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The Influence of the Student Mobility Rate on Grade 3 New Jersey Assessment of Skills and Knowledge Scores

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on Grade 3 New Jersey Assessment of Skills and Knowledge Scores

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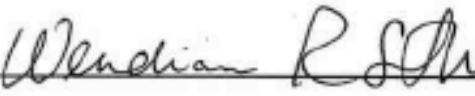
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Abstract

This correlational, explanatory, cross-sectional study explained the influence of student mobility, at the school level, on the percentage of students who scored proficient on the 3rd grade English Language Arts Literacy NJ ASK. The variables in this study included: student characteristics (percentage of students who were economically disadvantaged (on free lunch status), percentage of students in Special Education, percentage of students who were Limited English Proficient, percentage of students who were mobile); and school characteristics (percentage of mobile teachers). The statistical analysis in this study included: Correlational Matrix, Simple Regression Model, Simultaneous Multiple Regression Model, and Sequential Regression Model. The study consisted of 1,335 New Jersey elementary schools that included third grade during the academic school year of 2010–2011. The findings in this study indicated that the student mobility rate does influence the percentage of students scoring proficient on 3rd grade English Language Arts Literacy NJ ASK.

Keywords: student mobility, 3rd grade high stake assessments, students on free lunch

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To the most important person in my life, my child. My love for you renders me speechless at times as your beauty (inner and outer) lights up the world. You inspire me and always make me proud. I thank you endlessly for showing me what true, unconditional love looks like and feels like. Thank you for being the best part of me and demonstrating what compassion, quiet strength, and greatness is. I entrust in you my solutionary activism in making the world a better place for women and children everywhere. Know your worth and never apologize for your strength.

Dedication

I dedicate this work to my husband and my child.

And to those students who are mobile, abused, unsure, and forgotten—I understand.

Please trust me when I say: education is the key to your freedom.

The Pen is Mightier than the Sword

~ Edward Bulwer-Lytton

Table of Contents

List of Tables

List of Figures

Chapter 1

Introduction

Background

The New Jersey Department of Education (NJDOE) defines student mobility as "the percentage of students who both entered and left during the school year. The calculation is derived from the sum of students entering and leaving after the October enrollment count divided by the total enrollment" (New Jersey Department of Education Report Card, 2011). Student mobility is a variable found in the extant literature that has a negative influence on student achievement as measured on standardized tests. It is also a variable that NJDOE officials included in state school report cards until 2012.

Student mobility influences state and local education policy, schools, as well as how student achievement is measured and educational organizations are held accountable (Thomas Ford Institute, 2012, p. 125). Depending on the frequency, student mobility may deter a child from obtaining what the No Child Left Behind federal policy's goal states as "a fair, equal, and significant opportunity to obtain a high-quality education and reach, at a minimum, proficiency on challenging state academic achievement standards and state academic assessments" (USDOE, 2004).

The No Child Left Behind Act of 2001 (NCLB, 2002) brought about changes to state school accountability systems. One change included the requirement that every state had to create a school accountability system. School report cards were one required part of that system. Included in the New Jersey report card system is a Performance Summary Report that provides detailed data on how a school is fairing in various categories: academic progress; information about faculty, teachers, and administrators including experience, education/credentials, retention,

attendance and student/staff ratios; student discipline rates; student college and career readiness indicators; and district and school narratives highlighting accomplishments and unique programs. The reports also provide a comparison of a school's performance to the "overall state performance and state targets" (NJ School Performance Summary Report Guide Performance Summary Report Guide, 2016).

Provisions in the NCLB act also held schools responsible for achieving Adequate Yearly Progress (AYP). AYP was the "amount of yearly improvement each Title I school and district is expected to make in order to enable low-achieving children to meet high performance levels expected of all children" (USDOE, 2009). AYP included holding schools and LEAs who received Title 1 funds accountable for making passable growth for children to meet the state's standards; and held schools and LEAs responsible for the "amount of improvement they make each year" (USDOE, 2009).

NCLB law "supported standards-based education reform on the premise that setting high standards and establishing measurable goals could improve individual outcomes in education" (Congress.gov, 2001). The Act required states to develop their own standards and develop basic skills assessments for all students at certain grade levels. "NCLB expanded the federal role in public education through further emphasis on annual testing, annual academic progress, report cards, and teacher qualifications, as well as significant changes in funding" (Congress.gov, 2001).

The NCLB Act also required states to create a student and school achievement data collection systems as part of the overall accountability system. NJDOE officials introduced the NJ Standards Measurement and Resource for Teaching (NJSMART) in 2006. District and school personnel were responsible for entering the following data into the NJSMART database:

"statewide longitudinal data system solution that serves multiple purposes: staff/student identification, data warehousing, data reporting, and analytics" (NJSMART, 2010).

Tienken and Orlich (2013) wrote, "[NCLB-required] proficiency targets must be explained in percentages of students meeting some arbitrarily identified score on standardized exams in Grades 3 through 8" (p. 55). Many parents and educators share the thought that high stakes test scoring is arbitrary when it comes to today's PARCC (The Partnership for Assessment of Readiness for College and Careers) test.

The New Jersey Assessment of Skills and Knowledge (NJ ASK) was developed in response to the NCLB requirements for mandatory standards-based assessments in Grades 3–8. These state assessments measured student achievement in English Language Arts, math, and in science for students in Grades 4 and 8 (NJDOE, 2014). The assessment was field-tested in Grades 3–8 in May 2003, and became fully operational in 2004 (NJDOE, 2016). State education officials focused on the results of the NJ ASK as a means of meeting the academic achievement testing requirements of NCLB. Student academic achievement, school achievement, and school district achievement were determined from NJ ASK students' scores. The test results categorized Grade 3 students into three groups. The scale was as follows: 100–199 [partially proficient], 200–249 [proficient], and 250–300 [advanced proficient] (NJ ASK Technical Report, 2011).

The focus on accountability for thorough and efficient education did not stop in 2005 when New Jersey's Quality Single Accountability Continuum (QSAC) was introduced as an additional accountability measure. Four years later, in 2009, with an eye toward regaining the nation's international academic performance and uniting various states with consistent learning goals, the Common Core State Standards (CCSS) were developed and adopted.

In 2012, the NJDOE officials revised the NJSMART database. Officials stated, "New Jersey is building a unified accountability system...." A component of this new system was the new Performance Report, designed to "indicate how each school is contributing to the state's ultimate goal: preparing all students for success in college and career" (NJDOE, 2012). As a result of changes to the NJSMART database in 2012, the NJDOE officials no longer required student mobility to be reported. Since schools would not be reporting this information any more, the NJDOE would not be able to assess the influence of mobility, which naturally hinders the addressing of the issue.

That same year, 2012, the United States Department of Education (USDOE) began granting flexibility to states regarding specific requirements of NCLB in exchange for demanding and wide-ranging "state-developed plans designed to close achievement gaps, increase equity, improve the quality of instruction, and increase outcomes for all students" (USDOE, Every student…, 2015). New Jersey education officials submitted a request for ESEA flexibility in 2012 and were granted approval (NJDOE, Request for Public…, 2012). New Jersey's plan for change addressed the four principles outlined in the waiver application: College and Career-Ready Expectations for All Students; State-Developed Differentiated Recognition, Accountability and Support; and Supporting Effective Instruction and Leadership (USDOE, ESEA Flexibility Review…, 2012 p. 6,10, 18). New Jersey's waiver plan included required information that was somewhat modified. Schools with the lowest achievement and graduation rates were identified as Priority schools (ESEA flexibility request, p. 38).

In 2014, the Partnership for Assessment of Readiness for College and Careers (PARCC) replaced the NJ ASK tests in Grades 3–8 and high school continued to place emphasis on student

achievement and the schools' accountability for attaining it in a measurable form (Weckstein, 2003).

The Every Student Succeeds Act (ESSA) was signed into law by President Barack Obama in 2015. ESSA reauthorized the nation's Elementary and Secondary Education Act (ESEA), which reflected the country's longstanding commitment to equal opportunity for all (USDOE, Every Student…, 2015). ESSA federal policy mandated annual high-stakes assessments in order to ready students for college and career.

ESSA continued the NCLB requirement of school report cards. The 2017 guidelines for state and local report card requirements under Title I, Part A of the ESEA, stated that report cards must include:

> …student achievement data overall and by grade, including the percentage of students at each level of achievement as determined by the state…for all students and disaggregated by each major racial and ethnic subgroup, gender, disability status, migrant status, English proficiency status, and status as economically disadvantaged, status as a homeless student, status as a child in foster care, and status as a student with a parent who is a member of the Armed Forces on active duty….

Historically, student mobility has been studied and addressed in the setting of policy on a nationwide level. Given the importance of the influence that student mobility plays on state and local education policy and how its frequency may keep a child from obtaining a high-quality education, it should continue to be treated as a priority issue in policy setting to better tackle this growing phenomenon.

Student Mobility

The negative influence of student mobility on student achievement on standardized tests has been a long-standing concern of researchers. In 1961, researchers found that mobility was becoming ever more prevalent (Greene & Daughtry, p. 36). In 1962, another researcher found that the intelligence tests of highly mobile students (who moved more than once and attended three or more schools) reflected less capability than stable students (Bollenbacher, 1962). Forty-five years later, high student mobility was again found to be associated with lower test scores on English Language Arts and math achievement tests for Grades 3, 6, and 9 (Titus 2007; Rhodes 2007).

Results from numerous studies suggest that "high rates of student mobility (non-promotional change of schools) are associated with lower student achievement" (Rumberger & Larson 1998; Engec, 2006, Rumberger, 2015). The academic problems facing a highly mobile student in elementary school have been shown to predict similar academic issues in middle school and further on if the mobility persists (Masten et al., 2005; Patterson & Stoolmiller, 1991; Rutter, Kim-Cohen, & Maughan, 2006).

Despite the many years the mobility issue has been discussed, its effects are still pervasive and problematic. Mobility is a variable that influences accurate accountability determinations when those determinations are based on standardized test results. Students who are not adequately prepared to take standardized tests because their lives are fraught with changing schools are more likely to fail to meet minimum expected performance on standardized tests. Through no fault of their own, they are destined to continue to feel the frustration of failure.

Statement of the Problem

High mobility rates can influence student outcomes on standardized tests and the results of those tests are used by New Jersey Department of Education bureaucrats to determine the educational quality provided by a school, the college- and career-ready status of students, and the effectiveness of teachers and school administrators (Beatty, Student Mobility…, 2010, State of New Jersey Department of Education website, 2011b).

When a child is new to a school and has a history of high mobility on record, teachers are not as likely to devote themselves to the academic success of such a student (Astone, McLanahan 1994, p. 576). Researchers in an international study of 10 Department of Defense school districts across the United States, Germany, and Japan (five domestic districts and five overseas districts) summarized what teachers must deal with in a school with high student mobility. They observed "disruptions and distractions that negatively influence classroom environments, limit instructional continuity, and diminish student engagement" (Smrekar, Owens, 2003, p.165). There is potential for teachers to become frustrated by students who haven't been adequately prepared to take high-stake assessments. This can influence a teacher to leave the school because as researcher Boyd discovered, well-qualified teachers are more likely to leave when educating lower-achieving students (Boyd, 2005, p.171).

The quantitative literature regarding the effect of mobility on standardized test results, of New Jersey public school students in Grade 3 in particular is scarce, as most of the research done on the subject focuses on Grades 5 and higher. Even less explored is the effect of mobility on standardized test results of New Jersey third graders when controlling for other student and school variables. Specifically, no studies have concentrated on Language Arts Literacy scores for third graders in New Jersey since the inception of the Common Core in 2010.

As of 2012 student mobility was no longer reported on New Jersey state mandated reports. Therefore, this study will use the last year of available data, 2011, to explain the influence of student mobility on a Common Core aligned test—the 2011 Grade 3 Language Arts Literacy NJ ASK, which tested students' ability in the following: Analyzing Text, Working with Text, and Writing.

Purpose of the Study

The purpose for this correlational, explanatory, cross-sectional study was to explain the influence of student mobility, as defined by the New Jersey Department of Education, at the school level on the NJ ASK on the Language Arts Literacy section scores of New Jersey third graders. The New Jersey Department of Education (NJDOE) defines student mobility as "the percentage of students who both entered and left during the school year" (New Jersey Department of Education Report Card, 2011). The influence of student mobility in the context of this definition in New Jersey third graders is not fully understood because of a lack of research at that grade level.

Research Questions

The overarching research question was: What is the strength and direction of the relationship between the percentage of student mobility on a school-by-school basis in New Jersey elementary schools and the percentage of Grade 3 students scoring proficient on the NJ ASK Language Arts Literacy section when controlling for student and school-level variables?

The following research questions were used:

1.	What is the influence of the student mobility rate on Grade 3 students scoring proficient on the NJ ASK Language Arts Literacy section?

2.	What is the influence of the student mobility rate on Grade 3 students scoring proficient on the NJ ASK Language Arts Literacy when controlling for student characteristic variables of: percentage of students who were economically disadvantaged (on free lunch status), percentage of students in Special Education, and percentage of students who were Limited English Proficient?

3.	What is the influence of the student mobility rate on Grade 3 students scoring proficient on the NJ ASK Language Arts Literacy when controlling for teachers who were mobile?

4.	What is the influence of the student mobility rate on Grade 3 students scoring proficient on the NJ ASK Language Arts Literacy when controlling for student characteristic variables and for teacher mobility?

Null Hypothesis

Null Hypothesis 1: No statistically significant relationship exists between assessment scores on the Language Arts Literacy section of NJ ASK and the student mobility rates (on a school-by-school basis) of third graders as reported on the New Jersey School Report Card and Performance Report for New Jersey's public elementary schools.

Design and Methodology

This correlational, explanatory, cross-sectional study with quantitative methods used publically available data from the NJDOE's website that was collected for the 2010–2011 school year and was published during the 2011–2012 school year. This design was appropriate to determine the influence of student mobility on the NJ ASK on the Language Arts Literacy section scores of New Jersey third graders.

The sample for this study consisted of 1,335 New Jersey public elementary schools with the exception of magnet schools, charter schools, and special education schools, or any other selective schools. All data from these New Jersey elementary schools were used in a multiple regression analysis and a sequential regression analysis utilizing either the "simultaneous" or "entry" method.

Predictor Variables

The variables that this study identified from the extant literature and from the NJDOE 2010–2011 New Jersey School Report Card are outlined in Table 1.

Table 1
Variables Covered in this Study

Student Information	School Information	Staff Information
Percentage of students who were economically disadvantaged (on free lunch status)	Total Enrollment	Percentage of teachers who were mobile
Percentage of students in Special Education Percentage of students who were Limited English proficient Percentage of students who are mobile		

Outcome Variables

The school-level percentages of New Jersey elementary school Grade 3 students scoring proficient on the NJ ASK Language Arts Literacy section are variables. NJ ASK was a criterion-referenced assessment used by the NJDOE to measure how well students have mastered knowledge and skills under the umbrella of the New Jersey Core Curriculum Content Standards.

The NJDOE used the NJ ASK test scores to help determine a school's overall achievement rate; the lowest achieving schools were labeled Priority School or Focus School. Priority schools were the schools with the lowest school-wide proficiency rates in the state with

an overall three-year proficiency rate of 31.6% or lower. Focus Schools had the following proficiency determinants:

> • Largest in-school proficiency gap between the highest-performing subgroup and the combined proficiency of the two lowest-performing subgroups. Schools in this category have a proficiency gap between these subgroups of 43.5 percentage points or higher.

> • Two lowest-performing subgroups rank among the lowest combined proficiency rates in the state with an overall proficiency rate for these lowest-performing subgroups of 29.2% or lower (NJDOE website, 2011a).

The stakes of NJ ASK test results were high for students and schools. For students, poor performance landed them in a low-performing group. For schools, poor performance went on record in the New Jersey School Report Card.

Significance of the Study

This study incorporates lessons gleaned from prior researchers and reaches beyond them in that the study examines the influence of student mobility on children of a younger age, Grade 3. In 2011 and today, this grade is particularly significant in the State of New Jersey because it is the first grade in which New Jersey students are assessed with high-stakes testing. Further, the unit of analysis of this study was aimed at the school level instead of district level. This is important because the school level is closer to the students' individualized capabilities and practitioners need information gained from the student level in order to determine the necessity of and see to the implementation of potential interventions.

Most researchers agree that mobility is one of the many factors that can lead a child into less than stellar academic performance on high-stakes assessments such as the NJ ASK. In fact, one can find research as early as 1961 that corroborates this statement (Greene & Daughtry,

1961). As Fong, Bae, and Huang point out in their 2010 study, "mobility rates were…higher among elementary …students" and so that increases the ramifications for these mobile children who should be establishing a strong academic foundation from which to build upon in higher grade levels (p. 5).

More thorough understanding of the reasons for academic failures will help educational systems steer children toward success. It is vital that this be done at a lower grade level to help the child avoid the negative consequences of academic failure, which can lead to antisocial behaviors and increase the likelihood of social and emotional problems that can carry over into adulthood (Caspi, Wright, Moffitt, & Silva, 1998; Cole, Martin, Powers, & Truglio, 1996; Dishion, Patterson, Stoolmiller, & Skinner, 1991; Hart & Risley, 1995; Maguin & Loeber, 1996; Maughan, Rowe, Loeber, & Stouthamer-Loeber, 2003; Patterson, Forgatch, Yoerger, & Stoolmiller, 1998; Thornberry et al., 2003; Williams & McGee, 1994).

If the study results find a weak relationship between mobility and third-grade student NJ ASK Language Arts Literacy scores, the implications will still be helpful in the formation of future policy. If the problem of poor Language Arts Literacy scores do not turn out to be mobility related, it will be necessary to look elsewhere for reasons that certain third graders may not have been performing to minimum proficiency standards. When future policy is set, it should be done in the light of as much information on third-grade Language Arts Literacy achievement as possible.

Limitations

Because of its correlational design, this study can only indicate the correlation between student mobility and the percentage of 3rd grade students attaining a level of proficiency on the NJ ASK Language Arts Literacy section within NJ schools. We cannot infer cause and effect

from this study even if a high correlation between two variables is found. However, a high correlation "allow[s] for a possible prediction of outcomes" (Gay, Mills, & Airasian, 2012).

This non-experimental, correlational, explanatory, cross-sectional study focused on data collected from only one point and time; the data in this study is based solely upon the New Jersey School Report Card from the school year 2010–2011. Because the research is only looking at one year's data, it is unable to detect patterns in the data over time. For instance, in a longitudinal study, a variable when looked at over time would reflect a trend that would shed light on that variable's influence on student mobility, as defined by NJDOE.

As Tienken stated in his 2010 article on social inequity and high school test scores, "…every state-mandated test has measurement error (the reported score is not the true score) and no state accounts for it appropriately…" and thus the NJ ASK scores cannot be said to be 100% valid (Tienken, 2010).

The accuracy of the study's data and calculations, and thereby the soundness of its conclusions, cannot be guaranteed despite the best efforts of the researcher. As Tienken has asserted, "States that attempt to measure large subject domains (i.e., mathematics, language arts) using tests with relatively few questions (i.e., 30–40) risk the testing program to reliability threats" (Tienken, 2005).

As this study focuses on New Jersey alone, it should not be used as a model to interpret the mobility issue on a countrywide basis.

Delimitations

Although cause and effect is not proven, we can, however, foresee outcomes. Data were retrieved for Grades 3 Language Arts Literacy from 1,335 schools. The data were limited to public schools that were located in different district factor groups (ranging from A–J) within the

21 counties of New Jersey. The results of this study reflect only NJ ASK scores of students in Grade 3 from the 2010–2011 school year. Data were analyzed by school buildings and not aggregated to the district level. The data used in this study are also from one point in time, the 2010–2011 school year.

Definition of Terms

Achievement Gap. This refers to "the disparity in academic performance between groups of students. The achievement gap shows up in grades, standardized-test scores, course selection, dropout rates, and college-completion rates, among other success measures" (Ansell, *Education Week*, 2011). This term is often used to describe the differences between socioeconomic groups.

Adequate Yearly Progress (AYP). Measurement defined by the United States federal No Child Left Behind Act allowing the U.S. Department of Education to determine academic performance of every public school and school district in the country, by recording standardized test results. For New Jersey, students must reach 100% mastery in Language Arts Literacy (NJDOE Archives. Definitions for New Jersey School Report Card, 2011).

Average Class Size. Average class size for a grade level in elementary schools is based on the enrollment divided by the total number of classrooms. 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 Archives. Definitions for New Jersey School Report Card, 2011).

District Factor Group (DFG). The sectors 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 lowermost socioeconomic status, to J, the most affluent group (NJDOE District Factor groups…).

Enrollment by Grade. Grade-level enrollment is determined by 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 Archives. Definitions for New Jersey School Report Card, 2011).

Instructional Time. This is the amount of time per day that a typical student is engaged in instructional activities under the supervision of a certified teacher (NJDOE Archives. Definitions for New Jersey School Report Card, 2011).

Faculty Attendance Rate. This is the rate of average daily attendance for the school's faculty, calculated by dividing the total number of days present by the total number of days contracted for all faculty members (NJDOE District Factor groups…).

Faculty Mobility Rate. This represents the transience rate for faculty members 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 Archives. Definitions for New Jersey School Report Card, 2011).

High-Stakes Testing (HST). These assessments utilize standardized instruments designed to measure student progress toward established educational goals. The results are used to hold schools and districts accountable for students who exhibit no academic growth (Amrein & Berliner, 2002).

Limited English Proficient (LEP) Students. The percentage of LEP students in the school is calculated by dividing the total number of students in limited English proficient

programs by the total student enrollment (NJDOE Archives. Definitions for New Jersey School Report Card, 2011). In this study this group is sometimes referred to as English Language Learners (ELL).

Students with Disabilities. This is the percentage of students with an Individualized Education Program (IEP), including speech, regardless of placement and programs. It is calculated by dividing the total number of students with IEPs by the total enrollment (NJDOE Archives. Definitions for New Jersey School Report Card, 2011).

Student Mobility Rate. This is the percentage of transient students during the school year. The calculation is derived from the sum of students entering and leaving after the October enrollment count divided by the total enrollment (NJDOE Archives. Definitions for New Jersey School Report Card, 2011).

New Jersey Assessment of Skills and Knowledge (NJ ASK). At the time of presented data, this was the assessment system in New Jersey that comprised state tests, which were designed to measure student progress in the achievement of the Core Curriculum Content Standards. Under the No Child Left Behind Act of 2001 (NCLB), all states were required to assess student progress in language arts and math in Grades 3–8 and Grade 11 (NJDOE Archives. Definitions for New Jersey School Report Card, 2011).

Student Attendance Rate. The average percentage of students present at school each day by grade level. This is calculated by dividing the sum of days present in a grade level by the sum of possible days present for all students in that grade (NJDOE Archives. Definitions for New Jersey School Report Card, 2011).

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

equivalents of classroom teachers and educational support services personnel appointed to the school (NJDOE Archives. Definitions for New Jersey School Report Card, 2011).

Organization of the Study

Chapter I provides informational background and sets forth an overview of the problem related to mobility and its relationship to NJ ASK Grade 3 Language Arts Literacy scores. The researcher sought to determine the amount of variance in student test results accounted for by the mobile status of the children while controlling for other factors that influence achievement, such as student socioeconomic standing as determined by free lunch status.

Chapter II includes a review of the literature on the mobile student variables such as English language learners, special needs students, and free lunch participants, as well as previously proposed theories associated with mobility and student achievement on high-stakes assessments.

Chapter III, together with certain sections of Chapter I, explains design methods and procedures for this study. The data collected on the variables and NJ ASK Grade 3 Language Arts scores were retrieved via the New Jersey School Report Card (NJDOE, 2012).

Chapter IV presents the data and statistical findings of the study.

Chapter V summarizes this study's statistics and identifies data implications that can be utilized to plan administrative and education practices and policies. The reader can find conclusions and insights drawn from the research as well as recommendations for future research.

Chapter II

Review Of The Literature

This correlational, explanatory, cross-sectional study with quantitative methods used annually published data from the NJDOE's website that was collected for the 2010–2011 school year and was published during the 2011–2012 school year. This design was appropriate to determine the influence of student mobility on the NJ ASK on the Language Arts Literacy section scores of New Jersey third graders. This grade is of particular importance because it is the first grade that New Jersey high-stakes testing is administered. In addition, research has shown that mobility concerns are higher for younger students (de la Torre, Gwynne, 1995, p. 19).

The review of literature consists of the following sections: Introduction to Mobility, History of Government's Role in Education, Connection between Mobility and High-stakes Testing Achievement, Characteristics of Mobile Children, English Language Learners, Free Lunch, Special Education, and Teacher Mobility. By examining studies on the aforementioned topics, this literature review attempts to understand the significance on both high-stakes testing scores and student mobility.

It is necessary to examine the causes for school mobility because they are "rooted in the broader conditions that characterize the lives of the different subpopulations" and those causes "must shape the reforms and changes needed, both to reduce transiency and to mitigate its negative effects where it can be avoided" (*The Journal of Negro Education*, 2003, p. 3).

Literature Search Procedures

The aim of this literature review was to provide "the basis of both theoretical and methodological sophistication, thereby improving the quality and usefulness of subsequent research" (Boote & Beile, 2005, p. 3). From the NJDOE website, New Jersey Report Card data

18

were utilized to obtain the variables that were considered in this study.

Various online sources were utilized to access peer-reviewed research and academic journal articles. Keywords used in the study included mobility rate, NJ ASK, scores, academic achievement, socioeconomic status, free lunch, special education students, Limited English Proficient students, NCLB, total enrollment, and teacher mobility.

Inclusion and Exclusion Criteria for Literature Review

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

1. Included a sample of students in either public elementary, middle, or high schools in the United States

2. Used quasi-experimental, correlational, longitudinal, and meta-analysis studies

3. Government reports

4. Studies that focused on student achievement

5. Seminal books and think-tank reports

6. Dissertations

7. Federal and state legislation

Introduction to Mobility

High frequencies of student mobility hinder the academic achievement of the mobile student and the aggregate achievement of schools that serve highly mobile students (Cardenas & Cardenas, 1977; Coleman, 1988; Wasserman, 2001, Rumberger, 2002; Fiel, Haskins, & Turley, 2013). Every move is challenging for the students (Beatty, 2010). Student mobility can also thwart schools' efforts to make progress in several ways, which this literature review will discuss in the Theoretical Framework section (Hartman, 2003).

After researcher C.M. Ashby conducted a 2010 study scrutinizing challenges that stem

from educating frequently mobile students, the U.S. Government Accountability Office reported the results. Tracking mobility of kindergarteners from 1998 to 2007, about 70% moved to new schools twice or less, 18% switched schools three times, and 13% changed schools at least four times. All these moves were made before the students even started high school. Overwhelmingly, the latter mentioned group was "disproportionately poor, African American, and from families that did not own their home or have a father present in the household" (GAO, 2010, p. 4).

The following is an excerpt from a 2010 letter from The Honorable Tom Harkin, Chairman of the Committee on Health, Education, Labor, and Pensions United States Senate and the Honorable Christopher J. Dodd, Chairman of the Subcommittee on Children and Families under the Committee on Health, Education, Labor, and Pensions United States Senate:

"Although the landmark Elementary and Secondary Education Act of 1965 (ESEA) was enacted more than 40 years ago to help improve the educational outcomes of our nation's poor children, the achievement gap continues to persist and grow between them and their more affluent peers. Research suggests that poor students change schools more frequently than other students and that these school changes can disrupt their education. Moreover, the recent economic downturn, which resulted in job loss, foreclosures, and homelessness for many Americans, may be increasing the numbers and frequency of students changing schools as their families relocate in search of employment and affordable housing" (GAO Highlights; Highlights of GAO-11–40, a report to congressional requesters. K–12 Education; Many Challenges Arise in Educating Students Who Change Schools Frequently, 2010, p.1).

A 2014 report by the Federal Reserve Bank of Boston studied the negative effects of home foreclosure on students. Because of attendance boundaries, some students had to change schools as a result of their family being forced to move because of home foreclosure or other reason. In other cases, the student may have been close enough to remain at his or her same school. The report found the requirement of switching schools added to the upheaval for the student, while family moves that did not involve changing schools had merely "negligible effects." The report concluded, "more-flexible enrollment policies that allow students to finish out the school year after a move—or nonresidential enrollment in general—could reduce mid-year school transfers" (Bradbury et al., 2014).

Existing Reviews of the Influence of Mobility on Academic Achievement

Studies that look at mobility's influence on Language Arts Literacy scores in the third grade in particular are non-existent. When researching literature on the topic, I found studies that investigated the following:

- The influence of mobility on academic achievement up to and including Grade 8
- Characteristics of highly mobile students
- Overall implications of the mobility issue

Focus of the Review

Researchers and legislators have often underappreciated the fact that "the first few years of school set the stage for later academic development and are critical to children's life prospects" (Beatty, 2010). The influence of mobility in New Jersey third graders' scores on NJ ASK Language Arts Literacy is not fully understood because of a lack of research. To illustrate the connection between mobility and the proficiency level of NJ ASK third graders' literacy scores (without existing studies on the topic), the literature review takes an in-depth look at

studies connecting mobility and achievement as well as studies on student and faculty variables investigated in this dissertation.

Review of Literature Topics

Connection Between Mobility and High-Stakes Testing Achievement

In a 2003 study, researchers Mehana and Reynolds defined student mobility as, "any change in schools" (Mehana, Reynolds, 2004, p. 93). This study used meta-analysis for 26 studies dated between 1975 and 1994 to gauge the effects of school mobility on reading and math achievement in Grades K–6. The sample sizes varied between 62 and 15,000 students. The study results suggested that the academic achievement level of mobile students exceeded that of only 40% of the non-mobile students, which was equated to a three–four month disadvantage in student achievement**.**

Another study conducted on 5,578 elementary school students in Cincinnati public schools found that "a mobile pupil is likely to be a low achiever in reading, but the fact that his low achievement is related to his proportionally low ability is likely to be overlooked" (Bollenbacher, 1962, p. 365).

Since then, researchers have continued to connect residential mobility to poor educational achievement and social outcomes (Astone, McLanahan, 1994; Hagan, MacMillan, & Wheaton, 1996; Simmons, Burgeson, & Carlton-Ford, 1987; Straits, 1987). Researchers have associated school mobility with the following adverse outcomes: academic underachievement (Haveman, Wolfe, & Spaulding, 1991; Reynolds, 1991; Astone, McLanahan, 1994; Kerbow, 1996), behavioral issues (Leonard, Elias, 1993; Wood, Halfon, Scarlata, Newacheck, & Nessim, 1993), repeating a grade (Wood et al., 1993; GAO, 1994; Reynolds, Mavrogenes, Bezruczko, & Hagemann, 1996), and suspension (Simpson, Fowler, 1994), (Mehana, Reynolds, 2004).

In Ingersoll's 1985–1987 correlational study in Denver (CO) Public Schools' multiethnic urban school system, mobility was assessed using data collected from the results of the Iowa Tests of Basic Skills (ITBS) and Tests of Academic Progress (TAP) between September 1985– March 1987 on the system's 58,400 K–12 students. The researcher compared the achievement of 3=three groups of mobile students to non-mobile students. Mean composite ITBS or TAP scores were the dependent variable in the study's analyses.

The Ingersoll study's data offers "compelling evidence that geographic mobility is an aversive influence on student achievement" (Ingersoll, 1989, p. 148). The negative effects are most pronounced in the more unstable populations, regardless of socioeconomic status. "Achievement levels of the two more stable student populations (Groups 1 and 4) were consistently higher than those of the mobile student populations (Groups 2, 3, and 5)" (Ingersoll, 1989, p. 148).

Table 2
Mean Composite Grade Level Equivalent Achievement of Students in Mobility Group

Grade	Group 1	Group 2	Group 3	Group 4	Group 5	F Ratio	Sig
1	1.9	1.7	1.5	2.0	1.6	40.38	$p<.001$
2	3.0	2.6	2.4	3.0	2.7	25.27	$p<.001$
3	3.7	3.4	3.2	3.7	3.5	18.00	$p<.001$
4	4.6	4.1	4.1	4.9	4.4	34.04	$p<.001$
5	5.6	5.2	4.9	5.7	5.4	19.30	$p<.001$
6	6.6	6.0	5.8	6.5	6.3	21.66	$p<.001$
7	7.5	6.9	6.9	7.6	7.0	19.01	$p<.001$

(Ingersoll, 1989, p. 146)

The percentage of mobile students was higher in the lower grade levels. Specifically, the

most significant effects were identified in those elementary student Groups 2, 3, and 5, which were the most mobile students. It should be noted that in Group 2, major impairment was detected into the ninth grade. In almost every grade level studied, mobility was shown to be more detrimental to the students' performance in math than in reading.

For example, one national study of 15,000 third-grade students in 235 elementary schools found that frequent school changes were associated with a host of problems, including nutrition and health problems, below-grade-level reading scores, and retention in grade. Researchers assessed data from the school year 1990–91, which was collected by the Department of Education's Prospects Study. Using crosstabulation tables provided by the Planning and Evaluation Service within the Department's Office of the Under Secretary, researchers performed their own analysis to determine the characteristics and academic performance of the most mobile students. "Overall, we have presented group differences that are relatively large and, according to our analyses, pass standard tests of statistical significance" (U.S. General Accounting Office, 1994, p. 24). Researchers found that mobile third graders were 2.5 times more likely to repeat a grade as third graders who stay in the same school, 20% compared to 8%. Regardless of the socioeconomic status of the children, researchers discovered that mobile students were more likely to repeat a grade than their more stable counterparts (U.S. General Accounting Office, 1994).

Highly mobile children don't experience consistency in their educational or personal lives. Where this dissertation mentions highly mobile children outside of the context of a particular study, or in the context of a group of multiple studies, the term means children with an especially high number of school changes compared to their peers. Many researchers express rising concern about children in families who are both poor and residentially unstable and how

their lives affect their ability to learn and progress academically (Eckenrode, Rowe, Laird, & Brathwaite, 1995; Rumberger, 2003; Rumberger, Thomas, 2000; Temple, Reynolds, 1999).

In 1996, researcher David Kerbow conducted a study using 1993–1994 data from over 13,000 Grade 6 public school students in Chicago to identify "factors that drive mobility in this setting." Of the Grade 6 students observed, only 38% had remained in one single elementary school over the years (Kerbow, 1996, p. 1). The results suggested that "students experiencing numerous moves fall further behind their stable counterparts as their education progresses. The gap is approximately one full year of growth by the sixth year for those students who change schools four or more times." Kerbow describes the connection between mobility and student achievement as a "moderate relationship." The amount of influence rises with the number of moves across the elementary school career (Kerbow, 1996, p. 20).

In a longitudinal study of mobility based on Grade 8 and Grade10 students in California, it was deduced that "students who made 'strategic' school changes to seek a better educational placement, in general, reported positive academic influences, while students who made 'reactive' school changes due to intolerable social or academic situations were more likely to report negative academic influences from changing schools" (Rumberger, 1999). The team of researchers who conducted the study relied upon both statistical and qualitative data in a study that included surveys of 1,148 Grade 8 students over a six-year period and surveys of Grade 10 students and their parents and interviews with 32 educators.

Heinlein and Shinn conducted a study of 764 Grade 6 students in a school district that served a high number of mobile students in New York City. The researchers who conducted this longitudinal study aimed to predict Grade 6 achievement controlling for Grade 3 achievement. Mobility was defined by "school changes, achievement assessed with standardized tests and age–

progress, and eligibility for free or reduced price lunches (an economic indicator) controlled" Heinlein & Shinn, 2000). According to the data, "mobility was related to lower achievement when no controls for prior achievement were used…Students with two or more moves prior to Grade 3 scored lower than their peers in reading and math achievement in Grade 3 and were less likely to be achieving at grade level, a pattern that persisted to Grade 6" (Heinlein & Shinn, 2000).

Heinlein & Shinn (2000) used multiple regression analysis and logistic regression analysis to make predictions based on data taken from the students' permanent school records. During the section of the study that utilized conventional multiple regression analyses, while controlling for gender and socio-economic status, highly mobile students performed 3.8 percentile points lower in math and 5.5 percentile points lower in reading. This meant that 48% of students with less than three moves were performing at or above grade level while only 38% of students with three or more moves performed at or above grade level.

Researchers Mantzicopoulos & Knutson conducted a longitudinal study of 90 K–2 children and their mothers from three cohorts who attended a Head Start center in a Midwestern suburban community. The study was both quantitative and qualitative in nature. The study tracked the mobility of the students and recorded the parents' perceptions of the mobility, including the child's academic performance. "Our results support the conclusion that school mobility has a consistently adverse relationship to children's academic competence. Children who experienced more stability tended to score higher on reading…achievement tests than those whose environments were not as stable" (Mantzicopoulos & Knutson, 2000, p. 310).

Grigg (2012) utilized longitudinal data on 61,326 students in Grades 3–8 within Metropolitan Nashville Public Schools to determine whether mobility influenced achievement.

The researchers used regression analysis to determine the influence of mobility on student achievement. Aided by a fixed effects model, the researchers examined students' reading and mathematics scores on the Tennessee Comprehensive Assessment Program over the school years 1998–2003. Grigg identified four types of student mobility as follows:

- Between compulsory school changes (moving up to another school as expected)

- Between non-compulsory moves (voluntary change at beginning of school year)

- During compulsory moves (expulsions)

- During non-compulsory moves (voluntary change during school year)

    (Grigg, 2012, p. 391)

The mobility data was based on:

- Daily attendance records

- Student enrollment files

- Disciplinary records

    (Grigg, 2012)

During the study, over 152,271 incidences of student mobility were recorded in the sample. As Grigg stated, "The findings suggest that school changes of all types—including those that students are obliged to make—are detrimental to student achievement in the short term….Being new to a school attenuates a student's expected gain in both reading and mathematics…" (Grigg, 2012, p. 400). Grigg found that even when the move is promotional in nature, it had "measurable disruptive effects" (Grigg, 2012, p. 399). The researcher found that the extent of the disruption was comparable over most of the study's mobility groups.

A study limitation is the fact that students who moved from elementary school to middle school as expected are among the students considered mobile. A study weakness is that there is

no way to tell if the student's "dip in achievement" occurred before the school change or is caused by it (Grigg, 2012, p. 397). The strengths of the study include a large sample size, extensive length of time the students are observed, and the mobile nature of the school district. Because of the nature of the study, students are compared to themselves over time, so the influence of a move on an individual student's academic growth is readily apparent and reliably measured based on whether it is a mobile year or not. Most of the results found the influence of mobility was significantly disruptive to achievement. With the exception of student expulsions, the coefficients fall within the range of -0.29 to -0.60. The expelled students experienced the worst effects at -1.99 (Grigg, 2012, p. 398).

Herbers, Cutuli, and Supkoff (2012) studied 18,011 students in Grades 3–8 in the Minneapolis Public Schools. Those students considered to be at highest risk were described as homeless or high-residential mobility (HHM). HHM students were defined using the McKinney Vento definition of HHM as those "living in a nonpermanent residence (e.g., shelter, hotel), on the street, in an abandoned building or other inadequate accommodation, doubled up with friends and family because they could not find or afford housing, or due to frequent changes of residence" (Herbers. Cutuli, & Supkoff, 2012. p 368). The HHM group compared with other groups classified by decreasing socioeconomic risk as follows:

- Students eligible for free meals

- Students eligible for reduced price meals

- Students neither HHM nor low income

The researchers based their accelerated longitudinal study on available data from the Minneapolis Public Schools including Grades 3–8 (assessed in the fall of 2005–2009). Results showed that socioeconomic risk and oral reading ability in Grade 1 were factors in growth (or

lack thereof) in areas of reading and math in Grades 3–8. Risk status had an effect beyond the effects of early reading scores. Results emphasize the achievement gaps in these students relative to poverty and residential mobility. "Both [mobility and homelessness] can have adverse consequences on children's development and academic progress" (Herbers, Cutuli, & Supkoff, 2012).

The results indicated that the mean oral reading scores on the Northwest Evaluation Association computer adaptive tests decreased as the level of risk increased, group by group: students not qualifying for free or reduced price meals and not identified as HHM [M = 86.7], eligible for reduced price meals [M = 65.7], eligible for free meals [M = 47.7], and HHM [M = 40.8] (Herbers, Cutuli, & Supkoff, 2012). Note that homeless and highly mobile students have the lowest academic performance scores.

The models of best fit for the academic achievement in English and math suggested that "each enrollment covariate emerged as an important predictor of intercept effects, reflected by t values greater than 1.96 for their individual estimates" (Herbers, Cutuli, & Supkoff, 2012, p. 370). The results suggest that, "all school enrollment changes are associated with a lower rate of growth in reading during the year the change occurred, but not all of the differences are significantly different from zero" (Herbers, Cutuli, & Supkoff, 2012, p. 398).

The strengths of the study include a large sample size, extensive length of time (totaling four years) the students are observed, and the mobile nature of the school district. The weakness of this study is the data set, which came from a "single agency" in particular, one school district (Herbers, Cutuli, & Supkoff, 2012, p. 372).

Voight, Shinn, and Nation (2012) studied the longitudinal effects of mobility on 8,337 urban students' academic achievement in 11 middle schools encompassing Grades 3–8. The

analysis strategy the researchers used to model the longitudinal effects was the latent growth-curve modeling (LGM). This study defines mobility as residential mobility recorded in school records as opposed to school mobility. A mobility score calculated for each student based on K through Grade 2 mobility was included as a predictor variable. The results indicated "K–2 mobility had a significant negative association with math ($p = -1.44$, $p < .05$) and reading ($p = -1.70$, $p < .01$) achievement in third grade" (Voight, Shinn, & Nation, 2012, p. 389).

Scores were examined in terms of normal curve equivalents (NCEs) from 1 to 99 (with an average score being 50). Mobile students' test scores in the first two years of elementary school decreased about 1.5 NCEs in Grade 3. To illustrate the findings, where two students who were both eligible for free lunch, the student who changed schools between K–2 could be expected to have a worse NCE score in Grade 3 than the stable student. (Voight, Shinn, & Nation, 2012). Additionally, the researchers found a significant negative influence of K–2 student mobility and reading scores between third and eighth grade.

Looking at the research on these elementary and middle school students, the researchers concluded that, "overall, the research and theoretical literature indicates that residential mobility has detrimental associations with achievement and high school completion…" (Voight, Shinn, & Nation, 2012, p. 386). From the research conducted, it was suggested that "early school changes are associated with poor achievement in the 1st years of school…" (Voight, Shinn, & Nation, 2012, p. 386). On the other hand, Voight and company also make a point of saying, "Moving homes is not inherently bad. If a change of residence accompanies a parent's promotion to a higher paying job, for example, it may lead to positive outcomes for a young person and her family" (Voight, Shinn, & Nation, 2012, p. 385).

The strengths of the study include a large sample size, extensive length of time, and the

mobile nature of the school district. The weakness of this study is that because information on students' school mobility was limited to 2009, and data on school moves in other years was unavailable, student mobility was modeled.

The Fordham Institute, along with Community Research Partners, conducted a non-peer-reviewed research project in 2012 in the State of Ohio using data from records of 113,698 students in 3,312 public schools as well as 312 charter schools and e-charters from October, 2009 to May, 2011 (Fordham, p.5). The measurements used to calculate mobility were the following:

- Stability rate–proportion of students staying in a school (October 2009 to May 2011).

- Churn rate–mobility rate in relation to enrollment (October 2010 to May 2011) (Fordham, p. v, 2, 4).

The study looked especially closely at five metro areas: Cincinnati, Cleveland, Columbus, Dayton, and Toledo. The Institute's research found that "students who change schools more frequently are likely to have worse educational outcomes" (Fordham, p. v). For example, Columbus City third graders who experienced three or more moves over the past two years had reading scores on the Ohio Achievement Assessment test drop by approximately 17 points (Fordham, p. 4). The study also found schools' initiatives to make improvements on attendance and academic achievement are "less effective if students move from school to school, dropping in and out of programs" (Fordham, p. 125). Conversely, the study found that when a student moves from a poor school to a better one and stays there, that move can give him or her a better opportunity to achieve (Fordham, p. 5).

A strength of the study is the large pool of students observed and the fact that the

mobility was looked at over a period of two years, adding to the trustworthiness of the study results. Statistical modeling was used to compare average test scores, and for all five district-student groups, the low p-values signify that "the number of school changes over two years is an independent predictor of test scores" (Fordham, p. viii, ix, 38, 40, 46). The weakness of the study is that it only encompasses two years of data analysis; the subject matter would be better served if this were a longitudinal study. Another weakness is a lack of clarity in the conclusions. When the benefit of a promotional move where the student stays at the new school is mentioned, the fact that the student only benefits when he or she is no longer mobile is overlooked.

In 2009, the National Research Council workshop endeavored to assess trends on "change and mobility" in students aged 3–8. The council summarized 16 studies' results (the earliest study was dated 1990). The data revealed that "one non-promotional school move both reduced elementary school achievement in reading and math and increased high school dropout rates, with the most pronounced effects for students who made three or more moves" (Rumberger, 2015, p. 8).

Rumberger pointed out that the influences of mobility are not always negative. The researcher stated, "Voluntary school moves done for strategic reasons may be the least disruptive. Many voluntary school moves result from residential mobility…influences of such changes can be positive, especially when it results in a student attending a higher quality or higher performing school" (Rumberger, 2015, p. 11).

In Pears and Kim's (2016) longitudinal study of children in foster care and community care, data was collected ranged from 2001–2009; researchers followed mobile students living in the Pacific Northwest in a medium-sized metropolitan area. The study defined school mobility as "moving from one school to another when this is not dictated by a typical transition point"

(Pears, Kim, 2016, p. 2).

The total sample group comprised of 117 maltreated children in foster care as well as 60 community care children who shared the same socioeconomic status and were adequately cared for in their family residence. The data was collected from child welfare records, schools, and caregivers. These sources of information allowed the researchers to study these children across districts and states (Pears & Kim, 2016).

The study results revealed that, "when early childhood adversity negatively influences school adjustment, the risks of academic failure, special education placement, and dropout increase" (Pears & Kim, 2016, p.1).

For Phase 1 of the 24-month study, children were between three and six years of age. Each year, researchers collected data for the children who completed one or more years K–2, which included school records. Phase 2 of this longitudinal study assessed students in Grades 3– 5. Regarding the associations between early school moves and later school outcomes, the "significance of mediated (indirect) paths from foster care placement to each of the late elementary outcomes through early school moves was tested using Mplus. These tests accommodate paths involving multiple variables, estimating the significance of the total effect of the entire path. The model to test potential mediation fit the data well: $\chi^2(7) = 8.66$, $p = 0.28$, RMSEA = .04, CFI = .99, TLI = .96" (Pears & Kim, 2016, p.13).

The Pears & Kim study results suggested that "early learning skills in kindergarten were negatively associated with concurrent behavior problems and positively associated with academic and social emotional competence in Grades 3 through 5" (Pears & Kim, 2016, p. 13).

A strength of this study is that it incorporated longitudinal data collected as student transitions occurred. Also, this study was not focused on a single district but rather, it tracked

highly mobile students across districts and states, which strengthened the validity and scope of its findings (Pears & Kim, 2016).

In a longitudinal study based on a large, urban school district in Minneapolis, "across all four GCs [grade cohorts], H/HM [homeless/highly mobile] students had significantly lower levels of initial reading achievement than the poverty group and the advantaged group of students" (Obradovic et al., 2009, p. 505). H/HM was defined using the McKinney Vento definition of H/HM.

Data was collected for three years ranging from 2003–2006 and included four cohorts in second, third, fourth, and fifth grades, totaling 14,754 students. The purpose of this research was to study H/HM achievement "patterns in H/HM children on a nationally norm-referenced test designed for growth curve analysis" (Obradovic et al., 2009, p. 497).

Characteristics of Mobile Children

Children who are highly mobile often have one or more of the following characteristics: living in poverty, English language learners, in special education and/or homeless (Fong, Bae, and Huang, 2010). According to Fong, Bae, and Huang (2010), student mobility is defined as "students who transferred between public schools in Arizona, students who had breaks in enrollment of at least 19 days, and students (other than kindergarten students) who entered school for the first time during the observation period [2004/05–2007/08]" (p. I). The 2010 longitudinal study included 1,528,348 Arizona public school or charter school students representing more than 600 districts using data collected in the school years beginning 2003 and ending 2008.

After analyzing the correlation between student mobility and student characteristics, the results show that mobility is significantly higher among low-income and special-needs students

34

than for other students (Fong, Bae, & Huang, 2010). In the study results, the researchers concluded the following about student subgroups' predisposition toward mobility:

- "Students eligible for free or reduced-price lunch averaged almost twice as many mobility events (1.13) as students who were not eligible (0.61)

- Students who received special education services averaged more mobility events (1.09) than students who did not (0.88)

- Black students were the most mobile, averaging 1.31 mobility events

- English language learner students averaged more mobility events [0.99] than did other students [0.88]" (Fong, Bae, & Huang, 2010, p. 10).

The strengths of the study include a large sample size of more than 1.5 million students from more than 600 districts throughout the state. Another strength is the extensive length of time the students were observed (over a course of four years). A third strength is the fact that every Arizona student's enrollment entry and exit date was collected, which makes the data very reliable (Fong, Bae, & Huang, 2010).

The limitations of this study could influence accurate conclusions of this study. First, once students transfer to another school in another state or country, that data is not tracked, which confines the study to the Arizona public school population only. In addition, the dataset collected on Arizona students is limited to specific four-year period (Fong, Bae, & Huang, 2010).

The plight of the highly mobile student was well summarized in the following quote from Ream's 2003 study conducted on achievement levels of Mexican Americans and social capital: "…teachers know that newly arriving students, particularly mid-year school changers, may be here today and gone tomorrow. Under such conditions there is often a failure in students' human capital development because teachers may be less inclined to invest in mobile students if these

students are deemed unlikely to fulfill the implicit reciprocal 'contract'" (Ream, 2003).

The quantitative section of the Ream study utilized 1988 data along with follow-up data from 1992 collected from the National Education Longitudinal Study of 1988, a study of about 25,000 8th graders. Descriptive analyses of student subgroups' panel data were used to investigate the students' family background, mobility trends, social capital in the learning institution, and mathematics/reading test score achievement. Control variables were put in place in the survey analysis to account for students' family history as well as academic track record.

The 8th-grade survey (1988) identified the number of school moves per child between Grades 1–8, while the 12th-grade survey (1992), captured the number of non-promotional moves over the previous four years (Ream, 2003).

The results from the Ream (2003) study "demonstrate(ed) high rates of student mobility during the primary school years" as Beatty later did in his 2010 study on student mobility and its influence on achievement (Ream, 2003, p.245; Beatty, 2010). The study further found that although Mexican origin youth in their population did not experience a lack of school social capital, this did not help their test scores, which tended to be lower than those of non-Latino Whites. Other characteristics about the Mexican origin students brought to light in the study were higher rates of residential mobility and lower socioeconomic status than their white peers (Ream, 2003).

The strengths of the study include a large sample size, extensive length of time the students were observed, data was collected statewide, and the mobile nature of the school district. The weakness of the study is that it focused on just 8th grade.

English Language Learners

In Fong, Bae, and Huang (2010), more than 1.5 million K–12 students in more than 600 Arizona public school districts from 2004–2008 were studied in order to determine the effect mobility had on the English Language Learner (ELL) population and other student characteristics. The number of ELL students was 356,092 or 23.3%.

Student mobility was defined as "students who transferred between public schools in Arizona, students who had breaks in enrollment of at least 19 days, and students (other than kindergarten students) who entered school for the first time during the observation period [2004/05–2007/08]" (p. I). During the study, almost a fourth of the total student population moved once. Using a correlational design, the researchers looked at the relationship between ELL and student mobility and found "the proportion [of mobility] was higher for English language learner students than for other students" (Fong, Bae, and Huang, 2010, p. 5). The study revealed a 0.04 correlation (Fong, Bae, and Huang, 2010, p. 21).

The strengths of the study include a large sample size, extensive length of time the students were observed, the data represents every public and charter school across the state, the fact that almost a fourth of the students were mobile, and the high proportion of English language learner students. A weakness of the study is that it does not track students who move out of state or to a private school or home school. Another weakness is that the data is limited to the particular timeframe of the study.

Kim (2011) conducted a California-wide study to examine ELL students' enrollment, achievement, and continuity in the public school system in Grades K–12, focusing on students graduating in 2006, 2007, and 2008. Researcher Kim "defined ELL students as those who were identified as Limited English Proficient in any year during their school enrollment" (Kim, 2011,

p. 8). Of 28,179 students observed, 38.8% ELL students were considered mobile versus 34.2% non-ELL students. The ethnic groups of the ELL students were "66% Hispanic, 17% Asian, 11% Black, and 7% White" (Kim, 2011, p.10). The district rates of ELL students ranged from 1% to 12% (Kim, 2011, p.39, table 21).

ELL students were found to have missed tests more than twice the rate of non-ELLs. In the area of reading achievement, the study shows "the average gaps between ELL and non-ELLs are about 20 points in Grades 5, 8, and 10, which is about one half of one standard deviation (SD) of reading test scores in all three grades" (Kim, 2011 p.13).

The strengths of the Kim study include a large sample size, extensive length of time the students were observed, data was collected statewide, and the mobile nature of the school district. The weakness of the study is that it focused on students who had enrolled in any time in the state's public school system, so that some of the students may not have been attending the school system in a certain testing year. Also, test scores were likely skewed by the number of missing test scores for ELLs (Kim, 2011).

Free Lunch

In a 1994 meta-analysis study conducted by the United States Government Accountability Office, results showed that in third graders, mobility was associated with lower family income. In fact, it found that "thirty (30)% of third graders from low income families with yearly earnings below $10,000 changed schools three or more times, compared with only 8% of children from families earning $50,000 or more" (Mehana, Reynolds, 2004, p. 94). In the study, "school mobility was defined as any change in schools between kindergarten and sixth grade" (Mehana, Reynolds, 2004, p. 97).

After reviewing the test performance of New Jersey students in Grades 4, 8, and 11, Tienken (2011) found "vast differences in standardized test results between those eligible for free lunch and those not eligible (poor versus more affluent)" (Tienken, 2008).

In Herbers, Cutuli, and Supkoff's 2005–2009 longitudinal study of 18,011 Minneapolis, Minnesota students, researchers examined data from the Minneapolis Public Schools including Grades 3–8 (assessed in the fall of each school year). The majority of students from the urban district in which the study took place qualified for free meals (55%). Those students had family incomes below 130% of the poverty line. Average oral reading test scores, based on the Northwest Evaluation Association computer adaptive test, differed by risk group. The subgroup eligible for free meals scored a mean score of 47.7 versus the general education subgroup, which scored 86.7 (Herbers, Cutuli, & Supkoff, 2012, p. 369).

The strengths of the study include a large sample size, extensive length of time (totaling four years) the students were observed, and the mobile nature of the school district. The weakness of this study is the data set, which came from a "single agency"; in particular, one school district.

In a Georgia-based study of 1.7 million public school students in the 2012–2013 academic year, 176,000 students were considered mobile (Governor's Office of Student Achievement, Beaudette, 2014 p. 1–2). Students must have "entered or withdrawn from a school between October 2 and May 1 to be classified as 'mobile'" (Governor's Office of Student Achievement, Beaudette, 2014, p. i). Researchers used regression analysis to determine "students who qualified for FRL [free or reduced price lunch] were 3.9% more likely to be mobile than non-FRL students" (Governor's Office of Student Achievement, Beaudette, 2014, p. i).

The Beaudette study found that of the free or reduced-price lunch eligible subgroup, 12.7% were mobile as compared to 7.1% in the non-free or reduced-price lunch eligible subgroup (Governor's Office of Student Achievement, Beaudette, 2014). Interestingly, among white students, 36.2% qualified for free or reduced-price lunch, but 57.2% of mobile white students qualified for free or reduced-price lunch. In addition, the percentage of students qualified for free or reduced-price lunch was linked to the school's churn rate so that "as a school went from a low-poverty school to a high-poverty school, the predicted churn rate increased by 12.8 percentage points" (Governor's Office of Student Achievement, Beaudette, 2014, p. 11).

The strengths of the study include a large sample size, the collection of statewide data, and the mobile nature of the school district. The weakness of this study is it analyzed data for just one year. The study's conclusions would be more credible if this were a longitudinal study.

In a 2018 urban Nevada study, researcher Welsh examined Clark County School District (CCSD), which encompassed the cities of Las Vegas, North Las Vegas, Boulder City, Henderson, and Mesquite and their surrounding areas. Of a sample of 428,247 students, study results demonstrated that non-free or reduced-price lunch recipients outperformed students who received free or reduced-price lunch (FRPL) by about a third of a standard deviation. The study results also found that the greater the proportion of FRPL students the school had, the greater the exit rate. Specifically, "schools in the bottom quintile of proportion of low-income students (0%–27% of FRPL students) had an average midyear exit rate of 4% compared with 10% for schools in the top quintile [greater than 79% of FRPL students]" (Welsh, 2018 p. 69).

Special Education

In 1997, the Individuals with Disabilities Education Act (IDEA) was amended to reauthorize and improve upon the Act. The amended Act states, "Disability is a natural part of

the human experience and in no way diminishes the right of individuals to participate in or contribute to society. Improving educational results for children with disabilities is an essential element of our national policy of ensuring equality of opportunity, full participation, independent living, and economic self-sufficiency for individuals with disabilities." The Act defines "child with a disability" as "a child (i) with mental retardation, hearing impairments (including deafness), speech or language impairments, visual impairments (including blindness), serious emotional disturbance (hereinafter referred to as 'emotional disturbance'), orthopedic impairments, autism, traumatic brain injury, other health impairments, or specific learning disabilities; and (ii) who, by reason thereof, needs special education and related services" (Individuals with Disabilities Education Act Amendments of 1997).

In keeping with the national focus on accountability, the Individual With Disabilities Education Improvement Act (a 1994 reauthorization of IDEA) mandated that states and districts include children with disabilities in its assessments. Accommodations were made and alternate assessments used were warranted (Katsiyannis, Zhang, Ryan, Jones, 2007).

Below depicts the relationship of the performance of all Grade 3 students' scores to Grade 3 Special Education students' scores in the spring 2010 NJ ASK Language Arts Literacy section.

Table 3
Grade 3 2010–2011 NJ Ask Performance

NJ ASK 2010–2011	All Students Scores	Special Education Students Scores
Proficient Level	54.1%	30.8%
Advanced Proficient level	5.6%	1.7%

(State of New Jersey Department of Education website, 2011b)

Defur conducted a 2000 survey of special education administrators (including directors,

coordinators, and supervisors from 98 school divisions). The survey was meant to explore the outcomes of Virginia's approach to education reform, high-stakes assessment, and students with disabilities. Researcher Defur mentions another example of the performance of special education students in literacy; Virginia students in Grade 5 were tested in 1999, and of these students, 39% passed the reading (Virginia Department of Education as cited by Defur, S, 2002 p. 209).

Roden, Borgemenke, Holt conducted a Texas-based quantitative, longitudinal study utilizing archived 2003–2009 statewide data from the Public Education Information Management System of the Texas Education Agency (TEA) to "assess the general effectiveness of placing special education students in inclusive classroom settings." The study found a correlation between the number of students receiving special education services receiving instruction in the general education classrooms during the study period to the number of those students achieving passing grade level on the Texas Assessment of Knowledge and Skills (TAKS) state assessment (TAKS). A greater number of special education students who spent at least 80% of their time in general education met the expectations of the state accountability system than special education students who were not integrated.

The Roden, Borgemenke, Holt study results indicated, "…when the number of students receiving special services where allowed more access to the general education classroom, the total number of students meeting the Reading and ELA TAKS standard increased. In the school year of 2007–08, the number of special education students in the general education classroom increased by 32,209 from the 2003–04 school year. These students were allowed access to the general education curriculum and 49,424 more of them were successful in passing the TAKS Reading or ELA assessment" (Roden, Borgemenke, Holt, 2011, p.6). Conversely, later data

collected in the years 2008–2009 and 2009–2010 demonstrated that as the number of special

education students in the general education classroom decreased, so did the students'

achievement as indicated by their test scores on the statewide assessments.

Limitations of the Roden, Borgemenke, Holt study are related to the general nature of the

population categories and changing factors influencing student placement. There is speculation

by many that schools adjust student placements based upon accountability intricacies found in

the Performance Based Monitoring Assessment System (PBMAS) and NCLB. The resulting

actions of schools based upon Response to Intervention (RTI) may also be a factor that

influences student placement since the reauthorization of IDEA in 2004. An increasing number

of students educated in Texas public schools each year may also skew observed results. The

strength of this study is the large number of years in which data is collected and the significant

sample size, both of which add to the credibility and validity of the study results.

Another 2003 study on the influence that inclusive settings have on the achievement of

students with developmental disabilities found that there were no gains in academic

achievement, only gains in adaptive behavior (McDonnell et al., 2003).

In 2018, Dynamic Learning Maps was the current statewide assessment for "students

with the most significant cognitive disabilities for whom general state assessments are not

appropriate" (NJDOE). Statewide assessment outreach; Summary of findings, Recommendations

for next steps, 2018).

Teacher Mobility

In a school with high student mobility, teachers must deal with "disruptions and

distractions that negatively influence classroom environments, limit instructional continuity, and

diminish student engagement" (Smrekar, Owens, 2003, p.165). Furthermore, teachers and other

school staff members "are being held accountable for the learning of students who may have received much of their education elsewhere" (Wasserman, 2001). In a study conducted on staff members in Chicago schools where the school received a large number of students because of a nearby school closing, teachers "reported feelings of demoralization, stress, and tension because they lacked resources to integrate new students" (de la Torre & Gwynne, 2009). All of these factors can influence teachers to leave their employment in search of a more stable student body.

Researchers Feng and Sass (2011) found in their longitudinal study based in Florida that "lowest quality teachers are most likely to depart both low and high-performing schools" and that "high quality teachers are more likely to bail out of low-performing schools and do so at a faster rate than in high-performing schools" (Feng and Sass, 2011, p. 17). The Feng and Sass study used the Florida Education Data Warehouse to collect data on public school students and teachers. Although the data covers school years beginning 1995 and ending 2005, testing of achievement in consecutive grades began in the 1999–2000 school year and is limited to Grades 3–10. In the section of the study that involves measurement of teacher quality, the sample is limited to 2000–2001 through 2004–2005 for teachers in Grades 4–10.

Results demonstrated that "teacher mobility plays a part in widening achievement gaps between advantaged and disadvantaged student groups" (Feng and Sass, 2011, p. 18). The results indicated that when comparing mobile teachers with "corresponding all-year teacher effects the correlations are relatively strong, ranging from 0.63 to 0.71 in math and 0.61 to 0.74 in reading" (Feng and Sass, 2011, p. 11). Student achievement was measured by analyzing the "FCAT-NRT (Stanford Achievement Test)" scores (Feng and Sass, 2011).

The researchers in this study examined the connection between teacher quality and teacher mobility (within Florida schools and teachers moving into other careers) through an

examination of faculty and student characteristics. Feng and Sass found that "all statistically significant odds ratios are less than one, indicating that in general, the likelihood a teacher stays in the current school assignment increases with teacher quality" (Feng and Sass, 2011, p. 12). They also found that "there is currently a lack of evidence directly linking teacher mobility and the distribution of teacher quality across schools" (Feng and Sass, 2011, p. 17).

A strength of the Feng and Sass study is that it is based on statewide data, as opposed to a specific school district, and covers a five-year span of data. A weakness of the study is it could not follow teachers from state to state.

A quasi-experimental study of 103 District of Columbia public schools Grades 4–8, which used data from 2009–10 and 2012–13, determined "with respect to turnover among low-performing teachers, it's interesting to note that more than 90% occurs in high-poverty schools" (Northern, 2016).

In a 2013 New York City study on teacher mobility and its effect on student achievement by Ronfeldt, Loeb, and Wyckoff, 850,000 fourth- and fifth-grade students were observed during the years 2001–2002 and 2005–2010 (Ronfeldt, Loeb, & Wyckoff, 2013, p. 9). The researchers determined that teacher mobility could be positive if the teachers who leave are less effective than the teachers who replace them. However, they found that "where arriving and leaving teachers are equally effective, turnover may cause a broad disruption that influences all students…" (Ronfeldt, Loeb, & Wyckoff, 2013, p. 7). Furthermore, the study found that "teacher turnover has a significant and negative influence on student achievement in both math and ELA" (Ronfeldt, Loeb, & Wyckoff, 2013, p. 14, 30).

The study results showed that "student math scores are 8.2% to 10.2% of a standard deviation lower in years when there was 100% turnover as compared to years when there was no

turnover at all. For a year in which turnover increases by one standard deviation (.17 for lagged attrition), this corresponds with a decrease in math achievement by approximately 2% of a standard deviation. Effect sizes are somewhat smaller in ELA than in math, estimated at between 4.9% and 6.0% of a standard deviation decrease" (Ronfeldt, Loeb, & Wyckoff, 2013, p. 18).

About 86% of teachers each year had stayed in the same school from the year before. Of the fourth- and fifth-grade teachers, 4% had transferred schools within NYC while 9% were first-year teachers. Of this 4th and 5th grade grouping, the teachers in the district had an average of 8 years' experience.

In schools with more low-achieving students and Black students, the negative effect of teacher turnover on student achievement was more pronounced (Ronfeldt, Loeb, & Wyckoff, 2013).

A weakness of the study is that the data collected is not of a continuous, unbroken time period as there is a gap of two years without observation (Ronfeldt, Loeb, & Wyckoff, 2013, p. 9). A strength of the study is the use of a "unique identification strategy and two classes of fixed-effects regression models" to assess the "direct effect of teacher turnover on student achievement" (Ronfeldt, Loeb, & Wyckoff, 2013, p. 8).

In a 2009 study researchers Allensworth, Ponisciak, and Mazzeo analyzed teacher mobility in the Chicago Public Schools (CPS) utilizing data gathered from 72,940 records of 24,848 teachers in 538 elementary schools, and 27,643 observations of 9,882 teachers in 118 high schools. The study used "three-level hierarchical logistic regression models" to study teacher mobility and how teacher stability is linked to other factors.

Researchers estimated that 80% of CPS educators continued teaching "in their school from one year to the next" (Allensworth, Ponisciak, and Mazzeo, 2009, p. 1), which falls below the national level of 84%. Yet over a period of five years, CPS lost half of their teachers, and about every three years, numerous schools lost over half of their educators. At the time of the data, 100 schools in Chicago's system had high teacher mobility, losing more than 25% of their teaching staff per year (Allensworth, Ponisciak, and Mazzeo, 2009). It is important to note that the study found "teacher mobility also is related to student mobility in elementary schools—teachers are more likely to leave elementary schools that have a mobile student body. This relationship is partially, but not fully, explained by weaker relationships between teachers and parents in elementary schools with high rates of student mobility" (Allensworth, Ponisciak, and Mazzeo, 2009, p. 28).

In schools that serve low-income African-American students, there was higher teacher turnover than in integrated, Latino, mixed minority, or racially mixed CPS schools. In elementary schools that have a student body of mostly African Americans, only 76% of teachers persisted in their employment from the 2005–06 school year through 2006–07, compared to 88% of teachers in integrated schools.

It is widely recognized, and reconfirmed in CPS schools by this study, that characteristics that make teachers significantly more likely to leave are youth and lack of experience. "While 82% of veteran elementary school teachers beginning in 2005–06 returned to their schools in 2006–07, only about two-thirds (67%) of first-year elementary school teachers returned to their schools" (Allensworth, Ponisciak, and Mazzeo, 2009, p. 16). Other characteristics such as gender, education, and race have less significant links with mobility. Importantly, teachers whose race is the same as the student body are more likely to stay in the school. Teachers in

their late thirties to early fifties had higher stability rates (between 80 and 90 percent) than teachers under 30 or 55 and older (between 70–75 percent).

Theoretical Framework

Children with especially high rates of school mobility do not have the opportunities to establish trusting bonds with teachers and other school staff. They cannot form the "human capital" and "social capital" that other children get to develop, which works against their chances for success (Coleman, 1988, p. S118; Fiel, Haskins, & Turley, 2013). The connection between mobility and social capital goes in more than one direction.

In the 1988 study, Coleman describes human capital as "created by changes in persons that bring about skills and capabilities that make them able to act in new ways" (Coleman, 1988, Social Capital in the Creation of Human Capital, p. S100). Coleman also mentions the "knowledge acquired by an individual" as human capital (Coleman, 1988, Social Capital in the Creation of Human Capital, p. S100).

The Fiel, Haskins, & Turley study defines social capital as "relations of trust between families and school personnel" (Fiel, Haskins, & Turley, 2013, p. 1189). As stated in Fiel, Haskins, Turley, 2013, "not only does mobility affect social capital, but social capital also affects mobility….Studies of residential mobility provide evidence that social networks play an important role in encouraging families to stay" (Fiel, Haskins, Turley, 2013, p. 1194).

Student mobility is disruptive to an elementary student's education and as a result, his or her achievement and chances for graduation later on (Wasserman, 2001; Rumberger, 2002). Reaching social, emotional, and cognitive milestones is key to being a capable, adaptable student. Disruptions in this development because of mobility may be harmful and produce a "snowball effect" over time (Masten, 2005, p. 491; Beatty, 2010, p. 5).

Psychologist Abraham Maslow identified needs that should be met for humans to develop to their full potential. There are several needs that are compromised for students who are highly mobile. Maslow spoke of "biological and physiological needs" and "safety needs." Lack of a permanent shelter, protection from elements, security and stability are challenges for mobile students. If a child does not feel safe in his or her environment, the student is unable to reach higher levels of survival. Under the category of "love and belongingness need," Maslow identified a need for friendship, affiliation, and being part of a group. A highly mobile student is unable to attain fulfillment in these areas. As Beatty said, "With every move, students have to get used to new curricula, new educators, new classmates, and new places" (Beatty, 2010, p. 5). Late entry into the classroom can make it difficult for the new student to form friendships and may result in his or her perceiving a lack of belonging.

Under the category of "esteem needs," Maslow specified the human desire to build a reputation that garners respect from others. If people do not get to know the mobile student, or appreciate the student and his or her attributes, the ability to get that reputation is thwarted. Under the category of "cognitive needs," Maslow discussed the need for predictability, which necessarily goes unmet in a student who is living a mobile lifestyle. Mobile students may not be accustomed to a scheduled, organized learning environment. There is no doubt that "the typical instructional program with built-in continuity and sequence which assumes that the child in the classroom today was here yesterday and will be here tomorrow is incompatible with the mobility characteristic" (Cardenas & Cardenas, 1977, p. 8). Maslow mentioned "self-actualization needs," which include a person realizing his or her potential, and is unlikely for a student whose family is unable to adequately focus on his or her success in school (McLeod, Maslow's Hierarchy of Needs, *Simply Psychology*, 2018).

In his study, Social Capital in the Creation of Human Capital, (1998), sociologist James Coleman describes human characteristics that are essential to being a part of an effective social association and life-long social structure. Coleman defines social capital as "a variety of entities with two elements in common: they all consist of some aspect of social structure, and they facilitate certain actions of actors...within the structure" (Coleman, 1998, p. S98). Social capital helps foster a student's success. Repeated mobility is disruptive to a student's development in and out of school, general care, and bonds with teachers and peers (Rumberger, 2015). A student who is mobile will be challenged in creating interpersonal relationships, a sense of identity and self-awareness, communal norms, trust, reciprocity, and shared values (Coleman, 1998).

When a student moves from one community and school to another, he or she will not benefit from networks of relationships and "individual or collective action" will be jeopardized (Coleman, 1998, S100). When a mobile student's education is disrupted, certain skill sets will be deficient causing a student to lack "capabilities that make them able to act in new ways" (Coleman, 1998, S100). Masten wrote that "social resources associated with academic competence include school, family, and peer systems," and mobility is likely to interfere with developing two out of the three factors that would lead to poor academic consequences (Masten, 1998, p. 7). A dearth of opportunity to develop social networks that encourage and engage the student is a primary reason that mobile students will be hard pressed to reach their full potential.

For decades, Lev Vygotsky has been a respected name in the theory of cognitive development. In Vygotsky's *Mind in Society*: *The development of higher psychological processes*, he discussed how social interaction influences how a child learns to think. Vygotsky believed that children "grow into the intellectual life of those around them" (Vygotsky, *Mind in Society*, 1978, p. 88). He believed that the adults and peers in a child's world helped the child

learn through social interaction; that guidance and encouragement from more skilled people were key to greater learning. Vygotsky stated, "Learning is a necessary and universal aspect of the process of developing culturally organized, specifically human psychological function" (Vygotsky, *Mind in Society*, 1978, p. 90). The environment and culture in which children develop was an important idea for Vygotsky. Certainly a mobile child does not enjoy an environment that is conducive to learning as the players who could encourage the child in his or her development may be changing too frequently to be of great value to a student's success.

For the school, significant mobility is counterproductive as well. As researcher Chester Hartman phrased it so well: "The major education reforms put forward—smaller classes in schools, lower teacher/student ratios, better-trained teachers, improved physical plant and facilities, the increased emphasis on accountability, etc.—all are seriously undermined, if not made irrelevant, if the classroom is a revolving door" (Hartman, 2003).

The abovementioned theories help to understand the importance of the effects of student mobility, which researchers have identified as one of the most influential factors that can affect students' achievement on high-stakes testing such as the NJ ASK. Not only is it difficult for mobile students to master the basic academic skills that third graders are expected to have mastered, but the above theories show how the socio-cultural realities that mobile students face add to that difficulty.

Synthesis

Studies show that student mobility negatively influences student achievement (Bollenbacher, 1962; Simmons, Burgeson, & Carlton-Ford 1987; Straits 1987, Haveman, Wolfe, & Spaulding, 1991; Reynolds, 1991; Astone & McLanahan, 1994; Astone, McLanahan, 1994; Hagan, MacMillan, & Wheaton 1996; Kerbow, 1996; Ingersoll, 1989; Herbers, Cutuli, &

Supkoff, 2012; Grigg, 2012). Highly mobile children tend to be one of the following categories: impoverished, English language learners, enrolled in special education, and/or homeless (Fong, Bae, & Huang, 2010). Voight's research demonstrated that mobility in the early years was connected to inadequate achievement in those tender years (Voight, 2012, p. 386). In light of these studies, it is necessary to measure the influence of student mobility on New Jersey third-grade students, as measured by their performance on the NJ ASK Language Arts Literacy section.

Conclusion

Schools are held accountable for student achievement in a time when mobility is an increasingly looming impediment to making consistent progress in a student's academic achievement. School staff members with a particularly mobile student body are seen as having failed where they never had the chance to succeed.

A strong academic start leads to a strong academic finish for high-risk mobile students. To help them best, there needs to be a focus on the achievement of young students that is "coordinated across systems, including different schools and districts…and community-based programs" (Herbers, 2012, p. 372). As Smith, Fien, and Paine said in their 2008 article in the Educational Leadership online journal, "Having similar instructional programs, assessment systems, and expectations at all schools provides a consistent program for students, makes program placement easier for teachers, and enables schools to align screening and progress-monitoring activities…" (Smith, Fien, Paine, 2008). Of course if a student's immediate needs are not being met (such as food and sleep), or if a child is being ignored by his or her caregivers or otherwise emotionally or physically abused, no education reform will help the child succeed to his or her full potential.

Chapter III

Methodology

In this quantitative research study, I aimed to explain the influence of student mobility in relation to NJ ASK on the Language Arts Literacy section scores of New Jersey third graders at the school level when controlling for student and staff variables.

Research Design

For my study, I used a correlational, cross-sectional, explanatory research design with quantitative methods. "Correlation is used when you wish to describe the strength and direction of the relationship between two variables" (Pallant, 2007, p.120). Using a correlational design for this quantitative, cross-sectional, study will "describe the strength and direction of the linear relationship between two variables" (Pallant, 2007, p. 126). In his 2018 article, "What Are The Advantages & Disadvantages of Correlational Research?" Mark Filipowich said, "When researchers begin investigating a phenomenon or relationship for the first time, correlational research provides a good starting position" (p. 1). For this study, I wanted to investigate the relationship, if any, between student mobility, student and school variables, and Grade 3 Language Arts Literacy performance.

One has to be careful when using correlational design to interpret a connection between two or more variables. As Robert and John Witte wrote in their book, *Statistics,* Tenth Edition, "A correlation coefficient, regardless of size, never provides information about whether an observed relationship reflects a simple cause-effect relationship or some more complex state of affairs" (p. 141). Therefore, one cannot infer that a correlational design can indicate a connection of particular variables being used in this study.

Because a correlational design can evaluate many variables that may have an influence on a variable, Grade 3 Language Arts Literacy performance, this design is appropriate to determine which variables are highly related to the variable, and which variables do not have an influence or relationship. The variables that are highly related and statistically significant will be extensively examined to study the correlation, if any.

In this study, I used a multiple regression model to identify which variables had a statistically significant influence on 3rd grade ELA literacy proficiency scores. A multiple regression model is helpful in making predictions of correlation between two or more variables and its strength, "if two variables are correlated, description can lead to prediction…predictive accuracy increases with the strength of the underlying correlation (Witte & Witte, 2015, p. 155).

This process would establish which student variable (mobility, percentage of special education students, and percentage of limited English proficient students), and staff variable (teacher mobility) had a statistically significant relationship to the percentage of 3rd grade students who scored proficient or above on the NJ ASK Language Arts Literacy performance. This regression model assisted me in determining which variables were statistically significant and the strength of the correlation.

I generated sequential regression models to "show if variables of interest explain a statistically significant amount of variance in the variables after accounting for all other variables" (Kim, 2016, p. 2). I was interested in comparing the models I built by "adding variables to a previous model at each step; later models always include smaller models in previous steps" (Kim, 2016, p. 2). My goal was to verify whether newly added variables "show a significant improvement in R^2, the proportion of explained variance in the dependent variable by the model" (Kim, 2016, p. 2).

Research Questions

The purpose of the study was to determine the strength and direction of the relationship between the percentage of student mobility on a school-by-school basis in New Jersey elementary schools and the percentage of Grade 3 students scoring proficient on the NJ ASK Language Arts Literacy section when controlling for student and staff variables: percentage of students who were economically disadvantaged (on free lunch status), percentage of students in Special Education, percentage of students who were Limited English Proficient, percentage of students who were mobile, and teachers who were mobile. The following research questions were used:

1. What is the influence of the student mobility rate on Grade 3 students scoring proficient on the NJ ASK Language Arts Literacy section?

2. What is the influence of the student mobility rate on Grade 3 students scoring proficient on the NJ ASK Language Arts Literacy when controlling for student characteristic variables of: percentage of students who were economically disadvantaged (on free lunch status), percentage of students in Special Education, and percentage of students who were Limited English Proficient?

3. What is the influence of the student mobility rate on Grade 3 students scoring proficient on the NJ ASK Language Arts Literacy when controlling for teachers who were mobile?

4. What is the influence of the student mobility rate on Grade 3 students scoring proficient on the NJ ASK Language Arts Literacy when controlling for student characteristic variables and for teacher mobility?

Sample Population/Data Source

The population for this study came from public elementary schools in the state of New

Jersey in the 2010–2011 school year. New Jersey has 21 counties containing 590 operational

public school districts, which consist of elementary and middle schools, comprehensive high

schools, magnet schools, vocational schools, charter schools, and special education schools

(NJDOE, 2010c). The grade composition for the 2,005 elementary schools varied in that some

consisted of Grades PK–7, PK–6, PK–5, PK–3, K–8 and some started at the kindergarten level.

For the purposes of this study, schools included in the sample met the following criteria: public

elementary schools that had valid NJ ASK and demographic data reported for all variables for

the 2010–2011 school year, in particular, the spring of 2011. In this study, there were a total of

1,335 third-grade students in the sample.

Instruments

In this research, my aim was to explain the influence of student mobility, as defined by

the New Jersey Department of Education, at the school level on the NJ ASK on the Language

Arts Literacy section scores of New Jersey third graders. The New Jersey Department of

Education (NJDOE) defines student mobility as "the percentage of students who both entered

and left during the school year" (New Jersey Department of Education Report Card, 2011). The

influence of student mobility in the context of this definition in New Jersey third graders is not

fully understood because of a lack of research at that grade level.

The instrument for this study consisted of total proficiency (TP) levels on the 2010–2011

NJ ASK Grade 3. The NJ ASK fulfilled NCLB requirements for mandatory standards-based

assessments in Grades 3–8. These state assessments measured student achievement in English

Language Arts, math, and then in science for students in Grades 4 and 8 (NJDOE, 2014). The

high-stakes test became fully operational in 2004 (NJDOE, 2016). State education officials

focused on the results of the NJ ASK as a means of meeting the academic achievement testing

requirements of NCLB. Student academic achievement, school achievement, and school district achievement were determined from NJ ASK students' scores. Students' scores fell into groups as follows: 100–199 [partially proficient], 200–249 [proficient], and 250–300 [advanced proficient] (NJ ASK Technical Report, 2011). For Language Arts, the assessment focused on reading and writing content and skills based on the NJ CCCS. For Grade 3, the Language Arts Literacy section was scored on two content clusters: reading [standard 3.1] and writing [standard 3.2] (New Jersey Skills and Knowledge, 2011, Score Interpretation Manual Grades 3–8, p. 14).

Table 4
New Jersey ASK 2010–2011 Language Arts Content Clusters for Grades 3–8

Reading (3.1)	Writing (3.2)
Working with or Interpreting Text	Expository prompt
Analyzing and Critiquing Text	Speculative prompt

(New Jersey Skills and Knowledge, 2011, Score Interpretation Manual Grades 3–8, p. 14).

Variables

The variables I used for this study included:

- Percentage of proficient students eligible for free lunch status tested in Language Arts Literacy

- Percentage of proficient students who were Limited English Proficient tested in Language Arts Literacy

- Percentage of students who were Special Education

- Percentage of students who were mobile

- Percentage of teachers who were mobile

- NJ ASK Language Arts Literacy percentage of students categorized proficient or above.

I was able to obtain the necessary information for the above variables in the year 2010–2011 because of the NJDOE's NJ Standards Measurement and Resource for Teaching (NJ SMART). NJ SMART serves as a comprehensive data warehouse, which utilizes student identification (SID) numbers. With the use of their own SID number, all students in the state are accounted for in New Jersey's public schools and their information is recorded and submitted to the state (NJDOE Archives. Definitions for New Jersey School Report Card, 2011).

Table 5

Details of the Variables Used in the Study from the 2011 NJDOE Data Set

Variable	Definition	Level of Measurement	Status
NJ ASK	At the time of presented data, this was the assessment system in New Jersey that comprised state tests, which were designed to measure student progress in the achievement of the Core Curriculum Content Standards. Under the *No Child Left Behind Act of 2001 (NCLB)*, all states were required to assess student progress in language arts and math in Grades 3–8 and Grade 11.	Ordinal Value Range for students' scores: 100–199 (partially proficient), 200–249 (proficient), and 250–300 (advanced proficient)	Criterion Variable Dependent Variable
Student Mobility Rate	This is the percentage of transient students during the school year. The calculation is derived from the sum of students entering and leaving after the October enrollment count divided by the total enrollment.	Ordinal Value Range for Student Mobility Rate: 0–100%	Predictor Variable Independent Variable
Percentage of Special Education Students	This is the percentage of students with an Individualized Education Program (IEP), including speech, regardless of placement and programs. It is calculated by dividing the total number of students with IEPs by the total enrollment.	Ordinal	Control Variable
Percentage of Limited English Proficient Students	The percentage of LEP students in the school is calculated by dividing the total number of students in limited. English proficient programs by the total student enrollment.	Ordinal	Control Variable
Percentage of Free Lunch eligible students	A student from a household with an income at or below 130% of the poverty income threshold is eligible for free lunch.	Ordinal	Control Variable
Teacher Mobility	This represents the transience rate for faculty members 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.	Ordinal	Control Variable

Data Collection

Students included in the sample were attending public elementary school between

September 2010 and June 2011. Data from the 2011 New Jersey School Report Card

(downloaded in Excel spreadsheet form from the NJDOE website) was used for all variables:

- Percentage of Students Performing Proficient on 3rd grade NJ ASK Language Arts Literacy

- Student Mobility Rate

- Percentage of Students with Limited English Proficient

- Percentage of Students with Disabilities

- Percentage of Students on Free Lunch

- Teacher Mobility

Because this research was confined to the school-level point of view, analysis of data utilized a unique identifier created from county, district, and school codes, in order to sort data at the school level. Any data at the district level were excluded from results. Any school classifications not considered public or schools that did not report data of interest in this study were not included in the sorting process. Criteria not included in the sorting selection were middle, high, charter, alternative, vocational, and special education schools. Additional sorting was conducted for school and staff information on a school-by-school basis. The result was public elementary school data encompassing student and staff for this study of the influence of mobility on third-grade Language Arts Literacy performance as measured by NJ ASK.

The researcher thoroughly analyzed each row of data to safeguard that all data, schools that met this study's criteria, and variables of interest were aligned at the school-level. The researcher created a separate, organized workbook, which was imported into IBM Statistical Package for the Social Sciences (SPSS) statistical software.

Data Sampling Method

Of the 2,005 public elementary schools in New Jersey, 1,335 provided education to students in 3rd grade and have data for each variable in the study. The sample size necessary to

achieve statistical significance for the regression models were calculated based on a significance level of at most 0.05, a medium effect size ($f^2 = 0.15$), and power of at least 0.80. Using G*Power, I selected the statistical test of linear multiple regression and calculated the total sample size given the maximum number of predictors for the regression model of six. The result was 98 schools would be necessary for an actual power of 0.80 (Heinrich Heine Universitat Dusseldorf, 2009).

Analysis Construct

The following two figures provide visual representation used for the data analysis. Figure 1 exhibits a simultaneous multiple regression model of student mobility rate, student characteristics, and teacher mobility, together influencing NJ ASK 3rd grade Language Arts Literacy. Figure 2 models a sequential regression model of the influence of student mobility rate on NJ ASK 3rd grade Language Arts Literacy controlling for student characteristics and teacher mobility. The effect of the student mobility rate on NJ ASK 3rd grade Language Arts Literacy is influenced by the controlled student characteristic variables of percentage of special education students, percentage of limited English proficient students, percentage of free lunch students, and school characteristic variable of teacher mobility.
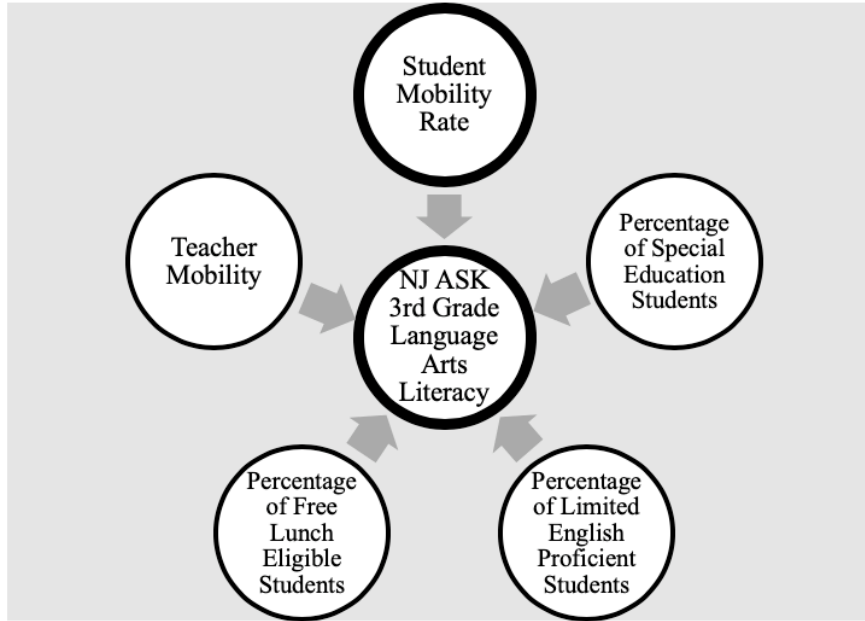
(Morrisroe, 2019)

Figure 1. Simultaneous Multiple Regression Model
Student Mobility Rate = variable of interest
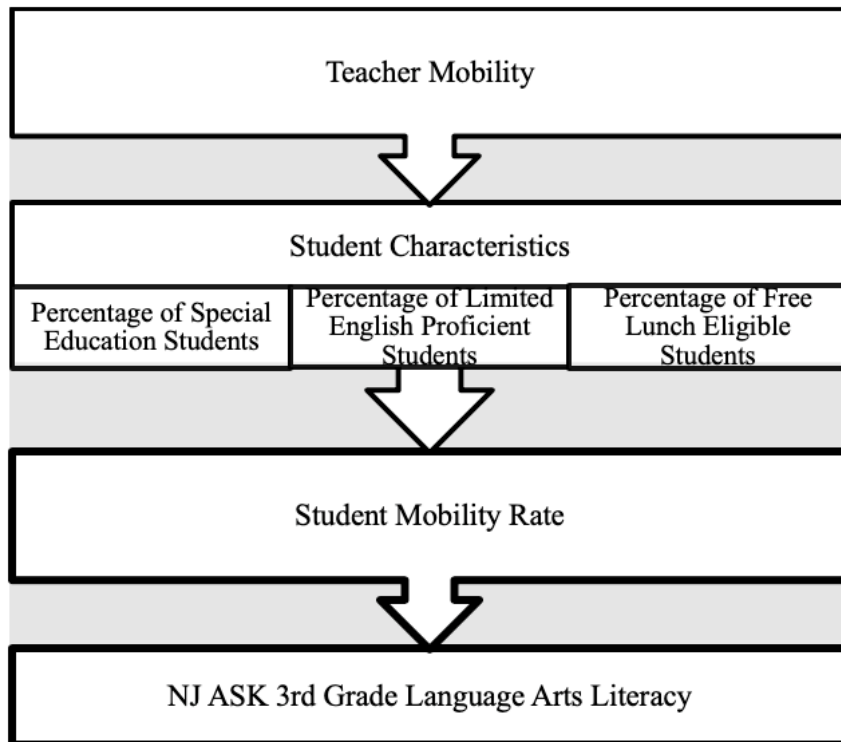
(Morrisroe, 2019)

Figure 2. Sequential Multiple Regression Model:
Controlled significant school and student characteristics

Data Analysis

For this study, I conducted a sequential linear regression and simultaneous multiple regression for the analysis of the 2010–2011, 3rd grade Language Arts Literacy NJ ASK data. I imported data into Microsoft Excel for 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) being associated with a unique identifier (school level) for exporting to SPSS.

I started the analysis by checking the assumptions of normality and skewness of each student characteristic variable and teacher mobility variable. According to Researcher W.R. Bump, in his article, "The Normal Curve Takes Many Forms: A Review of Skewness and Kurtosis," "skewness…quantitatively evaluate the normality of the distribution, with skewness referring to the asymmetry of the curve" (Bump, 1991, p. 4). Should the scatter be greater on one side of the mean, the distribution is considered to be skewed (Bump, 1991, p. 7).

To check for skewness and assumption, I ran a histogram to observe the "distribution of scores in a dataset deviates from a bell curve by leaning more to the left or right. A lean one way or the other means that there are more scores that are higher or lower than the mean predicted by a normal distribution" (Emerson, 2018, p. 331), suggesting that the data does not meet assumptions of normality as the data does not resemble a bell curve.

A positive skewness value will exhibit scores clustered to the left at the low values, whereas a negative skewness value will indicate scores clustered "at the high end, right hand side of the graph" (Pallant, 2007, p. 57).

To detect the "highest possible multiple correlation of these variables," I used a multiple simultaneous regression which instructs "the computer to consider all variables at the same time"

(Morgan, Leech, Gloeckner, Barrett, 2013, p.163). Simultaneous multiple regression presented

the best choice to perform statistical analysis because it enabled me to consider variables

simultaneously. Multiple regression "is not just one technique but a family of techniques that

can be used to explore the relationship between one continuous dependent variable and a number

of independent variables or predictors [usually continuous] (Pallant, 2007, p. 146). My goal was

to determine how much variance in the performance of third graders on the Language Arts

Literacy section on the NJASK could be explained by my study's predictor variables.

I conducted a series of simultaneous multiple regressions so that I could determine

whether a student or staff variable had a statistically significant relationship to the performance

of third graders on the Language Arts Literacy section on the NJ ASK. The first regression was

conducted to determine if the student mobility rate was a significant predictor of performance of

third graders on the Language Arts Literacy section on the NJ ASK. Please refer to Table 6.

Table 6
Simple Regression Model
Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	Student Mobility Rate		Enter

a. All requested variables entered
b. Dependent Variable: 3rd grade Language Arts Literacy NJ ASK Proficiency Scores

The next multiple regression included the variables related to student characteristics

along with student mobility rate: percentage of students who were economically disadvantaged

(on free lunch status), percentage of students in Special Education, percentage of students who

were Limited English Proficient, and percentage of students who were mobile. Please refer to

Table 7.

Table 7
Multiple Regression Model
Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	Student Mobility Rate		Enter
2	Student Characteristics		Enter

a. All requested variables entered
b. Dependent Variable: 3rd grade Language Arts Literacy NJ ASK Proficiency Scores

In addition, I administered another simultaneous multiple regression which included the percentage of students who were mobile and a staff variable of the percentage of teachers who were mobile so that I could determine whether or not a student or staff variable had a statistically significant relationship to the performance of third graders on the Language Arts Literacy section on the NJ ASK. In order to confirm the outcome for my preliminary simultaneous model, I conducted a backwards simultaneous regression model to run the variable, 3rd grade Language Arts Literacy proficiency, against the variables. Please refer to Table 8.

Table 8
Multiple Regression Model
Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	Student Mobility Rate		Enter
2	Teacher Mobility Rate		Enter

a. All requested variables entered
b. Dependent Variable: 3rd grade Language Arts Literacy NJ ASK Proficiency Scores

After probing for the statistically significant variables I identified in the preliminary regression model, I built sequential regression models to conclude which predictor variable had the most influence on 3rd grade NJ ASK Language Arts Literacy proficiency scores. Sequential multiple regression allowed me to enter the variables in this study in steps or blocks in order to determine the predictive power it added to the variable, 3rd grade Language Arts Literacy proficiency on the NJ ASK (refer to Table 8). After all variables were entered, the "overall model was assessed in terms of its ability to predict the dependent measure" (Pallant, 2007, p.

146). This regression model determined the percentage of variation the variables placed on 3rd grade Language Arts Literacy proficiency on the NJ ASK. This researcher analyzed the R^2 change to check for a substantial change for each model as predictors were added to the model. Please refer to Table 9.

Table 9
Sequential Regression Model

Model	Variables Entered	Variables Removed	Method
1	Student Mobility Rate		Enter
2	Percentage of Special Education Students		Enter
	Percentage of Limited English Proficient Students		Enter
	Percentage of Students on Free Lunch		Enter
3	Teacher Mobility		Enter

a. Dependent Variable: 3rd grade Language Arts Literacy NJ ASK Proficiency Scores

Summary

The purpose of the study was to determine the strength and direction of the relationship between the percentage of student mobility on a school-by-school basis in New Jersey elementary schools and the percentage of Grade 3 students scoring proficient on the NJ ASK Language Arts Literacy section when controlling for student and staff variables: percentage of students who were economically disadvantaged (on free lunch status), percentage of students in Special Education, percentage of students who were Limited English Proficient, percentage of students who were mobile, and teachers who were mobile. This correlational, cross-sectional, explanatory research design with quantitative methods was conducted to determine the strength and direction of student mobility, student characteristics, and school variables. Using a correlational design provided an insight to the relationship between variables and its strength and direction. The results of the analysis are presented in Chapter 4.

Chapter IV

Data Analysis

The purpose of this non-experimental, correlational, quantitative study was to determine the strength and direction of the relationship between the percentage of student mobility on a school-by-school basis in New Jersey elementary schools and the percentage of Grade 3 students scoring proficient on the NJ ASK Language Arts Literacy section when controlling for student and staff variables: percentage of students who were economically disadvantaged (on free lunch status), percentage of students in Special Education, percentage of students who were Limited English Proficient, percentage of students who were mobile, and teachers who were mobile. My study aimed to provide research-based evidence of the influence of student mobility, student characteristics, and school characteristics on Grade 3 Language Arts Literacy NJ ASK proficiency scores. For example, student mobility may negatively impact a child from gaining what the No Child Left Behind federal policy's classified as an appropriate, equal, and substantial chance to acquiring "a high-quality education" and reach proficiency on state required academic assessments (USDOE, 2004).

New Jersey has 21 counties containing 590 operational public school districts and 1,335 elementary schools. The sample consisted of 1,335 New Jersey public elementary schools. The intention of this study is to provide research-based evidence to enable legislators, policy makers, and leaders within the education system to establish comprehensive programs and policies that address the influence of student mobility on a Common Core aligned test—the 2011 Grade 3 Language Arts Literacy NJ ASK.

Variables

The results from preceding research suggested that variables that influence the percentage

67

of proficient students on Grade 3 Language Arts Literacy NJ ASK are illustrated in Table 10.

Table 10
Variables and Names of Independent Variables

Variable	Label	Description
Student Mobility Rate	STMOB	Percentage of Student Mobility Rate
Percentage of Special Education Students	DISAB	The percentage of students with an Individualized Education Program (IEP), including speech, regardless of placement and programs.
Percentage of Teacher Mobility	TMOBILITY	The percentage of the transience rate for faculty members during the school year.
Percentage of Free Lunch Students	FREELNCH_Percent	The percentage of students from a household with an income at or below 130% of the poverty income threshold is eligible for free lunch.
Percentage of LEP Students	LEP_Percent	The percentage of LEP students in the school is calculated by dividing the total number of students in limited English proficient programs by the total student enrollment.
Grade 3 Language Arts Literacy NJ ASK percent of proficient	TP	The percentage of students who scored proficient on the 3rd grade NJ ASK Literacy ELA

Descriptive Statistics

A requirement of the No Child Left Behind Act is for every state to report school

accountability data using the school report card. For this study, the New Jersey School Report

Card compiled publicly available data on every school for staff, students, and school. The New

Jersey Department of Education website provided the report card which was uploaded onto

Microsoft Excel. At the time of this data, New Jersey's mandated test, 2010–2011 New Jersey

Assessment of Skills and Knowledge information on staff, students and school was uploaded,

sorted, and organized for 3rd grade Language Arts. Data that focused on other grade levels and

subject content was removed. Please refer to Table 11.

Table 11
Descriptive Statistics on the Variables Used in the Study

		Percent of Proficient	Percent of Student Mobility	Percent of Disable Students	Percent of Free Lunch Students	Percent of LEP Students	Percent of Teacher Mobility
N	Valid	1312	1335	1319	1335	1335	1334
	Missing	23	0	16	0	0	1
Mean		56.09	10.91	14.81	29.86	5.11	4.71
Median		58.80	8.70	14.70	18.67	1.89	2.60
Std. Deviation		15.210	8.884	5.698	28.775	8.033	6.673
Skewness		-0.701	1.637	0.735	0.800	2.797	3.073
Std. Error of Skewness		0.068	0.067	0.067	0.067	0.067	0.067
Minimum		10.30	0.00	0.00	0.00	0.00	0.00
Maximum		92.90	66.30	48.50	96.42	63.29	75.60

The sample mean within this table affords the complete interpretation of the data. In this

study, the sample population was 1,335 schools. The mean for percentage of disabled students

was 14.8072% with a maximum of 48.50% and minimum of .00. The skewness was .735%.

Special education exhibited a normal distribution in skewness with approximately 21 outliers out

of a sample size of 1,319. The mean for percentage of student mobility rate was 11.0430% with

a significant maximum of 66.30% and minimum of .00. The skewness was 1.651% and

indicated a right skewed distribution with approximately 21 outliers out of a sample size of

1,335. For the percentage of free lunch students, the mean was 29.4289% with a maximum of

96.42% and minimum of .00. The skewness was .837% and exhibited a slight right distribution

with no outliers out of a sample size of 1,335. For the percentage of LEP students, the mean was

5.0107% with a maximum of 63.29% and minimum of .00. The skewness was 2.829% and

exhibited a right skewed distribution with 31 outliers out of a sample size of 1,335. Lastly, for teacher mobility, the mean was 4.713% with a maximum of 75.6% and minimum of .00. The skewness was 3.073% and exhibited a right skewed distribution which is desirable indicating the bulk of teacher mobility was less than 20%. The results reported 20 outliers out of a sample size of 1,334.

Research Questions

The overarching research question was:

What is the strength and direction of the relationship between the percentage of student mobility on a school-by-school basis in New Jersey elementary schools and the percentage of Grade 3 students scoring proficient on the NJ ASK Language Arts Literacy section when controlling for student and school-level variables?

The following research questions were used:

1. What is the influence of the student mobility rate on Grade 3 students scoring proficient on the NJ ASK Language Arts Literacy section?

2. What is the influence of the student mobility rate on Grade 3 students scoring proficient on the NJ ASK Language Arts Literacy when controlling for student characteristic variables of: percentage of students who were economically disadvantaged (on free lunch status), percentage of students in Special Education, and percentage of students who were Limited English Proficient?

3. What is the influence of the student mobility rate on Grade 3 students scoring proficient on the NJ ASK Language Arts Literacy when controlling for teachers who were mobile?

4. What is the influence of the student mobility rate on Grade 3 students scoring proficient on the NJ ASK Language Arts Literacy when controlling for student characteristic variables and for teacher mobility?

Null Hypothesis

Null Hypothesis 1: No statistically significant relationship exists between assessment scores on the Language Arts Literacy section of NJ ASK and the student mobility rates (on a school-by-school basis) of third graders as reported on the New Jersey School Report Card and Performance Report for New Jersey's public elementary schools.

Results

Correlation

A correlational analysis was conducted to determine if the variables were significantly correlated to each other as well as the NJ ASK proficiency. The Pearson Correlation table indicated a moderate, negative relationship between the student mobility rate and the dependent variable, 3rd grade Language Arts Literacy proficiency scores on the NJ ASK showed a r = -0.508, which was statistically significant, p<.000. The predictor variable, the percentage of students on free lunch, indicated a strong, negative relationship on the dependent variable, 3rd grade Language Arts Literacy NJ ASK proficient scores, r = -0.681 and was statistically significant, p<.000. The predictor variable, the percentage of LEP students, showed a moderate, negative relationship on the dependent variable, 3rd grade Language Arts Literacy proficiency scores on the NJ ASK, indicated a r = -0.347, and was statistically significant, p<.000. Conversely, the predictor variables, the percentage of disabled students and teacher mobility rate, were not statistically significant: p<0.415 and p<0.928, which indicated no relationship on the dependent variable, 3rd grade Language Arts Literacy proficiency scores on the NJ ASK. Please refer to Table 12.

71

Table 12
Correlation Matrix

		Percent of Student Mobility	Percent of Disable Students	Percent of Free Lunch Students	Percent of LEP Students	Percent of Teacher Mobility
Percent of Proficient	Pearson Correlation	-0.508**	0.023	-0.681**	-0.347**	-0.003
	Sig. (2-tailed)	0.000	0.415	0.000	0.000	0.928
	N	1312	1298	1312	1312	1311
Percent of Student Mobility	Pearson Correlation		-0.062*	0.662**	0.243**	0.023
	Sig. (2-tailed)		0.024	0.000	0.000	0.392
	N		1319	1335	1335	1334
Percent of Disable Students	Pearson Correlation			-0.185**	-0.227**	0.029
	Sig. (2-tailed)			0.000	0.000	0.290
	N			1319	1319	1318
Percent of Free Lunch Students	Pearson Correlation				0.540**	-0.021
	Sig. (2-tailed)				0.000	0.442
	N				1335	1334
Percent of LEP Students	Pearson Correlation					-0.019
	Sig. (2-tailed)					0.479
	N					1334

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Simple Regression

To predict the relationship between student mobility rate and 3rd grade students who scored proficient on the NJ ASK Language Arts Literacy, a simple regression model was administered. The results showed a R^2 of .259, which indicated that 25.9% of the variance in Grade 3 Language Arts Literacy proficiency scores on the NJ ASK could be predicted from the student mobility rate. The ANOVA table indicated that the overall regression model was

statistically significant, F (1,1310) = 456.737, p<.000. The coefficient table in the simple

regression model indicated that as the student mobility rate increased, 3rd grade Language Arts

Literacy percentage of proficiency scores decreased by .89 points. Please refer to Table 13 and

14 for an illustration.

Table 13
Simple Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.508	.259	.258	13.10228

a. Predictors: (Constant), Percent of Student Mobility Rate

Table 14
Simple Regression Coefficient

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig
1	(Constant)	65.711	.578		113.756	.000
	Percent of Student Mobility	-.887	.042	-.508	-21.371	.000

a. Dependent Variable: 3rd grade Language Arts Literacy NJ ASK Proficiency Scores

Simultaneous Multiple Regression

To identify which variable had a statistically significant relationship to the percentage of

3rd grade students who scored proficient on the NJ ASK Language Arts Literacy performance, a

simultaneous multiple regression model was conducted to ascertain which student variable

(mobility, percentage of special education students, and percentage of limited English proficient

students), and staff variable (teacher mobility) had an influence.

The following assumptions for conducting a simultaneous multiple regression were

checked: presence of outliers, multicollinearity, and independence of errors in the regression.

While there was evidence of outliers in the distributions for the variables, the ratio of the number

73

of outliers to the sample size was sufficiently small (less than 2%) and therefore would not affect the results of the regression. This researcher checked for multicollinearity, "which exists when there is a strong correlation between two or more predictors" (Field, 2013, p. 986). The reported multicollinearity statistics for the model indicated no observable multicollinearity issue between variables percentage of disabled students (1.069), percentage of LEP Students (1.497), student mobility rate (1.984), and percentage of students on free lunch (2.635). Since the largest Variance Inflation Factor (VIF) was less than ten then there was no cause for concern (Bowerman & O'Connell, 1990; Myers, 1990). The results exhibited a Durbin-Watson result of 1.608, which is close to two and as a result indicated that the assumption of the independence of errors in regression has not been violated (Field, 2013).

The model summary for this regression analyses reports the multiple correlation coefficient (R) was .692 and the R^2 was .479. This indicated that 47.9% of the variance in Grade 3 Language Arts Literacy proficiency scores on the NJ ASK could be predicted from the student characteristics: student mobility rate: percentage of students who were economically disadvantaged (on free lunch status), percentage of students in Special Education, percentage of students who were Limited English Proficient, and percentage of students who were mobile. Please refer to Tables 15 and 16 for an illustration.

Table 15
Simultaneous Multiple Regression

Model	Variables Entered	Variables Removed	Method
1	DISAB, TMOBILITY, FREELUNCH_Percent, LEP_Percent, STMOB		Enter

a. All requested variables entered
b. Dependent Variable: 3rd grade Language Arts Literacy NJ ASK Proficiency Scores

Table 16

Simultaneous Multiple Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.692[a]	.479	.477	10.85158	1.608

   a. Predictors: (Constant), Percentage of Student Mobility, Percentage of Disabled Students, Percentage of LEP Students, Percentage of Free Lunch Students

   b. Dependent Variable: 3rd grade Language Arts Literacy NJ ASK Proficiency Scores

The ANOVA table indicated that the overall regression model was statistically significant, $F_{(4, 1293)} = 296.97$, $p < .001$. Please refer to Table 17 for an illustration.

Table 17

Simultaneous Multiple Regression ANOVA

Model		Sums of Squares	Df	Mean Square	F	Sig.
1	Regression	139878.816	4	34969.704	296.965	.000[b]
	Residual	152259.548	1293	117.757		
	Total	292138.364	1297			

   b. Dependent Variable: 3rd grade Language Arts Literacy NJ ASK Proficiency Scores

   c. Predictors: (Constant), Percentage of Student Mobility Rate, Percentage of Disabled Students, Percentage of LEP Students, Percentage of Free Lunch Students

The coefficients table indicated that two variables contribute significantly to the explained variance of the overall model. The percentage of free lunch is the strongest predictor variable in the model and significant ($t = -18.431$; $p < .001$) explaining 36.1% ($b = -.601$) of the overall variance. As the percentage of students on free lunch increased, the percentage of 3rd grade Language Arts Literacy proficiency scores decreased by .313 points. Student mobility rate is also a significant predictor ($t = -4.800$; $p < .001$) explaining 18.5% ($b = -.136$) of the overall variance to the model. As the student mobility rate increased, the percentage of 3rd grade Language Arts Literacy proficiency scores decreased by .234 points. Please refer to Table 18.

Table 18

Simultaneous Multiple Regression Coefficient Table with VIF Scores

Model	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	T	Sig	Zero-Order	Partial	Part	Tolerance	VIF
1 (Constant	72.562	1.000		72.592	.000					
Percent of Disabled Students	-.291	.055	-.110	-5.301	.000	.023	-.146	-.106	.935	1.069
Percent of Free Lunch	-.316	.017	-.601	-18.431	.000	-.675	-.456	-.370	.380	2.635
Percent of LEP Students	-.010	.047	-.005	-2.08	.835	-.346	-.006	-.004	.668	1.492
Percent of Student Mobility	-.234	.049	-.136	-4.800	.000	-.544	-.132	-.096	.504	1.984

a. Dependent Variable: 3rd grade Language Arts Literacy NJ ASK Proficiency Scores

Sequential Regression

After probing for the statistically significant variables in the multiple regression model, I built sequential regression models to decipher which predictor variable has the most influence on 3rd grade NJ ASK Language Arts Literacy proficiency scores. Thereafter, I assessed the models at the .05 level of statistically significance. In social science exploration, the preferred level of significance is p<.05. This analysis allowed me to determine which variables would have an influence on 3rd grade NJ ASK Language Arts Literacy proficiency scores.

For this sequential regression, I "entered" the variables (from multiple regression model) in an order (blocks) according to strongest Beta as the, "beta values represent the unique contribution of each variable" (Pallant, 2007, p. 176). This is the most effective way to run a sequential regression as according to Researcher A. Field, "a general rule, known predictors (from other research) should be entered into the model first in order of their importance in predicting the outcome" (Field, 2013, p. 980). The blocks would provide an insight into the predictive power it added to the variable, 3rd grade Language Arts Literacy proficiency on the NJ ASK.

In this sequential regression analysis four models were constructed to determine which was the best model for explaining the variance in 3rd grade Language Arts Literacy proficiency scores on the NJ ASK.

Model 1: Percentage of Students on Free Lunch

Model 2: Percentage of Students on Free Lunch and Student Mobility Rate

Model 3: Percentage of Students on Free Lunch, Student Mobility Rate, and Percentage of Disabled Students

Model 4: Percentage of Students on Free Lunch, Student Mobility Rate, Percentage of Disabled Students and Percentage of LEP Students

Table 19
Sequential Regression Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	FREELUNCH_Percent		Enter
2	STMOB		Enter
3	DISAB		Enter
4	LEP_Percent		Enter

a. All requested variables entered.
b. Dependent Variable: 3rd grade Language Arts Literacy NJ ASK Proficiency Scores

This sequential regression model determined the percentage of variation the variables placed on 3rd grade Language Arts Literacy proficiency on the NJ ASK, separately. This researcher analyzed the R^2 change to check for a substantial change for each model as predictors were added to the model, "given that larger values of R^2 indicate (a) better fit…a way to see if a model has improved as a result of adding predictors to it would be to see whether R^2 for the new model is bigger than for the old model" (Field, 2013, p. 986). In Model 1, the predictor variable

was the percentage of students on free lunch and R^2 associated with this model is .456, which indicated that 45.6% of the variance of 3rd grade Language Arts Literacy NJ ASK proficiency scores in Model 1 was explained by the percentage of students on free lunch. $F(1,1296)=1086.9$, $p<.001$. In Model 2 student mobility rate was added to percentage of students on free lunch. The R^2 is .467 indicating 46.7% of the variance of 3rd grade Language Arts Literacy NJ ASK proficiency scores was explained by the student mobility rate and percentage of students on free lunch. The R Square change showed an increase in the explained variance between Model 1 and Model 2 of .011 indicating that 11.0% of the variance was now included by the student mobility rate. This 11% increase in explained variance was found to be statistically significant, $F(1,1295)=27.33$, $p<.001$. Model 3 included the percentage of disabled students and the R^2 was .479 indicating 47.9% of the variance in 3rd grade Language Arts Literacy NJ ASK proficiency scores was explained by adding percentage of disabled students. The R Square change between Model 2 and Model 3 is .011, indicating that 11% of the variance was now included by percentage of disabled students. This increase of 11% between Model 2 and Model 3 was found to be statistically significant. $F(1,1294)=28.35$, $p<.001$. The last model, Model 4, added percentage of LEP students and the R Square change was not statistically significant, $p<.835$. Of the four models, the best model was Model 3 as it explains the greatest proportion of variance 47.9% and the R Square change associated with this model was found to be statistically significant, $p<.001$. Please refer to Table 20 for an illustration.

Table 20
Sequential Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df 2	Sig. F Change	Durbin-Watson
1	.675[a]	.456	.456	11.07234	.456	1086.921	1	1296	.000	
2	.684[b]	.467	.467	10.96152	.011	27.338	1	1295	.000	
3	.692[c]	.479	.478	10.84757	.011	28.350	1	1294	.000	
4	.692[d]	.479	.477	10.85158	.000	.043	1	1293	.835	1.608

a. Predictors: (Constant), Percentage of Free Lunch Students
b. Predictors: (Constant), Percentage of Free Lunch Students, Percentage of Student Mobility
c. Predictors: (Constant), Percentage of Free Lunch Students, Percentage of Student Mobility, Percentage of Disabled Students
d. Predictors: (Constant), Percentage of Free Lunch Students, Percentage of Student Mobility, Percentage of Disabled Students, Percentage of LEP Students
e. Dependent Variable: 3rd grade Language Arts Literacy NJ ASK Proficiency Scores

The ANOVA table confirmed that all four models were statistically significant: Models 1: $F(1,1296) = 1086.921$, $p < .001$, Model 2: $F(2,1295) = 568.174$, $p < .001$, Model 3: $F(3, 1294) = 396.232$, $p < .001$, and Model 4: $F(4,1293) = 296.965$, $p < .001$. Please refer to Table 21 for a visual representation.

Table 21
Sequential Regression ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	133252.951	1	133252.92	1086.921	.000[b]
	Residual	158885.413	1296	122.597		
	Total	292138.364	1297			
2	Regression	136537.747	2	68268.873	568.174	.000[c]
	Residual	155600.617	1295	120.155		
	Total	292138.364	1297			
3	Regression	139873.719	3	46624.573	396.232	.000[d]
	Residual	152264.645	1294	117.670		
	Total	292138.364	1297			
4	Regression	139878.816	4	34969.704	296.965	.000[e]
	Residual	152259.548	1293	117.757		
	Total	292138.364	1297			

a. Dependent Variable: 3rd grade Language Arts Literacy NJ ASK Proficiency Scores
b. Predictors: (Constant), Percentage of Free Lunch Students
c. Predictors: (Constant), Percentage of Free Lunch Students, Percentage of Student Mobility
d. Predictors: (Constant), Percentage of Free Lunch Students, Percentage of Student Mobility, Percentage of Disabled Students
e. Predictors: (Constant), Percentage of Free Lunch Students, Percentage of Student Mobility, Percentage of Disabled Students, Percentage of LEP Students

The coefficients table's results assisted this researcher in, "find(ing) out how well each variable contributes to the model," and the strength of each variable (Pallant, 2007, p. 180). In Model 1, the percentage of students on free lunch (FREELUNCH_Percent) was statistically significant, $p<.000$ with a $t=151.367$ and ß $=-.675$. This negative Beta (ß) indicated that the percentage of students on free lunch has a negative impact on 3rd grade Language Arts Literacy NJ ASK proficiency scores. As the percentage of students on free lunch increased, the percentage of 3rd grade Language Arts Literacy proficiency scores decreased by 3.6 points (unstandardized B = -.355). The percentage of students on free lunch is a predictor of 3rd grade Language Arts Literacy NJ ASK proficiency scores as the Beta (ß) is close to 1 and the closer a

predictor is to 1, the stronger the predictive power. The range of the beta (ß) predictive power ranges from -1 to +1.

In Model 2, student mobility rate was added to the model, and the strength of the percentage of students on free lunch decreased from -.675 to -.574. Conversely, the variable student mobility was -.147, which indicated that this variable did not have a significant effect on the strength of the percentage of students on free lunch. The percentage of students on free lunch continued to be statistically significant ß=-.574, t=-20.405, p<.000. Student mobility was also a predictor of 3rd grade Language Arts Literacy NJ ASK proficiency scores and was statistically significant, ß =-.147, t=-5.229, p<.000.

In Model 3, percentage of LEP students created insignificant changes in both percentages of students on free lunch and student mobility rate. Percentage of students on free lunch continued to be a strong predictor and was statistically significant, ß =-.604, t=-21.268, p<.000. Likewise, student mobility rate continued to be a strong predictor of 3rd grade Language Arts Literacy NJ ASK proficiency scores with a slight decrease in the Beta from Model 2 to Model 3, ß =-.135 to -.147. Student mobility continued to be statistically significant, ß =-.135, t=-4.830, p<.000. Percentage of disabled students was statistically significant, however, a weak predictor of 3rd grade Language Arts Literacy NJ ASK proficiency scores, ß =-.109, t=-5.324, p<.000.

In Model 4, with the addition of percentage of LEP Students, the model was not statistically significant, p<.835 indicating that this predictor does not influence 3rd grade Language Arts Literacy NJ ASK proficiency scores. The percentage of free lunch, student mobility rate, and percentage of disabled students changed slightly from Model 3 to Model 4.

According to all four models, the strongest predictor was the percentage of students on free lunch, as the partial correlation was -.675 and when squared, it indicated an effect size of

.455. This means that 45.5% of the variance in NJ ASK proficiency was explained by the

percent of free lunch in the school. In summary, the effect size describes "the strength of the

relationship between two variables on a numeric scale" (Witte & Witte, 2015, p. 314).

Table 22

Sequential Regression Coefficient

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig	Correlations Zero-Order	Partial	Part	Tolerance	VIF
1	Constant	66.780	.441		151.367	.000					
	Percent of Free Lunch Students	-.355	.011	-.675	-32.968	.000	-.675	-.675	.675	-1.000	1.000
2	Constant	67.991	.494		137.531	.000					
	Percent of Free Lunch Students	-.302	.015	-.574	-20.405	.000	-.675	-.493	.414	.520	1.921
	Percent of Student Mobility	-.254	.049	-.147	-5.229	.000	-.544	-.144	.106	.520	1.921
3	Constant	72.523	.982		73.868	.000					
	Percent of Free Lunch Students	-.318	.015	-.604	-21.268	.000	-.675	-.509	.427	.499	2.002
	Percent of Student Mobility Rate	-.233	.048	-.135	-4.830	.000	-.544	-.133	.097	.517	1.934
	Percent of Disabled Students	-.289	.054	-.109	-5.324	.000	.023	-.146	.107	.953	1.049
4	Constant	72.562	.1.000		72.592	.000					
	Percent of Free Lunch Students	-.316	..017	-.601	-18.431	.835	-.675	-.456	.370	.380	2.635
	Percent of Student Mobility Rate	-.234	..049	-.136	-4.800		-.544	-.132	.096	.504	1.984
	Percent of Disabled Students	-.291	.055	-.110	-5.301		.023	-.146	.106	.935	1.069
	Percent of LEP Students	-.010	.047	-.005	-.208		-.346	-.006	.004	.668	1.497

    a. Dependent Variable: 3rd grade Language Arts Literacy NJ ASK Proficiency Scores

Research Questions and Answers

> *Research Question 1:* What is the influence of the student mobility rate on Grade 3 students scoring proficient on the NJ ASK Language Arts Literacy section? The results of the simple regression model showed a R^2 of .259, which indicated that 25.9% of the variance in Grade 3 Language Arts Literacy proficiency scores on the NJ ASK could be predicted from student mobility rate. The ANOVA table indicated that the overall regression model was statistically significant, $F (1,1310) = 456.737$, $p < .000$. According to the coefficient table in the simple regression model, as the student mobility rate increased, the percentage of 3rd grade Language Arts Literacy proficiency scores decreased by .89 points.

Table 23
Simple Regression Coefficient

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	T	Sig
1	(Constant)	65.711	.578		113.756	.000
	Percent of Student Mobility	-.887	.042	-.508	-21.371	.000

a. Predictors: (Constant), 3rd grade Language Arts Literacy NJ ASK Proficiency Scores

> *Research Question 2:* What is the influence of the student mobility rate on Grade 3 students scoring proficient on the NJ ASK Language Arts Literacy when controlling for student characteristic variables of the percentage of students who were economically disadvantaged (on free lunch status), the percentage of students in Special Education, and the percentage of students who were Limited English Proficient? The Model Summary for this regression analysis reported an R^2 of .479. This indicated that 47.9% of the variance in Grade 3 Language Arts Literacy proficiency scores on the NJ ASK could be predicted from the student characteristics: student mobility rate: percentage of students who were economically disadvantaged (on free lunch

status), percentage of students in Special Education, percentage of students who were Limited English Proficient, and percentage of students who were mobile. Consequently, conclusions from this study indicate that student mobility rate, in conjunction with the percentage of students on free lunch, the percentage of students in Special Education, and the percentage of students who are Limited English Proficient, are statistically significant predictors of Grade 3 Language Arts Literacy proficiency scores on the NJ ASK. The strongest predictor for this regression model was the percentage of students on free lunch at -.601, (b=-.316, *Beta = -.601*, t(18.431), p<.000). As the percentage of students on free lunch increased, the percentage of Grade 3 Language Arts Literacy proficiency scores decreased by .316 points. As the student mobility rate increased, the percentage of Grade 3 Language Arts Literacy proficiency scores decreased by .234. As the percentage of disabled students increased, the percentage of Grade 3 Language Arts Literacy proficiency scores decreased by .291 points. As the percentage of LEP students increased, the percentage of Grade 3 Language Arts Literacy proficiency scores decreased by .010 points.

The model summary results of the sequential regression model indicated that the R^2 Change from Model 1 to Model 2 (free lunch and student mobility Rate) was 0.011 and a R^2 value of 0.467 indicated that the overall model can explain 46.7% of the variance in the outcome variable 3rd grade Language Arts Literacy NJ ASK proficiency scores. The 46.7% of the variance was found to be statistically significant, F change (1, 1295)=27.338, p<.000. In Model 3 the R^2 Change from Model 2 to Model 3 (free lunch, student mobility rate, percent of disabled students) was 0.011 and a R^2 value of 0.479 indicated that the overall model can explain 47.9% of the variance in the outcome variable 3rd grade Language Arts Literacy NJ ASK proficiency scores. The model summary for Model 4, entering percentage of LEP students, was not

statistically significant, p<.835, which indicated that percentage of LEP students does not

influence 3rd grade Language Arts Literacy NJ ASK proficiency scores. Of the models, Model 3

(percentage of free lunch, student mobility rate, percentage of disabled students) was the best

model as it explains the greatest proportion of variance 47.9% of the variance and the R^2 Change

was found to be statistically significant, F change (1,1294)=28.350, p<.000. Please refer to

Table 24.

Table 24
Sequential Regression Model Summary

Model	R	R Square	R Square Change	F Change	df 1	df 2	Sig. F. Change
1	0.675	0.456	0.456	1086.921	1	1296	.000
2	0.684	0.467	0.011	27.338	1	1295	.000
3	0.692	0.479	0.011	28.350	1	1294	.000
4	0.692	0.479	0.000	0.043	1	1293	.835

a. Predictors: (Constant), Percentage of Free Lunch students
b. Predictors: (Constant), Percentage of Free Lunch students, Student Mobility Rate
c. Predictors: (Constant), Percentage of Free Lunch students, Student Mobility Rate, Percentage of Disabled students
d. Predictors: (Constant), Percentage of Free Lunch students, Student Mobility Rate, Percentage of Disabled students, Percentage of LEP Students
e. Dependent Variable: 3rd grade Language Arts Literacy NJ ASK Proficiency Scores

Research Question 3: What is the influence of the student mobility rate on Grade 3

students scoring proficient on the NJ ASK Language Arts Literacy when controlling for teachers

who were mobile? The Correlation Matrix indicated that teacher mobility was not statistically

significant, p<.392 on Grade 3 students scoring proficient on the NJ ASK Language Arts

Literacy. To further analyze the influence of teacher mobility, this researcher conducted a

simple regression model. The regression model indicated that teacher mobility was not

statistically significant, p<.392. Please refer to Table 25.

Table 25
Simple Regression ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	57.980	1	57.980	.734	.392
	Residual	105226.308	1332	78.999		
	Total	105284.288	1333			

a. Dependent Variable: 3rd grade Language Arts Literacy NJ ASK Proficiency Scores
b. Predictors (Constant): Teacher Mobility Rate

Research Question 4: What is the influence of the student mobility rate on Grade 3

students scoring proficient on the NJ ASK Language Arts Literacy when controlling for student

characteristic variables and for teacher mobility? Teacher mobility was not a statistically

significant predictor for 3rd grade Language Arts Literacy NJ ASK proficiency scores; therefore,

no further analysis was conducted. Results of the student mobility rate on Grade 3 students

scoring proficient on the NJ ASK Language Arts Literacy when controlling for student

characteristics was found to be significant. The model summary for the simultaneous multiple

regression analysis reported an R^2 of .479. This indicated that 47.9% of the variance in Grade 3

Language Arts Literacy proficiency scores on the NJ ASK could be predicted from the student

characteristics: student mobility rate: percentage of students who were economically

disadvantaged (on free lunch status), percentage of students in Special Education, percentage of

students who were Limited English Proficient, and percentage of students who were mobile.

Consequently, conclusions from this study indicate that student mobility rate, in conjunction with

percentage of students on free lunch, percentage of students in Special Education, and percentage

of students who are Limited English Proficient, are statistically significant predictors of Grade 3

Language Arts Literacy proficiency scores on the NJ ASK.

The null hypothesis was rejected as the student mobility rate was statistically significant, $p<.001$. Student mobility rate is a significant predictor ($t = -4.800$; $p < .001$) explaining 18.5% ($b =-.136$) of the overall variance to the model. As the student mobility rate increased, the percentage of 3rd grade Language Arts Literacy proficiency scores decreased by .234 points.

Summary

In this analysis it reported an R^2 of .479. This indicated that 47.9% of the variance in Grade 3 Language Arts Literacy proficiency scores on the NJ ASK could be predicted from the student characteristics: student mobility rate: percentage of students who were economically disadvantaged (on free lunch status), percentage of students in Special Education, percentage of students who were Limited English Proficient, and percentage of students who were mobile. The strongest predictor for the regression model was percentage of students on free lunch at -.601, (b=-.316, *Beta = -.601*, t(18.431), p<.000). As the percentage of students on free lunch increased, the percentage of Grade 3 Language Arts Literacy proficiency scores decreased by .316 points. As the student mobility rate increased, the percentage of Grade 3 Language Arts Literacy proficiency scores decreased by .234 points. As the percentage of disabled students increased, the percentage of Grade 3 Language Arts Literacy proficiency scores decreased by .291 points. As the percentage of LEP students increased, the percentage of Grade 3 Language Arts Literacy proficiency scores decreased by .010 points.

Therefore, the student mobility rate, percentage of students on free lunch, and percentage of disabled students play a significant role on Grade 3 students scoring proficient on the NJ ASK Language Arts Literacy. These factors, in particular—student mobility rate—are beyond the control of school personnel. In Chapter 5, I will provide recommendations for both practice and

policy to offer possible solutions to uncontrollable factors that weigh so heavily on school

accountability measures.

Chapter V

Conclusions and Recommendations

The now-repealed NCLB act required all public schools receiving federal funding test students annually and held them responsible for achieving Adequate Yearly Progress (AYP) or yearly improvement (USDOE, 2009). Although the student mobility rate was outside its control, the school was nonetheless responsible for the AYP of the mobile student when student mobility itself conflicted with the pursuit of student achievement.

The purpose for this non-experimental correlational, quantitative study was to explain the influence of the student mobility rate, as defined by the NJDOE, at the school level on the NJ ASK on the Language Arts Literacy section scores of New Jersey third graders. This study employed the NJDOE definition of student mobility rate as the percentage of transient students, including those who are either leaving or entering a school, during the school year (New Jersey Department of Education Report Card, 2011).

The overarching research question for my study was: What is the strength and direction of the relationship between the percentage of student mobility on a school-by-school basis in New Jersey elementary schools and the percentage of Grade 3 students scoring proficient on the NJ ASK Language Arts Literacy section when controlling for student and school-level variables?

Although the negative impact of mobility is not limited to students, this study was focused on its impact on Grade 3 students, so conclusions on mobility did likewise. Further on in the chapter, I will make recommendations for policy, planning, and future research.

Mobility

Conclusions

Among researchers, there has long been concern about children in poor and residentially unstable situations and how the impact this has on their academic lives (Eckenrode, Rowe, Laird, & Brathwaite, 1995; Rumberger, 2003; Rumberger, Thomas, 2000; Temple, Reynolds, 1999). Children in less stable environments were found to score lower on reading achievement tests than their more stable peers in more stable situations (Mantzicopoulos & Knutson, 2000, Herbers, Cutuli, & Supkoff, 2012).

Academic struggles in the mobile student at the elementary school have been shown to predict academic trouble in middle school and beyond if the student continues to be mobile (Masten et al., 2005; Patterson & Stoolmiller, 1991; Rutter, Kim-Cohen, Maughan, 2006). In a 2010 study, the most mobile group of students (13% changed schools at least four times before starting high school) shared the following characteristics: "disproportionately poor, African American, and from families that did not own their home or have a father present in the household" (GAO, 2010, p. 4).

The results of this study revealed that mobility was a statistically significant variable that negatively influenced the percentage of Grade 3 students scoring proficient on the NJ ASK Language Arts Literacy section. This means that schools with a high mobility rate tended to have lower scores on the state assessments. The higher the mobility rate in a school, the more likely that Grade 3 students were failing to achieve adequate yearly progress.

Additionally, a negative relationship between student mobility and the student's free lunch status was found, an indication that poverty is the root cause of mobility. This finding is consistent with previous literature on student mobility. For instance, the 2010 Fong, Bae, &

Huang study of more than 1.5 million students from more than 600 districts throughout Arizona found that "students eligible for free or reduced-price lunch averaged almost twice as many mobility events [1.13] as students who were not eligible [0.61]" (p.10).

In his book, *Teaching with Poverty in Mind*, Eric Jensen notes that, "students raised in poverty are especially subject to stressors that undermine school behavior and performance." Further Jensen states that "strong, secure relationships help stabilize children's behavior and provide the core guidance needed to build lifelong social skills. Children who grow up with such relationships learn healthy, appropriate emotional responses to everyday situations. But children raised in poor households often fail to learn these responses, to the detriment of their school performance" (Jensen, Eric, 2009). There are many potential pitfalls a mobile student faces when entering a new school, including:

- Not being placed in a classroom at the correct learning pace

- Difficulty catching up on missed materials

- Being unprepared for state mandated assessments

- Lack of familiarity with the new environment

- Inadequate social connections with school officials, teachers, and students

Psychologist Abraham Maslow identified several needs that should be met for humans to develop to their full potential. Those needs that are difficult for the mobile student to meet include: permanent shelter, security, stability, friendship, affiliation, and being part of a group (McLeod, 2018). Students who frequently change homes and schools have to rebuild their lives and associations, which can hinder their social relations and potentially cause them to feel disengaged from their fellow students and school staff alike. They may feel marginalized, like

they are on the outside looking in. Whether or not the above-mentioned human needs are met affects the happiness of the student and his or her motivation to learn.

In his 2001 article, "Student Stability vs. Mobility," Thomas Fowler-Finn offers some insight into the mindset of the mobile family:

"…it is not unusual for mobile children (and their parents) to be hesitant to invest in long-term thinking about their relationships, school efforts and future education. There is a tendency for some of these children and families to believe that personal involvement will only result in additional pain when relationships are inevitably broken again down the line. Some parents or guardians think there is always a better place to live rather than commit to making the place better where they are now. These parents also may attribute academic success more to luck than hard work. Mobility fuels these beliefs" (p. 36).

According to James Coleman (1988), school is an example of a social structure in the community that facilitates social capital, or relationships between people, and helps in the formation of human capital (which is marked by changes in people associated with new skills, capabilities and actions). Coleman notes that mobile students faced dwindling social relations that lead to social capital with each move. As a result, they struggle to maintain relationships and are less able to form human capital.

In *Mind in Society: The Development of Higher Psychological Processes* (1978), Lev Semenovich Vygotsky describes his theory, Zone of Proximal Development, as "the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peer" (p. 86). Impoverished students have a lack of guidance that is twofold. Because their parents may be busy working to put food on the table, they have a

lack of guidance at home. Because mobility has interfered with their ability to bond with their teachers, they have a lack of guidance in the school.

In the 2003 Ream study on Counterfeit Social Capital and Mexican-American Underachievement, an instructor is quoted as saying that "the connection to success is the connection children feel to the teacher…" (Ream, 2003, p. 250). This statement exemplifies the importance of social capital in the school setting to the academic performance of any student. Ream describes how student mobility disrupts the creation of a reciprocal give-and-take relationship between student and teacher. He warns that teachers may take it easy on mobile Mexican-American students, being overly supportive while keep their expectations of the students low, which keeps the students' performance equally low. This kind of "counterfeit social capital" disadvantages the students in the long run (Ream, 2003).

Table 26 illustrates 3rd grade NJ ASK Language Arts Literacy proficiency percentile and the school mobility rate for the lowest performing schools in New Jersey. This table exhibits the influence the student mobility rate has on high-stake assessments, in particular the 3rd grade NJ ASK Language Arts Literacy section.

Table 26

NJ ASK Language Arts Literacy Scores and Student Mobility

School Name	3rd grade Language Arts Literacy Proficiency Percentile	School Mobility Rate
Cherry Street School	13.80	66.30
Broad Street Elementary	25.20	52.00
Burnet Street	27.80	51.70
Number 24 (Paterson)	15.20	40.20
Fifteenth Avenue	17.40	37.50
Camden Street	14.70	36.80
Dr. Martin Luther King, Jr.	15.70	35.70
Parkside Elementary School	36.80	35.00
Speedway Avenue	18.80	34.90
Newton Street	40.00	33.90
Fourteenth Street	37.50	33.20
Madison Elementary School	23.10	33.20
Sumner School	11.70	31.30
Washington School	26.10	30.60
G. Washington Carver School	39.10	30.50
Forest Hill School	12.20	29.80
McGraw School	16.30	29.70
Lanning Square	15.90	27.80
Sovereign School	37.00	27.50
Beverly School	23.80	27.00
Davis Elementary	22.70	26.20
Dudley Elementary	10.30	25.00

(NJDOE, 2011)

In 2012, Fiel, Haskin, and Turley proved that intervention programs can be effective for certain students and their families when they studied a social capital intervention program that

had a goal of reducing school mobility. This eight-week after-school program emphasized communication and social connection between mobile families and school staff. The mobility of Black students between first and third grade was reduced by 29% while for other groups, the program did not impact mobility. Eric Jensen has thoughts on tactics schools can take to "enrich the life of every student" and potentially counteract some of the risk for poor academic achievement that an impoverished, mobile student may face:

- "Provides wraparound health and medical services.

- Minimizes negative stress and strengthens coping skills.

- Uses a cognitively challenging curriculum.

- Provides tutoring and pullout services to build student skills.

- Fosters close relationships with staff and peers.

- Offers plenty of exercise options" (Jensen, Eric, 2009).

Mobility and Poverty

Conclusions

While the Grade 3 NJ ASK Language Arts Literacy scores are influenced by student mobility, studies indicate that poverty is a factor in mobility. For example, the Beaudette study found that the free or reduced-price lunch eligible subgroup was 5.6% more mobile than other students in the study (Governor's Office of Student Achievement, Beaudette, 2014).

According to the KIDS COUNT Data Center, 26% of NJ children had parents lacking stable employment in 2012. This is no doubt an area where intervention is needed to assist them to become gainfully employed.

In a research brief published in 2014 on childtrends.org, entitled "Adverse Childhood Experiences; National and State-Level Trends," a key finding was that "economic hardship is the

most common adverse childhood experience (ACE) reported nationally" (Sacks, Vanessa,

Murphy, David, Moore & Kristin, 2014, p. 4).

Below, Table 27 compares the percentage of New Jersey families living in poverty to the

rest of the country.

Table 27
Census and State Data Reports on the Poverty Rate

Percentage of New Jersey Families Living Below Poverty Level	15.9%
Percentage of US Families Living in Poverty	10.8%

(NJDOL, 2012)

To quote writer Eli Khamarov, "Poverty is like punishment for a crime you didn't

commit." Table 28 is a listing of cities with children living in poverty levels two to three times

that of the state of New Jersey.

Table 28
Cities with Highest Levels of Children Living in Poverty Two to Three Times the State Level

Township/City in New Jersey	Percentage Level of Poverty Two Times the State Level
Camden	50.3%
Asbury Park	44.9%
Salem	43.4%
Penns Grove	41.2%
Paterson	39.0%
Atlantic City	36.6%
Trenton	36.3%
Egg Harbor	36.2%
Lakewood	36.0%
Passaic	35.9%
Woodbine	35.8%
Bridgeton	35.4%
Millville	35.2%

Township/City in New Jersey	Percentage Level of Poverty Three Times the State Level
Newark	34.9%
South Toms River	33.6%
East Orange	32.5%
Township/City in New Jersey	**Percentage Level of Poverty Three Times the State Level**
Wrightstown	31.6%
Beverly	31.6%
Phillipsburg	31.1%
Highlands	30.3%
Flemington	30.0%
Union City	29.4%
Perth Amboy	28.8%
Guttenberg	28.7%
Jersey City	28.1%
Long Branch	26.7%
Victory Gardens	26.6%
Red Bank	26.5%
Hi-Nella	26.0%
Somers Point	25.6%
New Brunswick	25.4%
Wildwood	25.4%
Pleasantville	24.7%
Orange	24.6%
Irvington	24.4%
Cumberland	23.9%
Merchantville	23.7%
Buena Vista	23.7%
West New York	23.6%
Elizabeth	23.5%
Plainfield	23.5%

(NJDOE, 2011)

The study results have indicated that mobility, poverty, and third graders' scores on NJ ASK Language Arts Literacy section were all correlated and thus represent a negative relationship.

Policy Recommendations

Programs created to address the problems of the mobile student must include assistance for their families and must encompass many forms of services. First of all, stable housing must be obtained (NJAC 6A: 17–2.3–5). Then academic assistance should be provided along with help in reestablishing social capital and handling any behavioral issues that may have stemmed from stressful lives lacking in stability and routine. Under the McKinney-Vento Homeless Assistance Act (1988), which was reauthorized in December 2015, of the Every Student Succeeds Act, homeless students are assured sustained enrollment in their school of origin for the full academic school year and for the entire time they are homeless. In addition, at the request of parents, students will be provided transportation to and from their school of origin (USDOE, Part C Homeless Education). This Act provides the appropriate assistance and services to the families of homeless students and should be extended to students who are mobile in order to alleviate instability.

The State of NJ is in need of Title 1 funding allocated to create community schools (formerly called enrichment schools) in inner cities with high levels of students struggling with poverty and mobility. These community schools would stay open until 6:00 pm and serve to assist students in gaining skills and knowledge to enhance their lives. These community schools would link the services of other community resources with the school. In addition to academics, students would take advantage of badly needed health and social services, along with other

opportunities to develop their minds and engage themselves with the community. Community schools benefit the student, their families, and the entire neighborhood.

The low-income parents can also use a helping hand. A real-life example of a program currently assisting impoverished parents is located in Orange, New Jersey, as the Orange Public Schools cooperate with local organizations such as Montclair State University's Continuing and Professional Education to offer heavily discounted programs. Between these two programs, parents can study: English as a second language, basic and advanced computer skills, professional writing, financial literacy, entrepreneurship, music theory, civic engagement, and certification classes in various areas of career readiness. Other classes that could be valuable would be parenting classes and social skills classes. If every school in every inner city with high levels of poverty and mobility could have a program like this one, motivated people who are willing to commit to putting in time and work and pursue further education could help themselves and their families out of their current socio-economically challenged situations.

Since 2011, New Jersey has not been reporting mobility, and so this is something that should be reinstated as part of future accountability measures. The state and policymakers should let districts report the percentage of mobile students without having their test scores negatively impact the school and district. For instance, the mobile student body could have their test scores separated from the rest of the student body's test scores. This way, mobility would not damage the public reputation of a school or district.

In 2017, the New Jersey Supreme Court ruled that municipalities must allow affordable housing for poor and middle-class families to be developed. The ruling confirmed the state's commitment to landmark housing rulings in the Mount Laurel cases of 1975. The Fair Share Housing Center (FSHC) is the public interest organization that works to defend the housing

rights of New Jersey's impoverished. "The mission of FSHC is to end discriminatory or exclusionary housing patterns which have deprived the poor, particularly those presently living in inner cities, of the opportunity to reside in an environment which offers safe, decent, and sanitary housing near employment and educational opportunities" (fairsharehousing.org, 2019). This organization has been holding towns accountable for their legal responsibility.

In July 2017, in Kent County, Michigan, a remarkable community-wide collaboration began between the Heart of West Michigan United Way and 15 other partner organizations, including the local YWCA, and is making a world of difference for the county's impovrished, which number is in the thousands. It is a truly comprehensive approach to combatting poverty that would be well worth imitation in high-poverty locations nationwide. Thanks to the millions of dollars of donations made to the United Way, the program has been able to focus to commit to three years of "investing in long-term solutions" by providing interventions and programs in these "critical issue" areas:

Housing

- Emergency housing
- Utility support
- Fighting unjust evictions
- Taking steps toward homeownership

Food Security

- Community meal programs
- Meal delivery for seniors
- Food preservation/gardening classes
- Affordable groceries

Mental/Behavioral Health

- Outpatient counseling
- Family therapy (especially for youths)
- Funding for low-income clinics

Family Crisis Assistance (sexual assault, domestic violence)

- Medical care
- Safe shelter
- Legal support
- Counseling/coaching

Financial Security

- Help finding work/interview prep
- Career training
- Transportation
- GED classes
- Soft-skills coaching
- ESL classes

(hwmuw.org. Where the money goes. 2019)

Youth Education

- Math and science help for middle school students
- After school programs
- Summer STEM program
- Professional development for teachers

(hwmuw.org. Community. 2019)

The New Jersey Housing and Mortgage Finance Agency works closely with the New Jersey Department of Community Affairs' Division of Housing and Community Resources to provide access to affordable housing. There exists an opportunity for these government

organizations, which are already collaborating with each other, to work with public interest

organizations like FSHC to speed up the process of increasing access to safe, affordable housing

for inner-city students and their families. There is always room to increase knowledge on the

part of the people who would apply for housing assistance. If people are unaware of the help

available, they cannot obtain it.

Practice Recommendations

There are steps principals can take to help low-income families in their schools with little

or no funding required. Below are some concrete ideas for in-school operations that principals

can implement to help their most needy students and their families.

The better the administration of a school can cooperate with each other, the more

effective the school will be as a learning institution. It is up to the principal to build a supportive

environment for teachers, parents, students, and everyone associated with the school. Effective

principals of schools with low-income students must create and maintain strong, positive

relationships with students, teachers, parents, and engage and show support for community

members and resource partners assisting these students and helping the school improve its

culture.

Teachers who feel supported, appreciated, and listened to will be less likely to leave their

positions. Also in need of a supportive atmosphere, children learn to manage their emotions and

social interactions by imitating what they see. "How we relate to each other in the building *is*

our social and emotional learning," said Michael Essien, principal of a San Francisco middle

school.

Practice Recommendation I

There is a free webinar available on the National Association of Elementary School Principals website entitled, "Building a community of educators; Fostering a Mindset in Staff and Students." It can be accessed at the following address: https://www.naesp.org/nprc/bp/professional-development-for-principals and should be very helpful in developing relationships with those stakeholders (Adams, 2016).

The importance of the principal maintaining close parent connections cannot be understated, especially when low-income parents are frequently working several jobs so that they are short on time to get involved. Parents enjoy better communication in high-performing schools than in low-performing schools according to a 2007 national study of 1,006 parents conducted by the Bill and Melinda Gates Foundation (*Educational Research* [a], 2019).

Practice Recommendation II

According to the same 2007 study of parents, regardless of their socioeconomic status, parents wanted:

- To be promptly notified of academic or behavioral problems

- One point person to contact (teacher, advisor, or advocate)

- Homework helpline

- Flexible scheduling for conferences

The above bullets are parent-pleasing strategies for schools to implement that accommodate and engage the parents in their children's education.

Practice Recommendation III

There is a full day workshop with enrollment available on the Teaching For Change website entitled, "Between Families and Schools; Creating Meaningful Relationships."

Enrollment information for administrators can be accessed at the following address: https://www.teachingforchange.org/parent-organizing/training and runs in a variety of formats, the shortest of which cost $1,125 as of March 7, 2019.

The parent study researchers found a need "to find new, practical and systematic ways to encourage parental involvement and create new types of opportunities so that that parents will be able to act more effectively on the knowledge and concern they already have" (*Educational Research* [a], 2019).

Practice Recommendation IV

In addition, principals should consider the use of ClassDojo, a classroom application being utilized in 95% of K–8 schools in the U.S. to promote communication between teacher and parent. Through the use of this app, the teachers can share: reports of student behavior, homework assignments, messages about special events that are upcoming, positive feedback, and photos or videos of schoolwide activities. Parents can also access a directory to contact specific teachers or school staff members. The app automatically translates messages into 35 different languages for parents for whom English is a challenge. Best of all, this application is free for teachers and parents to use and is fully supported by investors. As the ClassDojo website states, "We have a simple plan: connect teachers, parents, and students, and work with them every day…" (ClassDojo, 2019).

Practice Recommendation V

For those families who do not have wifi access, wifi buses have become popular in order to remove the broadband burden. The school districts of Augusta, Georgia, Berkeley County, South Carolina, and Coachella Valley, California have implemented wifi buses providing students and families with free wifi. In Coachella Valley, California, during the early evening

hours, the wifi bus travels to a neighboring location and parks for a period of time allowing students and their families to link to the wifi (Dobo, 1994). This innovative strategy assures students and families access to the Internet who otherwise would not have connection. As an additional measure, Community Schools offer school wifi spots for families to come in and utilize free Internet connection. This has become an increasing method for families in need of free service for the good of the community.

Practice Recommendation VI

Another recommendation is that every administrator and teacher in the school be trained in trauma-informed teaching. Principals must understand the complexities of trauma-informed teaching and show empathy for these students and put in place support systems for these children and their staff. When a child is coping with traumatic circumstances, his or her behavior may be disruptive to the classroom because he or she is unable to control him- or herself and is not able to regulate that behavior. To quote Michael McKnight, an educational specialist whose expertise is trauma-informed teaching:

> Even the most basic of human adaptation systems are not invulnerable and require nurturance. All too often, children who contend with the greatest adversities do not have the protections afforded by basic resources nor the opportunities and experiences that nurture the development of adaptive systems. If major threats to children are those adversities that undermine basic protective systems for development, it follows that efforts to promote competence and resilience in children at risk should focus on strategies that protect or restore the efficacy of these basic systems (ACES in Education, 2016). Youth with Developmental Trauma Disorder have these characteristics:
>
> - "A pervasive pattern of dysregulation

- Problems with attention and concentration

- Difficulties getting along with themselves and others" (McKnight, 2016).

In Maslow's five-row hierarchy of human needs, the third row is Love and Belonging. Children need a trusting relationship with their teacher that motivates them to learn and succeed. That relationship with the teacher can also help the student fulfill another need on the hierarchy, the building of the child's self esteem (McLeod, 2018). This is especially true of the child whose self-image has not been nurtured in his or her home life, and may have experienced abuse. To quote Allison Morgan of Zensational Kids: "Problem behavior is what you may see but its roots lie deep within the child, causing pain which needs to be healed, not punished" (Zensational Kids website, 2018).

Practice Recommendation VII

In order to ensure that a school's teaching staff is sensitive to students who have experienced or are experienced trauma, each principal should designate a committee consisting of an administrator, inspired lead teachers, school counselors, and social workers and school nurse. This committee will be trained at a seminar led by New Jersey expert Michael McKnight. Another option for the training would be an eight-week trauma-informed online coaching program given by Educational Research Newsletter & Webinars in partnership with psychologists Dr. Eric Rossen and Robert Hull. The "8-Weeks to a Trauma-Informed School" program is meant to help principals develop their own plan and includes a "practical and actionable curriculum" that can be implemented. The online program covers three participants with one enrollment fee of $795—as of March 7, 2019. (Educational Research [b], 2019).

Once trained, the committee would come back to the school and initiate a trauma-informed teaching professional development program. The committee would train all the

teachers in the school to be able to see students with behavior problems in a new light, through what they have recently learned about adverse childhood experiences and the brain's response. The program would be conducted on a quarterly basis and may include a video from Mr. McKnight and a different committee member could address the staff at each meeting.

Practice Recommendation VIII

Another no-cost recommendation for a school that understands the needs of the child who has had adverse experiences is the availability of balance centers. This is where children who need to calm down can be in a safe, quiet place removed from the other children where the school counselor can offer needed psychological first aid. If there is no space for a designated balance center in the school premises because of lack of space, the school counselor's office will be sufficient. This is the place where the counselor or school nurse can discuss conflict resolution or engage in mindfulness with the child. For instance, the child can be led in meditation or square breathing exercises. These practices are meant to replace punitive measures with positive measures that reinforce resiliency and promote positive behaviors. The child is better prepared for the next time he or she finds herself struggling for self-control.

Practice Recommendation IX

In order to ensure that a low-income student is healthy and prepared to learn, principals should propose that the school counselor and social worker work closely with the family on a regular basis to confirm the family is in a stable situation. The school staff should help the family secure adequate medical services, food assistance, and housing security assistance. This means requiring staff members to actually make the phone calls on the family's behalf, not just telling the parent about the availability of the services/assistance, but actually advocating for the family.

Agencies for services in New Jersey under the umbrella of the State of New Jersey Department of Human Services' Division of Family Development include:

- Work First New Jersey/Temporary Assistance for Needy Families
  - To help people get off welfare, gain employment, and provide for self
- NJ Helps
  - Where to sign up for food, monetary assistance, and health insurance
- e-Child Care
  - How parents who get a child care subsidy arrange for child care
- New Jersey's Supplemental Nutrition Assistance Program (NJ SNAP)
  - The federal food stamp program
- County Welfare Agencies
  - The board that oversees social services on a county-by-county basis
- Supplemental Security Income (SSI)
  - Federal program providing monthly stipend to people who have low-income/resource people

In addition, the school can reach out for child support services as necessary. The appropriate school staffer will screen the family for the abovementioned services at https://www.nj.gov/humanservices/dfd/home/index.html (State of New Jersey Department of Human Services' Division of Family Development website, 2019).

Practice Recommendation X

Because there are different types of mobility, principals should understand the diverse categories to better understand the needs of their students. For example, students who are migrant and mobile could be stationed temporarily until she/he is reunited with a parent,

guardian, or family member. Principals could better serve this vulnerable population by instituting a "Migrant Education Program." The USDOE allocates federal funding through the Title I, Part C Migrant Education Program to states and schools that service migrant students. "Migrant students will benefit by the programs offered:

- Academic instruction

- Remedial and compensatory instruction

- Bilingual and multicultural instruction

- Vocational instruction

- Career education services

- Special guidance

- Counseling and testing services

- Health services

- Preschool services"

(USDOE, Migrant Education—Basic State Formula Grants, 2012)

In addition, these students could be grouped with other students who are experiencing the same plight so they feel a sense of community and understanding. "Migrant services help students overcome the educational disruption caused by frequent moves and prepare migrant students to meet the same challenging state standards expected of all students" (Migrant Education Program, 2012).

Recommendations for Future Research

This research adds to existing literature on the influence of student mobility on the NJ ASK Language Arts Literacy section with a focus on Grade 3. However, this study focused on

elementary schools in one state. In order to add more to the literature, it is important to conduct future research on the following topics:

1. Recreate this study for other states in the context of their own state assessments and compare the findings.

2. Conduct a study on the impact of teachers receiving additional instructional school-based training in highly mobile schools.

3. Conduct a study on academic achievement of community schools versus non-community schools in highly mobile districts.

4. Conduct a study of highly mobile students and their needs and wants in instruction and school culture.

5. Conduct a study on parental perceptions on student mobility and its correlation to student achievement on statewide assessments.

6. Conduct a longitudinal study analyzing the student mobility rate and student achievement for the years 2008–2011 in order to study the possible correlational trends.

7. Conduct a study that will parse out variations of student mobility.

Insight taken from this study should aid school administrators, policy makers, and other education stakeholders in focusing on ways to help students with high mobility, living in poverty, and their families make the most of their capabilities and form the social connections they need to thrive.

As President Lyndon B. Johnson, who signed the Elementary and Secondary Education Act (ESEA) of 1965, said, "Poverty must not be a bar to learning and learning must offer an escape from poverty."

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