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The Impact Of Option-In Longevity Enrollment Patterns on
Student Achievement, Behavior, and Engagement Outcomes

by

Andrew J. Rikli

A Dissertation

Presented to the Faculty of
The Graduate College of the University of Nebraska
In Partial Fulfillment of Requirements

For the Degree of Doctor of Education
In Educational Administration

Omaha, Nebraska

September 2007

Supervisory Committee

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ABSTRACT

THE IMPACT OF OPTION-IN LONGEVITY PATTERNS ON STUDENT
ACHIEVEMENT, BEHAVIOR, AND ENGAGEMENT OUTCOMES

Andrew J. Rikli

University of Nebraska

Advisor: Dr. John W. Hill

The impact of option-in longevity patterns on student achievement, behavior, and engagement outcomes was evaluated. The seventh-grade pretest compared the seventh-grade posttest gains made by students who were enrolled short-term ($n = 46$) as they completed their first year in a middle school setting indicated that the exposure to a consistent and equitable educational program continued to result in positive student outcomes. Levels of performance for option-in students were also found to be congruent with the posttest achievement, behavior, and engagement data for students who are residents of the district ($n = 46$). School choice options and longevity within a district supported student achievement, behavior, and engagement outcomes. The study results support a cautious approach to district-wide implementation of school choice programs.

ACKNOWLEDGEMENTS

The decision to enter a doctoral program and dedicate oneself to all that it entails truly represents a collective effort. Completing a dissertation would be difficult if not impossible save for the support, love, patience, and encouragement of friends, colleagues, and most importantly, family. I would like to take this opportunity to thank all of those who gave of themselves, in ways both large and small, to make this possible.

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Second, I would like to recognize the individuals at the Westside Community Schools who are among the finest group of professionals I've ever had the privilege of working with. Dr. Ken Bird, Superintendent of Schools, Ms. Jacquie Estee, Assistant Superintendent for Human Resources, Dr. Bert Jackson, Assistant Superintendent for Curriculum and Instruction, the entire staff of Westside

Middle School, and Tanya Peterson; please know that I will never be able to thank you enough for all your support.

Finally, I would like to thank my family and friends who in many ways sacrificed more of their precious time and resources than did I. Special thanks go to my mother, Barbara George, who served not only as a resource as I conducted my literature review but also served as ready source of counsel and endless encouragement. And to my dearest daughters Adrianna Drew and Meredith Claire--you are both growing into wonderful human beings, and you will never know how very proud I am of both of you. Hopefully we can now go to the park more often!

It has been said that completing dissertation research is akin to transferring bones from one graveyard to another. If that is indeed the case, then my beautiful wife Amy Dee should receive credit for helping carry the skeletons. Over the course of my graduate program, Amy has been witness to the many ups and downs of the process and has helped me keep perspective on what is truly important in life. For this reason and countless others, I dedicate this work to her. No one could ask for a better friend than she has been to me.

~A.J.R.

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CHAPTER ONE

Introduction

Purpose of the Study

The purpose of this study was to determine the impact of option-in students' long-term and short-term longevity enrollment patterns on their achievement, behavior, and engagement outcomes compared to the achievement, behavior, and engagement outcomes of resident students' with long-term and short-term longevity enrollment patterns. The study analyzed student grade point averages, performance on locally-developed criterion referenced tests, performance on national standardized achievement tests, behavioral referrals, and participation in extracurricular activities to determine what relationship, if any, exists between enrollment status and these academic outcomes.

Research Questions

The following research questions were used to analyze the independent variables, short-term enrolled students and long-term enrolled students: (a) do short-term option-in enrollment pattern students lose, maintain, or improve their beginning 7th-grade criterion-referenced achievement scores compared to ending 7th-grade criterion-referenced achievement scores for reading comprehension and math

computation measures, (b) do short-term option-in enrollment pattern students lose, maintain, or improve their beginning 7th-grade compared to ending 7th-grade norm-referenced reading, math, and language scores, (c) do long-term option-in enrollment pattern students lose, maintain, or improve their beginning 7th-grade criterion-referenced achievement scores compared to ending 7th-grade criterion-referenced achievement scores for reading comprehension and math computation measures, (d) do long-term option-in enrollment pattern students lose, maintain, or improve their beginning 7th-grade compared to ending 7th-grade norm-referenced reading, math, and language scores, (e) do short-term resident enrollment pattern students lose, maintain, or improve their beginning 7th-grade criterion-referenced achievement scores compared to ending 7th-grade criterion-referenced achievement scores for reading comprehension and math computation measures, (f) do short-term resident enrollment pattern students lose, maintain, or improve their beginning 7th-grade compared to ending 7th-grade norm-referenced reading, math, and language scores, (g) do long-term resident enrollment pattern students lose, maintain, or improve their beginning 7th-grade criterion-referenced achievement scores compared to ending 7th-grade criterion-referenced achievement scores

for reading comprehension and math computation measures, (h) do long-term resident enrollment pattern students lose, maintain, or improve their beginning 7th-grade compared to ending 7th-grade, norm-referenced reading, math, and language scores, (i) do short-term and long-term option-in students compared to short-term and long-term resident students have congruent or different end of 7th-grade criterion-referenced reading comprehension and math computation achievement test scores, (j) do short-term and long-term option-in students compared to short-term and long-term resident students have congruent or different end of 7th-grade norm-referenced reading, math, and language scores, (k) do short-term and long-term option-in students compared to short-term and long-term resident students have congruent or different end of 7th-grade grade point averages, (l) do short-term and long-term option-in students compared to short-term and long-term resident students have congruent or different end of 7th-grade suspension, expulsion, and general office referral PowerSchool student information system data frequencies, and (m) do short-term and long-term option-in students compared to short-term and long-term resident students have congruent or different end of 7th-grade engagement as measured by end of school year student participation in

school sponsored arts, sports, clubs, and student government activities.

Importance of the Study

This study contributes to research, practice, and policy. The study is of significant interest to option enrollment participants and policymakers and school choice researchers.

The Westside Community Schools, the research school district, has accepted students through a school choice option enrollment program for students living outside of the Westside attendance area who wish to attend the school district since 1991. During the 2006-07 school year, the Westside Community Schools enrolled 6,086 total students of which 1,915 (31.47%) were option-enrolled students. The current option-in population includes students from sixteen neighboring Nebraska school districts: Ashland-Greenwood ($n = 1$, .05%), Bellevue ($n = 7$, .37%), Bennington ($n = 12$, .63%), Blair ($n = 9$, .47%), Conestoga ($n = 1$, .05%), Douglas County West ($n = 6$, .31%), Elkhorn ($n = 24$, 1.25%), Fort Calhoun ($n = 2$, .10%), Gretna ($n = 14$, .73%), Millard ($n = 239$, 12.48%), Omaha ($n = 1,479$, 77.23%), Papillion-La Vista ($n = 53$, 2.77%), Plattsmouth ($n = 3$, .16%), Ralston ($n = 61$, 3.19%), South Sarpy District 46 ($n = 3$, .16%), and Waverly ($n = 1$, .05%).

No large-scale study has been conducted to date within the research school district to identify the impact of option-in status and enrollment longevity on students' academic achievement, behaviors, and engagement outcomes. In light of the increasing emphasis in the United States on public schools providing educational choice options, the study takes on added importance.

The issue of option enrollment and school choice has been addressed by the Nebraska State Legislature through the passage in July 2006 of Legislative Bill 641, henceforth known as the Learning Community Reorganization Act (§ 79-1024). Though the full impact of the legislation will not be known for some time, it appears that this Nebraska state statute will create a proposed learning community that will include all eleven public school districts in Douglas and Sarpy Counties (Bellevue, Bennington, Douglas County West, Elkhorn, Gretna, Millard, Omaha, Papillion-La Vista, Ralston, South Sarpy District #46, and Westside). This legislation may create a new system of school choice in Nebraska by allowing any student in the Omaha metropolitan area to enroll in any public school district in the Learning Community and provide transportation from the child's attendance area to the accepting district.

Literature Related to the Study Purpose

Public schools in the United States are failing many families. Troubling graduation and dropout statistics, crumbling infrastructures, school violence, and widening student achievement gaps portray a thoroughly underperforming educational system (Campbell, Hombro, & Mazzeo, 2001; Gonzalez et al., 2004; Hanushek, 2003; Kingford, Coggeshall, & Alford, 1998; Kozol, 1991). Yet the problems are hardly new. Public schools in the United States have been under increased scrutiny for improvement since at least 1983 when the landmark *A Nation at Risk* report was released. The authors of this report famously declared, "If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war" (National Commission on Excellence in Education, 1983, p. 1).

Though the findings and recommendations outlined in *A Nation at Risk* are still debated to this day, there are a number of indicators that American students are performing less than adequately (Bunting, 1999; Hoxby, 2000; Kahlor, May, & Pfau, 1999; Ravitch, 2001; Senge, 2000). Currently, only 57% of high school graduates take the core academic courses recommended by the National Commission on

Excellence in Education, and as a result, only one-third of high school freshmen graduate on time with the academic preparation necessary to succeed in college (Greene & Winters, 2005).

The National Assessment of Educational Progress (NAEP) tests, which are among the most comprehensive and reliable measures of educational attainment in the United States, further illustrate an educational system exhibiting no significant improvement in performance in any age group or subject area from the early 1980s to the present (*About School Choice*, 2006). In the area of reading, for example, there is no statistically significant difference in scores between 1971 and 1999 for 17-year-olds (National Center for Education Statistics, 2004). With an average score of 285, reading scores for 12th-grade students were lower in 2005 than they were in 1992, the first year the NAEP was administered to high school seniors. Furthermore, only 2% of 12th-grade students scored at the Advanced level in math, and the average score of 307 in 2004 was only slightly higher than the average score of 304 in 1973 (Toppo, 2007). The average science score of 147 for 17-year-olds in 2005 is actually lower than the average score of 150 in 1996 (Campbell et al., 2001).

This record of under-performance is particularly striking for students living in poverty. In predicting levels of academic achievement, family income levels have long been reliable indicators of student success (Chiu & Khoo, 2005; Gassman-Pines, Yoshikawa, 2006; Lee, 1998; Mayer, 2001; Taylor, 2005). According to the federal government, students who receive subsidized lunches consistently score the lowest on the NAEP reading tests while students from more affluent families score the highest. This pattern holds true for fourth-grade, eighth-grade, and twelfth-grade students (National Center for Education Statistics, 2004).

The differences in achievement between economically disadvantaged students and their more affluent peers are even greater in mathematics. Only 19% of fourth grade students eligible for subsidized lunches were proficient on the NAEP math test compared to 49% for students who were not eligible for subsidized lunches (National Center for Education Statistics, 2004). At the eighth grade, the score difference was 13% proficient for eligible students compared to 39% proficient for non-eligible students (National Center for Education Statistics, 2004).

There is an achievement gap between ethnic groups as well (Bali & Alvarez, 2004; Fryer & Levitt, 2004; Kozol,

2005; Rothstein, 2004; Singham, 1998). In 1999, White students had higher average scores than their Black and Hispanic peers in the three main content areas of reading, mathematics, and science. There is evidence of the achievement gap between White and Black students narrowing between 1971 and 1999 in all age groups, but current data suggest the gap is once again widening in all subject areas particularly for 13-year-olds and 17-year-olds (Campbell et al., 2001). There is another achievement gap that is equally noteworthy between Asian students and other ethnic subgroups. In 2002, for example, fourth-grade Asian/Pacific Islander students outperformed all other groups, including White students, on national writing tests. In 2000, the average math score of 17-year-old Asian/Pacific Islander students was higher than the average scores of White, Black, and Hispanic students (National Center for Education Statistics, 2004). Asian students also outscored all other students on the ACT college entrance exam with an average composite score of 22.6 (ACT, 2007).

Research also indicates that the quality of teachers available to economically disadvantaged and minority students in low performing schools is often less than is found in other more affluent buildings (Ansell & McCabe, 2003; Hall, Guin, & Cullio, 2003; Johnson, Kardos, Kauffman,

Liu, & Donaldson, 2004; Shen, Mansberger, & Yang, 2004). Poor and minority students are often taught by inexperienced teachers, and more classes in disadvantaged schools are taught by teachers teaching outside of their respective fields (Education Trust, 2000; Sunderman & Kim, 2005). It would appear that teacher quality in high need buildings is exacerbating the issue of student achievement in schools with the greatest need for qualified instructors.

Economically disadvantaged and minority students are not the only ones experiencing significant academic difficulties in the United States. Graduation rates for all student groups remain comparatively low and dropout rates are high nationwide (Barton, 2005; Greene & Winters, 2006; Kaufman, Alt, & Chapman, 2001, Mishel & Joydeep, 2006). According to the National Center for Education Statistics, the 2002–03 public high school graduation rate for the average freshman class four years earlier was 73.9%. The graduation rate ranged from a low of 59.6% in the District of Columbia to a high of 87.0% in New Jersey. Furthermore, high school drop-out rates remain unacceptably high with over 10% of all 16-year-olds through 24-year-olds leaving high school without a credential (National Center for Education Statistics, 2004). While the estimates of

adolescents who do not finish high school vary widely from 75% to 16%, depending on how the rate is calculated, the loss to the nation's number of individuals prepared to be successful in today's increasingly competitive global economy is unquestionably high (Barton, 2005; Lee & Burkam, 2003).

American students fare even worse when compared to their international peers. The Programme for International Student Assessment (PISA) is a system of international tests that has been in place since 2000 and measures 15-year-olds' capabilities in reading, mathematics, and science every three years. Compared to other industrialized countries, the United States ranked 25th in mathematics, 12th in reading, and 20th in science (Programme for International Student Assessment, 2007). Overall, the U.S. average scores in reading literacy were not measurably better than the international average in 2000 or 2003, nor was there any measurable change in the U.S. scores from 2000 to 2003. Moreover, the U.S. average scores in science literacy were below that of its international peers in 2003 (Lemke et al., 2005). In addition, U.S. performance in mathematics literacy and problem solving in 2003 was lower than the average performance for most other countries (National Center for Education Statistics, 2004). This lack

of international competitiveness could scarcely occur at a worse time. As Thomas Friedman states in his book *The World is Flat: A Brief History of the Twenty-First Century* "...knowing 'how to learn how to learn', will be one of the most important assets any worker can have, because job churn will come faster, because innovation will happen faster" (Friedman, 2005, p. 242).

This record of stagnant academic performance is occurring in spite of an increasing number of U.S. students taking rigorous-sounding classes and receiving better grades. The third annual Advanced Placement Report to the Nation indicates that the percentage of U.S. public high school graduates who took an Advanced Placement (AP) exam in high school increased from 15.9% in 2000 to 24.2% in 2006 (Abdul-Alim, 2007). According to a report by the U.S. Department of Education, the average student grade point average has risen from 2.68 in 1990 to 2.98 in 2005. However, standardized test results indicate 12th-grade reading scores have generally been dropping since 1992 ("Study says Students Learning Less," 2007). Clearly, there are disconnects between the grades students are receiving and what students actually know and can do.

All of these achievement statistics must be considered within the context of educational funding and financial

resources. The United States currently has the world's largest economy, and government spending on K-12 public schools is greater than in any other developed country with an average per-pupil expenditure of \$9,136 (About School Choice, 2006). Furthermore, public elementary and secondary schools spending per pupil in constant 2003-04 dollars increased 21% from 1990-91 to 2002-03 (Burtless, 2003). The state of Nebraska alone spent over \$2.51 billion, or \$8,794 per pupil, educating its 285,548 public school students during the 2005-06 school year (Nebraska Department of Education, 2006). Money alone, it would seem, is not the answer.

As a result of the myriad shortcomings of many public schools, critics have increasingly called for expanded school choice options for families. President George W. Bush has spoken numerous times espousing the benefits of school choice. On August 30th of 2001, Bush demanded that the nation "Give options for kids trapped in failing schools". And two years prior, while running for the presidency Bush proclaimed "Let poor people choose their schools, like rich people do" (August, 1999). United States Secretary of Education Margaret Spellings echoed these sentiments when she stated, "...School choice is part of the strategy to give every child an excellent education"

(U.S. Department of Education website, 2007, p. 1). Many of the statements made by President Bush and Secretary Spellings regarding school choice have been made within the context of No Child Left Behind legislation and its policy of allowing students to transfer out of failing buildings. But clearly, there is support for educational choice in this country at the very highest levels (Rose & Gallup, 2001; Whitty & Edwards, 1998).

Many parents have responded to increased educational choice for families by actively seeking out schools that better meet their needs. Conceptually, public opinion polling has shown that most Americans strongly support school choice. In a 1999 poll by Public Agenda, 88% agree with the statement, "Parents should have the right to choose the school they want their child to attend" (Hoxby, 2003, p. 3). According to the U.S. Department of Education, the number of families who exercise school choice is significant. A study of the 46 largest urban districts in the United States indicated that the number of parents taking advantage of school choice tripled from the 2002-03 school year to the 2003-04 school year (May, 2006). Private schools, for instance, continue to attract a large number of students. In 2004, over 5.1 million school-aged children, or 9% of all students, were enrolled in a private

school in the United States (Education by the numbers, 2006). Furthermore, over 17% of all public school students in the United States, or approximately 8.2 million students, are enrolled in a public school chosen by their parents (Center on Education Policy, 2006).

In spite of the numerous shortcomings of many schools and the large number of parents exercising their school choice options, there are success stories within the country's public schools. According to a comprehensive analysis by the Education Trust, there are a number of school districts across the country with high-poverty and high-minority populations whose students are demonstrating high levels of achievement including 4,577 schools in the year 2000 alone where student performance in mathematics and/or reading was in the top third of all schools in the state at that grade level (Jerald, 2001). Other studies have confirmed that there are indeed many high-performing school systems across the country and that a large concentration of economically disadvantaged and minority students does not necessarily equate to poor academic performance (Cunningham, 2006; Howley, Strange, & Bickel, 2000; Kagan, 2005; Krashen, 2005). Furthermore, there is evidence to suggest recent high school reform efforts taking place around the country, such as the implementation

of more rigorous curricula and tougher graduation standards, are leading to enhanced outcomes for students (Toch, Jerald, & Dillon, 2007).

Recent evidence indicates that schools who are succeeding in spite of challenging student populations share many commonalities. In general, these schools tend to be found in large city settings, but there are schools that meet the high poverty/high minority population and high achievement criteria all over the country (Jerald, 2001; McREL, 2005). In terms of instructional strategies, it appears that a number of critical components may help improve student performance in high need buildings, including the use of interdisciplinary teaching strategies, promoting substantive classroom conversations to facilitate higher order thinking skills, and using exploration and analysis to foster student inquiry and creativity (Langer, 1998). In his examination of high-poverty, high-performance schools, Doug Reeves found five common characteristics: a focus on academic achievement, clear curriculum choices, frequent assessment of students progress and multiple opportunities for improvement, an emphasis on nonfiction writing, and collaborative scoring of student work (Reeves, 2000). Other proven instructional elements include prioritizing student achievement, implementing a coherent,

standards-based curriculum, analyzing student assessment data from multiple sources, strong teaching staff and administrative leadership, and ensuring equitable instructional resources (Kagan, 2001; Krashen, 2005; McREL, 2005; Taylor, 2005).

These are the factors that motivate many families to exercise their school choice options. Research suggests there may be a relationship between parental preferences on the school they choose to send their child and the parents' socioeconomic level. For example, more affluent parents tend to choose schools with higher student test scores while lower income families tend to choose schools in proximity to their home. But all parents, regardless of socioeconomic status, tend to seek out schools based on a common set of characteristics (Hastings, Kane, & Staiger, 2006; Langlois, 2004). These common characteristics, which include high quality curriculum, qualified and empathetic teachers, a high degree of communication and collaboration between school personnel and parents, a safe environment, and small class sizes, are often the very same characteristics that allow school buildings with large numbers of minority and economically disadvantaged students to produce positive and sustained student achievement

results (Goldring & Rowley, 2006; Jacob & Lefgren, 2005; Jaeger & Wolf, 1980; Schneider, Marschall, & Teske, 2002)

School districts that offer characteristics such as a record of high student achievement, proximity to local neighborhoods, safe and modern school buildings, innovative curriculum in the areas of reading and mathematics, highly qualified teaching staff, and strong administrative leadership have a competitive advantage in terms of both meeting the needs of challenging student populations but also in attracting students whose parents are looking for the best possible educational outcomes through option enrollment and other school choice opportunities. It is the position of the Westside Community Schools, the research school district, that it does provide these types of innovative educational offerings including but not limited to modern neighborhood elementary schools, the state's first all-day kindergarten program, accredited early childhood education centers, introductory world language instruction at the elementary level, numerous award-winning staff members, a comprehensive staff development, recruitment and retention system, a variety of Advanced Placement offerings at the secondary level, extensive use of instructional technology including a one-to-one laptop initiative at the high school, and one of the longest

teacher and student calendars in the state (Westside Community Schools district website, 2007).

Assumptions

The study has several strong features including (a) all students participating in the study were housed in the same school building; (b) all teachers implemented the same district-approved curriculum and assessments; (c) all students had equal access to all materials and resources within the school district; and (d) teacher expectations for student deportment were based on a well-defined behavior replacement social skills program. Participating teachers also received on-going administrative support through classroom observations and reflective conversations throughout the process. All teachers in the research district are required to participate in a mandatory three-year new certified staff induction program that includes both formal instruction and classroom observations by a trained instructional leader. Additionally, all certified staff must earn a master's degree from an accredited program in their assigned curriculum area within ten years of being employed by the district. Tuition reimbursement is provided by the research district to defray the costs of obtaining an advanced degree. Teachers are also expected to

treat all students, option-in and resident, long-term and short-term, with equal respect and educational support.

It was assumed that all teachers had fully implemented the building-adopted social skills training as the primary means of providing effective discipline and collecting student discipline referral data. Furthermore, in terms of program stability, option enrollment has been in place since 1990 in Nebraska, and the policy has been widely publicized as evidenced by the increasing number of Nebraska families who participate in the program. As an administrator working out of the research school district's central office, the researcher had ethical access to the study interventions and student outcome data.

Delimitations of the Study

This study was delimited to all 7th-grade students enrolled in a Midwestern middle school and the assessment, behavior, and engagement findings collected during the fall of 2006 and spring of 2007. Seventh-grade students are required to participate in the research school district's annual testing program each school year which includes the administration of the Reading Comprehension and Math Computation Criterion Referenced Tests (CRTs) as well as the total reading, total mathematics, and total language subtests of the standardized Stanford Achievement Test,

tenth edition (SAT10) norm referenced test in October 2006 and April 2007.

Limitations of the Study

This exploratory study was confined to one 7th-grade class at one middle school during one school year and consisted of four independent research arms. The first arm was a naturally formed group and consisted of short-term option-in students ($n = 23$) who had been enrolled in the district for two or fewer years. The other three arms consisted of randomly selected long-term option-in students ($n = 23$), short-term resident students ($n = 23$), and long-term resident students ($n = 23$).

The very nature of existing option-in enrollment programs may encourage what has been referred to as *cherry picking* or selecting students from the most involved and supportive families who possess the knowledge, skills, and initiative necessary to leave their resident school district and enroll in a different district because of the perceived advantages it offers. This in turn could lead to increased social stratification within the research school district. A certain level of time and financial resources is required from option-in families since parents of option-in students must generally provide transportation from their current school attendance area to the receiving

school district. The exception to this rule is in the case of economically disadvantaged families who cannot afford to provide their own transportation. An exception is also made for students with disabilities who require transportation as part of their Individual Education Program (IEP) whereupon the receiving school district provides free transportation.

Definition of Terms

Academic achievement data. Academic achievement data include performance on six separate measurements: the SAT10 Total Reading subtest, the SAT10 Total Math subtest, the SAT10 Language subtest, the district-developed Reading Comprehension CRT, the district-developed Math Computation CRT, and students' grade point average.

Behavioral data. Behavioral data include absences and discipline referral information for each participant. These two behavioral dependent measures are a direct result of the participants' behavior and are uniformly collected and recorded by school personnel and available in the PowerSchool student information database.

Charter schools. Charter schools are defined as independent public schools of choice, free from regulatory oversight but accountable for achievement results. Charter schools are generally open to all who wish to attend and

are financed by tax dollars but are autonomous in their operations and are liable to be closed if they do not produce satisfactory results (Noll, 2007).

Criterion-referenced tests (CRTs). Criterion-referenced tests measure an individual's skills in terms of absolute mastery. CRT scores report how well students perform relative to a predetermined performance level on a specified set of educational goals and outcomes. The content of a CRT is determined by how well it matches the learning outcomes considered most important (Bond, 1996). The CRTs used in this study include a selected response Reading Comprehension assessment and a selected response Math Computation assessment that are developed and scored by trained personnel from the research school district.

Discipline referral information. All discipline referral information was derived from data collected on the district's student code of conduct as entered into the PowerSchool student information database.

Engagement data. Engagement data includes student participation in arts, sports, clubs, and student government activities. These four engagement dependent measures are recorded and available in the PowerSchool student information database.

Grade point average (GPA). An acronym for grade point average, the GPA provides a snapshot of a student's overall academic performance. For the purposes of this study, an A equals four points, a B is three points, a C is two points, a D is one point, and an F equals no points.

Home schooling. Home schooling is a growing nationwide movement in which private groups and individuals are providing most if not all educational services to students who would otherwise be enrolled in public schools (Noll, 2007).

Learning Community Reorganization Act. This Nebraska state statute, also known as LB 641, was passed in July 2006 and creates a proposed learning community that includes all eleven public school districts in Douglas and Sarpy counties. The LCRA may create a new model for school choice by allowing any student in the Omaha metropolitan area to enroll in any public school district in the two counties and provide transportation from the child's attendance area to the accepting district (§ 79-1024).

Long-term enrollment. For the purposes of this study, long-term enrollment shall refer to any student, option-in or resident, who has been enrolled in the district for more than two years.

Magnet school. Magnet schools are a type of school choice often formed to aid in desegregation efforts. Magnet schools are generally structured to attract White students by offering enhanced programs in inner-city areas (Noll, 2007).

National Assessment of Educational Progress. The National Assessment of Educational Progress (NAEP), also known as the Nation's Report Card, is the only nationally representative and continuing assessment of what students in the United States know and can do in various subject areas at various grade levels. Assessments have been conducted periodically since 1969 in mathematics, reading, science, writing, U.S. history, civics, geography, and the arts. The NAEP does not provide scores for individual students or schools. Instead it provides results regarding subject-matter achievement, instructional experiences, and school environment for populations of students, such as fourth-grade students, and groups of students within those populations, such as females or Hispanic students (NAEP, 2007).

No Child Left Behind. President George W. Bush signed Public Law 107-110, the No Child Left Behind Amendments to the Elementary and Secondary Education Act of 1964, into law on January 8, 2002. This federal statute allows parents

to choose other public schools or take advantage of free tutoring if their child attends a school that needs improvement. Parents may also choose another public school if the school their child attends is labeled unsafe. Finally the law also supports the growth of more independent charter schools, funds some services for children in private schools, and provides certain protections for home schooling parents.

Norm referenced tests (NRTs). Norm-referenced tests are tests that compare an individual's performance to the performance of his or her peers. The NRT that will be used in this study is the Stanford Achievement Test, tenth edition. Normal curve equivalent (NCE) scores from the reading, mathematics, and language subtests of the SAT10 will be used as research measures.

Normal curve equivalent (NCE). A normal curve equivalent is a score received on a test based on the percentile rank and is a measurement of where a student falls on a normal curve. Since NCEs are equal interval scale conversions of percentile ranks, they are appropriate for use in research (Gravetter & Wallnau, 2004).

Office referral. Office referral is defined as a document written by a classroom teacher that explains the misbehavior by a student for which that student was removed

from class for disciplinary consequences. Examples of such behavior include disrespect, aggression, profanity, and physical violence. All office referrals are stored in the PowerSchool student information database.

Open enrollment. Nebraska's educational statute that allows any K-12 student to option out of the district where she/he resides and attend another public school in which she/he does not reside. This is based on Legislative Bill 1017, Section 79-232, Nebraska Revised Statute passed by the state Unicameral in 1989.

Option-in student. For the purposes of this study, option-in student shall mean any student who is actively enrolled in the research school and who resides in an attendance zone outside of the Westside Community Schools. Option students shall be designated as either long-term option (LTO) or short-term option (STO).

PowerSchool. PowerSchool is a computer-based student information and data management system developed by Pearson Education and used by the research school district. It is used to collect and record a variety of student data including but not limited to student grades, test scores, student engagement measures, and discipline referral information.

Private schools. Private schools are defined as any independent school not administered by local, state, or national government that retain the right to select their student body and are funded in whole or in part by charging their students tuition rather than with public state funding. The term includes religious/parochial and nonsectarian schools.

Proficiency. Proficiency is defined as the designated quality of work a student must produce to demonstrate mastery of a particular standard for a particular subject matter.

Resident student. For the purposes of this study, resident student shall mean any student who is actively enrolled in the research school district and who also resides in the research school's attendance zone. Resident students shall be designated as either long-term resident (LTR) or short-term resident (STR).

School choice. A general term that includes but is not limited to open enrollment policies, magnet schools, charter schools, home schools, and voucher programs.

Short-term enrollment. For the purposes of this study, short-term enrollment shall refer to any student, option-in or resident, who has been enrolled in the district for two or fewer years.

Stanford Achievement Test, tenth edition. The Stanford Achievement Test is a group-administered, multiple-skill battery developed by Harcourt Publishing that provides norm-referenced and objective-mastery scores (Stanford Achievement Test, technical manual). The three subtests that will be used in the research study are Total Reading, Total Math, and Total Language.

Student mobility. For the purposes of this study, student mobility shall be defined as any school age child who enters or leaves school between the last Friday in September and the last day of school (Nebraska State of the Schools Report, 2005-06).

Voucher. A school voucher is a certificate by which parents are given the ability to pay for the education of their children at a school of their choice rather than the public school to which they were assigned (Levin, 2002).

Westside Essential Learnings. Essential Learnings are the core academic content standards developed by the Westside Community Schools. These standards were written by district personnel and include content in the four core curriculum areas of English/language arts, mathematics, science and social studies. The Westside Community Schools Essential Learnings have been submitted to the Nebraska Department of Education and have been determined to be

meeting or exceeding the state's academic standards. District staff also periodically reviews these standards internally.

Contribution to research. After reviewing the professional literature, it was evident that there was a need for additional research regarding parental choice programs in public education systems. It was further evident that more research was needed on open/option-in enrollment policies and the effect of these policies on student outcomes. A majority of the states now have some form of open enrollment but few in-depth studies have been published regarding the value added of such policies. The results of the study may inform the theoretical literature on the effectiveness of option enrollment programs.

Contribution to practice. The results of this study can add to the research on the effects of school choice programs and the impact of open enrollment policies. The study also demonstrates the impact of option-in enrollment patterns within a district on student outcomes including achievement, behavior, and engagement.

Contribution to policy. Local level policy will be impacted through this study. The study focused on a policy issue, namely the effectiveness of school choice programs including open enrollment policies, and student outcomes.

This study will allow educators and policymakers at the national, state, and local levels to better understand if school choice programs in the form of option enrollment policies and student enrollment longevity leads to increased academic outcomes. Since increased parental choice is one of the central themes of the federal No Child Left Behind Act (Public Law 107-110), this is an area that will undoubtedly receive increased public scrutiny in the coming years.

This research will be particularly relevant at the state and local level as legislators and community leaders struggle with the design and implementation of the learning community concept as outlined in the Learning Community Reorganization Act of 2006 (§ 79-1024) and related statutes.

Outline of the Study

The literature review relevant to this research study is presented in Chapter 2. This chapter reviews professional literature regarding school choice programs around the country with a particular emphasis on open/option-in enrollment policies. Included is a review of studies that outline the effect of school choice programs on student achievement, behavior, and engagement data. Chapter 3 describes the research design, methodology,

independent and dependent variables, and procedures that were used to gather and analyze the data of this study. This includes a detailed synthesis of the participants, a comprehensive list of the dependent variables, dependent measures, and the data analysis used to statistically determine if the null hypothesis shall be rejected for each research question. Chapter 4 reports the research findings, including data analysis, tables, descriptive statistics, and inferential statistics. Chapter 5 provides conclusions and a discussion of the research findings.

CHAPTER TWO

Review of the Literature

A Review of Selected Literature and Research

Perhaps the most prominent advocate in the United States of school choice was the late Milton Friedman, a Nobel laureate in economics and one of the earliest intellectual proponents of privatized education. As early as 1955, Friedman argued for the adoption of school choice policies mainly in the form of voucher programs. The purpose of school choice programs, according to Friedman, was two-fold. Friedman argued that the use of school choice programs would minimize inefficient government spending while giving low-income Americans, who are traditionally stuck in underperforming public schools, a better chance at receiving a quality education. Following the example of industry, school choice programs "would bring a healthy increase in the variety of educational institutions available and in competition among them. Private initiative and enterprise would quicken the pace of progress in this area as it has in so many others" (Friedman, 1955, p. 9).

The historical context in which Friedman lived and worked undoubtedly had a profound influence on his beliefs. The landmark *Oliver Brown et al. v. Board of Education of Topeka et al.* (347 U.S. 483) U.S. Supreme Court decision

came in 1954 and struck down the court's previous separate but equal ruling and in its place declared that the establishment of separate public schools for Black and White students was inherently unequal. This victory helped clear the way for school integration and the civil rights movement in the United States. From a legal standpoint, there were at least two types of segregation that affected racial minority groups prior to the *Brown* decision, namely *de jure* and *de facto* segregation. In general, *de jure* segregation refers to racial separation forced by specific laws. Since all such laws were eliminated in the United States by the mid-1960s, *de jure* segregation, strictly speaking, no longer exists in this country. However, *de facto* segregation, or racial separation that occurs as a matter of fact by housing patterns or school enrollment, is still very much alive in this country's public schools (Kozol, 2005; Noll, 2007; Rumberger & Palardy, 2005).

Institutionalized racism has been a part of American society since the birth of the country. Slavery was officially abolished nationwide following the Civil War in 1865 with the passage of the 13th Amendment to the United States Constitution, but the state-sponsored separation of Blacks and Whites was re-affirmed in 1896 with the U.S. Supreme Court *Homer A. Plessey v. John H. Ferguson* (163

U.S. 537) decision which upheld segregation and the constitutionality of the separate but equal doctrine. This doctrine allowed schools to remain legally segregated up until the *Brown* decision in the mid-1950s. However, it wasn't until the 1960s with the busing riots, the forced integration of schools in Little Rock, Arkansas and throughout the American South, and the passage of the Civil Rights Act of 1964 that many states grudgingly began to integrate their public schools (Noll, 2007). The struggle to effectively integrate our public schools continues to this day (Frankenberg & Lee, 2002; Kozol, 2005; Poetter & Knight-Abowitz, 2001). Clearly, this long history of racial segregation in the United States helps explain some of root causes of the current student achievement gap as well as the impetus for choice in the public schools today.

In light of this historical context, other researchers, both during and after the tumultuous period following the civil rights movement in this country, supported Friedman's call for school choice with many reformers arguing against the current one-size-fits-all educational model in the United States (Bunting, 1999). Many of these reformers believed that the market-style mechanisms of consumer choice and competition between public schools would encourage diverse and innovative

approaches for increasing academic achievement in the public schools. This was particularly important for the economically disadvantaged and minority students who had often underperformed in the current system (Lubienski, 2003). Other researchers argued that educational choice is a fundamental principle of freedom and that choice and competition is necessary to improve education for both students who actively choose schools and those who do not (Goldhaber & Eide, 2003).

When Friedman initiated much of the school choice movement in 1955, open enrollment and school choice were synonymous terms since other forms of school choice, with the notable exception of private schools, did not generally exist in the United States, though some alternative schools were being developed as early as the 1960s (Schneider, Marschall, & Teske, 2002). In theory, school choice has always been an option for families with the financial means and wherewithal to obtain housing in neighborhoods with desirable schools. In fact, families exercising residential choice currently account for approximately 24% of all public school students in the United States (Institute of Education Sciences, 2007). To facilitate this demand, it is not uncommon for real estate agents in some areas, for example, to provide detailed test-score data and other

information about schools to prospective clients shopping for new homes particularly in affluent suburban neighborhoods (Noll, 2007). As a result of these financial inequalities, public schools found in some of the most affluent suburbs in this country, such as Scarsdale, New York and Wilton, Connecticut where median home prices are greater than \$700,000, are clearly not open to all students. Absent an open enrollment policy or other school choice option, these types of communities perpetuate a subtle form of *de facto* segregation. Stated differently, some affluent communities in this country encourage a form of economic stratification whereby only the wealthiest families have access to the public schools in these neighborhoods.

In spite of these challenges, though, the promise of school choice and equity of opportunity remains strong. Numerous types of parental choice programs, including charter schools, home schooling, magnet schools, and vouchers have emerged across the country and expanded the definition of school choice in hopes of providing excellent educational opportunities for all families.

School Choice Philosophy

Market approach philosophy. There are at least three philosophical approaches underpinning the school choice

movement in the United States that owe their roots to Friedman's call for choice. The first and by far the most common philosophy is the so-called market approach to education (Davies & Quirke, 2005). In essence, this philosophy refers to the belief that school choice will replace the current educational monopoly with competition. Stated differently, by forcing schools to compete for students, the discipline of market economics is expected to replace the captive audience enjoyed by most public schools (Levin, 2002). The benefits of this philosophy, according to its supporters, are two-fold. First, schools will be forced to become more efficient in terms of producing the most educational output per dollar. Second, low performing schools faced with the threat of losing students to higher performing schools will either improve or go out of business (Goldhaber, 2000). Critics argue that the students left behind in the public schools will be the most difficult to educate, attending schools that are understaffed and under-funded. Advocates counter that public schools will respond to the market pressure by improving their programs and trying to regain the students and dollars lost (Noll, 2007).

This philosophy is evident in a number of current practices in U.S. schools including the spread of private

and charter schools and the use of taxpayer-supported vouchers. Private schools have long served as the primary educational competition to public schools in this country. Vouchers and charters schools are, by definition, a means of using competition to increase the effectiveness of public schools (Kafer, 2005; Noll, 2007). The parent choice provisions outlined by the No Child Left Behind Act are similarly themed. Whatever type of market style intervention is utilized, however, caution should be exercised. A study by the Organization for Economic Cooperation and Development found that school choice policies, depending on how the programs are designed and regulated, can either promote desirable reforms or cause serious problems, and that simply allowing the market free reign, as is often advocated in the business world, will likely produce many of the ills critics warn against (Boyd, 2002). Though the results of using free enterprise strategies in the educational sector are thus far mixed, the philosophical intent of providing choice in hopes of spurring improvement is clear.

Distributive justice philosophy. The second approach to school choice involves the notion of distributive justice. In essence this philosophy refers to school choice as a vehicle for providing disadvantaged families the same

options as wealthier families (Ferrero, 2004). We have seen support for this approach echoed in comments made by President Bush and Secretary of Education Spellings outlining the benefits of choice and giving economically disadvantaged students educational options. There are a number of contemporary examples of distributive justice in our public schools today. For example, a variety of social welfare programs have already been implemented in many public schools to level the playing field so to speak, including subsidized lunch and breakfast programs, Head Start services, before and after school programs, basic medical screening, and childcare services (Moore, 2005; U.S. Council of Mayors, 2003).

Well-designed and carefully monitored plans in the area of school choice can likewise play an important role in supporting and fostering a healthy approach to distributive justice (Boyd, 2002). Much work still needs to be done in this area however. According to some researchers, much of the current achievement gap between White and Black students as well as poor and non-poor students can be traced to inequitable access to medical and dental care, a shortage of affordable housing, inadequate minimum wage laws, and insufficient early literacy experiences (Rothstein, 2004). Thus, distributive justice

undoubtedly has a role to fill in our public schools. However, it seems equally evident that complex social problems such as public education and school choice cannot be solved by the intervention of governments and the influence of social welfare programs alone.

Parents' rights philosophy. The third and final approach is a parents' rights philosophy in which family interests trump those of the state (Ferrero, 2004). According to this belief, public schools should serve as, among other things, institutions that cultivate civic virtue and prepare students to enter an increasingly competitive global marketplace. If schools fall short of these ideals, it is the parents' right and indeed obligation to find schools that can meet this high standard (Ferrero, 2004). In a somewhat philosophical vein, at least one author connected the rapid growth of the parental school choice movement with the American spirit--a spirit open to the ideas and dreams of visionaries (Nathan, 1996). While giving parents a greater say in their own affairs appears to be a laudable goal, there are potential drawbacks to this approach. The school choice movement has created efforts to gain space and support for religious schools, moral education, and diversity within schools and society, even in situations where only minorities desire

these things (Boyd, 2002). Whether or not this situation represents a positive phenomenon depends entirely on your perspective.

In summary, there are a number of potential benefits and drawbacks to all three school choice philosophies. But while the first two philosophical approaches of market dynamics and distributive justice clearly reflect a free enterprise model of education and the one supported by Milton Friedman, the primary focus of this research study will be on the third approach; that is, a parent's right to choose the educational program for their child that they deem most appropriate, including open enrollment policies that limit attendance to already existing public schools.

Why Families Utilize School Choice

Regardless of the underlying beliefs or philosophies, there are a number of reasons parents decide to send their children to schools outside their regular attendance area (Hastings, Kane, & Staiger, 2006; Langlois, 2004; Wronkovich, Robinson, & Hess, 1998). In a broad sense, school choice widens the participation of parents in educational decisions, theoretically giving families options regarding which schools and programs will educate their children (Bunting, 1999). There are also a number of positive academic reasons that support school choice.

According to the U.S. Department of Education, school choice generally leads to increased parental involvement, different types of learning environments that may better match children's needs, expanded teacher creativity, increased integration of schools, and improved student achievement (U.S. Department of Education, 2004).

Not all families consider strictly academic factors when choosing schools for their children. According to the Carnegie Foundation, "many parents base their school choice decision on factors that have nothing to do with quality of education" (1992, p. 50). These nonacademic factors vary by family and situation, but the most often cited are availability of day care, convenience, social factors, and the range and quality of interscholastic sports. Research in the state of Ohio further indicates that proximity to the parents' home and the desire to attend school in a less diverse environment are also reasons frequently cited for utilizing school choice (Legislative Office of Education Oversight, 1998). It has been suggested that low-income and less educated parents are among the most likely to exercise school choice for nonacademic school attributes (Schneider & Buckley, 2002). As a result, it has been suggested that low-income parents, who are often lacking sufficient background knowledge to be informed consumers, may not make

the most advantageous school choice decisions for their children (May, 2006).

Other research suggests that some families are running from problems rather than running to programs when exercising school choice options. A study of Massachusetts' open enrollment program indicated that families generally enrolled their children in the schools of communities having higher indicators of student performance and higher socioeconomic status than the schools they left (Fossey, 1994). Similar results are seen in the state of Ohio. A questionnaire sent to 862 option enrollment families in Ohio indicated that personal safety was the most frequently cited reason for transferring out of the resident school (Hone-McMahon and Schleis, 1995). The federal government has responded to perceived problems with school safety in part by providing families with school choice options under the No Child Left Behind legislation. If a public school is determined to be persistently dangerous based on definitions and standards created by each individual state or if a child has been the victim of a violent crime on school grounds, the law allows parents to transfer students to a safer building (No Child Left Behind, 2002). Regardless of the reasons, however, it appears that many families often base their educational placement decision on

factors much different from those strictly associated with academics.

Geography also appears to play a role in school choice. In general, geographic realities dictate that many poor families cannot afford to live in school districts more likely to be considered high achieving, and many city zoning regulations prevent low-income housing in high achieving school districts (Nechyba, 2002). This, in turn, impacts placement decisions. Research also indicates that elementary and middle school students, for example, are more likely to be enrolled in choice schools than high school students. And students living in the West, South, and Midwest are more likely to be enrolled in choice schools than students in other parts of the country (U.S. Department of Education, 2006). As a result of these geographic jurisdictions and the availability of educational options, it appears that school choice affects more diverse school districts disproportionately, particularly those found in urban areas (May, 2006).

Student ethnicity and socioeconomic status also impacts school choice. Several empirical studies of school choice suggest that school choosers are disproportionately higher-income, higher-socioeconomic status, and higher ability than non-choosers (Epple, Figlio, & Romano, 2004).

There are exceptions to this generality however. Peterson, Howell, and Greene (1999) described the typical school choice student as an African American who is significantly more likely to live in a single-parent home with an annual household income of less than \$16,000. Other research supports this assertion. Black students are more likely than White students to be enrolled in choice schools, though Black and Hispanic students are more likely than other ethnicities to attend public schools (Belfield, 2002). Asian students are spread evenly across both public and non-public schools although they are least likely to attend private religious schools. Furthermore, non-poor students were more likely than poor students to be enrolled in private schools (Tice, Princiotta, Chapman, & Bielick, 2006). Private schools, both religious and non-sectarian, are also less likely to enroll U.S. immigrant students (Belfield, 2002). Thus, it appears that students in the United States who attend public schools are more racially and ethnically diverse than students who attend private schools (U.S. Department of Education, 1999). But regardless of ethnicity, it appears students whose parents have lower levels of education are more likely than those with higher education to take advantage of opportunities to choose (Schneider, Schiller, & Coleman, 1996).

Forms of School Choice

There are an increasing number of families utilizing school choice in the United States. About one-half of all families with children reported that public school choice was available in their community (Tice et al., 2006). According to official estimates, approximately 15% of all students are enrolled in chosen public schools, but as we have seen, some groups of students were more likely to be enrolled in choice schools than others (U.S. Department of Education, 1999). Part of this movement is due in part to the federal No Child Left Behind Act (P.L. 107-110). Equally important is the increasing number of options available to parents. It has been observed that "families already select the schools their children attend...By one plausible way of counting, more than half of American families now exercise school choice, and some families have more choice than others" (Sugarman & Kemerer, 1999, p. 11).

Different states offer a variety of school choice options. Many states use a combination of charter schools, magnet schools, and open enrollment policies to provide families educational options. Florida is often considered the leading state in the country when it comes to choice-based education reform. The number of students enrolled in Florida's school choice programs is substantial with many

families attending private schools through publicly funded voucher programs (Neily, 2006). In the state of Minnesota, a four-tiered model of choice exists including postsecondary options for high school students wishing to attend a college full or part-time with state funds, *second chance* options for students who haven't been successful in traditional schools who wish to attend an alternative school, open enrollment which allows students to attend schools across district lines, and the conversion of existing public or private nonsectarian schools into charter schools (Nathan & Boyd, 2003).

In addition to differences among the states regarding school choice, there are also differences among countries with many foreign countries experimenting with different school choice programs. A number of countries in Western Europe have long used different forms of school choice to spur improvement and give parents educational options. In Belgium, for example, money is attached to students rather than schools in a sort of government-funded voucher system (Stossel, 2006). Sweden has implemented a private voucher plan since 1992 (Carnvoy, 1998). Nor is school choice the sole domain of the United States and Europe. Chile, for example, has adopted a school choice system since 1981 that uses publicly funded vouchers for students to attend

private schools of their choosing (Elacqua & Gobierno, 2004; Schneider, Elacqua, & Buckley, 2006). Colombia has likewise used government subsidies to help defray the costs of parents who wish to send their children to private schools (Uribe, Murnane, Willet, & Somers, 2006).

Though there are differences among states and even among countries in their approach to school choice, home schooling and private schools are available as school choice options for families across the country (Kafer, 2005). Home schooling and private schools are not necessarily the largest school choice programs however. The majority of students utilizing school choice are attending other public schools under their respective state's open enrollment policies. But other choice programs are quickly gaining momentum. All told, students in six states and the District of Columbia can receive government-funded scholarships to attend a private school of choice, six states offer tax credits for education expenses, forty states and the District of Columbia have enacted charter school laws, and home schooling is legal in every state (Kafer, 2005). Clearly, there is a growing recognition among families that increasing school choice options is a positive phenomenon.

Private and parochial schools. Private and parochial schools have traditionally served as one of the first forms of school choice in the United States (Bunting, 1999). Since 1900, the percentage of elementary and secondary students enrolled in private schools has ranged from 7% to 14%, and over the past decade 10% to 11%, or 5.3 million students, have been enrolled in the approximate 43,000 private schools in the United States (U.S. Department of Education, 2006). For purposes of classification and data collection, the federal government generally focuses on the three private school types that combine to enroll the greatest number of private school students, specifically Catholic, Lutheran, and Conservative Christian schools. As of 2001, Catholic schools enrolled 2,515,524 students, Conservative Christian schools enrolled 862,469 students, Lutheran schools enrolled, 219,397 students, other religious schools enrolled 882,009 students, and nonsectarian private schools enrolled 901,114 students (NAEP, 2005).

In general, there are few differences in demographics among private school students with the notable exception of Catholic schools, which enroll a greater proportion of Hispanic students than any other type of private school. Private schools generally enroll more White students than

public schools, while public schools have larger numbers of Black and Hispanic students. Private schools also enroll smaller numbers of economically disadvantaged students, U.S. immigrant students, limited English proficient students, and students with disabilities than public schools (NAEP, 2005).

In terms of private schools offering enhanced student achievement, the research base provides conflicting reports. A study by the U.S. Department of Education found that students at grades 4, 8, and 12 in all categories of private schools had higher average scores in reading, mathematics, science, and writing than their counterparts in public schools. In addition, higher percentages of students in private schools performed at or above the Proficient level compared to students in public schools (NAEP, 2005). Likewise, private school students are more likely to graduate from high school and attend college than public school students (Goldhaber, 2000). Research suggests that private schools tend to benefit Black students in particular. In New York, Black students who switched from public to private schools scored, after three years, approximately nine percentage points, or almost two grade levels, higher on math and reading tests than their public-school peers (Noll, 2007).

A different study examining the effects of student demographics found very different results however. One of the most comprehensive studies in the United States examining the student achievement of private compared to public schools was undertaken by researchers at the University of Illinois. The study consisted of 23,000 fourth-grade and eighth-grade students in 1,340 public and private schools across the country. The findings of the study confirmed that private school students, on average, scored substantially higher than their public school counterparts. However, once background differences, such as socioeconomic status, between public and private school students were accounted for, private schools' performance actually falls significantly below the public schools performance (Lubienski & Lubienski, 2005).

There are some areas in which private schools unquestionably excel. Regardless of the differences in performance, it appears that private schools are often more efficient than public schools in terms of per pupil expenditures. Though tuition often does not reflect subsidies from religious organizations or the in-kind contributions from parents, private school tuition, particularly in Catholic schools, is generally significantly less than the amount spent on each pupil in

the public sector (Goldhaber, 2000). Furthermore, there is evidence that students who attend private schools in the U.S. are not only as tolerant of others as their public school peers, but they are also more engaged in political and community life (Noll, 2007).

It should be noted that some private schools in the United States are not properly classified as choice schools in the strictest sense. With some private schools charging tuition rates far exceeding the ability of the average U.S. family to pay for them, these schools are available only to the very wealthiest families in the country. Consider Sidwell Friends, a PK-12 co-educational Quaker day school with campuses in Washington, D.C. and Bethesda, Maryland whose list of alumni includes Nancy Reagan, Chelsea Clinton, and Albert Gore III. Annual tuition costs at Sidwell Friends, for the 2006-2007 school year, were \$24,990 for elementary students and \$25,990 for middle and upper schools. Saint Albans, a grade 4-12 college preparatory school located in Washington, D.C., is even more exclusive. The annual cost of attending Saint Albans, including room and board, for the 2006-07 school year is \$37,487.

It would appear that while private schools do offer a mixed record of success in terms of student achievement

compared to traditional public schools, they also offer other less tangible benefits. With the increased emphasis on educational choice coupled with the historical numbers of students attending non-public schools, there seems to be little reason to think that the number of students attending private schools, both religious and nonsectarian, will decrease anytime soon.

Vouchers. Educational voucher programs are closely related to private schools and have proven to be one of the most controversial forms of school choice receiving consideration in every presidential campaign since Ronald Reagan's (Noll, 2007). In general, vouchers involve the use of public money for private schooling either through tax credits or direct payments to families. It has been estimated that over 624,000 students use some form of educational voucher to attend a school of choice (Kafer, 2005). Currently Florida, Maine, Vermont, Wisconsin (Milwaukee), Ohio (Cleveland), and the District of Columbia offer publicly funded voucher programs for students to attend private schools (Tice et al., 2006). In addition, privately funded voucher programs operate in about thirty-one cities across the United States including a \$170 million plan to provide scholarships to low-income families financed by Wal-Mart heir John Walton (Hadderman, 2000).

The underlying philosophy behind vouchers goes back at least to 1955 with the work of Milton Friedman, though the *Serrano* case provided some legal precedent for their use in 1971. In the California State Supreme Court decision *Serrano V. Priest* (96 Cal. Rprt. 601), vouchers for students in poor districts were offered as a potential remedy for unconstitutional school funding inequities (Miller, 1999). The first practical use of publicly funded educational vouchers did not occur until 1990 with the adoption of a formal program in Milwaukee, Wisconsin. The program was originally restricted to secular private schools and included fewer than a thousand needy students, but it has since grown to include religious schools and over 10,000 students (Noll, 2007). The state of Florida followed this precedent by passing its own publicly funded voucher program in 1999 potentially affecting several schools and thousands of students statewide (Noll, 2007). Since then, the U.S. Supreme Court ruled in 2002 in the *Zelman V. Simmons-Harris* (536 U.S. 639) decision that vouchers do not violate the Constitution's ban on the establishment of religion.

Critics claim many negative outcomes associated with the use of vouchers. The concept invites heated discussion over the issue of separation of church and state, in

particular, and raises equity issues for poorer families who are unable to close the inevitable gap between voucher allotments and private-school costs (Bunting, 1999). Historically, vouchers were a means of providing opportunity for white flight in the U.S. South in the wake of the desegregation efforts following the *Brown* decision (Poetter & Knight-Abowitz, 2001). There are also fears that vouchers will drain money from public schools and result in a two-tiered educational system (Noll, 2007). Voucher critics have also raised concerns regarding the cost of administering the programs, concerns about government intrusion into the schools, and higher property taxes (Hadderman, 2000). Up to this point, these concerns have limited the use of voucher programs nationwide, but many of these fears have been mitigated by the perceived benefits of vouchers in communities, such as Milwaukee, which have had generally positive experiences.

There appear to be a number of benefits associated with vouchers. Advocates claim vouchers will provide poor, inner-city families with the same educational choices available to more affluent families. Others believe the competition that vouchers tend to generate will force improvement in all schools (Metcalf & Tait, 1999). Research appears to support this. Evaluations of voucher programs in

Cleveland, Milwaukee, and New York City found consistent, generally positive results including parent satisfaction and the inclusion of low-income families (Hadderman, 2000).

Research suggests that student achievement has also been impacted by voucher programs. Voucher experiments in several large cities measured the achievement of low-income students who attended private schools using modest vouchers (around \$2,500 a year) compared to a control group that did not. Subsequent evaluations indicated that White students attending private schools received a statistically significant benefit, though the academic gains were not evident with Black students nor were gains found in all grades and subjects (Goldhaber, 2000). A subsequent multi-year evaluation of private school voucher programs in New York City, Washington, D.C., and Dayton, Ohio found similar results. When Black students were given the opportunity to attend private schools through the use of vouchers, they scored significantly higher on standardized tests than comparable students who remained in public schools (McEwan, 2004; Noll, 2007).

In summary, though voucher programs are inextricably linked to private schools, these programs carry with them a different set of perceived benefits and problems. Resistance to such programs, particularly from teacher

unions, is unquestionably one major obstacle that voucher advocates have yet to fully address. The research base does seem to suggest a number of potential benefits associated with such programs however. Considering the growth of vouchers across the country, it seems certain that these types of programs will continue to grow in popularity.

Charter Schools. Public charter schools are generally defined as autonomous public schools of choice, free from state and federal regulations but more accountable for student achievement results (Noll, 2007). Charter schools are essentially public schools organized by the private sector and receive authorization from a state or local board or from a designated university. The charter through which a school operates outlines the programs and services to be offered by the organizer--usually teachers, parents, or community groups--and defines methods of fiscal and educational accountability (Bunting, 1999). Typically, the charters are granted in three-year periods at the end of which time the organization sponsoring the charter may apply to be renewed. In addition, charter schools are generally required to annually supply data regarding student learning objectives, financial statements, and a measure of parent and student satisfaction (May, 2006).

Public charter schools have been operating in the United States since at least 1991 with the first charter school law enacted in Minnesota (Kafer, 2005). The charter school movement is quickly gaining momentum and at last count, there were over 3,300 charter schools across the country in forty states and the District of Columbia serving over 750,000 children, or approximately 1.7% of all public school students (Hill, 2005). The number of students enrolled in a charter appears to be growing, with a 15% increase between 2003 and 2004 alone with urban school districts supplying nearly two thirds of the charter school population (May, 2006). Arizona alone has more than 270 charter schools currently in operation with more to come. Only Alabama, Kentucky, Maine, Montana, Nebraska, North Dakota, South Dakota, Vermont, Washington, and West Virginia do not currently have charter school laws (Kafer, 2005).

Though charters resemble private schools in two important respects--their independence and their ability to produce student achievement results in a manner they feel is best--they are distinguished by four key features: they can be created by virtually anyone, they are exempt from most regulations, they are attended by students by choice and staffed by individuals by choice, and they are liable

to be closed if they produce unsatisfactory results (Noll, 2007). In practice, though, very few charter schools have closed up to this point. According to recent research, less than five percent of charter schools have closed nationwide, and in most cases the closings have been due to organizational issues rather than lack of student growth (May, 2006).

Critics of the charter school movement in the United States have expressed a variety of concerns. The issue of privatization, namely turning school management over to private companies, has proven to be particularly worrisome for some critics of charter schools. Revenue sharing has also been a point of contention. Upward trends in the growth of charter schools, particularly in urbanized areas, are causing considerable revenue losses to other public schools as funds flow away from traditional schools into charter schools (May, 2006). Other obstacles facing charter schools include inadequate capital funding and facilities, cash flow and credit problems, regulations and paperwork, disputes with local school boards, and inadequate planning time (Noll, 2007).

In spite of these concerns, many parents choose charter schools for their children. In general, parents of charter school students are not satisfied with their local

public school and are seeking higher standards, small class sizes, and a more supportive environment (Buckley & Schneider, 2006; May, 2006). In addition, many parents, particularly those from lower socioeconomic backgrounds, perceive charter schools as a way to flee under-performing inner-city schools in addition to providing a feeling of educational exclusivity (Viteritti, 2002).

Research suggests there are a number of benefits offered by charter schools. Benefits of these schools come largely from the newness and focus of ideas offered, from their generally lower enrollments, and from their freedom from most of the regulatory oversight other schools must comply with. Because charters are generally tuition-free and operate by lottery, an added benefit is that concerns about equity are reduced (Bunting, 1999). It also appears that charter schools are serving a growing number of poor and minority students, a positive phenomenon since this is the population that was initially targeted (May, 2006). Parent perceptions also indicate that many charter schools are working. In a survey of charter school families, parents indicated that not only were their children performing better academically, but also rated charters superior over their traditional schools in terms of teacher

attention, instructional quality, and curriculum (Bulkley & Fisler, 2002).

In terms of enhancing student achievement, there appear to be a number of charter school success stories. In Arizona and Michigan, for example, results from standardized tests indicated that charter school students are improving at a more rapid rate than their public school counterparts. North Carolina claimed that 54% of all charter schools met performance targets in reading and math, while the same percentage of public schools failed to make the same benchmark. And in California, where African Americans are served two-to-one in charter schools, low-income students are reportedly improving at a more rapid rate than their public school counterparts (Center for Education Reform, 2005).

Charter schools certainly have their share of critics as is true with all forms of school choice. The body of research examining the link between the introduction of charter schools and increased student achievement is simply not strong enough at this point to draw a definitive conclusion. But at the very least, the introduction of charter schools has brought variety to the school choice movement and expanded parental choice.

Magnet Schools. Following the landmark *Brown v. Board of Education* Supreme Court decision, magnet schools first began to emerge in the United States in the late 1960s as a way of improving desegregation efforts. The very first magnet schools in the United States began in Milwaukee and Cincinnati (Hadderman, 2000). Magnets are sometimes referred to as alternative schools or controlled choice schools with the programs gaining popularity in the 1970s when policymakers were designing desegregation plans in an effort to make the schools more attractive to parents, educators, and students (Goldring & Smrekar, 2002). The concept behind magnet schools gained momentum in 1971 with the U.S. Supreme Court decision *Swann v. Charlotte-Mecklenburg* (404 U.S. 811) that authorized school officials to take race into account in admission policies. The role of magnet schools was further affirmed in 1975 when the federal courts accepted magnet schools as a legitimate method of desegregation in *Morgan v. Kerrigan* (421 U.S. 963).

Recent U.S. Department of Education data indicated there are almost 1,800 magnet schools in 28 states (Waldrip, 2005). If one counts magnet or specialty schools without explicit desegregation objectives, the estimate increases to 5,576 schools and 4.5 million children with an

additional 120,000 students on waiting lists (U.S. Department of Education, 2004). Magnet schools are typically established in urban school districts with enrollments greater than 10,000 students and often focus on a particular content, such as math and science, or they may offer a specific concept, such as accelerated learning or Montessori. Magnet schools are generally developed by public school administrators, teachers, or advocates as part of a public school district, typically as a stand-alone campus (Poetter & Knight-Abowitz, 2001). Whatever form the magnet school assumes, the idea behind the concept is generally the same: to extend an attractive and sound option and often simultaneously meet a secondary purpose, such as the redistribution of students along racial lines (Bunting, 1999).

Magnet schools are an increasingly popular option in spite of other competing school choice programs such as vouchers and charter schools. In over 75% of districts with magnet schools, the demand for student slots is greater than the supply with half of these districts maintaining long waiting lists (Blank, Levine, & Steel, 1999). To manage this high demand, many magnets will utilize a lottery system while others observe a first-come, first-served policy (Goldring & Smrekar, 2002).

Magnet schools do come at a comparatively high price. On average, expenditures per student are 10% higher in districts with magnet schools with almost three-fourths of magnet programs requiring higher-than-average staffing costs (Goldring & Smrekar, 2002). There are also allegations that desegregating efforts vary widely by school district. In almost half of all school systems with enrollments greater than 60,000, the magnet schools have lower percentages of White students than the school system overall. In North Carolina, for example, almost half of the Guilford County school district's enrollment is White, yet the magnet school enrollment is only 31% White (The Civil Rights Project, 2002). There are also allegations that some magnet schools serve to further stratify some communities by admitting only the highest achieving students. A study found that more than half of the nation's secondary magnet schools have admissions tests as do almost a quarter of the elementary magnets (Noll, 2007). Admissions requirements vary by magnet school but most often they include a minimum test score or in a performing arts magnet, an audition (Goldring & Smrekar, 2002).

In spite of the perceived drawbacks, there are a number of compelling benefits offered by magnet schools. A study comparing students in magnet schools with those in

Catholic schools, nonreligious private schools, and traditional public schools found some advantages for magnet school students, particularly in the area of reading and social studies (Gamoran, 1996). Additional research studying magnet schools in New York City has shown that magnet programs not only help raise student achievement, but they also provide more opportunities for parental involvement and effective communication between home and school (Crain, 1992). Increased student achievement is not the only positive outcome associated with magnet schools though. Other research on these programs found that magnet schools generally reduce racial isolation, encourage desegregation, and serve poor children more effectively than the schools the students previously attended (Hadderman, 2000).

In general, there appear to be a number of credible concerns about the effectiveness of magnet programs, particularly their relative cost and mixed record of success in the integration of schools. In spite of those issues, there are a number of tangible benefits associated with magnet schools, including a link to increased student achievement and desegregation efforts, which affirm their continued existence and warrant future study.

Home Schools. Private schools, magnet programs, and charter schools are not the only options for parents seeking greater educational choice. Home schooling is an increasingly common alternative for many parents and one of the fastest-growing forms of school choice in the United States. The contemporary movement toward home schooling emerged in the 1950s and grew significantly in the last twenty years largely in response to perceived concerns of the quality of traditional public schools (Noll, 2007; Tice, et al., 2006). Though home schooling declined significantly in the 1970s before its numbers rebounded in the 1980s and 1990s, the notion of home-based schooling is certainly not a new one and it predates traditional public schools as they currently exist in this country by a number of years (Ray, 1999).

It is estimated that as many as two million families currently home school their children in the United States, and the number increases every year nearly tripling between 1994 and 2003 from 345,000 to 1,100,000 (Kafer, 2005). The number of students who are home schooled represents approximately 2.2% of all students, which is more than charter schools and voucher programs combined (Hill, 2005). This number is still relatively small compared to students enrolled in various private schools, but home schooling has

only been legal in the United States since the 1970s though it is now legal in every state in the union (Belfield, 2002). Regulatory oversight of home schools varies widely by state. In some states, there are no regulations whatsoever, while other states require parents to submit tests scores or professional evaluations of their students' progress, to use only state approved curricula, and to allow home visits by state or local education officials (Noll, 2007).

In terms of the families that utilize home schooling for their children, there appear to be some common characteristics. Income variables and community poverty rates, for example, tend to sway parents toward private schools, but this is not necessarily true for home schooling. Families that home school are more likely to be White and non-Hispanic, have income levels comparable to the national average, and have parents who were more highly educated--particularly the household mother--than average for the United States. Furthermore, those families following the Catholic faith are less likely to home school their children than families of other religions (Belfield, 2002). There appear to be a number of common factors that attract families to home schooling as well. The reasons for home schooling are diverse, but the most commonly cited

reasons for home schooling include concerns about the public schools' learning environment, a desire for religion-based moral instruction, and dissatisfaction with academic performance (Noll, 2007).

Critics of home schooling provide a variety of evidence to support their claims. Professional teacher associations, including the National Education Association, have spoken out against home schooling on a number of occasions. According to the NEA, home schooling cannot provide students with a comprehensive educational experience the way traditional public schools can. Furthermore, teacher associations believe that home instruction should only be provided by individuals who are fully licensed, that an approved curriculum be used, and that local public school systems determine credits earned for graduation for students entering from a home school setting (Noll, 2007).

There is evidence that suggests home schooling may lead to a number of positive outcomes in spite of the criticism. According to Daniel Pink, home schooling has become perhaps the largest and most successful education reform movement of the last two decades (Pink, 2001). There is also evidence of increased student achievement. According to at least one study, home schooled elementary

school students perform at least one grade level higher than their peers in traditional schools and are nearly four grade levels above the national average in high school (Rudner, 1999). Other research has supported this claim. A number of studies suggest that even when demographic characteristics are controlled, students taught mainly by their parents do well academically (Noll, 2007; Rudner, 1999).

Home schooling provides other tangible benefits as well. Educational finance is one important area. Home schooling is undoubtedly less costly than public schools particularly if the public school incurs high transportation costs or additional learning expenses in the form of curricular materials or special education programs (Belfield, 2002). In addition, research indicates that home schools generally produce psychologically healthy and socially well-adjusted adults (Medlin, 2000; Noll, 2007; Ray, 1999) But for many families, the single greatest benefit of home schooling is the ability to provide specific educational preferences and programs, whether faith-based or otherwise, that public schools typically do not offer.

It is further worth noting it appears that public school district attitudes are softening toward the home

school movement as students are increasingly allowed to participate in physical education, music programs, and other courses (Hardy, 2001). As a result, it appears that increasing numbers of parents who home-school their children are doing so on a temporary basis, such as for a single academic year or on a part-time basis (Belfield, 2002). Home schooling is not an appropriate fit for all students or all families. But clearly the home schooling experience is a growing movement in this country offering tangible benefits when it is implemented with care and rigor.

No Child Left Behind Act. The No Child Left Behind Amendments (Public Law 107-110) to the Elementary and Secondary Education Act of 1964 include provisions for school choice. The statute expressly outlines three choice options. The first two options are triggered if a public school cannot meet its Adequate Yearly Progress (AYP) goals, a series of pre-determined proficiency benchmarks for student reading and math performance. First, if a public school does not meet its Adequate Yearly Progress goals for two consecutive years, parents have the right to send their child to another public school that has met its respective goals. The new school of choice may be a charter school. Second, if a school does not meet its AYP goals for

three consecutive years, parents have the right to receive supplementary educational services, generally in the form of tutoring, at the public school's expense. A third option is provided for parents to send their child to another public school if the school their child currently attends is considered *persistently dangerous* using school safety criteria developed by each state. Additionally, the school district must provide transportation to students who decide to change schools under any of these policies (No Child Left Behind, 2002).

Though it has been estimated that only one percent of eligible students have taken advantage of their transfer rights, the law has given parents yet another choice option (Howell, 2006; Kafer, 2005). Part of the issue of limited utilization is related to available spaces. In Baltimore during the 2003-04 school year, for example, 27,000 students (one third of the district's total enrollment) were eligible to transfer to higher-performing schools, yet only 301 spots in such schools were available. And in Chicago, 270,757 students were eligible to transfer but only 1,097 seats were available at 38 schools (Hill, 2005). In addition to limited space, there are a number of possible explanations for the small number of student transfers under No Child Left Behind, including

implementation challenges, delayed timelines, and incomplete communications (U.S. Department of Education, 2004). In spite of the increased options offered under the No Child Left Behind Act, research suggests that most families are leaving their students in their current educational settings.

Open Enrollment as a Form of School Choice

A majority of states have implemented some form of open enrollment for families in response to this increased demand for choice. According to the Education Committee of States, 33 states and Puerto Rico have passed legislation permitting or requiring (fifteen states require open enrollment) some form of open enrollment policy, and a record number of students are taking advantage of options to transfer from their assigned public school under these laws (Kafer, 2005). Estimates, from the 1999-2000 school year, suggest these types of policies are available in 71% of public school districts in the West, 63% in the Midwest, 44% in the South, and 19% in the Northeast (Tice et al., 2006).

In general, the purpose of open enrollment policies is to allow a student to transfer to the public school of his or her choice. States have pursued open enrollment policies for other reasons however including increased awareness of

the diversity of individuals and cultures, improved student academic achievement, reduced racial, ethnic, and economic isolation, and the creation of additional classroom space within buildings (Education Commission of the States, 2001).

Types of Open Enrollment Policies

In practice, there are two basic types of open-enrollment policies in the United States, intradistrict and interdistrict. Intradistrict open-enrollment policies allow a student to transfer to another school within his or her school district only. Interdistrict open-enrollment policies allow a student to transfer to a school outside his or her home district but often require both the sending district and the receiving district to agree to participate (Education Commission of the States, 2001).

Open-enrollment policies are further delineated depending on the state. In general, open enrollment programs are classified as either mandatory or voluntary in nature. Fifteen states currently have mandatory open enrollment policies that require districts to participate in the program, often depending on the availability of space. Arkansas, Iowa, Minnesota, Nebraska, Oklahoma, and Wisconsin have mandatory interdistrict choice laws, while California, Illinois, and Ohio have mandatory intradistrict

choice laws. Arizona, Colorado, Delaware, South Dakota, Utah, and Washington have mandatory statewide open enrollment laws (Kafer, 2005).

There are currently eighteen states with voluntary open enrollment policies. Voluntary policies allow school districts to choose whether to participate, again often depending on available space (Education Commission of the States, 2001). Other states have taken a different approach to open enrollment. In some states--Ohio, for example--intradistrict open enrollment is mandatory, but inter-district is voluntary (Jimerson, 2002).

Open enrollment policies often include student transportation requirements as well. Most states do not require sending or receiving districts to transport students. It is usually the parents' responsibility to provide transportation. However, some states, including Minnesota, mandate that receiving districts transport from the borders of their area. Other state policies, such as the one found in Massachusetts, require districts to reimburse low-income parents for transportation costs. Still others, such as Arizona, require districts to provide transportation for students with disabilities (Jimerson, 2002).

While there is little current research dedicated to the

transportation costs associated with school choice programs, the cost is undoubtedly substantial. Approximately 60% of all school age children across the country are transported by bus to and from school (Spence, 2000). Though costs differ widely depending on the region of the country, student transportation often consumes ten percent or more of a typical school budget, with an average annual per pupil transportation expenditure of approximately \$350.00, though certain groups, including students with disabilities, may be significantly more expensive to transport (Alspaugh, 1996). School transportation industry statistics show the annual average costs for operating and maintaining a single school bus range from \$34,000 to \$38,000 or approximately 25 cents a mile excluding fuel (Newby, 2005). Using industry-standard pupil-to-bus ratios of at least 100 pupils on a double-route, two-tier bus system allows a rough approximation of what transporting students in the Omaha metropolitan area alone would cost. If 6.4% (the current percentage of option students, according to the Nebraska Department of Education) of the approximate 100,000 public school students in Douglas and Sarpy Counties are currently utilizing option enrollment, at least 6,400 students would require transportation services. Further assuming an

approximate \$350.00 is annually spent per student, it could cost taxpayers an additional \$2,240,000 per year for school choice transportation alone.

Open Enrollment in Nebraska

The State of Nebraska is one of the many states in the union to implement an open enrollment statute. Nebraska passed its mandatory open enrollment law in 1989, and it went into effect during the 1990-1991 school year. The philosophical and statutory underpinnings for the Nebraska option-in enrollment program are outlined in Section 79-232, Nebraska Revised Statute:

The Legislature finds and declares that parents and legal guardians have the primary responsibility of ensuring that their children receive the best education possible. In recognition of this responsibility, the Legislature intends to provide educational options for parents and legal guardians, when deciding what public school or public school district is best for their children... (p. 2)

Nebraska's statute allows any K-12 student to leave the district where she/he resides and attend another public school in which she/he does not reside. Option enrollment is available only once to each student prior to graduation unless the student relocates to a different district or the

option school merges with another. A school district can deny an option enrollment application that was correctly filed only if the district can prove that the requested school, grade, program, or district as a whole is at capacity. Furthermore, the law prohibits school districts from excluding students based upon previous academic achievement, handicapping conditions, proficiency in English, or previous disciplinary proceedings.

In Nebraska, parents of children attending public schools have increasingly utilized the state's open enrollment policy. From 1993-94 to 2004-05, the number of Nebraska students participating in option enrollment has increased Statewide from 1,493 to 17,940, according to the Nebraska Department of Education. Approximately 6.4% of all students attending a Nebraska school participate in the state's open enrollment program. Several districts, in particular, benefit more from the program than others. The Westside Community Schools, for instance, accepted 1,915 open enrollment applications during the 2006-07 school year which represents the single largest population of option students in the state.

Advantages of Open Enrollment

There are a number of benefits associated with open enrollment as a form of school choice. It has been

suggested that the introduction of more educational options is one of the most effective ways for enhancing effectiveness within schools. By creating a variety of public schools for students and teachers to pick from, communities of shared values and interests that generate high motivation and engagement with teaching and learning may be produced (Boyd, 2002). A comprehensive report on the state of Minnesota's experience with open enrollment policies further found that open enrollment programs are widely regarded as successful and beneficial by educators, but also underscored the importance of careful design and oversight of choice programs (Boyd, 2002).

Research in the area of parent satisfaction also seems to suggest that open enrollment policies are effective (Hastings, Kane, & Staiger, 2006; Goldhaber, 2000; Wronkovich, Robinson, & Hess, 1998). National survey data indicate that parents are often more satisfied with their children's school of choice than with their neighborhood assigned schools (Gill, Timpane, Ross, & Brewer, 2001). It has been further suggested that parents "who actively choose the schools which their children attend, from among a variety of options, seem far more satisfied with their schools than are parents who simply do the 'normal' thing with little thought" (Erickson, 1986, p. 15). This notion

is confirmed by perceptual data collected by the U.S. Department of Education that indicated students enrolled in assigned public schools tended to have parents who were less satisfied with the schools than students enrolled in a chosen public school (Tice et al., 2006). There are several possible explanations for the link between school choice and higher family satisfaction including the belief that choice "increases the ability of parents to match their preferences for specific values, needs, or pedagogical approaches" (Schneider & Buckley, 2002, p. 28). Students likewise seem more satisfied with choice schools. According to research conducted in the state of Minnesota, over 80% of option enrollment students said that if they had to decide again, they would participate in the program again citing a variety of benefits including learning more and receiving greater academic challenges (Nathan & Boyd, 2003).

Parent and student satisfaction is not the only positive outcome associated with option enrollment policies. There is also some evidence that indicates open enrollment programs help combat social stratification within schools. A comprehensive national experiment examining public school choice in England and Wales ongoing since the late 1980s found that despite the predictions of

opponents of choice, social stratification in schools has not increased as a result of these policies (Boyd, 2002).

Impact on Student Outcomes

Though the mechanisms governing open enrollment policies and the perceived benefits vary widely, one of the most important issues surrounding open enrollment and one of the central themes of this study is that of increased academic achievement. In general, there are two theoretical arguments about why school choice in the form of option enrollment results in enhanced educational outcomes. First, option enrollment encourages competition among schools to tailor their programs to attract students with particular interests or learning styles. Second, option enrollment breaks the public school educational monopoly and forces schools to compete for students in an educational marketplace in which effective schools would prosper and less effective schools would either improve or be forced to shut down (Goldhaber, 2000). However, it has also been suggested that increased student achievement hinges not on the mere presence of option enrollment programs but on how the option enrollment programs are designed, the conditions under which the program is introduced, and the actions educators, families, and government subsequently take (Hill, 2005). According to a recent commission report,

there are many policy and investment factors that most impact school choice programs on student outcomes. Those specific factors include adequate amounts of school funding, fair and unbiased admissions rules, rich information on school programs for parents, and the freedom to allow schools to use resources in new ways (National Commission on Choice, 2003).

Though there is currently little direct evidence concerning the impact of open enrollment on the productivity of public education as a whole, there are a number of studies examining student outcomes. Studies have generally shown a positive relationship between the choice of school and objective measures of school quality, such as graduation rates and student test scores, implying that parents are making decisions that are likely to benefit their children academically (Goldhaber, 2000). There is also evidence to support that competition among school districts may lead to greater educational outcomes for students (Greene & Winters, 2005; Green, 2005; Hoxby, 2001). Research conducted in cities with multiple public school districts, for example, indicated that increasing residential school choice generally leads to higher public school test scores (Blank, Levine, & Steel, 1996). In communities where there are a number of school choice

options, public high schools also tend to have higher graduation rates (Dee, 1998).

Other research examining the effects of competition among public schools has supported these findings. A qualitative research study concluded that public school districts found in metropolitan areas with many competing school districts tended to generate higher test scores, lower costs, and greater overall efficiency than metropolitan areas with few school districts (Goldhaber, 2000; Ladd & Fiske, 2003). Based on these findings, it would appear that when parents have a number of educational choices for their children, schools are forced to compete in order to attract and retain the best students which results in greater achievement.

Disadvantages of Open Enrollment

It is important to note that open enrollment programs are not without their critics nor are they a panacea. Some research suggests that school choice does not necessarily lead to greater parental involvement nor does it guarantee increased student achievement (Cooley, 2007; Goldhaber, 2000; Riddle & Stedman, 1990). Investigators from the University of Maine examined data from the National Educational Longitudinal Study to compare the academic achievement of students who attended choice public high

schools compared to a similar cohort that attended assigned schools. These studies indicated that "public school choice does not influence...students' achievement or academic commitment... and choosing does not increase the likelihood students will enroll in an academically rigorous program" (Lee, Maddaus, Coladarci, & Donaldson, 1996, p. 19).

Another criticism of open enrollment is that it is not a universal option for all families in the United States. In spite of the widespread nature of open enrollment programs, it has been suggested that school choice opportunities are distributed inequitably and are often driven by the demographics of the surrounding community. According to Powers and Cookson (1996):

Choice is everywhere in American education. It is manifest in the residential choices made by families [and] in the housing prices found in neighborhoods [and] when families, sometimes at great financial sacrifice, decide to send their children to private schools...[I]n all instances, these choices...are strongly shaped by the wealth, ethnicity, and social status of parents and their neighborhoods (p. 25)

There are also allegations that open enrollment policies benefit some groups more than others which invariably leads to heightened community tensions between

resident families and families who opt into districts. In some school districts in San Francisco, for example, there have been conflicts between parents who want more educational choices and parents who want their children to have a guaranteed spot in the neighborhood school. And in Seattle, the school district has considered abolishing the school choice system in favor of the traditional system based on the child's address to avoid the complicated and expensive transportation requirements associated with open enrollment (Snell, 2006). International research conducted in Europe appears to support this notion. According to a study examining school choice and equity, researchers found that school choice policies tend to have differential benefits in which those who already possess economic and cultural capital reap significantly more benefits than those who do not. Furthermore, school choice programs may create backlash among resident parents who do not want to pay taxes to support the schooling of other families' children (Noll, 2006).

In addition to creating social tensions within communities, there is evidence that choice programs may lead to increased racial segregation within schools. According to several international studies, choice has caused increased stratification along ethnic and

socioeconomic lines (Gill et al., 2001, Howe, Eisenhart, & Betebenner, 2002). Part of this increased stratification results from transportation issues and failure to communicate with parents the availability of such programs (Howe, Eisenhart, & Betenner, 2001). There are other studies that contradict this finding however. A report from the United Kingdom indicates that choice in that country has decreased stratification and that schools are "now significantly more socially mixed...in the sense that the intake to each school is generally a better reflection of the wider society" (Gorard, Fitz, & Taylor, 2001, p. 75).

As a response to these perceived inequities and the long history of *de jure* and *de facto* segregation in public schools, many states have added desegregation requirements to their open enrollment policies in order to maintain ethnic and racial proportions within buildings or entire districts (Jimerson, 2002). Open-enrollment policies in several states are specifically designed to reduce racial and ethnic isolation or promote racial integration. Some of these ratios are dictated by court-ordered desegregation plans. Following previous school integration decisions in Berkeley, California and Charlotte-Mecklenburg, North Carolina, the U.S. Supreme Court is currently hearing a case to determine if schools in Jefferson County, Kentucky

can continue to use race in their admission processes (Liss, 2006). Other states allow districts to limit open enrollment if the existing racial balance would be radically changed.

There is a proposed desegregation requirement in the state of Nebraska as well. Under the Learning Community Reorganization Act passed in July of 2006, it is proposed that all public school districts in Douglas and Sarpy Counties will include students who receive subsidized lunches. At least one third of all students will receive subsidized lunches so each school district will reflect the citywide need for this service (§ 79-1024). The state of Nebraska is hardly alone in the struggle to desegregate its public schools. In total, regulations pertaining to desegregation are currently included within open enrollment legislation in nineteen states across the country (Jimerson, 2002).

Resistance to School Choice

Many public educators and the organizations that represent them have been reluctant to support school choice programs. Teacher unions, including the National Education Association (NEA) representing 3.2 million members and the American Federation of Teachers (AFT) representing over 1 million members, have long resisted many types of school

choice programs most notably vouchers (Decker, 1998; Kane, 2003; Neily, 2006). According to the NEA's website, the association and its affiliates have been leaders in the fight to oppose vouchers and other alternatives that divert attention, energy, and resources from efforts to reduce class size, enhance teacher quality, and provide all students with safe and orderly schools (National Education Association website, 2007). Current NEA President Reg Weaver recently addressed the voucher debate by proclaiming, "Voucher programs rob public school students of scarce resources. No matter what politicians call them, vouchers threaten the basic right of every child to attend a quality public school" (NEA website, 2007, p. 2). Parent reaction to taxpayer-supported vouchers appears somewhat mixed. Though the public continues to generally oppose allowing students and parents to choose a private school to attend at public expense, a majority of Americans (51% to 45%) favor allowing parents to send their school-age children to any public, private, or church-related school if the government pays all or part of the tuition (Rose & Gallup, 2001).

There are a number of possible explanations for the resistance to school choice programs. The most obvious reason for resistance, at least at the organizational

level, is fear of lost funding. If public funds are diverted from public schools into alternative education programs, such as charter schools or vouchers for children to attend private schools, public schools stand to lose money and influence. There is also fear, real or imagined, that the achievement of students attending alternative programs will suffer (Neily, 2006). At the individual teacher level, resistance to change of any type, including school choice, is a complex and multi-dimensional construct but research indicates that institutional inertia, psychological trepidation, and personal or professional misgivings often serve to reinforce this resistance to change (Kegan & Lahey, 2001). Interestingly, there is evidence that suggests that individuals' propensity to resist change need not always be viewed with negative connotations. Change resisters may provide ideas that might otherwise be missed and may encourage organizational stability, discourage poorly planned initiatives, and even provide a level of psychological comfort to the individual (Fullan, 2004; Pascarella, 1987).

Regardless of the reasons for resistance, in general it appears that individuals in the education profession, both at the organizational and individual level, may simply be too close to, and too consumed by, the problems

associated with school choice to form the necessary vision for change. Another less enticing explanation may have something to do with the historical roots of the school choice movement in the 1950s and 1960s. Perhaps there are still vestiges of institutional racism alive and well in our public educational system that would like to preserve the status quo by limiting school choice to only those families with the financial means to attend private schools or move to more affluent neighborhoods.

Student Mobility

School choice and open enrollment policies are only one component of enrollment status however. Equally important in this research is the factor of student mobility and enrollment longevity. There are a number of definitions relating to student mobility depending on the research being examined. For purposes of data collection, the State of Nebraska provides the following definition: "any child who enters or leaves school between the last Friday in September and the last day of school is counted in the mobility rate" (Nebraska State of the Schools Report, 2006, p. 3). The current mobility rate for the Westside Community Schools, the research school district, is 4.06% compared to the State of Nebraska's average of 13.77% (State of the Schools Report, 2005-06).

Student mobility is equally widespread nationally. Most students will make at least two non-promotional school changes before reaching the age of 18 though the average mobility rate is higher in primary grades than in secondary schools (Swanson & Schneider, 1999). Another study indicated that more than 40% of all third graders had changed schools at least once since the first grade, and one in ten school-aged students moved six or more times during their K-12 educational career (Rumberger, Larson, Ream, & Palardy, 1999).

There are a number of explanations for this high rate of student mobility. The most common reason for student mobility is a change in residence. Other frequently cited reasons for students moving from one school to another include class size reduction initiatives, school overcrowding, discipline policies, and general academic and social climate (Kerbow, 1996). Social factors appear to have an impact on student mobility rates as well (Demie, 2002). Family breakdown, children who have been taken into care by protective services, and families moving for jobs or political reasons are all situations associated with higher rates of student mobility in schools (Dobson & Heathorne, 1999).

Students who are highly mobile tend to share a common set of characteristics. Three factors in particular tend to be associated with highly mobile populations, specifically eligibility for subsidized lunches, levels of fluency in English, and ethnic background (Demie, 2002). Highly mobile students also tend to be disproportionately children of migrant workers, of families experiencing domestic violence, of families in unstable work and home situations, and of immigrant families (Walls, 2003). Though these factors are not absolute predictors, it is significant to note that groups of students who are most likely to be considered at-risk academically are also the students who tend to be the most highly mobile.

Whatever the underlying causes and student characteristics may be, high rates of student mobility have profound implications for families and public schools (Demie, 2002; Linn and Haug, 2002; Wright, 1999). There are a number of negative student outcomes associated with high mobility rates. In general, students whose families are highly mobile demonstrate lower test scores, poorer marks, and elevated risks of retention and special education (Offenberg, 2004; Skandera & Sousa, 2002). Other studies have also found evidence of negative behavioral outcomes associated with student mobility (Tucker et al., 1998).

Furthermore, there is strong evidence that mobility, particularly during the elementary years, diminishes the prospects for graduation (Swanson & Schneider, 1999). Other studies have even suggested that personal health and nutrition may be negatively impacted by high mobility rates (U.S. General Accounting Office, 1994).

It is worth noting that student mobility rates may be more of a symptom, rather than a primary cause, of low achievement (Nelson 1996; Tucker, Marx, & Long, 1998). A study of students in Chicago found that half of the achievement differences between mobile and stable students could be attributed to differences between students that pre-dated their school changes (Temple & Reynolds, 1997). Simply stated, without controlling for other relevant factors, such as race and socioeconomic status, there is evidence to suggest that high rates of student mobility may better serve as indicators of under-performance rather than direct causes of it.

In summary, it appears there may be a number of potential negative outcomes associated with school choice programs and open enrollment policies. Issues relating to inconsistent student achievement results, limited availability in some communities, and even allegations of school segregation have all been raised by school choice

opponents. These are indeed serious issues that need to be carefully considered and more fully researched. But taken on balance, the benefits of school choice programs in general and option enrollment policies in particular--namely competition, additional choices for families, increased graduation rates, enhanced parent satisfaction, and reduced social stratification within communities--appear to far outweigh the potential costs associated with maintaining the status quo.

CHAPTER THREE

Methodology

Participants

Number of participants. Study participants ($N = 92$) consisted of one naturally formed arm and three randomly assigned stratified proportional arms. The first arm was a naturally formed group and consisted of short-term option-in students ($n = 23$) who had been enrolled in the district for two or fewer years. The other three arms consisted of randomly selected long-term option-in students ($n = 23$), short-term resident students ($n = 23$), and long-term resident students ($n = 23$). All participants were in the seventh grade though the amount of time spent in the district prior to the seventh grade year will by definition vary according to group.

Gender of participants. The gender of the randomly-selected participants was congruent with enrollment patterns in grade levels across the rest of the school district. Forty-four of the 92 participants were female (47.83%) and the remaining 48 participants were male (52.17%). These numbers were a close approximation of the equivalent distribution of gender found district-wide.

Age range of participants. The age range of study participants was from 12 to 14 years. All participants previously completed the sixth grade.

Racial and ethnic origin of participants. The racial and ethnic origin ratio was congruent with enrollment patterns across the district. The overall school enrollment showed 95.6% White, Not Hispanic students and 4.4% Black students.

Inclusion criteria of participants. All seventh-grade students attending Westside Community Schools were eligible to participate in the study. Some of the seventh-grade students had attended Westside Community Schools long-term (defined as longer than two school years) while other students had attended Westside schools short-term (defined as two years or less).

Method of participant identification. The first arm was a naturally formed group of 23 students who were short-term option-in students. The remaining 69 students in the other three independent arms were randomly selected from the population of resident and option students in the seventh grade. While participants in the other three research arms were randomly selected, the groups were stratified so that all of the sample groups mirrored one another in terms of gender, ethnicity status, and

socioeconomic status. No individual identifiers were attached to the achievement, behavioral, or extracurricular participation data.

Description of Procedures

Research design. The pretest-posttest four-group comparative survey study design is displayed in the following notation:

Group 1: O_1 X_1 O_2

Group 2: O_1 X_2 O_2

Group 3: O_1 X_3 O_2

Group 4: O_1 X_4 O_2

Group 1 = naturally-formed short-term option-in 7th-grade students ($n = 23$)

Group 2 = randomly assigned stratified proportional long-term option-in 7th-grade students ($n = 23$)

Group 3 = randomly assigned stratified proportional short-term resident 7th-grade students ($n = 23$)

Group 4 = randomly assigned stratified proportional long-term resident 7th-grade students ($n = 23$)

X_1 = less than two years short-term option-in enrollment pattern

X_2 = more than two years long-term option-in enrollment pattern

X_3 = less than two years short-term resident enrollment pattern

X_4 = more than two years long-term resident enrollment pattern

O_1 = Pretest 1. Seventh grade achievement as measured by the research school districts beginning of school year (a) Criterion-Referenced (i) reading comprehension and (ii) math computation tests cut scores; and (b) Seventh grade achievement as measured by the research school districts beginning of school year norm-referenced Stanford Achievement Test, Tenth Edition (i) reading total, (ii) math total, and (iii) language total subtest normal curve equivalent (NCE) scores.

O_2 = Posttest 1. Seventh grade achievement as measured by the research school districts ending of school year (a) Criterion-Referenced (i) reading comprehension and (ii) math computation tests cut scores; and (b) Seventh grade achievement as measured by the research school districts beginning of school year norm-referenced Stanford Achievement Test, Tenth Edition (i) reading total, (ii) math total, and (iii) language total subtest normal curve equivalent (NCE) scores; 2. Seventh grade discipline as measured by the research school districts' end of school year (a) suspension, (b) expulsion, and (c) general office

referral PowerSchool student information system data; 3. Seventh grade engagement as measured by end of school year student participation in school sponsored (a) arts, (b) sports, (c) clubs, and (d) student government activities.

The purpose of this study was to determine the impact of option-in students' long-term and short-term longevity enrollment patterns on their achievement, behavior, and engagement outcomes compared to the achievement, behavior, and engagement outcomes of resident students' with long-term and short-term longevity enrollment patterns.

Independent Variable Descriptions

The independent variables for this study were (a) enrollment longevity patterns and (b) residency status. Students were randomly assigned to reflect the districts overall demographics. Enrollment longevity patterns were (a) short-term--less than two years enrollment in the research school district and (b) long-term--more than two years enrollment in the research school district. Residency status will be (a) option-in and (b) resident.

Dependent Measures

The following research questions focused on the dependent variables specifically academic achievement, behavior, and engagement. Seventh grade achievement was determined by beginning and ending of the school year (a)

Criterion-Referenced (i) reading comprehension and (ii) math computation tests cut scores and (b) beginning and ending of the school year norm-referenced Stanford Achievement Test, Tenth Edition (i) reading total, (ii) math total, and (iii) language total subtest normal curve equivalent (NCE) scores.

Behavior data were also collected retrospectively, posttest only for all seventh grade students at the conclusion of the 2006-07 school year. The dependent measures were suspension, expulsion, and general office referral data for all seventh grade students. General office referrals were further broken down into three categories: safety referrals, code of conduct referrals, and social skills referrals. All of these data were collected from the district's PowerSchool student information system where the information was archived at the central office. The research building used the Boys' Town Social Skills framework as an intervention tool for discipline prevention and remediation.

School engagement data were also collected retrospectively, posttest only. Participation in extracurricular activities served as a proxy measure for school engagement. All seventh-grade Westside Middle School students who participated in any type of school-sponsored

extracurricular activity (e.g., intramural athletics, Math Counts, Destination Imagination, etc.) during the 2006–2007 school year were tracked using the district’s PowerSchool student information system.

Research Questions and Data Analysis

The following research questions were used to analyze student achievement in long-term and short-term option-in and resident 7th-grade criterion-referenced achievement scores for (a) reading comprehension and (b) math computation and norm-referenced (a) reading total, (b) math total, and (c) language total subtest NCE scores. The following research questions were used to analyze the achievement of students’ with short-term and long-term option-in enrollment patterns.

Overarching Pretest-Posttest Achievement Research Question #1: Do short-term option-in enrollment pattern students lose, maintain, or improve their beginning 7th-grade criterion-referenced achievement scores compared to ending 7th-grade criterion-referenced achievement scores for (a) reading comprehension and (b) math computation measures?

Sub-Question 1a. Is there a significant difference between short-term option-in enrollment pattern students’ beginning of the year compared to ending of the

year 7th-grade criterion-referenced reading comprehension achievement scores?

Sub-Question 1b. Is there a significant difference between short-term option-in enrollment pattern students' beginning of the year compared to ending of the year 7th-grade criterion-referenced math computation achievement scores?

Research Sub-Questions #1a and 1b were analyzed using dependent *t* tests to examine the significance of the difference between short-term option-in enrollment pattern students' beginning compared to ending of the school year 7th-grade criterion-referenced achievement scores. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed in tables.

Overarching Pretest-Posttest Achievement Research Question #2: Do short-term option-in enrollment pattern students lose, maintain, or improve their beginning 7th-grade compared to ending 7th-grade Stanford Achievement Test, Tenth Edition, Norm-Referenced (a) reading total, (b) math total, and (c) language total subtest normal curve equivalent (NCE) scores?

Sub-Question 2a. Is there a significant difference between short-term option-in enrollment pattern

students' beginning of the year compared to ending of the year 7th-grade Stanford Achievement Test, Tenth Edition, Norm-Referenced reading total subtest normal curve equivalent (NCE) score?

Sub-Question 2b. Is there a significant difference between short-term option-in enrollment pattern students' beginning of the year compared to ending of the year 7th-grade Stanford Achievement Test, Tenth Edition, Norm-Referenced math total subtest normal curve equivalent (NCE) score?

Sub-Question 2c. Is there a significant difference between short-term option-in enrollment pattern students' beginning of the year compared to ending of the year 7th-grade Stanford Achievement Test, Tenth Edition, Norm-Referenced language total subtest normal curve equivalent (NCE) score?

Research Sub-Questions #2a, 2b, and 2c were analyzed using dependent *t* tests to examine the significance of the difference between short-term option-in enrollment pattern students' beginning compared to ending of the school year 7th-grade norm-referenced achievement scores. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed in tables.

The following research questions were used to analyze the achievement of students' with long-term option-in enrollment patterns.

Overarching Pretest-Posttest Achievement Research
Question #3: Do long-term option-in enrollment pattern students lose, maintain, or improve their beginning 7th-grade criterion-Referenced achievement scores compared to ending 7th-grade criterion-referenced achievement scores for (a) reading comprehension and (b) math computation measures?

Sub-Question 3a. Is there a significant difference between long-term option-in enrollment pattern students' beginning of the year compared to ending of the year 7th-grade criterion-referenced reading comprehension achievement scores?

Sub-Question 3b. Is there a significant difference between long-term option-in enrollment pattern students' beginning of the year compared to ending of the year 7th-grade criterion-referenced math computation achievement scores?

Research Sub-Questions #3a and b were analyzed using dependent *t* tests to examine the significance of the difference between long-term option-in enrollment pattern students' beginning compared to ending of the school year

7th-grade criterion-referenced achievement scores. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed in tables.

Overarching Pretest-Posttest Achievement Research Question #4: Do long-term option-in enrollment pattern students lose, maintain, or improve their beginning 7th-grade compared to ending 7th-grade Stanford Achievement Test, Tenth Edition, Norm-Referenced (a) reading total, (b) math total, and (c) language total subtest normal curve equivalent (NCE) scores?

Sub-Question 4a. Is there a significant difference between long-term option-in enrollment pattern students' beginning of the year compared to ending of the year 7th-grade Stanford Achievement Test, Tenth Edition, Norm-Referenced reading total subtest normal curve equivalent (NCE) score?

Sub-Question 4b. Is there a significant difference between long-term option-in enrollment pattern students' beginning of the year compared to ending of the year 7th-grade Stanford Achievement Test, Tenth Edition, Norm-Referenced math total subtest normal curve equivalent (NCE) score?

Sub-Question 4c. Is there a significant difference between long-term option-in enrollment pattern students' beginning of the year compared to ending of the year 7th-grade Stanford Achievement Test, Tenth Edition, Norm-Referenced language total subtest normal curve equivalent (NCE) score?

Research Sub-Questions #4a, 4b, and 4c were analyzed using dependent *t* tests to examine the significance of the difference between long-term option-in enrollment pattern students' beginning compared to ending of the school year 7th-grade norm-referenced achievement scores. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed in tables.

The following research questions were used to analyze the achievement of students' with short-term and long-term resident enrollment patterns.

Overarching Pretest-Posttest Achievement Research Question #5: Do short-term resident enrollment pattern students lose, maintain, or improve their beginning 7th-grade criterion-Referenced achievement scores compared to ending 7th-grade criterion-referenced achievement scores for (a) reading comprehension and (b) math computation measures?

Sub-Question 5a. Is there a significant difference between short-term resident enrollment pattern students' beginning of the year compared to ending of the year 7th-grade criterion-referenced reading comprehension achievement scores?

Sub-Question 5b. Is there a significant difference between short-term resident enrollment pattern students' beginning of the year compared to ending of the year 7th-grade criterion-referenced math computation achievement scores?

Research Sub-Questions #5a and 5b were analyzed using dependent *t* tests to examine the significance of the difference between short-term resident enrollment pattern students' beginning compared to ending of the school year 7th-grade criterion-referenced achievement scores. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed in tables.

Overarching Pretest-Posttest Achievement Research Question #6: Do short-term resident enrollment pattern students lose, maintain, or improve their beginning 7th-grade compared to ending 7th-grade Stanford Achievement Test, Tenth Edition, Norm-Referenced (a) reading total, (b)

math total, and (c) language total subtest normal curve equivalent (NCE) scores?

Sub-Question 6a. Is there a significant difference between short-term resident enrollment pattern students' beginning of the year compared to ending of the year 7th-grade Stanford Achievement Test, Tenth Edition, Norm-Referenced reading total subtest normal curve equivalent (NCE) score?

Sub-Question 6b. Is there a significant difference between short-term resident enrollment pattern students' beginning of the year compared to ending of the year 7th-grade Stanford Achievement Test, Tenth Edition, Norm-Referenced math total subtest normal curve equivalent (NCE) score?

Sub-Question 6c. Is there a significant difference between short-term resident enrollment pattern students' beginning of the year compared to ending of the year 7th-grade Stanford Achievement Test, Tenth Edition, Norm-Referenced language total subtest normal curve equivalent (NCE) score?

Research Sub-Questions #6a, 6b, and 6c were analyzed using dependent *t* tests to examine the significance of the difference between short-term resident enrollment pattern students' beginning compared to ending of the school year

7th-grade norm-referenced achievement scores. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed in tables.

The following research questions were used to analyze the achievement of students' with long-term resident enrollment patterns.

Overarching Pretest-Posttest Achievement Research

Question #7: Do long-term resident enrollment pattern students lose, maintain, or improve their beginning 7th-grade criterion-Referenced achievement scores compared to ending 7th-grade criterion-referenced achievement scores for (a) reading comprehension and (b) math computation measures?

Sub-Question 7a. Is there a significant difference between long-term resident enrollment pattern students' beginning of the year compared to ending of the year 7th-grade criterion-referenced reading comprehension achievement scores?

Sub-Question 7b. Is there a significant difference between long-term resident enrollment pattern students' beginning of the year compared to ending of the year 7th-grade criterion-referenced math computation achievement scores?

Research Sub-Questions #7a and 7b were analyzed using dependent *t* tests to examine the significance of the difference between long-term resident enrollment pattern students' beginning compared to ending of the school year 7th-grade criterion-referenced achievement scores. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed in tables.

Overarching Pretest-Posttest Achievement Research Question #8: Do long-term resident enrollment pattern students lose, maintain, or improve their beginning 7th-grade compared to ending 7th-grade Stanford Achievement Test, Tenth Edition, Norm-Referenced (a) reading total, (b) math total, and (c) language total subtest normal curve equivalent (NCE) scores?

Sub-Question 8a. Is there a significant difference between long-term resident enrollment pattern students' beginning of the year compared to ending of the year 7th-grade Stanford Achievement Test, Tenth Edition, Norm-Referenced reading total subtest normal curve equivalent (NCE) score?

Sub-Question 8b. Is there a significant difference between long-term resident enrollment pattern students' beginning of the year compared to ending of the

year 7th-grade Stanford Achievement Test, Tenth Edition, Norm-Referenced math total subtest normal curve equivalent (NCE) score?

Sub-Question 8c. Is there a significant difference between long-term resident enrollment pattern students' beginning of the year compared to ending of the year 7th-grade Stanford Achievement Test, Tenth Edition, Norm-Referenced language total subtest normal curve equivalent (NCE) score?

Research Sub-Questions #8a, 8b, and 8c were analyzed using dependent *t* tests to examine the significance of the difference between long-term resident enrollment pattern students' beginning compared to ending of the school year 7th-grade norm-referenced achievement scores. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed in tables.

Overarching Posttest-Posttest Research Question #9: Do short-term and long-term option-in students compared to short-term and long-term resident students have congruent or different end of 7th-grade criterion-referenced reading comprehension and math computation achievement test scores?

Sub-Question 9a. Is there a significant main effect between short-term option-in, long-term option-in,

short-term resident, and long-term resident ending of 7th-grade criterion referenced reading comprehension scores?

Sub-Question 9b. Is there a significant main effect between short-term option-in, long-term option-in, short-term resident, and long-term resident ending of 7th-grade criterion referenced math computation scores?

Research Sub-Questions #9a and 9b will be analyzed utilizing a single classification Analysis of Variance (ANOVA) to determine the main effect between students CRT achievement cut scores. An F ratio will be calculated and an alpha level of .05 will be utilized to test the null hypothesis. Independent t tests will be used for contrast analysis if a significant F ratio is observed.

Overarching Posttest-Posttest Research Question #10: Do short-term and long-term option-in students compared to short-term and long-term resident students have congruent or different end of 7th-grade norm-referenced total reading, total math, and total language NCE achievement test scores?

Sub-Question 10a. Is there a significant main effect between short-term option-in, long-term option-in, short-term resident, and long-term resident ending of 7th-grade norm-referenced total reading NCE scores?

Sub-Question 10b. Is there a significant main effect between short-term option-in, long-term option-in, short-term resident, and long-term resident ending of 7th-grade norm-referenced total math NCE scores?

Sub-Question 10c. Is there a significant main effect between short-term option-in, long-term option-in, short-term resident, and long-term resident ending of 7th-grade norm-referenced total language NCE scores?

Research Sub-Questions #10a, 10b, and 10c were analyzed utilized a single classification Analysis of Variance (ANOVA) to determine the main effect between students NRT achievement NCE scores. An F ratio was calculated and an alpha level of .05 was utilized to test the null hypothesis. Independent t tests were used for contrast analysis if a significant F ratio was observed.

Overarching Posttest-Posttest Grade Point Average Research Question #11: Do short-term and long-term option-in students compared to short-term and long-term resident students have congruent or different end of 7th-grade grade point averages?

Sub-question 11a. Is there a significant difference between short-term option-in enrollment pattern students' end of the year grade point average compared to

long-term option-in enrollment pattern students' end of the year grade point average?

Sub-Question 11b. Is there a significant difference between short-term option-in enrollment pattern students' end of the year grade point average compared to short-term resident enrollment pattern students' end of the year grade point average?

Sub question 11c. Is there a significant difference between short-term option-in enrollment pattern students' end of the year grade point average compared to long-term resident pattern students' end of the year grade point average?

Sub-Question 11d. Is there a significant difference between long-term option-in enrollment pattern students' end of the year grade point average compared to short-term resident enrollment pattern students' end of the year grade point average?

Sub-Question 11e. Is there a significant difference between long-term option-in enrollment pattern students' end of the year grade point average compared to long-term resident enrollment pattern students' end of the year grade point average?

Sub-question 11f. Is there a significant difference between short-term resident enrollment pattern

students' end of the year grade point average compared to long-term resident enrollment pattern students' end of the year grade point average?

Research Sub-Questions #11a, 11b, 11c, 11d, 11e, and 11f were analyzed utilizing a single classification Analysis of Variance (ANOVA) to determine the main effect between students residency status and grade point average. An F ratio was calculated and an alpha level of .05 was utilized to test the null hypothesis. Independent t tests were used for contrast analysis if a significant F ratio was observed.

The following research question was used to analyze student discipline in long-term and short-term option-in and resident 7th-grade (a) suspension, (b) expulsion, and (c) general office referral PowerSchool student information system data frequencies.

Overarching Posttest-Posttest Discipline Research Question #12. Do short-term and long-term option-in students compared to short-term and long-term resident students have congruent or different end of 7th-grade (a) suspension, (b) expulsion, and (c) general office referral PowerSchool student information system data frequencies?

Research Question 12 utilized a chi-square test of significance to compare observed verses expected (a)

suspension, (b) expulsion, and (c) general office referral PowerSchool student information system data frequencies for short-term and long-term option-in students compared to short-term and long-term resident students. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Frequencies and percentages are displayed in tables.

The following research question was used to analyze student engagement in long-term and short-term option-in and resident 7th-grade (a) arts, (b) sports, (c) clubs, and (d) student government activity frequencies.

Overarching Posttest-Posttest Engagement Research Question #13. Do short-term and long-term option-in students compared to short-term and long-term resident students have congruent or different end of 7th-grade engagement as measured by end of school year student participation in school sponsored (a) arts, (b) sports, (c) clubs, and (d) student government activities?

Research Question #13 utilized a chi-square test of significance to compare observed verses expected (a) arts, (b) sports, (c) clubs, and (d) student government activities frequencies for short-term and long-term option-in students compared to short-term and long-term resident students. Because multiple statistical tests were

conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Frequencies and percentages are displayed in tables.

Data Collection Procedures

All study achievement data were retrospectively, archival, and routinely collected school information. Permission from the appropriate school research personnel was obtained. A random sample of students in each independent arm was obtained to include achievement, behavior, and engagement data. Non-coded numbers were used to display individual and de-identified achievement and behavioral data as well as engagement data. Aggregated group data, descriptive statistics, and parametric statistical analyses were utilized and reported as means and standard deviations on tables.

Performance sites. The research was conducted in the public school setting under normal educational practices. Since Westside Middle School is the only attendance center in the research district for seventh-grade students, it is the only building included in the study. Westside Middle School is a combined seventh and eighth grade building of approximately 905 students and 75 certificated staff members.

The study procedures did not interfere in any way with the standard educational practices of the public school and did not involve coercion or discomfort of any kind. All data were analyzed in the office of the Primary Investigator at the Westside Community Schools Administration, Board, and Curriculum (ABC) Building located at 909 South 76th Street, Omaha, Nebraska, 68114. Data were stored electronically on spreadsheets and computer disks for descriptive and inferential statistical analysis. Data and computer disks were kept in the Primary Investigator's locked file cabinet. No individual student identifiers were attached to the data. See Appendix for school district letter of approval.

Institutional Review Board (IRB) for the Protection of Human Subjects Approval Category. The exemption categories for this study are provided under 45CFR46.101(b) categories 1 and 4. The research was conducted using routinely collected archival data. A letter of support from the school district is located in the Appendix.

CHAPTER FOUR

Results

The purpose of this study was to determine the impact of option-in students' long-term and short-term longevity enrollment patterns on their achievement, behavior, and engagement outcomes compared to the achievement, behavior, and engagement outcomes of resident students' with long-term and short-term longevity enrollment patterns.

The study analyzed student grade point averages, performance on locally-developed criterion referenced tests, performance on national standardized achievement tests, behavioral referrals, and participation in extracurricular activities to determine what relationship, if any, exists between enrollment status and these academic outcomes. All study achievement data related to each of these dependent variables were retrospective, archival, and routinely collected school information. Permission from the appropriate school research personnel was obtained before data were collected and analyzed.

Research Question #1

Table 1 displays gender information of individual short-term option-in seventh-grade students attending the Westside Community Middle School including their school-wide eligibility percentage for free and reduced price

lunch and if a student has a minority status designation. Table 2 displays gender information of individual long-term option-in seventh-grade students attending the Westside Community Middle School including their school-wide eligibility percentage for free and reduced price lunch and if a student has a minority status designation. Table 3 displays gender information of individual short-term resident seventh-grade students attending the Westside Community Middle School including their school-wide eligibility percentage for free and reduced price lunch and if a student has a minority status designation. Table 4 displays gender information of individual long-term resident seventh-grade students attending the Westside Community Middle School including their school-wide eligibility percentage for free and reduced price lunch and if a student has a minority status designation.

Individual short-term option-in seventh-grade students attending the Westside Community Middle School Stanford Achievement Test normal curve equivalent scores for math, language, and reading subtests are displayed in Table 5. Individual long-term option-in seventh-grade students attending the Westside Community Middle School Stanford Achievement Test normal curve equivalent scores for math, language, and reading subtests are displayed in Table 6.

Individual short-term resident seventh-grade students attending the Westside Community Middle School Stanford Achievement Test normal curve equivalent scores for math, language, and reading subtests are displayed in Table 7.

Individual long-term resident seventh-grade students attending the Westside Community Middle School Stanford Achievement Test normal curve equivalent Scores for math, language, and reading subtests are displayed in Table 8.

Individual short-term option-in seventh-grade students attending the Westside Community Middle School criterion referenced test scores for math and reading are displayed in Table 9. Individual long-term option-in seventh-grade students attending the Westside Community Middle School criterion referenced test scores for math and reading are displayed in Table 10. Individual short-term resident seventh-grade students attending the Westside Community Middle School criterion referenced test scores for math and reading are displayed in Table 11. Individual long-term resident seventh-grade students attending the Westside Community Middle School criterion referenced test scores for math and reading are displayed in Table 12.

The first hypothesis was tested using the dependent t test. Short-term option-in students pretest compared to posttest criterion-referenced test reading comprehension

and math computation scores were displayed in Table 13. As seen in Table 13 the null hypothesis was rejected for both criterion-referenced achievement tests in reading and math. The pretest reading score ($M = 38.78$, $SD = 6.58$) compared to the posttest reading score ($M = 41.78$, $SD = 6.65$) was statistically significantly different, $t(22) = 3.00$, $p = 0.003$ (one-tailed), $d = .45$. The pretest math score ($M = 36.43$, $SD = 11.78$) compared to the posttest math score ($M = 45.39$, $SD = 7.46$) was statistically significantly different, $t(22) = 5.32$, $p = .0001$ (one-tailed), $d = .93$.

Overall, pretest-posttest results indicated that short-term option-in students did significantly improve their reading and math scores. Comparing short-term option-in students' reading and math CRT scores puts their performance in perspective. A posttest reading CRT mean score of 41.78 is congruent with a criterion referenced rubric designation of Advanced. A posttest math CRT mean score 45.39 of is congruent with a criterion referenced rubric designation of Proficient.

Research Question #2

The second hypothesis was tested using the dependent t test. Short-term option-in students pretest compared to posttest norm-referenced Stanford Achievement Test normal curve equivalent reading total, math total, and language

total scores were displayed in Table 14. As seen in Table 14 the null hypothesis was rejected for Stanford Achievement Test NCE reading scores. The null hypothesis was not rejected for the Stanford Achievement Test NCE math and language scores. The pretest reading score ($M = 70.99$, $SD = 18.99$) compared to the posttest reading score ($M = 63.57$, $SD = 13.79$) was statistically significantly different, $t(22) = -2.99$, $p = 0.003$ (one-tailed), $d = .45$. The pretest math score ($M = 69.31$, $SD = 15.19$) compared to the posttest math score ($M = 70.32$, $SD = 15.28$) was not statistically significantly different, $t(22) = 0.65$, $p = .26$ (one-tailed), $d = .07$. The pretest language score ($M = 64.32$, $SD = 16.27$) compared to the posttest language score ($M = 61.30$, $SD = 11.76$), was not statistically significantly different, $t(22) = -1.86$, $p = .12$ (one-tailed), $d = .22$.

Overall, pretest-posttest results indicated that short-term option-in students did significantly improve their reading scores but did not significantly improve their math and language scores. Comparing short-term option-in students' NRT NCE scores with derived achievement scores puts their performance in perspective. An NRT NCE posttest reading mean score of 63.57 is congruent with a Standard Score of 110, a Percentile Rank of 75, a Stanine

Score of 6, and an achievement qualitative description of Average. An NRT NCE posttest math mean score of 70.32 is congruent with a Standard Score of 115, a Percentile Rank of 84, a Stanine Score of 7, and an achievement qualitative description of Above Average. An NRT NCE mean posttest language score of 61.30 is congruent with a Standard Score of 108, a Percentile Rank of 70, a Stanine Score of 6, and an achievement qualitative description of Average.

Research Question #3

The third hypothesis was tested using the dependent t test. Long-term option-in students pretest compared to posttest criterion-referenced test reading comprehension and math computation scores were displayed in Table 15. As seen in Table 15 the null hypothesis was rejected for both criterion-referenced achievement tests in reading and math. The pretest reading score ($M = 37.91$, $SD = 6.15$) compared to the posttest reading score ($M = 41.13$, $SD = 8.32$) was statistically significantly different, $t(22) = 1.92$, $p = 0.03$ (one-tailed), $d = .45$. The pretest math score ($M = 41.26$, $SD = 9.17$) compared to the posttest math score ($M = 48.17$, $SD = 7.54$) was statistically significantly different, $t(22) = 5.55$, $p = .0001$ (one-tailed), $d = .83$.

Overall, pretest-posttest results indicated that long-term option-in students did significantly improve their

reading and math scores. Comparing short-term option-in students' reading and math CRT scores puts their performance in perspective. A posttest reading CRT mean score of 41.13 is congruent with a criterion referenced rubric designation of Advanced. A posttest math CRT mean score 48.17 of is congruent with a criterion referenced rubric designation of Proficient.

Research Question #4

The fourth hypothesis was tested using the dependent t test. Long-term option-in students pretest compared to posttest norm-referenced Stanford Achievement Test normal curve equivalent reading total, math total, and language total scores were displayed in Table 16. As seen in Table 16 the null hypothesis was rejected for the Stanford Achievement Test NCE math scores but the null was not rejected for the reading and languages scores. The pretest reading score ($M = 69.13$, $SD = 16.57$) compared to the posttest reading score ($M = 69.13$, $SD = 13.97$) was not statistically significantly different, $t(22) = 0.00$, $p = 0.50$ (one-tailed), $d = .00$. The pretest math score ($M = 75.98$, $SD = 12.79$) compared to the posttest math score ($M = 72.61$, $SD = 16.83$) was statistically significantly different, $t(22) = -1.89$, $p = .03$ (one-tailed), $d = .23$. The pretest language score ($M = 62.99$, $SD = 17.00$) compared

to the posttest language score ($M = 65.35$, $SD = 16.04$), was not statistically significantly different, $t(22) = 1.07$, $p = .15$ (one-tailed), $d = .14$.

Overall, pretest-posttest results indicated that long-term option-in students did significantly improve their math scores but did not significantly improve their reading and language scores. Comparing long-term option-in students' NRT NCE scores with derived achievement scores puts their performance in perspective. An NRT NCE posttest reading mean score of 69.13 is congruent with a Standard Score of 114, a Percentile Rank of 83, a Stanine Score of 7, and an achievement qualitative description of Above Average. An NRT NCE posttest math mean score of 72.61 is congruent with a Standard Score of 116, a Percentile Rank of 86, a Stanine Score of 7, and an achievement qualitative description of Above Average. An NRT NCE mean posttest language score of 65.35 is congruent with a Standard Score of 111, a Percentile Rank of 77, a Stanine Score of 6, and an achievement qualitative description of Average.

Research Question #5

The fifth hypothesis was tested using the dependent t test. Short-term resident students pretest compared to posttest criterion-referenced test reading comprehension and math computation scores were displayed in Table 17. As

seen in Table 17 the null hypothesis was rejected for both criterion-referenced achievement tests in reading and math. The pretest reading score ($M = 37.13$, $SD = 7.59$) compared to the posttest reading score ($M = 41.57$, $SD = 5.06$) was statistically significantly different, $t(22) = 3.89$, $p = 0.0004$ (one-tailed), $d = .35$. The pretest math score ($M = 38.48$, $SD = 9.16$) compared to the posttest math score ($M = 45.48$, $SD = 9.01$) was statistically significantly different, $t(22) = 6.95$, $p = .0001$ (one-tailed), $d = .77$.

Overall, pretest-posttest results indicated that long-term option-in students did significantly improve their reading and math scores. Comparing short-term option-in students' reading and math CRT scores puts their performance in perspective. A posttest reading CRT mean score of 41.57 is congruent with a criterion referenced rubric designation of Advanced. A posttest math CRT mean score 45.48 of is congruent with a criterion referenced rubric designation of Proficient.

Research Question #6

The sixth hypothesis was tested using the dependent t test. Short-term resident students pretest compared to posttest norm-referenced Stanford Achievement Test normal curve equivalent reading total, math total, and language total scores were displayed in Table 18. As seen in Table

18 the null hypothesis was not rejected for the Stanford Achievement Test NCE reading, math, and language scores. The pretest reading score ($M = 66.24$, $SD = 17.67$) compared to the posttest reading score ($M = 63.40$, $SD = 13.71$) was not statistically significantly different, $t(22) = -1.42$, $p = 0.08$ (one-tailed), $d = .18$. The pretest math score ($M = 71.51$, $SD = 13.80$) compared to the posttest math score ($M = 72.16$, $SD = 13.09$) was not statistically significantly different, $t(22) = 0.45$, $p = .33$ (one-tailed), $d = .50$. The pretest language score ($M = 67.12$, $SD = 17.90$) compared to the posttest language score ($M = 64.13$, $SD = 14.68$), was not statistically significantly different, $t(22) = -1.30$, $p = .10$ (one-tailed), $d = .18$.

Overall, pretest-posttest results indicated that short-term resident students did not significantly improve their reading, math, and language scores. Comparing short-term resident students' NRT NCE scores with derived achievement scores puts their performance in perspective. An NRT NCE posttest reading mean score of 63.40 is congruent with a Standard Score of 110, a Percentile Rank of 75, a Stanine Score of 6, and an achievement qualitative description of Average. An NRT NCE posttest math mean score of 72.16 is congruent with a Standard Score of 115, a Percentile Rank of 85, a Stanine Score of 7, and an

achievement qualitative description of Above Average. An NRT NCE mean posttest language score of 64.13 is congruent with a Standard Score of 110, a Percentile Rank of 75, a Stanine Score of 6, and an achievement qualitative description of Average.

Research Question #7

The seventh hypothesis was tested using the dependent *t* test. Long-term resident students pretest compared to posttest criterion-referenced test reading comprehension and math computation scores were displayed in Table 19. As seen in Table 19 the null hypothesis was rejected for both criterion-referenced achievement tests in reading and math. The pretest reading score ($M = 33.00$, $SD = 12.33$) compared to the posttest reading score ($M = 43.13$, $SD = 6.45$) was statistically significantly different, $t(22) = 4.52$, $p = 0.0001$ (one-tailed), $d = 1.08$. The pretest math score ($M = 42.17$, $SD = 11.26$) compared to the posttest math score ($M = 48.39$, $SD = 10.06$) was statistically significantly different, $t(22) = 5.28$, $p = .0001$ (one-tailed), $d = .58$.

Overall, pretest-posttest results indicated that long-term option-in students did significantly improve their reading and math scores. Comparing short-term option-in students' reading and math CRT scores puts their performance in perspective. A posttest reading CRT mean

score of 43.13 is congruent with a criterion referenced rubric designation of Advanced. A posttest math CRT mean score 48.39 of is congruent with a criterion referenced rubric designation of Proficient.

Research Question #8

The eighth hypothesis was tested using the dependent t test. Long-term resident students pretest compared to posttest norm-referenced Stanford Achievement Test normal curve equivalent reading total, math total, and language total scores were displayed in Table 20. As seen in Table 20 the null hypothesis was rejected for Stanford Achievement Test NCE math scores. The null hypothesis was not rejected for the Stanford Achievement Test NCE reading and language scores. The pretest reading score ($M = 68.58$, $SD = 21.15$) compared to the posttest reading score ($M = 65.85$, $SD = 16.81$) was not statistically significantly different, $t(22) = -1.02$, $p = 0.16$ (one-tailed), $d = .14$. The pretest math score ($M = 73.97$, $SD = 18.52$) compared to the posttest math score ($M = 77.75$, $SD = 18.74$) was statistically significantly different, $t(22) = 1.95$, $p = .03$ (one-tailed), $d = .20$. The pretest language score ($M = 66.77$, $SD = 18.96$) compared to the posttest language score ($M = 65.57$, $SD = 21.56$), was not statistically

significantly different, $t(22) = -0.52$, $p = .30$ (one-tailed), $d = .06$.

Overall, pretest-posttest results indicated that long-term resident students did significantly improve their math scores but did not significantly improve their reading and language scores. Comparing long-term resident students' NRT NCE scores with derived achievement scores puts their performance in perspective. An NRT NCE posttest reading mean score of 65.85 is congruent with a Standard Score of 111, a Percentile Rank of 77, a Stanine Score of 6, and an achievement qualitative description of Average. An NRT NCE posttest math mean score of 77.75 is congruent with a Standard Score of 120, a Percentile Rank of 91, a Stanine Score of 8, and an achievement qualitative description of Above Average. An NRT NCE mean posttest language score of 65.57 is congruent with a Standard Score of 111, a Percentile Rank of 77, a Stanine Score of 6, and an achievement qualitative description of Average.

Research Question #9

Table 21 displays the results of the analysis of variance for long-term and short-term option-in and resident student posttest reading criterion-referenced achievement test scores comparisons. The results of the analysis of variance for long-term and short-term option-in

and resident student posttest math criterion-referenced achievement test scores comparisons are found in Table 22.

The ninth hypothesis was tested using a single factor ANOVA. As seen in Table 21 the null hypothesis was not rejected. The STO group end of 7th-grade CRT scores for reading ($M = 41.78$, $SD = 6.65$), LTO ($M = 41.13$, $SD = 8.32$), STR ($M = 41.57$, $SD = 5.06$), and LTR ($M = 43.13$, $SD = 6.45$) were congruent and the main effect of subtest achievement was not statistically significant, ($F(3, 88) = 0.38$, $p = .77$). Because F did not reach a significance level no *post hoc* contrast analyses were conducted.

As seen in Table 22 the null hypothesis was not rejected. The STO group end of 7th-grade CRT scores for math ($M = 45.39$, $SD = 7.46$), LTO ($M = 48.17$, $SD = 7.54$), STR ($M = 45.48$, $SD = 9.01$), and LTR ($M = 48.39$, $SD = 10.06$) were congruent and the main effect of subtest achievement was not statistically significant, ($F(3, 88) = 0.85$, $p = .47$). Because F did not reach a significance level no *post hoc* contrast analyses were conducted.

Overall, these findings indicate that student groups posttest reading criterion-referenced achievement scores were measured within the Advanced range. Findings further indicate that student groups math criterion-referenced achievement scores were measured within the Proficient

range. Within the group conditions comparisons, no statistically significant differences were observed.

Research Question #10

Table 23 displays the results of the analysis of variance for long-term and short-term option-in and resident student posttest reading norm-referenced achievement test scores comparisons. The results of the analysis of variance for long-term and short-term option-in and resident student posttest math norm-referenced achievement test scores comparisons are found in Table 24. Table 25 displays the results of the analysis of variance for long-term and short-term option-in and resident student posttest language norm-referenced achievement test scores comparisons.

The tenth hypothesis was tested using a single factor ANOVA. As seen in Table 23 the null hypothesis was not rejected. The STO group end of 7th-grade NRT scores for reading ($M = 63.57$, $SD = 13.79$), LTO ($M = 69.13$, $SD = 13.97$), STR ($M = 63.40$, $SD = 13.71$), and LTR ($M = 65.85$, $SD = 16.81$) were congruent and the main effect of subtest achievement was not statistically significant, ($F(3, 88) = 0.77$, $p = .51$). Because F did not reach a significance level no *post hoc* contrast analyses were conducted.

As seen in Table 24 the null hypothesis was not rejected. The STO group end of 7th-grade NRT scores for math ($M = 73.32$, $SD = 15.28$), LTO ($M = 72.61$, $SD = 16.83$), STR ($M = 72.16$, $SD = 13.09$), and LTR ($M = 77.75$, $SD = 18.74$) were congruent and the main effect of subtest achievement was not statistically significant, ($F(3, 88) = 0.90$, $p = .45$). Because F did not reach a significance level no *post hoc* contrast analyses were conducted.

As seen in Table 25 the null hypothesis was not rejected. The STO group end of 7th-grade NRT scores for language ($M = 61.30$, $SD = 11.76$), LTO ($M = 65.35$, $SD = 16.04$), STR ($M = 64.13$, $SD = 14.68$), and LTR ($M = 65.57$, $SD = 21.56$) were congruent and the main effect of subtest achievement was not statistically significant, ($F(3, 88) = 0.33$, $p = .80$). Because F did not reach a significance level no *post hoc* contrast analyses were conducted.

Overall, these findings indicate that student groups posttest reading norm-referenced achievement scores were measured within the Average range. Findings further indicate that student groups math norm-referenced achievement scores were measured within the Above Average range and language norm-referenced achievement scores were measured within the Average range. Within the group

conditions comparisons, no statistically significant differences were observed.

Research Question #11

Table 26 displays the long-term and short-term option-in and resident student posttest overall grade point average scores. The results of the analysis of variance for long-term and short-term option-in and resident student overall grade point average scores are found in Table 27.

The eleventh hypothesis was tested using a single factor ANOVA. As seen in Table 27 the null hypothesis was not rejected. The STO group end of 7th-grade overall grade point average scores ($M = 3.60$, $SD = 0.30$), LTO ($M = 3.45$, $SD = 0.45$), STR ($M = 3.46$, $SD = 0.54$), and LTR ($M = 3.38$, $SD = 0.71$) were congruent and the main effect of overall posttest grade point average scores was not statistically significant, ($F(3, 88) = 0.68$, $p = .57$). Because F did not reach a significance level no *post hoc* contrast analyses were conducted.

Overall, these findings indicate that students' posttest grade point average scores were measured within the Above Average grade range represented by a letter grade of "B" to "B+". All teachers within the research school use a consistent grading scale. Within the group conditions

comparisons, no statistically significant differences were observed.

Research Question #12

A comparison of overall student suspension, expulsion, and general office referral behavior frequencies is found in Table 28. The twelfth hypothesis was tested using chi-square (X^2). The result of X^2 displayed in Table 28 was not statistically significantly different ($X^2(1, N = 139) = 0.56, p = < .30$) so we do not reject the null hypothesis of no difference or congruence for student's suspension, expulsion, and general office referral behavior frequencies. Inspecting our frequency and percent findings in Table 28 we find that the number of option-in short-term and option-in long term student observed behavior frequencies were congruent (27, 50%) while resident short-term (37, 44%) and resident long term student (48, 56%) numbers were observed near equipoise.

The observed levels of suspension, expulsion, and general office referral behavior frequencies are consistent with reported middle school and adolescent student behavioral issues. Furthermore, while not directly part of the study, the majority of the reported office referrals were, anecdotally, for nuisance behaviors and not serious offenses.

Research Question #13

A comparison of overall student participation in school sponsored arts, sports, clubs, and student government activity frequency levels is found in Table 29. The thirteenth hypothesis was tested using chi-square (X^2). The result of X^2 displayed in Table 29 was not statistically significantly different ($X^2(1, N = 44) = 0.10, p = < .70$) so we do not reject the null hypothesis of no difference or congruence for student's participation in school sponsored arts, sports, clubs, and student government activity frequency levels. Inspecting our frequency and percent findings in Table 29 we find that the overall pattern for observed frequencies and percents are similar. Short-term option-in (8, 36%) students' compared to long-term option-in (14, 64%) student observed participation frequencies is similar to the pattern noted for short-term resident (9, 41%) students' compared to long-term resident (13, 59%) student observed participation frequencies.

The observed levels of participation in school sponsored arts, sports, clubs, and student government were consistent with the hoped for expectation that every student will participate in extra-curricular activities.

Table 1

*Gender Information of Individual Short-Term Option-In
Seventh-Grade Students Attending the Westside Community
Middle School (a, b)*

Student Number	Gender
1.	Male
2.	Male
3.	Female
4.	Female
5.	Female
6.	Male (a)
7.	Female
8.	Female
9.	Male
10.	Female
11.	Female
12.	Male
13.	Female (b)
14.	Female
15.	Female
16.	Female
17.	Male
18.	Male
19.	Male
20.	Male
21.	Male
22.	Male
23.	Male

(a) Note: 21% of district-wide students participated in the free and reduced price lunch program.

(b) Note: 16% of district-wide students were coded as minority students.

Table 2

*Gender Information of Individual Long-Term Option-In
Seventh-Grade Students Attending the Westside Community
Middle School (a, b)*

Student Number	Gender
1.	Female (b)
2.	Female
3.	Female
4.	Female
5.	Female
6.	Male (a)
7.	Female
8.	Female
9.	Female
10.	Female
11.	Female
12.	Female
13.	Male
14.	Male
15.	Male
16.	Male
17.	Male
18.	Male
19.	Male
20.	Male
21.	Male
22.	Male
23.	Male

(a) Note: 21% of district-wide students participated in the free and reduced price lunch program.

(b) Note: 16% of district-wide students were coded as minority students.

Table 3

*Gender Information of Individual Short-Term Resident
Seventh-Grade Students Attending the Westside Community
Middle School (a, b)*

Student Number	Gender
1.	Male
2.	Male (a)
3.	Male
4.	Male
5.	Male
6.	Male
7.	Male
8.	Female
9.	Female
10.	Female
11.	Female
12.	Female
13.	Female (a, b)
14.	Female
15.	Male
16.	Male
17.	Female
18.	Male
19.	Male
20.	Female
21.	Female
22.	Female
23.	Male

(a) Note: 21% of district-wide students participated in the free and reduced price lunch program.

(b) Note: 16% of district-wide students were coded as minority students.

Table 4

*Gender Information of Individual Long-Term Resident
Seventh-Grade Students Attending the Westside Community
Middle School (a, b)*

Student Number	Gender
1.	Male (a)
2.	Male
3.	Male (b)
4.	Male
5.	Male
6.	Female
7.	Female
8.	Female
9.	Female
10.	Female
11.	Female
12.	Female
13.	Male
14.	Male
15.	Male
16.	Male
17.	Female
18.	Female
19.	Female
20.	Male
21.	Female
22.	Male
23.	Male

(a) Note: 21% of district-wide students participated in the free and reduced price lunch program.

(b) Note: 16% of district-wide students were coded as minority students.

Table 5

*Individual Short-Term Option-In Seventh-Grade Students
Attending the Westside Community Middle School Stanford
Achievement Test Normal Curve Equivalent Scores for Math,
Language, and Reading Subtests*

Students (a)	<u>Math</u>		<u>Language</u>		<u>Reading</u>	
	Pre	Post	Pre	Post	Pre	Post
1.	99	93	93	82	86	86
2.	65	63	45	61	67	62
3.	82	89	68	66	99	75
4.	84	93	74	74	99	70
5.	53	57	52	55	50	53
6.	65	75	51	63	81	82
7.	43	62	74	63	81	79
8.	57	55	60	57	65	58
9.	77	60	58	45	61	43
10.	40	37	41	35	61	58
11.	93	93	93	78	81	73
12.	74	84	81	74	81	67
13.	61	66	84	55	99	64
14.	59	59	60	57	64	55
15.	57	57	62	55	50	39
16.	65	69	43	66	50	47
17.	79	78	74	74	71	73
18.	89	82	67	66	84	73
19.	66	68	52	55	71	62
20.	84	89	71	66	71	78
21.	62	55	81	57	75	60
22.	65	60	39	55	62	56
23.	66	63	46	38	15	37

(a) Note: Numbers correspond with Table 1.

Table 6

*Individual Long-Term Option-In Seventh-Grade Students
Attending the Westside Community Middle School Stanford
Achievement Test Normal Curve Equivalent Scores for Math,
Language, and Reading Subtests*

Students (a)	<u>Math</u>		<u>Language</u>		<u>Reading</u>	
	Pre	Post	Pre	Post	Pre	Post
1.	78	82	48	57	51	79
2.	93	89	78	74	71	78
3.	70	64	51	63	55	70
4.	89	81	81	74	99	89
5.	67	66	52	70	62	60
6.	70	72	60	59	57	62
7.	82	77	67	74	81	82
8.	79	75	67	82	75	58
9.	74	67	15	41	34	58
10.	62	73	68	57	67	78
11.	99	89	99	99	99	93
12.	86	82	68	78	61	70
13.	77	86	62	61	64	70
14.	70	67	56	66	70	50
15.	59	50	58	49	61	55
16.	79	82	64	63	71	69
17.	89	93	81	70	99	86
18.	86	93	84	99	78	78
19.	46	25	43	45	46	50
20.	65	44	46	35	59	40
21.	56	51	58	59	61	55
22.	84	77	74	70	86	82
23.	77	75	60	49	75	66

(a) Note: Numbers correspond with Table 2.

Table 7

*Individual Short-Term Resident Seventh-Grade Students
Attending the Westside Community Middle School Stanford
Achievement Test Normal Curve Equivalent Scores for Math,
Language, and Reading Subtests*

Students (a)	<u>Math</u>		<u>Language</u>		<u>Reading</u>	
	Pre	Post	Pre	Post	Pre	Post
1.	56	58	46	42	45	39
2.	52	65	31	41	36	51
3.	61	66	52	52	64	70
4.	61	57	45	57	48	40
5.	65	58	74	61	67	54
6.	78	81	64	74	61	67
7.	66	75	56	55	54	53
8.	89	89	99	78	99	69
9.	82	86	68	66	78	73
10.	99	89	93	99	70	64
11.	67	67	60	78	65	64
12.	70	72	58	59	48	51
13.	37	35	60	40	43	47
14.	84	82	99	82	86	84
15.	82	72	78	57	70	78
16.	77	67	64	59	67	60
17.	62	58	48	57	47	53
18.	67	77	81	66	86	79
19.	74	75	64	66	99	89
20.	62	71	64	59	67	64
21.	78	89	89	86	75	78
22.	86	81	84	74	86	69
23.	81	78	56	57	51	53

(a) Note: Numbers correspond with Table 3.

Table 8

*Individual Long-Term Resident Seventh-Grade Students
Attending the Westside Community Middle School Stanford
Achievement Test Normal Curve Equivalent Scores for Math,
Language, and Reading Subtests*

Students (a)	<u>Math</u>		<u>Language</u>		<u>Reading</u>	
	Pre	Post	Pre	Post	Pre	Post
1.	79	89	81	86	89	82
2.	99	99	93	99	86	79
3.	30	38	27	13	35	43
4.	78	99	68	66	70	70
5.	17	29	25	20	15	17
6.	81	84	74	74	89	73
7.	78	93	60	63	61	75
8.	67	58	67	63	67	64
9.	79	84	84	99	81	62
10.	93	99	89	78	99	82
11.	73	67	64	63	61	62
12.	70	67	58	55	61	54
13.	71	63	52	57	61	44
14.	89	89	68	82	99	86
15.	57	78	46	52	34	73
16.	93	86	74	59	67	67
17.	78	89	93	99	89	89
18.	82	86	81	59	70	51
19.	81	77	62	78	75	78
20.	78	86	56	59	50	58
21.	62	62	60	66	71	69
22.	77	65	51	44	55	51
23.	81	93	93	66	84	73

(a) Note: Numbers correspond with Table 4.

Table 9

*Individual Short-Term Option-In Seventh-Grade Students
Attending the Westside Community Middle School Criterion
Referenced Test Scores for Math and Reading*

Students (a)	<u>Math</u>		<u>Reading</u>	
	Pre	Post	Pre	Post
1.	57	59	47	50
2.	34	52	47	44
3.	49	53	41	50
4.	46	55	46	49
5.	27	36	34	39
6.	45	47	36	42
7.	34	34	44	46
8.	29	37	39	45
9.	32	47	40	39
10.	21	32	31	38
11.	50	56	46	44
12.	36	48	42	39
13.	39	40	40	39
14.	35	45	37	38
15.	0	38	35	35
16.	32	46	30	41
17.	42	48	44	48
18.	47	47	43	50
19.	35	45	26	40
20.	47	55	37	43
21.	33	38	41	39
22.	28	42	43	44
23.	40	44	23	19

(a) Note: Numbers correspond with Table 1.

Table 10

*Individual Long-Term Option-In Seventh-Grade Students
Attending the Westside Community Middle School Criterion
Referenced Test Scores for Math and Reading*

Students (a)	<u>Math</u>		<u>Reading</u>	
	Pre	Post	Pre	Post
1.	39	51	32	53
2.	56	56	47	48
3.	39	41	33	41
4.	50	54	45	47
5.	26	40	38	38
6.	43	44	37	41
7.	43	50	40	43
8.	50	51	42	39
9.	46	46	39	35
10.	39	45	40	43
11.	53	57	46	49
12.	44	56	43	46
13.	40	56	32	40
14.	42	49	20	37
15.	21	40	38	42
16.	41	41	37	45
17.	55	59	43	47
18.	41	58	35	50
19.	28	30	37	20
20.	26	40	29	19
21.	37	42	35	35
22.	44	52	44	47
23.	46	50	40	41

(a) Note: Numbers correspond with Table 2.

Table 11

*Individual Short-Term Resident Seventh-Grade Students
Attending the Westside Community Middle School Criterion
Referenced Test Scores for Math and Reading*

Students (a)	<u>Math</u>		<u>Reading</u>	
	Pre	Post	Pre	Post
1.	27	42	30	33
2.	21	36	25	41
3.	38	43	37	40
4.	32	45	33	35
5.	41	41	42	39
6.	43	49	40	41
7.	43	43	33	34
8.	49	58	43	46
9.	50	54	44	48
10.	47	53	42	46
11.	36	45	40	41
12.	32	45	41	41
13.	23	23	21	30
14.	47	57	45	45
15.	43	48	39	42
16.	44	45	36	43
17.	27	35	18	40
18.	31	42	46	49
19.	28	28	43	49
20.	39	50	41	47
21.	44	53	39	44
22.	50	54	43	42
23.	50	57	33	40

(a) Note: Numbers correspond with Table 3.

Table 12

*Individual Long-Term Resident Seventh-Grade Students
Attending the Westside Community Middle School Criterion
Referenced Test Scores for Math and Reading*

Students (a)	<u>Math</u>		<u>Reading</u>	
	Pre	Post	Pre	Post
1.	52	54	44	48
2.	55	58	44	45
3.	21	21	23	33
4.	44	52	42	43
5.	15	24	10	21
6.	43	43	32	45
7.	49	49	31	44
8.	30	45	42	45
9.	48	55	45	48
10.	53	59	46	49
11.	39	52	35	41
12.	41	50	35	41
13.	24	35	32	36
14.	55	59	46	48
15.	36	45	20	45
16.	50	50	13	46
17.	52	52	33	47
18.	34	54	0	44
19.	50	57	37	48
20.	49	50	33	42
21.	36	49	35	46
22.	43	43	37	37
23.	51	57	44	50

(a) Note: Numbers correspond with Table 4.

Table 13

*Short-Term Option-In Students Pretest Compared to Posttest
Criterion-Referenced Test Reading Comprehension and Math
Computation Scores*

Source Of Data	Pretest Scores		Posttest Scores		Effect Size	<i>t</i>	<i>p</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>			
Reading	38.78	(6.58)	41.78	(6.65)	0.45	3.00	.003**
Math	36.43	(11.78)	45.39	(7.46)	0.93	5.32	.0001***

** Note: $p < .003$.

*** Note: $p < .0001$.

Table 14

*Short-Term Option-In Students Pretest Compared to Posttest
Stanford Achievement Test Normal Curve Equivalent Reading
Total, Math Total, and Language Total Scores*

Source Of Data	Pretest Scores		Posttest Scores		Effect Size	<i>t</i>	<i>p</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>			
Reading	70.99	(18.99)	63.57	(13.79)	0.45	-2.99	.003**
Math	69.31	(15.19)	70.32	(15.28)	0.07	0.65	.26*
Language	64.32	(16.27)	61.30	(11.76)	0.22	-1.86	.12*

* Note: *not significant.*

** Note: $p < .003$.

Table 15

*Long-Term Option-In Students Pretest Compared to Posttest
Criterion-Referenced Test Reading Comprehension and Math
Computation Scores*

Source Of Data	Pretest Scores		Posttest Scores		Effect Size	<i>t</i>	<i>p</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>			
Reading	37.91	(6.15)	41.13	(8.32)	0.45	1.92	.03**
Math	41.26	(9.17)	48.17	(7.54)	0.83	5.55	.0001***

** Note: $p < .03$.

*** Note: $p < .0001$.

Table 16

*Long-Term Option-In Students Pretest Compared to Posttest
Stanford Achievement Test Normal Curve Equivalent Reading
Total, Math Total, and Language Total Scores*

Source Of Data	Pretest Scores		Posttest Scores		Effect Size	<i>t</i>	<i>p</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>			
Reading	69.13	(16.57)	69.13	(13.97)	0.00	0.00	.50*
Math	75.98	(12.79)	72.61	(16.83)	0.23	-1.89	.03**
Language	62.99	(17.00)	65.35	(16.04)	0.14	1.07	.15*

* Note: *not significant.*

** Note: $p < .03$.

Table 17

*Short-Term Resident Students Pretest Compared to Posttest
Criterion-Referenced Test Reading Comprehension and Math
Computation Scores*

Source Of Data	Pretest Scores		Posttest Scores		Effect Size	<i>t</i>	<i>p</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>			
Reading	37.13	(7.59)	41.57	(5.06)	0.35	3.89	.0004**
Math	38.48	(9.16)	45.48	(9.01)	0.77	6.95	.0001***

** Note: $p < .0004$.

*** Note: $p < .0001$.

Table 18

*Short-Term Resident Students Pretest Compared to Posttest
Stanford Achievement Test Normal Curve Equivalent Reading
Total, Math Total, and Language Total Scores*

Source Of Data	Pretest Scores		Posttest Scores		Effect Size	<i>t</i>	<i>p</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>			
Reading	66.24	(17.67)	63.40	(13.71)	0.18	-1.42	.08*
Math	71.51	(13.80)	72.16	(13.09)	0.50	0.45	.33*
Language	67.12	(17.90)	64.13	(14.68)	0.18	-1.30	.10*

* Note: *not significant.*

Table 19

*Long-Term Resident Students Pretest Compared to Posttest
Criterion-Referenced Test Reading Comprehension and Math
Computation Scores*

Source Of Data	Pretest Scores		Posttest Scores		Effect Size	<i>t</i>	<i>p</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>			
Reading	33.00	(12.33)	43.13	(6.45)	1.08	4.52	.0001***
Math	42.17	(11.26)	48.39	(10.06)	0.58	5.28	.0001***

*** Note: $p < .0001$.

Table 20

*Long-Term Resident Students Pretest Compared to Posttest
Stanford Achievement Test Normal Curve Equivalent Reading
Total, Math Total, and Language Total Scores*

Source Of Data	Pretest Scores		Posttest Scores		Effect Size	<i>t</i>	<i>p</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>			
Reading	68.58	(21.15)	65.85	(16.81)	0.14	-1.02	.16*
Math	73.97	(18.52)	77.75	(18.74)	0.20	1.95	.03**
Language	66.77	(18.96)	65.57	(21.56)	0.06	-0.52	.30*

* Note: *not significant.*

** Note: $p < .03$.

Table 21

Results of Analysis of Variance for Long-Term and Short-Term Option-In and Resident Student Posttest Reading Criterion-Referenced Achievement Test Scores

Source of Variation	Mean	SD	Sum of Squares	Mean Square	df	F	p
Between Groups			51.34	17.11	3		
Within Groups			3,974.78	45.17	88	0.38	(a)
\bar{A} STO	41.78	(6.65)					(b)
\bar{B} LTO	41.13	(8.32)					
\bar{C} STR	41.57	(5.06)					
\bar{D} LTR	43.13	(6.45)					

(a) Note: $p = .77$ ns.

(b) Note: No *post hoc* analyses were conducted.

Table 22

Results of Analysis of Variance for Long-Term and Short-Term Option-In and Resident Student Posttest Math Criterion-Referenced Achievement Test Scores

Source of Variation	Mean	SD	Sum of Squares	Mean Square	df	F	p
Between Groups			187.16	62.39	3		
Within Groups			6,490.00	73.75	88	0.85	(a)
\bar{A} STO	45.39	(7.46)					(b)
\bar{B} LTO	48.17	(7.54)					
\bar{C} STR	45.48	(9.01)					
\bar{D} LTR	48.39	(10.06)					

(a) Note: $p = .47$ ns.

(b) Note: No *post hoc* analyses were conducted.

Table 23

Results of Analysis of Variance for Long-Term and Short-Term Option-In and Resident Student Posttest Reading Norm-Referenced Achievement Test Scores

Source of Variation	Mean	SD	Sum of Squares	Mean Square	df	F	p
Between Groups			493.36	164.45	3		
Within Groups			18,827.19	213.95	88	0.77	(a)
\bar{A} STO	63.57	(13.79)					(b)
\bar{B} LTO	69.13	(13.97)					
\bar{C} STR	63.40	(13.71)					
\bar{D} LTR	65.85	(16.81)					

(a) Note: $p = .51$ *ns*.

(b) Note: No *post hoc* analyses were conducted.

Table 24

Results of Analysis of Variance for Long-Term and Short-Term Option-In and Resident Student Posttest Math Norm-Referenced Achievement Test Scores

Source of Variation	Mean	SD	Sum of Squares	Mean Square	df	F	p
Between Groups			700.60	233.53	3		
Within Groups			22,861.30	259.79	88	0.90	(a)
\bar{A} STO	70.32	(15.28)					(b)
\bar{B} LTO	72.61	(16.83)					
\bar{C} STR	72.16	(13.09)					
\bar{D} LTR	77.75	(18.74)					

(a) Note: $p = .45$ *ns*.

(b) Note: No *post hoc* analyses were conducted.

Table 25

Results of Analysis of Variance for Long-Term and Short-Term Option-In and Resident Student Posttest Language Norm-Referenced Achievement Test Scores

Source of Variation	Mean	SD	Sum of Squares	Mean Square	df	F	p
Between Groups			265.24	88.41	3		
Within Groups			23,669.28	268.97	88	0.33	(a)
\bar{A} STO	61.30	(11.76)					(b)
\bar{B} LTO	65.35	(16.04)					
\bar{C} STR	64.13	(14.68)					
\bar{D} LTR	65.57	(21.56)					

(a) Note: $p = .80$ *ns*.

(b) Note: No *post hoc* analyses were conducted.

Table 26

*Individual Seventh-Grade Students Attending the Westside
Community Middle School Overall Posttest Grade Point
Average*

Students	Option-In		Resident	
	Short-Term	Long-Term	Short-Term	Long-Term
1.	4.0	3.8	2.7	3.9
2.	3.6	4.0	3.0	4.0
3.	4.0	3.3	2.7	1.8
4.	3.9	3.9	2.7	4.0
5.	3.3	2.8	3.4	2.3
6.	3.6	3.2	3.9	3.6
7.	3.6	3.9	3.2	3.4
8.	3.4	3.9	3.9	3.7
9.	3.7	3.5	3.9	4.0
10.	3.4	3.9	4.0	3.9
11.	4.0	4.0	3.8	3.8
12.	3.7	3.9	3.9	2.4
13.	3.5	3.2	2.0	4.0
14.	3.5	3.6	4.0	3.6
15.	3.5	3.1	3.7	2.1
16.	3.8	2.9	3.6	3.8
17.	3.5	3.8	3.3	2.2
18.	3.7	3.6	3.2	3.0
19.	3.7	2.8	3.2	3.7
20.	4.0	2.5	3.9	3.5
21.	2.9	3.0	4.0	3.7
22.	3.2	3.5	3.8	3.8
23.	3.1	3.2	3.6	3.4

Table 27

Results of Analysis of Variance for Long-Term and Short-Term Option-In and Resident Student Posttest Overall Grade Point Average Scores

Source of Variation	Mean	SD	Sum of Squares	Mean Square	df	F	p
Between Groups			0.55	0.18	3		
Within Groups			23.87	0.27	88	0.68	(a)
\bar{A} STO	3.60	(0.30)					(b)
\bar{B} LTO	3.45	(0.45)					
\bar{C} STR	3.46	(0.54)					
\bar{D} LTR	3.38	(0.71)					

(a) Note: $p = .57$ ns.

(b) Note: No *post hoc* analyses were conducted.

Table 28

Overall Student Suspension, Expulsion, and General Office Referral Behavior Frequencies

Group	Behavior Frequencies				χ^2
	Option-In		Resident		
	<i>N</i>	%	<i>N</i>	%	
Short Term	27	(50)	37	(44)	
Long Term	27	(50)	48	(56)	
Totals	54	(100)	85	(100)	0.56*

* Note: $p < .30$ ns.

Table 29

*Overall Student Participation in School Sponsored Arts,
Sports, Clubs, and Student Government Activity Frequencies*

Group	Participation Frequencies				χ^2
	Option-In		Resident		
	N	%	N	%	
Short Term	8	(36)	9	(41)	
Long Term	14	(64)	13	(59)	
Totals	22	(100)	22	(100)	0.10*

* Note: $p < .70$ ns.

CHAPTER FIVE

Conclusions and Discussion

The purpose of this study was to determine the impact of option-in students' long-term and short-term longevity enrollment patterns on their achievement, behavior, and engagement outcomes compared to the achievement, behavior, and engagement outcomes of resident students' with long-term and short-term longevity enrollment patterns.

The study analyzed student grade point averages, performance on locally-developed criterion referenced tests, performance on national standardized achievement tests, behavioral referrals, and participation in extracurricular activities to determine what relationship, if any, exists between enrollment status and these academic outcomes. All study achievement data related to each of these dependent variables were retrospective, archival, and routinely collected school information. Permission from the appropriate school research personnel was obtained before data were collected and analyzed.

Seventh grade achievement was determined by beginning and ending of the school year (a) Criterion-Referenced (*i*) reading comprehension and (*ii*) math computation tests cut scores and (b) beginning and ending of the school year norm-referenced Stanford Achievement Test, Tenth Edition

(i) reading total, (ii) math total, and (iii) language total subtest normal curve equivalent (NCE) scores.

Behavior data were also collected retrospectively, posttest only for all seventh grade students at the conclusion of the 2006-07 school year. The dependent measures were suspension, expulsion, and general office referral data for all seventh grade students. General office referrals were further broken down into three categories: safety referrals, code of conduct referrals, and social skills referrals. All of these data were collected from the district's PowerSchool student information system where the information is archived at the central office. The research building used the Boys' Town Social Skills framework as an intervention tool for discipline prevention and remediation.

School engagement data were also collected retrospectively, posttest only. Participation in extracurricular activities served as a proxy measure for school engagement. All seventh-grade Westside Middle School students who participated in any type of school-sponsored extracurricular activity (intramural athletics, school clubs, Math Counts, and Destination Imagination) during the 2006-2007 school year were tracked using the district's PowerSchool student information system.

Conclusions

Research Question #1

Overall, pretest-posttest results indicated that short-term option-in students did significantly improve their reading and math scores. Comparing short-term option-in students' reading and math CRT scores puts their performance in perspective. A posttest reading CRT mean score of 41.78 is congruent with a criterion referenced rubric designation of Advanced. A posttest math CRT mean score 45.39 of is congruent with a criterion referenced rubric designation of Proficient.

Research Question #2

Overall, pretest-posttest results indicated that short-term option-in students did significantly improve their reading scores but did not significantly improve their math and language scores. Comparing short-term option-in students' NRT NCE scores with derived achievement scores puts their performance in perspective. An NRT NCE posttest reading mean score of 63.57 is congruent with a Standard Score of 110, a Percentile Rank of 75, a Stanine Score of 6, and an achievement qualitative description of Average. An NRT NCE posttest math mean score of 70.32 is congruent with a Standard Score of 115, a Percentile Rank of 84, a Stanine Score of 7, and an achievement qualitative

description of Above Average. An NRT NCE mean posttest language score of 61.30 is congruent with a Standard Score of 108, a Percentile Rank of 70, a Stanine Score of 6, and an achievement qualitative description of Average.

Research Question #3

Overall, pretest-posttest results indicated that long-term option-in students did significantly improve their reading and math scores. Comparing short-term option-in students' reading and math CRT scores puts their performance in perspective. A posttest reading CRT mean score of 41.13 is congruent with a criterion referenced rubric designation of Advanced. A posttest math CRT mean score 48.17 of is congruent with a criterion referenced rubric designation of Proficient.

Research Question #4

Overall, pretest-posttest results indicated that long-term option-in students did significantly improve their math scores but did not significantly improve their reading and language scores. Comparing long-term option-in students' NRT NCE scores with derived achievement scores puts their performance in perspective. An NRT NCE posttest reading mean score of 69.13 is congruent with a Standard Score of 114, a Percentile Rank of 83, a Stanine Score of 7, and an achievement qualitative description of Above

Average. An NRT NCE posttest math mean score of 72.61 is congruent with a Standard Score of 116, a Percentile Rank of 86, a Stanine Score of 7, and an achievement qualitative description of Above Average. An NRT NCE mean posttest language score of 65.35 is congruent with a Standard Score of 111, a Percentile Rank of 77, a Stanine Score of 6, and an achievement qualitative description of Average.

Research Question #5

Overall, pretest-posttest results indicated that long-term option-in students did significantly improve their reading and math scores. Comparing short-term option-in students' reading and math CRT scores puts their performance in perspective. A posttest reading CRT mean score of 41.57 is congruent with a criterion referenced rubric designation of Advanced. A posttest math CRT mean score 45.48 of is congruent with a criterion referenced rubric designation of Proficient.

Research Question #6

Overall, pretest-posttest results indicated that short-term resident students did not significantly improve their reading, math, and language scores. Comparing short-term resident students' NRT NCE scores with derived achievement scores puts their performance in perspective. An NRT NCE posttest reading mean score of 63.40 is

congruent with a Standard Score of 110, a Percentile Rank of 75, a Stanine Score of 6, and an achievement qualitative description of Average. An NRT NCE posttest math mean score of 72.16 is congruent with a Standard Score of 115, a Percentile Rank of 85, a Stanine Score of 7, and an achievement qualitative description of Above Average. An NRT NCE mean posttest language score of 64.13 is congruent with a Standard Score of 110, a Percentile Rank of 75, a Stanine Score of 6, and an achievement qualitative description of Average.

Research Question #7

Overall, pretest-posttest results indicated that long-term option-in students did significantly improve their reading and math scores. Comparing short-term option-in students' reading and math CRT scores puts their performance in perspective. A posttest reading CRT mean score of 43.13 is congruent with a criterion referenced rubric designation of Advanced. A posttest math CRT mean score 48.39 of is congruent with a criterion referenced rubric designation of Proficient.

Research Question #8

Overall, pretest-posttest results indicated that long-term resident students did significantly improve their math scores but did not significantly improve their reading and

language scores. Comparing long-term resident students' NRT NCE scores with derived achievement scores puts their performance in perspective. An NRT NCE posttest reading mean score of 65.85 is congruent with a Standard Score of 111, a Percentile Rank of 77, a Stanine Score of 6, and an achievement qualitative description of Average. An NRT NCE posttest math mean score of 77.75 is congruent with a Standard Score of 120, a Percentile Rank of 91, a Stanine Score of 8, and an achievement qualitative description of Above Average. An NRT NCE mean posttest language score of 65.57 is congruent with a Standard Score of 111, a Percentile Rank of 77, a Stanine Score of 6, and an achievement qualitative description of Average.

Research Question #9

Overall, these findings indicate that student groups posttest reading criterion-referenced achievement scores were measured within the Advanced range. Findings further indicate that student groups math criterion-referenced achievement scores were measured within the Proficient range. Within the group conditions comparisons, no statistically significant differences were observed.

Research Question #10

Overall, these findings indicate that student groups posttest reading norm-referenced achievement scores were

measured within the Average range. Findings further indicate that student groups math norm-referenced achievement scores were measured within the Above Average range and language norm-referenced achievement scores were measured within the Average range. Within the group conditions comparisons, no statistically significant differences were observed.

Research Question #11

Overall, these findings indicate that students' posttest grade point average scores were measured within the Above Average grade range represented by a letter grade of "B" to "B+" using the research school's uniform grade scale. Within the group conditions comparisons, no statistically significant differences were observed.

Research Question #12

The observed levels of posttest suspension, expulsion, and general office referral behavior frequencies are consistent with reported middle school and adolescent student behavioral issues (Hill & Coufal, 2005; Lassen, Steele, & Sailor, 2006; Loukas & Murphy, 2007; Reis, Trockel, & Mulhall, 2007). Furthermore, the majority of the reported office referrals analyzed in the study were, anecdotally, for nuisance behaviors and not serious offenses.

Research Question #13

The observed levels of posttest participation in school sponsored arts, sports, clubs, and student government are consistent with the hoped for expectation that every student will participate in extra-curricular activities (Noam, Biancarosa, & Dechausay, 2003; O'Connor, 2001; Powers, Conway, McKenzie, Sallis, & Marshall, 2002).

Discussion

Our nation is unquestionably still at risk, and public schools in the United States are still leaving far too many students behind even though great strides have been made (Christensen, Aaron, & Clark, 2005; Kinlaw, 2005; Ravitch, 2003; Schwebel, 2003; Zhao, 2006). These great strides include improved school facilities, parent engagement, well-qualified teachers, and perhaps most importantly, high expectations to counter, in the words of President George W. Bush, the "soft bigotry of low expectations" for students (Bush, 2000, p. 10). The results of this study buttress the contention that there are success stories to be found in our public schools.

The data presented in Tables 5-29 collectively underscore this point. All four student research groups in the study demonstrated statistically significant growth between the pre- and posttest scores on the district-developed criterion referenced reading and math tests. This trend was true for both

reading and mathematics achievement. An analysis of variance of posttest scores revealed no statistically significant differences in achievement in reading, math, or language. This trend was true for both criterion-referenced and norm-referenced assessments. An additional analysis of variance test confirmed similar results for overall student grade point averages. Finally, a chi-square analysis of student behavior referrals and student engagement in extracurricular activities illustrated no statistically significant differences between the four groups. In short, regardless of the academic outcome or measurement instrument, option-in students performed at levels comparable to those of resident students. Likewise, students enrolled in the district long-term performed at levels comparable to those of students enrolled in the district short-term.

The results of this study are not wholly unexpected nor are they inconsistent with the literature base. There is a significant body of research that supports positive academic outcomes for students involved in public school choice options ranging from traditional home schooling approaches to multi-district voucher programs (Bast & Walberg, 2004; Boyd, Hare, & Nathan, 2002; Goldhaber & Eide, 2002; Green & Winters, 2005; Howell, Wolf, Campbell, & Peterson, 2002). Furthermore, the benefits of school choice do not appear to be limited to strictly academic outcomes.

The first dependent variable examined in this study was academic achievement. The research findings supported that all students, both resident and option-in choice students, performed at similar levels and more importantly, all groups demonstrated significant growth on district-developed assessments of reading and math.

Though there is still scholarly disagreement concerning the impact of school choice policies on academic achievement (Bifulco & Ladd, 2007; Cooley, 2007; Smith, 1995; Witte, 1990) there are a number of research studies that appear to support these findings. Open enrollment policies in particular appear to have a positive impact on student achievement. A study of open enrollment policies in the state of Minnesota, for example, examined the performance of four of Minnesota's school choice programs and found a positive impact on student participants' academic achievement (Nathan & Boyd, 2003). Minnesota is not the only state that has witnessed this phenomenon. A study of school choice in the Boulder Valley School District in Boulder, Colorado found that the school open enrollment program also led to increased levels of student achievement (Howe, Eisenhart, & Betebenner, 2002). Other educational outcomes also appear to be impacted by open enrollment programs. An examination of the open enrollment program in Illinois found that students who opt out of their assigned high school are much more likely to graduate

than those who remain in their assigned schools (Cullen, Jacob, & Levitt, 2004).

Student behavior was the second dependent variable and was measured through the collection and analysis of student suspensions, expulsions, and general office referrals. This study's findings indicated that all students, both resident and option-in, exhibited similar levels of behavior problems. Though there is comparatively little research exploring the relationship between school choice and behavior, the cost of student misbehavior in the form of suspensions and expulsions is unquestionably high. Federal statistics indicate the problem is relatively widespread with a 6% overall nationwide suspension rate and 1% expulsion rate (U.S. Department of Education, 2000). Furthermore, according to the National Center for Education Statistics, students who have been suspended or expelled from school are at higher risk for a variety of negative outcomes including dropping out of school (2004).

Suspension and expulsion rates are not the only behavioral outcomes affected by school choice programs though. According to an examination of the Chicago Public Schools, open enrollment programs also appear to have an impact on student behavior. Specifically, the Chicago study indicated that students attending public schools through open enrollment demonstrated improved behavioral outcomes, such as lowered self-reported

disciplinary incidences and arrest rates (Cullen, Jacob, & Levitt, 2004). It is not surprising then that many parents consider student behavior when weighing school choice options. A nationwide survey of families in urban elementary buildings, for example, found that parents whose students attend choice schools are generally very satisfied with student discipline and lack of negative behavior exhibited in their children's schools (Algozzine, Yon, & Nesbit, 1999).

The third dependent variable analyzed was student engagement as measured by participation in extracurricular activities. This study's findings indicated that all students, both resident and option-in, exhibited similar levels of participation in extracurricular activities. Though research linking school choice to student engagement is likewise limited, there are some promising data. There is a body of research, for example, suggesting that participation in various structured extracurricular activities benefits youth socially, emotionally, and academically (Fredricks & Eccles, 2006; Harrison & Narayan, 2006; Harvard Family Research Project, 2007; Stevens & Peltier, 1994).

The impact of participation in extracurricular activities appears to be particularly significant on academic achievement. An analysis of the National Educational Longitudinal Study of 1988 concluded that participation in extracurricular activities

promotes student development and improves overall achievement (Broh, 2002). Other research has found that school dropout rates were lower for at-risk students who earlier had, compared to those who had not, participated in extracurricular activities (Mahoney & Cairns, 1997).

Lastly, the issue of intervention longevity and enrollment stability bears examination given the research design. There is a well-established relationship between high rates of student mobility and negative educational outcomes (Demie, Lewis, & Taplin, 2005; Engec, 2006; Kerbow, Azcoitia, & Buell, 2003; Titus, 2007). Given that, the results of this study provide some noteworthy findings. Specifically, the question remains why the length of intervention appeared to have no statistically significant impact on student outcomes.

There are a number of possible explanations. There is substantial evidence that educational interventions are most often effective when implemented at a comparatively early age (Ramey & Ramey, 2004; Shapr, Caldwell, Graham, & Ridenour, 2006; Thegen & Weber, 2002; Winters, Leitten, Wagner, & Tevyaw, 2007). It is possible that the study intervention--in this case, exposure to the research school district's 7th grade curriculum and related support programs--was sufficiently consistent with students' academic and social needs that all students received measurable educational benefit at a comparable level in spite of

differences in prior enrollment length. Interestingly, at least one study suggests that school choice programs tend to lead to enrollment stability. An analysis of public schools in Los Angeles indicated that schools of choice had the highest rates of enrollment stability and lowest transience rates compared to traditional schools in the southern California area (Probst, 1998). These results appear to support the contention that the most beneficial time to encourage school choice is at early ages when a stable school environment can make the most difference in a student's life over the long term.

In closing, the results of this research should ultimately be viewed as an optimistic commentary on the future of our country's public schools. There are unquestionably a number of deep-rooted issues still facing our nation's educational system, and school choice programs are clearly not a panacea. But given access to high quality educational services through a carefully designed open enrollment program, all students, regardless of background and particularly those at a young age, have the potential to achieve at high levels not only academically but also behaviorally and socially. The challenge facing our country, of course, is assuring that all students have equitable access to these programs.

Ultimately, our public schools are a reflection of our society as a whole. This country's greatest strength has always

been its ability to reinvent itself, to adapt to meet new challenges both at home and abroad. As a result, though many of the problems plaguing our public schools today were largely created by inequities in our own society, surely it is within our society's ability to successfully solve them through the thoughtful and systematic implementation of choice-equitable programs for all students regardless of background.

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Appendix A: Letter of Westside Community Schools Research
Approval

Appendix B: Letter of Research Approval Institutional
Review Board for the Protection of Human Subjects