linear Regression ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	15631.194	1	15631.194	60.732	.000[b]
1	Residual	91626.593	356	257.378		
	Total	107257.787	357			
	Regression	15772.780	2	7886.390	30.602	.000[c]
2	Residual	91485.008	355	257.704		
	Total	107257.787	357			
	Regression	17689.050	3	5896.350	23.304	.000[d]
3	Residual	89568.737	354	253.019		
	Total	107257.787	357			
	Regression	17699.475	4	4424.869	17.441	.000[e]
4	Residual	89558.312	353	253.706		
	Total	107257.787	357			

a. Dependent Variable: TPAP Math

b. Predictors: (Constant), MathEPct

c. Predictors: (Constant), MathEPct, StMobility

d. Predictors: (Constant), MathEPct, StMobility, % Disability

e. Predictors: (Constant), MathEPct, StMobility, % Disability, MA+

As shown in the Model 4 section of the coefficients table below (Table 31), only two predictor variables were statistically significant ($p<.01$). The table also revealed the beta (β) values associated with these variables. MathEPct ((β=-.37) had a moderate negative statistically significant influence on Grade 5 NJ ASK proficiency levels for Mathematics in low-

socioeconomic schools. Student disability (β=-.13) had a weak negative statistically significant influence on Grade 5 NJ ASK proficiency levels for Mathematics in low-socioeconomic schools. The results confirmed socioeconomics having a negative relationship with proficiency levels for Grade 5 students administered the Mathematics section of the NJ ASK.

Table 31

Grade 5 Mathematics Low-Socioeconomics Hierarchical Linear Regression Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	101.845	4.685		21.737	.000
	MathEPct	-.459	.059	-.382	-7.793	.000
2	(Constant)	101.699	4.693		21.672	.000
	MathEPct	-.451	.060	-.375	-7.523	.000
	StMobility	-.023	.032	-.037	-.741	.459
3	(Constant)	102.340	4.656		21.982	.000
	MathEPct	-.442	.059	-.368	-7.430	.000
	StMobility	-.024	.031	-.038	-.774	.439
	% Disability	-.076	.028	-.134	-2.752	.006
4	(Constant)	102.079	4.836		21.107	.000
	MathEPct	-.442	.060	-.368	-7.422	.000
	StMobility	-.024	.031	-.038	-.769	.443
	% Disability	-.076	.028	-.134	-2.743	.006
	MA+	.007	.034	.010	.203	.839

a. Dependent Variable: TPAP Math

Grade 5 Mathematics High-Socioeconomic Hierarchical Linear Regression

As shown in Model 1 (Table 32), the MathEPct variable contributed 18% to the *R* squared value and was statistically significant $F(1,341)=76.632$, $p=.001$. Hierarchical regression for high-socioeconomic schools showed student mobility having no statistically significant impact on proficiency levels of Grade 5 students administered the Mathematics section of the NJ

ASK. Socioeconomics was a moderate contributor associated with proficiency levels for

high-socioeconomic Grade 5 students administered the Mathematics section of NJ ASK.

Table 32

Grade 5 Mathematics High-Socioeconomic Hierarchical Linear Regression Model Summary[e]

Model	*R*	*R* Square	Adjusted *R* Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	*F* Change	*df*1	*df*2	Sig. *F* Change	
1	.428[a]	.183	.181	8.3630	.183	76.632	1	341	.000	
2	.428[b]	.183	.179	8.3752	.000	.000	1	340	.982	
3	.430[c]	.185	.177	8.3817	.001	.480	1	339	.489	
4	.431[d]	.186	.176	8.3883	.001	.466	1	338	.495	1.990

a. Predictors: (Constant), MathEPct

b. Predictors: (Constant), MathEPct, StMobility

c. Predictors: (Constant), MathEPct, StMobility, % Disability

d. Predictors: (Constant), MathEPct, StMobility, % Disability, MA+

e. Dependent Variable: TPAP Math

The ANOVA results for high-socioeconomic schools shown below (Table 33) illustrated

that the final regression model (Model 4) was statistically significant $F(4, 338)=70.363$, $p=.001$.

Table 33

Grade 5 Mathematics High-Socioeconomic Hierarchical Linear Regression ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	5359.572	1	5359.572	76.632	.000[b]
1	Residual	23849.247	341	69.939		
	Total	29208.819	342			
	Regression	5359.607	2	2679.803	38.204	.000[c]
2	Residual	23849.212	340	70.145		
	Total	29208.819	342			
	Regression	5393.312	3	1797.771	25.590	.000[d]
3	Residual	23815.507	339	70.252		
	Total	29208.819	342			
	Regression	5426.075	4	1356.519	19.279	.000[e]
4	Residual	23782.744	338	70.363		
	Total	29208.819	342			

a. Dependent Variable: TPAP Math

b. Predictors: (Constant), MathEPct

c. Predictors: (Constant), MathEPct, StMobility

d. Predictors: (Constant), MathEPct, StMobility, % Disability

e. Predictors: (Constant), MathEPct, StMobility, % Disability, MA+

As shown in the Model 4 section of the coefficients table below (Table 34), only one predictor variable was statistically significant ($p<.01$). The table also revealed the beta (β) values associated with these variables. MathEPct (β -.43) had a moderate negative statistically significant influence on Grade 5 NJ ASK passing scores for mathematics for high-socioeconomic

schools. The results confirmed socioeconomics having a moderate relationship with the

proficiency levels on the mathematics section of the NJ ASK for high-socioeconomic schools.

Table 34

Grade 5 Mathematics High-Socioeconomics Hierarchical Linear Regression Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	93.071	1.172		79.378	.000
	MathEPct	-.338	.039	-.428	-8.754	.000
2	(Constant)	93.074	1.183		78.672	.000
	MathEPct	-.338	.041	-.428	-8.325	.000
	StMobility	-.001	.052	-.001	-.022	.982
3	(Constant)	93.391	1.269		73.565	.000
	MathEPct	-.340	.041	-.431	-8.347	.000
	StMobility	-.001	.052	-.001	-.020	.984
	% Disability	-.014	.020	-.034	-.693	.489
4	(Constant)	92.647	1.674		55.335	.000
	MathEPct	-.335	.041	-.425	-8.140	.000
	StMobility	.000	.052	.000	.002	.998
	% Disability	-.014	.020	-.035	-.716	.475
	MA+	.014	.021	.034	.682	.495

a. Dependent Variable: TPAP Math

Conclusions

Research Question 1: What is the strength and direction of the relationship between the

percentage of student mobility in a school and the percentage of Grade 5 students scoring

Proficient and above on the NJ ASK Language Arts Literacy section?

Null Hypothesis 1: No statistically significant relationship exists between the percentage

of student mobility in a school and the percentage of Grade 5 students scoring Proficient and

above on the NJ ASK Language Arts Literacy section.

The null hypothesis is retained. Student mobility was not found statistically significant. Student mobility had no statistically significant influence on the Grade 5 Language Arts Literacy section of the NJ ASK.

Research Question 2: What is the influence of student mobility in schools that serve a low-socioeconomic student population on Grade 5 NJ ASK student achievement in Language Arts Literacy when controlling for student and school-level variables that influence achievement?

Null Hypothesis 2: No statistically significant relationship exists between the percentage of student mobility in schools that serve a low-socioeconomic population and the percentage of Grade 5 students scoring Proficient and above on the NJ ASK Language Arts Literacy section.

The null hypothesis is retained. Student mobility was not found statistically significant. Student mobility had no statistically significant influence on the Grade 5 Language Arts Literacy section of the NJ ASK for schools serving low-socioeconomic populations.

Research Question 3: What is the strength and direction of the relationship between the percentage of student mobility in a school and the percentage of Grade 5 students scoring Proficient and above on the NJ ASK Mathematics section?

Null Hypothesis 3: No statistically significant relationship exists between the percentage of student mobility in a school and the percentage of Grade 5 students scoring Proficient and above on the NJ ASK Mathematics section.

The null hypothesis is rejected. Student mobility was found to be statistically significant but had a weak relationship by the low standardized beta and the low R squared contribution of all the variables. Student mobility had a weak-negative statistically significant influence on the Grade 5 Mathematics section of the NJ ASK in 2010-2011.

Research Question 4: What is the influence of student mobility in schools that serve a low-socioeconomics student population on the Grade 5 NJ ASK student achievement in Mathematics when controlling for student and school-level variables that influence achievement?

Null Hypothesis 4: No statistically significant relationship exists between the percentage of student mobility in schools that serve a low-socioeconomic population and the percentage of Grade 5 students scoring Proficient and above on the NJ ASK Mathematics section.

The null hypothesis is retained. Student mobility was not found to be statistically significant. Student mobility had no statistically significant influence on the Grade 5 Mathematics section of the NJ ASK for schools serving low-socioeconomic populations.

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Summary

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For Grade 5 students administered the Language Arts Literacy section of the NJ ASK in 2010-2011, student mobility produced no statistically significant differences in Proficient and Advanced Proficient levels when controlling for student SES. For certain models, such as those for Mathematics, student mobility is masked by the weight of SES. Student mobility becomes the passenger with SES as the driver on course to a miscalculated factor of performance. Controlling for SES skews the contribution of student mobility as a significant variable.

Faculty attendance (13%) and teachers with advanced degrees (10%) were positive contributors to students attaining Proficient and Advanced Proficient levels in Language Arts Literacy. Socioeconomics (-75%) and student disabilities (-12%) negatively influenced students attaining Proficient and Advanced Proficient levels in Language Arts Literacy. Socioeconomics had a strong-negative influence on student Proficient and Advanced Proficient levels for the Grade 5 students administered the Language Arts Literacy section of the NJ ASK in 2010-2011.

For Grade 5 students in low-socioeconomic schools that were administered the Language

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Arts Literacy section of the NJ ASK in 2010-2011, student mobility produced no statistically significant differences in Proficient and Advanced Proficient levels. Faculty attendance positively contributed (11%) to students attaining Proficient and Advanced Proficient levels in Language Arts Literacy. Socioeconomics negatively contributed (-51%) to proficiency levels for Language Arts Literacy. Socioeconomics had a strong-negative influence on student Proficient and Advanced Proficient levels for Grade 5 low-socioeconomic students administered the Language Arts Literacy section of the NJ ASK in 2010-2011.

Table 35 represents the influencing variables (negative or positive) that were statistically significant for the Grade 5 Language Arts Literacy section of the NJ ASK in 2010-2011.

Table 35

Language Arts Literacy Independent Variable Influence on Grade 5 Populations for NJ ASK in 2010-2011

	All – Grade 5 schools	Low – Grade 5 schools	High – Grade 5 Schools
Student Mobility			
Student Attendance			
Student Disability	-12%		
Instructional Day Length			
Faculty Mobility			
Faculty Attendance	+13%	+11%	
Faculty with Advanced Degrees	+10%		

For Grade 5 students in high-socioeconomic schools that were administered the Language Arts Literacy section of the NJ ASK in 2010-2011, student mobility produced no statistically significant differences in Proficient and Advanced Proficient levels. Socioeconomics negatively contributed (-53%) to proficiency levels for Language Arts Literacy. Socioeconomics had a strong-negative influence on student Proficient and Advanced Proficient levels for Grade 5 high-socioeconomic students administered the Language Arts Literacy section of the NJ ASK in 2010-2011.

For Grade 5 students administered the Mathematics section of the NJ ASK in 2010-2011, student mobility negatively (-11%) contributed statistically significant differences in Proficient and Advanced Proficient scores. Teachers with an advanced degree positively contributed (9%) to students attaining Proficient and Advanced Proficient levels in Mathematics. Student disability negatively contributed (-10%) to proficiency levels for Mathematics. Socioeconomics negatively contributed (-56%) to proficiency levels for Mathematics. Socioeconomics had a strong-negative influence on student Proficient and Advanced Proficient levels for Grade 5 students administered the Language Arts Literacy section of the NJ ASK in 2010-2011.

For Grade 5 students in low-socioeconomic schools that were administered the Mathematics section of the NJ ASK in 2010-2011, student mobility produced no statistically significant differences in Proficient and Advanced Proficient levels. Student disability negatively contributed (-13%) to proficiency levels for Mathematics. Socioeconomics negatively contributed (-37%) to proficiency levels for Mathematics. Socioeconomics had a moderate-negative influence on student Proficient and Advanced Proficient levels for Grade 5 low-socioeconomic students administered the Mathematics section of the NJ ASK in 2010-2011.

For Grade 5 students in high-socioeconomic schools that were administered the Mathematics section of the NJ ASK in 2010-2011, student mobility produced no statistically significant differences in Proficient and Advanced Proficient levels. Socioeconomics negatively contributed (-43%) to proficiency levels for Mathematics. Socioeconomics had a moderate-negative influence on student Proficient and Advanced Proficient levels for Grade 5 high-socioeconomic students administered the Mathematics section of the NJ ASK in 2010-2011.

Table 36 represents the influencing variables (negative or positive) that were statistically significant for the Grade 5 Mathematics section of the NJ ASK in 2010-2011.

Table 36

Mathematics Independent Variable Influence on Grade 5 Populations for NJ ASK in

2010-2011

	All – Grade 5 schools	Low – Grade 5 schools	High – Grade 5 Schools
Student Mobility	-11%		
Student Attendance			
Student Disability	-10%	-13%	
Instructional Day Length			
Faculty Mobility			
Faculty Attendance			
Faculty with Advanced Degrees	+9%		

Socioeconomics accounted for the greatest amount of variance in the Proficient and

Advanced Proficient levels of Grade 5 students administered the Language Arts Literacy and

Mathematics sections of the NJ ASK in 2010-2011. Student mobility influenced only

Mathematics for Grade 5 proficiency levels. Segmenting schools by low or high economic status

did not reveal any variation in student mobility or proficiency levels in language arts literacy and

mathematics.

The findings of this study might lead policy makers and stakeholders to address

socioeconomic conditions that can influence Mathematics proficiency on the NJ ASK. In my

concluding chapter, I relate findings from this study to empirical research and offer

recommendations for future policy and practice.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Introduction

My purpose for this study was to explain the relationship between student mobility and performance on high-stakes tests in Language Arts Literacy (LAL) and Mathematics among fifth-grade students at schools serving average-income populations and schools serving low-income populations in New Jersey. Utilizing the 2010-2011 NJDOE dataset, I analyzed the relationship between student mobility and NJ ASK 5 LAL and Mathematics scores. Correlational statistical tests were utilized to ascertain the strength and direction of the relationship among variables.

The results of this study revealed student mobility had no statistically significant influence on the percentage of students who scored Proficient and Advanced Proficient on the Language Arts section of the NJ ASK in 2010-2011 in the aggregate sample. However, the results of the study revealed a weak and negative statistically significant influence of student mobility on NJ ASK 5 Mathematics results in 2010-2011 in the aggregate sample.

Additionally, when I divided the student population into low and high economic strata, there was no statistically significant influence of student mobility. However, the overall pattern of lower levels of proficiency in lower socioeconomic samples was identified. Simply put, as poverty increases, the percentage of students who score Proficient or above decreases. In the remainder of this chapter I discuss my conclusions on the influence of socioeconomics on Grade 5 achievement and then present recommendations for policy and practice.

Socioeconomics, Student Mobility, and Achievement

When analyzing the betas from the statistically significant regression models, free lunch

eligibility was a statistically significant and strong predictor of student achievement in both the

Language Arts Literacy and Mathematics sections for Grade 5 on the NJ ASK in 2010-2011.

Overall, Language Arts Literacy and Mathematics achievement were influenced strongly by

student socioeconomic status as measured by free lunch eligibility. Schools with higher

percentages of students eligible for free lunch had lower percentages of students scoring

Proficient or above, whereas schools with lower percentages of students eligible for free lunch

had higher percentages of students scoring Proficient or above on the tests. My results align with

the work of Sirin (2005), who found socioeconomic status a strong predictor of student

achievement. The results of this study suggest that low-socioeconomic status acts as an

achievement suppressor in both Language Arts Literacy and Mathematics proficiency levels.

Table 37 illustrates the statistically significant influence of socioeconomics on the Grade 5

Language Arts Literacy and Mathematics sections of the NJ ASK in 2010-2011.

Recommendations for Policy

The continued lower levels of performance by students from low-socioeconomic

backgrounds has led some policy makers to call for a review of the root causes of

underachievement. Many researchers are pointing with concern to the overall social and

academic development of students in the years prior to entering formal education as a major

cause of lower performance on standardized assessments.

Social policies that provide more support to students from poverty backgrounds are

necessary to complement education policy. I suggest an education policy framework that

includes social supports. This framework would be based on the idea of broader community

involvement and incorporating aspects of social development and community improvement to

assist students to be able to more fully access the education opportunities provided at their school

(Halpern, 2002). I suggest a return to policies that exemplify models and methods used by Comer Schools. Specifically, the literature suggests that some good first steps would include (a) policies that allow for after-school programming to provide students from poverty backgrounds the experiential learning opportunities that their middle class peers receive, (b) health services located in the school, and (c) the addition of a community social services professional on staff (Comer, 2005). The development of a child's academic achievement goes beyond actual learning to include the physical and the emotional influences of the environment.

After-school programs provide academic support and enrichment activities by employing district personnel sponsored through profit or non-profit organizations. After-school programs can offer assemblies and field trips so that students can gain academic life experiences similar to those enjoyed by their wealthier peers. Modified school calendars or year-round schools with summer vacation clustered between weeks of school can also help minimize loss of academic progress and provide continuity to an after-school program. In the absence of the ability to conduct year-round schools, districts might consider partnering with their town and non-profit organizations to create a community recreation program where children can continue to receive various opportunities to participate in enriching life experiences.

Recommendations for Practice

School leaders should of course advocate for policy changes like those recommended in the prior section. In practice, the implementation of such policies would look like specific programs added to the school's inventory of programs and services. For example, school leaders should pursue grant opportunities like the 21st Century Communities Grant.

The 21st century communities grant program is one example of a federally funded, state-managed program that school districts can access to provide certain grade levels of students with

the opportunities described above. Under the NCLB Act of 2001, 21st Century Community

Learning Centers (21st CCLC) were established in 2003 to provide low-performing schools with

funding for out-of-school programs (NJDOE, 2014a). According to legislation, the main intent

of the 21st CCLC program was to provide academic, cultural, and social services for low-

socioeconomic students and their families that will impact academic achievement. Although the

grant program does not address all grade levels, it can be combined with other funding sources to

create a community school approach that provides year-round supports. Combining several grant

programs with some outside non-profit funding can be important steps to realizing a Comer

approach to schooling.

Outside of the school, students learn to explore the world through interests or hobbies

(Miller, 2003). Teachers serve as a link between academic learning and social development.

Collaboration with parents and colleagues build a valuable resource for student growth. Students

rely on teachers for support beyond content knowledge. Education policy makers should

structure extended learning time to provide a balanced approach to academic and social

development of students. Curriculum should be rigorous with projects, field study, and

community outreach opportunities that blend learning objectives with interpersonal skills. The

use of community partnerships that support and expand learning may create job or professional

relationships beyond the classroom. Students could explore other schools or organizations to

expand their perception of the world (Scott-Little et al., 2002). Extended learning time

curriculum extends beyond the normal school setting to allow exploration of student interests for

self-growth.

A community school approach would also include health services within the school. A

formal health clinic and dental services would be offered to students on a sliding scale of

payment. Some schools already provide these services through grants, donations, and federal funding. Health services for students and families are an important aspect of community schools. Such services improve the entire community through the reduction of illness and improve student achievement. Murray et al. (2007) reviewed the ability of Coordinated School Health Programs (CSHP) to influence academic achievement. CSHP established policies that promote student health initiatives through parental and community involvement. CHSP focused on promoting student health through comprehensive school health education and school health services. Findings from their review revealed evidence supporting school health services along with parental and community involvement as positive contributors to student academic achievement.

I also recommend that school leaders seek funding for a social services coordinator, most commonly in the form of a social worker, to help coordinate the community schooling activities and social services offered within the school. The coordinator would also act as a clearinghouse for all social services available to families and play a facilitation role. The coordinator would work to match families with services in and outside of the school. The coordinator would also work with local non-profit and for-profit entities to secure resources for the school. Epstein et al. (2002) constructed a framework to assist schools with parental and community involvement that improves student achievement. The framework is based on six characteristics of involvement:

1. Parenting: helping all families establish supportive home environments for children
2. Communicating: establish two-way exchanges about school programs and children's progress
3. Volunteering: recruiting and organizing parental help at school, home, or other locations

4. Learning at home: providing information and ideas to families about how to help

   students with homework and other curriculum-related materials

5. Decision-making: having parents from all backgrounds serve as representatives and

   leaders on school committees

6. Collaborating with the community: identifying and integrating resources and services

   from the community to strengthen school programs

The social services coordinator would employ these six types of involvement to create

meaningful collaborations between the learning environment, families, and communities for

student achievement.   Social service coordinators are one method in which low-performing

schools can provide support for students and their families.

School leaders need to secure parental support for extended learning time and the other

practices and services mentioned. They also need to consistently create opportunities for parents

to be involved, knowing that many parents of students from poverty backgrounds work non-

standard hours and in multiple jobs. Providing family-centered opportunities during an after-

school program or before-school program, like family dinner or family breakfast, can help busy

parents stay connected to the school and also provide school leaders opportunities to keep

parents up-to-date about available resources. Activities should revolve around parents'

schedules.

Recommendations for Future Research

Although this research served to look at the influence of student mobility on proficiency

levels for the Grade 5 Language Arts Literacy and Mathematics sections of the NJ ASK in 2010-

2011, this study cannot provide all the answers related to student mobility and student

achievement. In order to enhance the literature, it is imperative that future studies expand on such topics as those listed below:

1. Recreate this study in other states and at the national level and compare the findings.

2. Recreate this study for Grade 4 and Grade 8 in science.

3. Recreate this study for Grade 4 and Grade 8 using results from PARCC.

4. Conduct a study concentrating on low-socioeconomic and high-socioeconomic schools' methods for academic intervention.

5. Recreate this study using district level data.

6. Design a study that looks at the different causes of student mobility and their influence on academic achievement.

7. Design a study that looks at mobile and non-mobile student achievement.

Conclusions

Student mobility is one of many variables that contribute to student achievement as measured by high-stakes testing. My research divulged that student mobility had no statistically significant influence on the overall performance of Grade 5 students administered the Language Arts Literacy and Mathematics sections of the NJ ASK in 2010-2011. My findings emphasized the ability of SES to conceal the effects of student mobility as a non-contributing variable to student performance. Viewing this, student mobility becomes an underlying consequence of SES, passenger and driver. Lower-socioeconomics disguises the effects of student mobility.

Policy-makers have the ability to address the social capital concerns of students and their families that impede academic performance. To reverse the effects of SES, communication between schools, families, and community stakeholders must converge on a common goal; student success. Collaborations with organizations such as 21st CCLC will assist students and

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their families to gain additional academic and social support through structured activities.

Providing medical and social services that focuses on the needs of students and families will help

strengthen learning in and out of school. Treating the symptoms only bandages the wounds of

SES. We, as a society of progressive minds, must address the root causes of low-

socioeconomics that hinder learning for the most vulnerable of our citizens.

"Accept - then act. Whatever the present moment contains, accept it as if you had

chosen it. Always work with it, not against it. Make it your friend and ally, not

your enemy. This will miraculously transform your whole life."

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