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Small Learning Communities and High School Academic Success

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Abstract

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MA, Azusa Pacific University, 2001

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Abstract

Thousands of students drop out of high school every day in the United States and the repercussions affect more than just the individual. Research on smaller learning communities (SLC) reveals increased student achievement, as well as improved teacher perception of student engagement. Student attendance, grade point average, and standardized test scores have been seen to improve within the SLC. In addition, graduation rates for students enrolled in a SLC have revealed increases, but this research focuses on the SLC as an intervention for any student. The current research targets at-risk students in an educational climate of sparse resources, and an increasing need for clever use of capital. The current research fills this gap by evaluating a SLC developed for and populated solely with students identified as at-risk by collecting data from students enrolled in a SLC and comparing them to a population of similar at-risk students not enrolled in the SLC. A Chi-square analysis was conducted comparing graduation rates, a 1-factor analysis of variance compared state test scores, and a 2-factor mixed analysis of variance was conducted to compare GPA, attendance, and discipline between and within the 2 groups. The alpha level was adjusted per the Bonferroni method to correct for multiple data points on the same sample and resulting in a sample size of 106. Findings from this research found a one year SLC intervention made a difference in school attendance, and revealed an overall trend of difference between SLC and control at-risk students in all other areas. These findings contribute to positive social change understanding a one year SLC intervention is capable of improving attendance as well as producing an overall positive trend for at-risk high school students in the areas of graduation, standardized assessment, discipline, and standardized assessments.

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Dedication

I dedicate my dissertation to Casey, my beautiful, loving, faithful, supportive wife, and our three perfect children Ethan, Taylor, and Makinzie. To my dad who set the bar in my life as a man who loves God, is dedicated to his family and friends, and passionate about his profession. You are my hero. To my mom who hides nothing, embraces her eccentricity, and would do anything to help anyone. I've followed in your footsteps more than I ever thought I would, thank you for showing me the way. I have been driven to finish this journey for each of you and I give all the glory to my God.

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Chapter 1: Introduction to the Study

Introduction

Seventy-three percent of students in the United States graduate from high school; 40% of those students score below the basic range of functioning on national assessments of math (Stillwell & Sable, 2013; Walcott, Owens-West, & Makkonen, 2005). These statistics highlight student failure, especially at the high school level, and have forced school reform nationally. Many schools are designed and operated under the model that has students decoding and encoding information presented by teacher lectures (Good, 2008). More recent research supports schools designed around strong teachers, who are engaged with the student population, working within smaller learning communities, focused on targeted student populations, and applying data in the development and implementation of instruction (De la Torre, et al., 2013). Millions of dollars have been spent to change how schools are organized and managed with the goal of providing a thorough, individualized, and meaningful education for all students (Wolff, Baumol, & Saini, 2014). The smaller learning community (SLC) places students with a core group of teachers, as evaluated by Davis, Chang, Andrzejewski, & Poirier (2014), focusing on the importance of the relationship between teacher and student. SLC teachers collaborate with one another on curriculum and assignments; SLC creates an opportunity for students to connect with their classmates and their teachers through a supportive environment (Styron & Peasant, 2010). SLC allows researchers to measure positive gains (Styron &

Peasant, 2010). Too many students are not finding academic success in school and SLC as an intervention may be what students need to find the connection they need.

SLC is successful because of the connection between staff and students, as well as staff and parents (Humann, Palaich, Fermanich, & Griffin, 2015). According to the theory of social capital, positive relationships, like those with teachers and classmates, can be used as a form of equity, accumulated over time and cashed out when needed, supporting individuals throughout their daily lives, including school (Coleman, 1988). The SLC measures research on student academic performance within school size ranges of 100 to 600 students (Barrow, Claessens, & Schanzenbach, 2010; Bernstein, et al., 2008; Meier, 1993; Schwartz, Stiefel, & Wiswall, 2013; Yazejian, 1999). The typical high school in the United States houses 1,500 students (Shakrani, 2008). Darling-Hammond, Alexander, and Price (2002) explained that the typical public school, where students report feeling disconnected in this setting, is directly related to the factory model. The SLC is a newer model that has the potential to be a place of positive change for students nationally (Darling-Hammond, Alexander, & Price, 2002).

School districts are developing and implementing many different forms of the SLC, such as the freshman academy (Villa, 2013). The freshman academy focuses on ninth graders transitioning from middle school to high school (Fulco, 2009). Students enrolled in SLC reported feeling more capable; their attendance and their scores on the standardized testing increased (Chmelynski, 2004; Clark & Hunley, 2007; Johns, 2008; McIntosh & White, 2006; Wasley, et al., 2002). Students in SLC fail fewer core classes

and their behaviors requiring discipline decrease (Styron & Peasant, 2010). Furthermore, teachers from SLC report feeling more capable (McIntosh & White, 2006). The research on this federally funded program reveals the Fresman academy SLC as a viable intervention option for schools looking to intervene across their entire population (Ohnemus, 2002).

Parents have the option to have their student involved in the SLC or remain in the traditional setting (Ohnemus2002). Current research methods giving parents the ability to enroll their student has proven successful, but with the fiscal climate as it is and fewer resources available to school districts, the efficient use of resources has never been more necessary (Usdan & Sheekey, 2012). A more efficient method of selecting students may be needed. One such method would be selecting students by predetermined, at-risk characteristics. Using student data to drive educational interventions and focus services at the source could permits educators the ability to allocate inadequate resources to a population forecasted to fail (Lacefield, Applegate, Zeller, Van Kannel-Ray, & Carpenter, 2011).

The SLC became a conventional educational intervention in early 2000 (Ohnemus, 2002). President George W. Bush introduced the SLC and it was defined and funded by the United States Government (Ohnemus, 2002). It was with No Child Left Behind legislation, authored by the 107th United States Congress and signed into law January 8th, 2002 by the president, that the intervention of the SLC was not only defined but also funded by the United States Government (Ohnemus, 2002). The SLC has proven

its value for students who volunteer to take part (Bloom, Thompson, & Unterman 2010; Humann, Palaich, Fermanich, & Griffin, 2015), but missing in a review of the literature is the effectiveness of this intervention with at-risk students. Past researchers have not asked whether or not the SLC intervention works for at-risk students. The question to be addressed in this study: Will a freshman academy affect students' graduate rates, attendance, discipline, grades, and standardized test scores when compared to students with similar at-risk characteristics, but who did not take part in the SLC during their freshman year?

Background

Approximately 1.3 million students drop out of high school each year (Alliance for Excellent Education, 2011). This high dropout rate is costly for the economy. Belfield & Levin (2007) posited 30% fewer dropouts in the 20-year-old age group could save the state of California $1.9 billion and 50% fewer dropouts could potentially save taxpayers $3.17 billion dollars. Multiple theories have been proposed regarding the retention rate of high school students and. Educational support and school models have been developed from the theories to promote student success and improve high school graduation rates. Social capital theory focuses on the relationships students have with other people in their lives, particularly adults (Coleman, 1988). Furthermore, social capital theory supports the smaller school model, which purports that fewer students drop out of lower enrollment schools compared to those with higher enrollment (Wasley et al., 2002). A high school's student body size is relative to the size of the community it

serves. Communities with dramatic increases in populations will have similar increases in the high school student population. Teachers have a better understanding of their students in smaller schools and parents have a better connection with school staff (Fischetti & Smith, 2010). Jimerson's 2006 report specifically views the benefits of smaller schools for students. The researcher revealed why smaller schools are better with the ten attributes that are focused on three categories: (a) relationships, (b) instruction, and (c) structure (Jimerson, 2006). Students attending SLC (a) are more involved with their school, like playing on the band or a school sport (b) have a closer relationship to the staff, and (c) connect more to their classmates (Jimerson, 2006).

The SLC curriculum provides a more personalized learning experience for students. SLC administrators and educators can provide a learning environment in which students report an increased personal connection to their teachers and staff. Students reveal an increase in the level of extracurricular involvement within the school, increased educational benefits, better attendance, reduced behavior problems, and lower dropout rates (Bernstein, et al., 2008). SLC embedded within comprehensive high school campuses emerges information and research on smaller school size reveals success (Darling-Hammond, et al., 2002; Stewart, 2009). Researchers have not focused on the particular population of at-risk students transitioning from middle school to high school and the effects an SLC may have on attendance, grades, and high school graduation rates.

High school graduation is a critical milestone in the lives of many students; the consequences of not successfully completing high school have potentially detrimental

consequences to the individual and the community. Adult dropouts will still need to get a job, make a living, and care for their families and people without a high school diploma disproportionately struggle with this (Alliance for Excellent Education, 2011). Individuals without a high school diploma have a higher rate of unemployment, earn less money over their lifetime, and contribute less in taxes (Belfield & Levin, 2009). High school dropouts also commit crimes at higher rates, are more likely to be enrolled in Medicare, and have a shorter life expectancy than students who did graduate from high school (Belfield & Levin, 2007; Snyder, Dillow, & Hoffman, 2007). The federal government, state government, and local communities contend with the financial burden of the growing population of dropouts. In the state of California, high school dropouts are responsible for 34% of all crimes committed at a cost of approximately $3.01 billion and they are more likely to receive welfare (Belfield & Levin, 2007; Belfield & Levin, 2009). If each dropout graduated from high school, then across their lifetime the federal government would have had a net financial gain of $115,000 per dropout (Belfield & Levin, 2007). The state and local governments would gain $54,000 (Belfield & Levin, 2007). The social gain over the graduates' lifetime is $392,000, which includes the savings to taxpayers, increased private income, and reductions in crime (Belfield & Levin, 2007). Reduced high school graduation rates costs the individual, their community, the state, and the country. Many different reasons have been hypothesized to understand better the factors involved in the high dropout rate as well as solutions

proposed for what can be done to support students better. One solution focuses on the relationships students have with their teachers, staff, and school community.

High school teachers have changed social expectations in American schools from information to the value of an emotional connection, which could be just as important as the information presented. Students who have an emotional connection with at least one teacher do significantly better than those who do not; this relationship is pertinent to students academically at-risk (Roorda, Koomen, Split, & Oort, 2011). School attendance rates have been compulsory across the United States for over 100 years and the school organization mirrors the first educational institution (Sizer, 2004). Schools were designed to teach specific subject knowledge to large groups of students during the World War II era (Sizer, 2004). High schools were designed to establish basic democratic values in students, like life, liberty, and the pursuit of happiness, to prepare students for American life, for work, and for some, college during the same era (Sizer, 2004). High schools offered curriculum options; however, many jobs did not require skilled workers (Sizer, 2004). Many students left high school and went directly into the workforce. One significant change in the 21st century is the expectation for those entering the workforce to be more technically competent in the fields of math, science, and technology to compete for jobs worldwide (Good, 2008). A high school degree is more important now than ever before, and schools must adapt to the changes and demands. However, with the many research-proven options available to leaders few schools have been able to adapt to the changes (Kuo, 2010).

Schools must adjust to the changes, continue to stress the importance of completing a high school diploma, and use the knowledge gained as how best to educate all students. Education has changed dramatically since the 1930s and 21st century research spotlights the importance of relationships between students and their teachers (Roorda, et al., 2011). The relationship formed between teachers and their students have been found to be especially important for older students (Roorda, Koomen, Split, & Oort, 2011). The bond is more crucial for high school than for elementary students (Roorda, Koomen, Split, & Oort, 2011). Programs have been specifically developed to revitalize the educational experience for students and staff. Within the past 10 years, some schools have left their old ways, leaving behind the idea that the teacher teaches and the student learn (Bernstein et al., 2008). Schools are learning from research that educators must stay connected to all students, including at-risk students. They have devised new ways of providing an education to students, and these schools have implemented these programs in an attempt to support student success (Bernstein et al., 2008). One hypothesis that has arisen from the school size discussion and researched encourages a greater connection between students and teachers (Humann, Palaich, Fermanich, & Griffin, 2015). Educational institutions must foster this relationship by bringing students together into smaller groups, reducing the number of students in a class, and increasing the level of involvement between teachers and students by reducing the student to teacher ratio (Noguera, 2002).

Researchers have identified larger numbers of students dropping out of high schools with very large student body size (Noguera, 2002). Information like this has led to the development of a new way to organize educational institutions. Semel and Sadovnik (2008) review the progressive school movement. Dynamic leaders were committed to the philosophy of child-centered learning and applied the principles to progressive schools, which created successful learning communities that were able to adapt and sustain over time (Semel & Sadovnik, 2008). The progressive school movement stressed respect for human and learning differences, a caring atmosphere between and amongst students and staff, and strong teacher-student relationships (Semel & Sadovnik, 2008). SLC is a term used by the United States Federal Government within the federal legislation of No Child Left Behind to describe many different school designs with one primary similarity, personalizing the educational experience for students by forming smaller groups of students and assigning a particular group of teachers to raise student achievement (Barrow, Claessens, & Schanzenbach, 2010).

The SLC can manifest in a variety of ways. SLC can differ in the organization, location, administration, and student body size (Bernstein et al., 2008). SLC strive to strengthen the school experience by fostering a stronger connection between students, staff, and parents through a higher level of involvement paired with high educational expectations. Career academies, freshman academies, house plans, and school-within-a-school are four ways SLCs are structured (Bernstein et al., 2008).

SLC features the career academy, which was created around one or more careers (Bernstein. et al., 2008). Incoming freshman may take courses about possible career choices (Bernstein. et al., 2008). Students that understand the courses available to them begin to focus on their selected career each year (Bernstein. et al., 2008). Career academies provide students access to coursework as well as service learning through projects and work experience (Bernstein. et al., 2008). Students in career academies take most of their classes within their chosen academy (Bernstein. et al., 2008). The student academy has a physical space on the high school campus that creates a type of small community environment on a large campus (Bernstein. et al., 2008). Forty-two percent of career academy programs developed through federal grant support used this design during the 2002-2003 school year (Bernstein. et al., 2008).

SLC uses the freshman academy for students entering Grade 9 in high school. The freshman academy is a bridge for students entering high school from middle school. Students enrolled in a freshman academy are assigned to a particular team of teachers, typically one teacher from each of the core subjects taught, who have time to collaborate on curriculum as well as student issues (Walcott, Owens-West, & Makkonen, 2005). The freshman academy is similar to the career academy because it physical space on the campus. The freshman academy is a part of the high school campus, which follows discipline guidelines and operates under the school's budget. A review of the first group of schools granted federal funding under Elementary and Secondary Education Act Title V, Part D, Subpart 4, Section 5441(b) found that 55% of SLC used the freshman academy

model. The use of the freshman academy was an increase of 17% from the previous year (Bernstein. et al., 2008).

The house plan is another SLC model for students. The family model is called the house plan, which allows students to stay together like a family (McAndrews & Anderson, 2002). Similar to freshman academies, the house plan is yet another method of implementing an SLC. The freshman academy is different from house plan model because of the duration of time. Freshman academies run for 1 year, but the house plan continues for multiple years (Bernstein et al., 2008). In the house plan, students from different grades are assigned to a particular group. The house has designated faculty and facilities with select discipline guidelines and extracurricular activities (McAndrews & Anderson, 2002). The first group of schools granted federal funding discovered 10% of programs structured their SLC program used the house plan (Bernstein et al., 2008).

The school-within-a-school brings together a group of students around a specific theme in another version of the SLC. The school-within-a-school method is unique because the program maintains its budget, teachers, staff, and academic programs (Bernstein et al., 2008). The student body from the school-within-a-school model typically represents all grades within that school. A high school student would remain in their school with the same teachers throughout their high school education. A review of the first group of schools granted federal funding found 16% operated under the school-within-a-school model (Bernstein et al., 2008). Each model remains different in structure; however, the models have a similar goal to break up large anonymous schools

into smaller, sometimes autonomous, learning communities. The federal grant program that supported all SLC methods, the freshman academy, career academies, and schools – within-schools were the most likely programs to continue from the 2001-2002 school year through to the 2002-2003 school year (Bernstein et al., 2008).

The SLC, as a mainstream intervention, grew with the passage of the No Child Left Behind (NCLB) Act of 2001 under the Elementary and Secondary Education Act (ESEA). NCLB provided local educational agencies access to federal money to start or grow their SLC (Bernstein et al., 2008; Ohnemus, 2002). Legislation allowed schools freedom to choose the model they preferred (P.L. 107-1010, Section 4441). The students' ability measures or learning potential to select students is not allowed (P.L. 107-1010, Section 4441). Placement had to be the choice of the parent (P.L. 107-1010, Section 4441). Parental voluntary placement was an attempt to have a population that mirrored the demographics of the total population. Furthermore, parental voluntary placement attempts to provide access to a valuable resource fair to all students; however, the placement does not allow schools to focus resources and money on a particular population of student. A school could not choose to focus on a population that may require a higher level of intervention to reduce their dropout rate, a population that may demonstrate greater improvement within an SLC.

Problem Statement

Thirty percent of the graduating class of 2008 failed to earn a high school diploma. In 2011, this would equal 1.2 million students nationwide failing to graduate

from high school (Diplomas count, 2011). Students who drop out of high school have a difficult time obtaining a job, they earn less, they contribute less in taxes, and they utilize additional federal and state support than individuals who graduate from high school (Belfield & Levin, 2007). At-risk students may require a more intensive intervention in order to increase the likelihood of graduation rates can be identified in middle school (Lacefield et al., 2011). Students may be categorized as successful or at-risk by using information accessible to most school staff and administrators, including grade-point-average, and focusing interventions directly to those students who need them the most. Students fail their freshman high school year more than any other grade. High school dropouts fail 25% of their ninth grade classes (Rumberger & Lim, 2008). The transition from middle school to high school presents a pivotal point in the educational careers of American youth, which is one intervention developed to support students at this important time in their lives is the SLC.

SLCs were created in an attempt to better support students, to positively affect academic achievement and high school graduation rates, as well as to unite teachers with their students (U.S. Department of Education, 2008). One form of SLC focuses on students transitioning from middle school to high school. Students at high schools divided into SLC of freshman academies are concerned about their school experience (Armstead, Bessell, Sembiante, & Plaza, 2010). Students revealed the high school experience they desire revolve around relationships between students and teachers, and between students and administrators. The students answers focused on what they were

learning and a desire to be exposed to a rigorous academic curriculum that pushed them to do more (Armstead et al., 2010).

Students from SLC appreciate the involvement of their teachers, desire to have more dynamic teachers who cared about them, subjects learned, and how they are evolving as people. Students in the SLC freshmen academy scored 15 points higher on the algebra Subject Assessment Testing Program (SATP) and 25 points higher on the biology SATP than students in traditional high schools (Styron & Peasant, 2010). Johns (2008) evaluated a freshman academy SLC at the Albuquerque Public Schools, which the data revealed the following results:

- A 9% increase of students caring about completing their homework.
- A 7% increase in students caring about their grades.
- A 12% increase in students expecting they would have homework each night.
- A 5% increase in students who cared to do well.
- A 7% increase in students who expected to do their best all the time.
- An 8% increase of students reporting they could do even the most difficult work in their classes, if they tried.

The SLC are made up of randomly selected students who were given the opportunity to participate with parental permission. The data presents an opportunity for educators to focus a successful intervention on a needy population.

The data demonstrates success for students enrolled in SLC; however, there is a need for additional research measuring the effects of SLC on specific populations of students. For instance, how would the SLC affect students in middle school identified as at-risk but whose measured achievement demonstrates an ability to be more successful. The current body of knowledge on the effectiveness of SLC is based on a volunteer student body population. Students offered enrollment based on a set of characteristics and their parents then elect to have their student enrolled in the program. All students are welcome and the programs typically try to reflect the student population of a typical high school, or where the SLC resides. SLC has the ability to positively affect this select population of students then they may also find success with another specific population of students.

The federal government, as a general intervention for all students, funds SLCs, so schools are not able to direct this intervention to students at-risk. Focusing interventions may prove an advantageous allocation of resources but this would involve a change in the way students are enrolled in the SLC. Research on the SLC and its effect on an at-risk population are missing. Research is needed to determine if an SLC intervention is effective when it comes to at-risk high school freshman. One way of selecting a specific population would be to choose high assessment performing eighth grade students that struggle with navigating the requirements of school, have mild attendance problems, and some discipline issues. This hand-selected population may also be less involved in their school community and have poor relationships with their teachers or few to no

relationships with any staff at school. SLC would provide transitioning students a personal environment, a curriculum interwoven between subjects, and teachers who collaborate and coordinate together with to bridge the gap between academic potential and academic achievement at school. Moreover, the SLC transition would provide a chance for a smoother transition from middle school to high school.

Purpose of the Study

The purpose of this quantitative study was to compare students enrolled in an SLC to students with similar identifying characteristics of students attending a traditional high school. Archival data from the comprehensive high school campus was collected for the analysis. Dependent variables included graduation rates, grades at the end of each semester during the freshman year and the following years, daily attendance rates during their freshman and following years, discipline records for the freshman year and the following years, and California Standards Testing (CST) results for their freshman year and the following years. The quantitative data from students in the program was statistically analyzed relative to the quantitative data from similar at-risk students enrolled at the same high school, but who are not part of the SLC. This quasicontrol group of students displayed similar identifying characteristics to students in the SLC but who were either not asked to be included or students who were asked to take part but whose care giver made the decision to not have their child participate in the learning community.

Research Questions and Hypotheses

The choice of variables and statistical procedures are more thoroughly described and justified in Chapter 3. The following research questions were addressed in this study:

Research Question 1: Will there be a significant difference in the number of students from the SLC who graduate from high school in 4 years compared to those students with similar characteristics but not in the program?

$H_0 1$: There will be no difference in the number of students from the SLC who graduate than those students with similar characteristics but not in the program.

$H_a 1$: There will be a difference in the number of students from the SLC who graduate than those students with similar characteristics but not in the program.

Research Question 2: Will students from the SLC achieve higher GPAs each of the 4 years of their high school career compared to students with similar characteristics but not in the program? The two independent variables are type of student (learning community or not) and time. This research question produces three sets of nondirectional hypotheses.

$H_0 2$-*Program*: Students from the SLC will have equal GPAs compared to those students with similar characteristics but not in the program. In other words, the main effect of type of student will not be significant.

$H_a 2$-*Program*: Students from the SLC will have different GPAs compared to those students with similar characteristics but not in the program.

$H_0$2-Time: Mean GPAs across years attended will be comparable

H_a2-Time: Mean GPAs across years attended will be significantly different

$H_0$2-Interaction: Mean GPAs will be consistent across years attended and across the two student groups.

H_a2-Interaction: Mean GPAs will be inconsistent across years attended and across the two student groups.

Research Question 3: Will students from the SLC have fewer numbers of period absences during each of the 4 years of their high school career compared to students with similar characteristics but not in the program? The two independent variables are type of student (learning community or not) and time. This research question produces three sets of nondirectional hypotheses.

$H_0$3-Program: Students in the SLC will have the same number of period absences than those students with similar characteristics but not in the program. In other words, the main effect of type of student will not be significant.

H_a3-Program: Students in the SLC will have different number of period absences compared to those students with similar characteristics but not in the program.

$H_0$3-Time: Mean number of period absences across years will be consistent.

H_a3-Time: Mean number of period absences across years will be inconsistent.

$H_0$3-Interaction: Mean number of period absences will be consistent across time and across the two student groups.

H_a3-Interaction: Mean number of period absences for students in the SLC will be inconsistent across years will be consistent across time and across the two student groups.

Research Question 4: Will students from the SLC have fewer discipline referrals from the school each of the 4 years of their high school career compared to those students with similar characteristics but not in the program? The two independent variables are type of student (learning community or not) and time. This research question produces three sets of nondirectional hypotheses.

$H_0$4-Program: Students from the SLC will have a similar number of discipline referrals from the school compared to those students with similar characteristics but not in the program. In other words, the main effect of type of student will not be significant.

Ha4-Program: Students from the SLC will significantly differ in the number of discipline referrals from the school compared to those students with similar characteristics but not in the program.

$H_0$4-Time: Mean number of behaviors requiring discipline by the school will be consistent across years.

H_a4-Time: Mean number of behaviors requiring discipline from the school will be inconsistent across years.

$H_0$4-Interaction: Mean number of behaviors requiring discipline from the school by students from the SLC will be consistent across years and across the two student groups.

H_a4-Interaction: Mean number of behaviors requiring discipline from the school by students from the SLC will be inconsistent across years and across the two student groups.

Research Question 5: Will students from the SLC score higher on the California High School Exit Exam during their first attempt compared to students with similar characteristics but not in the program?

$H_0$5: Students in the SLC will score the same on the California High School Exit Exam during their first attempt than those students with similar characteristics but not in the program.

H_a5: Students in the SLC will have different scores on the California High School Exit Exam during their first attempt than those students with similar characteristics but not in the program.

In order to answer the research questions posed three different statistical analyses were used. A Chi-squared analysis compared the graduation rates between the two groups. A two-factor mixed analysis of variance was used to compare grade point average, attendance, and discipline. Finally, a one factor between group analysis of variance was used in comparing standardized assessment, using the CASEE.

In order to test these hypotheses, archival data was gathered about graduation percentages, grade point averages, attendance, discipline, and standardized assessment results (CHSEE). Data was obtained from two different populations (a) students who were enrolled in the SLC and (b) students who displayed similar identifying

characteristics but who were not enrolled in the SLC. Archival data was gathered utilizing the school districts computer program, which collects and stores this information.

Theoretical Foundation

The value of positive relationships is described by social capital theory, which acknowledges those positive relationships as a form of capital that is just as valuable as any currency (Bourdieu, 1986; Coleman, 1988; Meier, 1993). Individuals are able to accumulate equity through mutual friendships and positive social connections within the organization of interest (Bourdieu, 1986). This affects how the individual perceives their actions, how the action is perceived by those the relationship is with, and the chance the individual will repeat the action over time (Meier, 1993). Family, friends, and social networks have the ability to affect the lives of students but each has its limitations (Bourdieu, 1986). Social capital theory suggests there are more factors to success than what each individual brings on their own (Coleman, 1988). Social interactions are involved in the successes and failures of each individual. The individual may act as the beneficiary, the family member, institutional professional, or community member as the contributor. SLCs attempt to put this theory into practice. SLC students have greater access to their teachers because of a smaller school; in which, teachers are able to connect with their students and foster strong relationships, allowing students to feel a personal connection with their teachers, school staff, and classmates.

This study is based on the idea that social capital is generated by the relationships that are more easily established and maintained as a function of the SLC; value is added to student experiences in the form of an education supported by positive relationships (Bourdieu, 1986; Coleman, 1988; Meier, 1993). Meier was a prominent figure in the small school movement having founded the Central Park East School in 1974, she stressed the culture of a school determines how successful students will be and the size of a school directly affects its culture (Meier, 1993; Yazejian, 1999). The small school movement stresses the importance of size as it relates to the staff's ability to access students and their abilities, which directly affects the culture of the school. Teachers personally relate to their students is believed to positively affect student achievement (McClure, Yonezawa, & Jones, 2010). Social capital is accumulated among the relationships of individuals and those that are able to compile more social capital with a greater advantage (White, 2002). Students with increased social capital feel more connected within the social institution. Students who gained their accumulated equity feel comfortable around the individual who provided the equity; the acquired capital is the action of the individual that are directly affected (Bourdieu, 1986). Relationships within SLC theory depend on the situation; therefore, social capital theory assumes relationships between individuals are positively felt by those involved in the relationship and social capital is perceived as a strong equity (Bourdieu, 1986). Small schools allow teachers to connect with their students, improve relationships, and build social capital. Students enrolled in small schools are able to draw from their reserve equity, knowing

their teachers have a stake in them. This leads to students being concerned about how they are perceived at school, ultimately achieving higher academically.

Nature of the Study

My research study required quantitative archival data from a SLC on a comprehensive high school campus located in a suburb in southwest, California. Data included graduation rates and freshman through senior year students: (a) end of semester grades, (b) end of year attendance rates, (c) discipline records, and (d) CST scores. The quantitative data from students in the program was statistically analyzed and compared to students enrolled at the same high school. The data displayed similar identifying characteristics during their middle school years; however, were not enrolled in the SLC.

Definitions

At-risk students. At-risk students were defined primarily by their standardized testing results and grade point averages from 6th and 7th grade. At-risk students presented with a grade point average at or below 2.5, cumulative through their 6th and 7th grade years. At-risk students presented with standardized testing scores between 1 (Far Below Basic) and 5 (Advanced) but the majority of students score 3 (Basic) or higher on each of the state standards assessments.

AVID. Advancement via Individual Determination, which was a college readiness system for elementary through higher education (Advancement Via Individual Determination, n.d.). AVID was not available to all students and the parent or guardian

of the student had to submit an application in order for the student to be a part of the program.

California High School Exit Exam (CAHSEE). The CAHSEE was a cumulative exam that all Californian high school students, except students with federally identified disabilities under the federal law of IDEA, had to pass in order to graduate from high school. The CAHSEE consisted of two parts, English-Language Arts, and Mathematics. Students had to achieve a scaled score at or above 350 to pass.

Class grades. Class grades refer to grades given to students in each of their individual classes.

Daily attendance. Daily attendance includes whether a student was marked present for a class

Discipline.

Grade Point Average (GPA). GPA refers to a student's grade when each of a student's classes was averaged together and presented in one score

Graduation requirements. Established by the school district, included the completion of 220 credits with a passing grade of C or higher. Students also had to demonstrate competency in computer literacy either through the completion of a computer essentials course or by passing the computer test. Finally, in order to graduate students also had to successfully complete community services hours and pass the California High School Exit Exam.

SLC. SLC in this study were an interdisciplinary team of four teachers (world history, English, global science, and Algebra 1) plus a dedicated counselor

STAR tests. California's Standardized Testing and Reporting (STAR) Program. STAR tests may also be described as CST tests

Assumptions of the Study

Assumptions were made about the construction of the study as well as possible outcomes. The first assumption was the parents of students involved in the SLC understood the program offered to their child, and the students involved were equally motivated to find success within SLC. Another assumption was the data collected adequately demonstrated changes taking place due to the intervention of the SLC. The final assumption was the archival records used were valid measurements of the academic success of participating students.

Scope and Delimitations

Specific student characteristics, like gender, ethnicity, or language dominance was not included as covariates or quasi independent variables in this study. The focus of the study was to determine whether the SLC was a factor in student graduation, grades, attendance, discipline, and testing scores. Additionally, specific parent characteristics, was not included in this study. This study focused on the school intervention of the SLC and grouping students with specific teachers who regularly collaborate and coordinate with one another, affecting those students involved.

Limitations

The first limitation to this study was a single study site; therefore, generalizability of the findings was limited. The school district containing the SLC included three comprehensive high schools. Students in the district transitioned from middle school to high school depending on the boundaries they lived in and only students transitioning to the high school containing the SLC were offered admittance into the program. The individuals involved in the SLC did not represent the larger population at the school and within the district based on their demographics. The population enrolled in the SLC represented an identified group of at-risk students within the school district. This study did not account for students who persisted in their education after leaving the high school housing the SLC in this study. Some high school dropouts complete their education through other programs offered in the school district. Berliner, Barrat, Fong, Shirk and Regional Educational Laboratory West (2008) found nearly 20% of dropouts earn their high school diploma within 4-5 years. In addition, this study did not account for those students who achieved their high school diplomas in other cities or states. Another limitation of the study was the lack of account for potential graduates in the statistical analysis. This study focused on the behaviors of students who remained at the high school and attempts to understand the effects of the program on student grades, attendance, state testing and graduation. Finally, all students involved in the SLC were given the option to be a part of the SLC or withdraw their involvement. No student was forced to be involved but only select students were asked to participate.

Significance

Legislation over the last decade brought different perspectives on what an SLC is and its effectiveness. If the small school movement and the theory of social capital are correct, then schools have the ability to create a more successful population of students. The current research is conducted on the effectiveness of this intervention focused on the broad student body. I focused on at-risk students to determine the impact of an SLC on this population in this quantitative study. This research will add to the body of knowledge regarding SLCs and the effect of SLC educational indicators for at-risk students entering their freshman year of high school.

Students transition from middle school to high school annually. One-fourth of freshmen students in the United States do not graduate at the end of 4 years. The students have higher rates of unemployment, mortality, criminal behavior and incarceration, earn less when they are employed, and have an increased dependence on public assistance (Rumberger & Lim, 2008). The knowledge derived from this research may create positive social change by informing educators, administrators, and community members about the influences an SLC has on at-risk students. SLCs may make a positive effect on student academic achievement and future graduation. In addition, the research will serve as a program validity check for the participating school, providing support, or opposition for similar programs in the school and the district.

Summary

High school graduation is more valuable now than ever before and a failure rate of three out of every 10 students in unacceptable. School districts, educational agencies, private foundations, and even the federal government have developed different techniques to change this statistic (Gates, 2009; Ohnemus, 2002). A review of different methods used reveals the educational success possible within the SLC where students report a feeling of community, of personalized learning, and stimulating curriculum. SLC incorporates an environment where students feel connected to something bigger than themselves. I added to the body of knowledge on SLC by focusing on a population of at-risk students receiving this intervention.

A gap in research was identified in understanding the effects of the SLC on students who may be overrepresented among the dropout statistics. Information regarding the positive effects of the SLC on students from the general student population whose parents have volunteered them was abundant; however, there is little information about the effects on specific populations. Legislation promotes the SLC as a means of intervention in schools (Ohnemus, 2002; P.L. 107-1010, Section 4441).

The second chapter begins with a discussion of the effects of dropping out of high school and the similar characteristics of dropouts while they were high school students. SLC is defined, a discussion about how it is implemented will be presented, and the outcomes of students enrolled in SLC presented in research. Chapter 2 ends with a

theoretical discussion of the SLC and how connecting at-risk students to their teachers through this intervention is a logical step in the research discussion of this topic.

Chapter 2: Literature Review

Introduction

In the literature review, I will describe the population of high school students who drop out, some of the interventions used by schools to support students from dropping out, and why students do not graduate. This literature review presents the need for additional research on the SLC as an intervention tool and its effect on a specific population of at-risk students rather than an open enrollment population. I began this chapter by introducing the theoretical foundation for SLCs, reviewing the effects on student and teacher perceptions, high school dropout rates, class failure, school attendance, and standardized assessment scores, in addition to presenting the rationale for utilizing such an intervention on a more specific population of high school student. Moreover, I describe the dropout population, characteristics they have in common, and the impact they have on their community. With 1.3 million high school students dropping out nationally, there is a need to understand interventions designed to reduce the number of dropouts and interventions that focus on student groups that have been identified as low-performing and account for a disproportionate number of dropouts nationwide (Swanson, 2010).

SLC is presented in this chapter as an intervention implemented to support students in completing their high school education, defines the smaller learning communities organization, the population, and the findings from research on these interventions. After reviewing some of the interventions currently being implemented the

analysis focuses on one specific intervention, the freshman academy SLC. The SLC focus and research is an intervention open to all students. Research does not focus on the SLC as an intervention for specific groups of students in schools, like at-risk students. The SLC intervention could affect the identified at-risk population therefore additional research is needed. I conclude this chapter with factors that correlate with students' academic struggles and the failure to complete high school education.

Literature Search Strategy

Data reviewed as a part of the current research was obtained from peer-reviewed journal articles, books, government statistics, and chapters from electronic sources. The literature review focused on recent sources, within the past 5 years. The literature review was extended to the past 10 years as the SLC was a part of *No Child Left Behind* legislation, signed in 2002. The literature review extended beyond the 5 and 10 years as the theoretical foundation of the SLC, which was also extensively reviewed, began well beyond 10 years ago. A digital literature search was conducted using databases PsycINFO, ERIC, SocINDEX, dissertations, and ProQuest. Search criteria included terms *SLC, freshman academy, small school initiative, school restructuring, high school dropout, attendance, health benefits, graduation, middle school transitions, high school transitions, social equity, social capital theory, juvenile delinquent and adult incarceration,* as well as *teacher and student perception*.

Theoretical Foundation

In this chapter, I present some of the educational benefits for students enrolled in SLCs, and the relationships defined in social capital theory. Social capital is any social arrangement, like public education, where an individual increases their ability to achieve (Coleman, 1988). These achievements can be observed and measured through student actions. Coleman (1988) was one of the first to define social capital and the life achievements that are directly related to one's social capital. Social capital theory proposes the relationship students have can positively affect educational performance and student success (White, 2002). This level of connectedness with students and teachers is directly involved in the success students achieve in SLC (McClure, et al. 2010). Educational successes presented in research on SLC and employing social capital theory, may improve student and teacher perception of academic achievement, increased graduation rates, elevated grades, enhanced attendance, reduced discipline, and improved standardized assessment scores.

Social capital theory does not take away from the individual nor the accomplishments and successes. This theory recognizes a person's accomplishments that are affected by the relationships in life (McClure, et al. 2010). Individuals with positive relationships can collect social capital in the form of reciprocal, supportive relationships, and trust between one another (White, 2002). The SLC equity expands as relationships grow beyond those between student and teacher in effort to reach parent and the community. Students perform better in schools where teachers report high levels of

relational networks students did better on high-stakes assessments of math and writing, and more students passed their classes (Goddard, 2003). Students reported feeling received by teachers and welcomed openly by adults through SLC (McClure, et al. 2010). Moreover, the students noted they feel they are able to confront difficulties in their lives, which have been linked to improved school attendance through SLC models (Bryant, Shdaimah, Sander, & Cornelius, 2013). The relational networks within these schools connected parents to community members and faculty, as well as developed trusting relationships among students, teachers, and parents (McClure, et al. 2010). These relational networks, the available connections, and accessible relationships represent equity within the social structure of high school. The new SLC equity created increased achievements and decreased discipline problems (Coleman, 1988).

The SLC was designed to connect students with their teachers to offer a personalized learning environment, which is consistent with the theoretical foundations of social capital theory (Bernstein et al., 2008). Freshman from SLC reported significantly higher levels of perceived expectation from their teachers, an increased level effort from their peers to complete homework, attend class, and pay attention in their classes, and increase in their perceived ability (Johns, 2008). Social capital theory fosters relationships developed and nurtured between teachers, students, and parents through the SLC and create a positive student perception of school (McClure, et al. 2010). The SLC equity provides students with attendance improvements, student discipline improvements, and standardized testing scores improvements; however this does not include at-risk

students (Chmelynski, 2004; Clark & Hunley, 2007; Johns, 2008; McIntosh & White, 2006; Wasley, et al., 2002). If social capital theory, as it operates within SLC, is an appropriate intervention for at-risk students then it would be appropriate to analyze some of the reasons students drop out.

The At-Risk Population

Approximately 1.2 million U.S. high school students from the class of 2008 failed to graduate from high school, which equates to 6,400 high school students dropping out every school day or one every 27 seconds (Editorial Projects in Education, 2011). Students who dropout of high school earn less, utilize a greater amount of government support, and account for a larger proportion of individuals within the legal system (Belfield & Levin, 2009). In addition, the students who drop out of high school have a real health outcome in the form of a statistically shorter life expectancy (Meara, Richards, & Cutler, 2008). While more recent statistics reveal a 1% increase in the number of students graduating from 2005 to 2008 to almost 72% the fact remains that roughly 30% of students did not graduate (Editorial Projects in Education, 2011). Of these dropouts, just 50% of males and 28% of females are employed, whereas 68% of male and 50% of female high school graduates are employed (Editorial Projects in Education, 2011). Furthermore, 72% of students who have completed at least some of college education are employed (Belfield & Levin, 2007). Forty percent of high school graduates that are employed have health insurance and their annual income approaches $30,000, which is double the annual income of the high school dropout (Belfield & Levin, 2007). Dropouts

require a greater level of state and federally funded support because they have reduced incomes and medical support (Belfield & Levin, 2009). While this list of characteristics is not exhaustive it demonstrates the significance of a high school diploma.

Students who drop out of high school use more publicly funded services than graduates. Governmental support is available to all members of the public and is dependent on qualifying factors; in 2009, Medicaid's estimated cost was $381 billion dollars (Department of Health Care Services, 2007; Herz, 2010). Fifteen percent of white male high school dropouts are enrolled in Medicaid but only 5% of white male high school graduates are enrolled (Belfield & Levin, 2007). One percent of college graduates are enrolled in Medicare (Muennig & Woolf, 2007). Twenty-five percent of dropouts are enrolled in Medicaid, whereas only 8.2% of graduates are enrolled in Medicaid (Muennig & Woolf, 2007). California's Medicaid health care program is called Medi-Cal, which funds an array of medical services for those who meet the program requirements (Department of Health Care Services, 2007). Fifteen percent of dropouts utilize Medicaid compared to only 5% of high school graduates and 3% of students who have at least completed some college (Belfield & Levin, 2007). In addition to requiring more publicly funded health services, the population of students who drop out of high school are overrepresented within the justice system.

Harlow (2003) noted that 41% of convicted inmates within local, State, and Federal custody had not completed their high school education. Furthermore, 31% of individuals on probation within the U.S. Department of Justice did not complete their

high school education or equivalent (Harlow, 2003). Fifty percent of the inmates were high school dropouts. Harlow (2003) discovered 22.6% of local, State, and Federal convicted inmates achieved their high school diploma and 23.4% completed a high school equivalent. Juveniles account for a significant percentage of crimes in the state of California; research has demonstrated juvenile incarceration will increase the chance of adult incarceration (Holman & Zeidenberg, 2006).

Juvenile offenders accounted for about 16% of all violent crimes and nearly 25% of all crimes involving property in 2007 (Puzzanchera & Sickmund, 2008). California arrested 233,588 juveniles aged between 10 and 17 years old (Belfield & Levin, 2009). Of the juvenile offences, 73% were misdemeanors and 27% were felonies that included 40% property crimes, 25% violent crimes, and 10% were drug offenses (Belfield & Levin, 2009). Juveniles who were incarcerated have a higher rate of committing crimes as adults and a high percentage of adult convicts are high school dropouts compared to those students who were not incarcerated (Belfield & Levin, 2009). Students' activities and behaviors outside of school, particularly engaging in deviant and criminal behavior, influence their likelihood of remaining in school (Rumberg & Lim, 2008).

Students with a police record drop out of high school in higher numbers and tend to cost the state. Juveniles cost the state of California more than $8.9 billion each year when the levels of government, public, and private agencies involved are considered (Belfield & Levin, 2009). Students are affected personally by a reduced life expectancy.

The life expectancy for an infant born in 2008 is 78.1 years, which increases every year (Minino, Murphy, Xu, & Kochanek, 2011). An individual's level of education directly affects their life expectancy. Students who have successfully completed high school and beyond have a significant advantage compared to those students who dropped out of high school. Individuals who graduate from high school live 13.1 years longer than their life expectancy; high school students gain 7.4 years life expectancy who have some high school education versus those who have below a ninth grade education (Wong, Shapiro, Boscardin, & Ettner, 2002). Individuals with less education have a 3.5 times greater chance of dying from a major disease than those with more education, and the individual with more education will live 9.2 years longer (Wong, et al., 2002). Students who have dropped out of high school have a higher risk of cardiovascular disease risk from factors such as smoking, high blood pressure, and high cholesterol (Winkeleby, 1992).

Students enrolled in a classroom with a smaller number of students have a higher quality of life than students enrolled in a class with a larger number of students (Muennig & Woolf, 2007). SLC students reported a greater level of mobility, self-care, typical activities, reduced pain, reduced anxiety, and reduced depression as they aged. SLC is an academic intervention used to support students, which will make a lasting impression.

Smaller Learning Communities

SLCs were designed and implemented in a response to the growing size of schools. In the United States, high school students attend a school with more than 1,500

students and in more urban areas schools may have up to 4,000 high school students on one campus (Shakrani, 2008). Noguera (2002) found large comprehensive high schools have an increased percentage of staff and student body who feel disengaged and disconnected when compared to smaller schools. The educational entity's ability to collaborate and coordinate in relation to school size is an integral piece in SLC literature (Cotton, 2001). Meier (1993) is the founder of the modern small school movement and revealed the size of a school should be small enough the teachers can meet around a single table.

Educational environments are possible when schools allow administration the freedom and ability to develop and maintain a healthy culture among staff and students (Gregory, 2001). Professionals are able to communicate and collaborate on intimate levels that fosters ideas and values, forming a face to face culture. School is a place where the entire population thrives, the number of teachers should be about 15 to 20 and the number of students should be about 250 to 300 to satisfy the foundational face to face culture idea. The administration is vital in making the principal of the school one of the most important professionals on campus because one of the responsibilities of the administrator is the connectedness of their staff. Gregory (2001) discussed school administrators have historically been assigned to schools based on the number of students in the school and not the connectedness of the staff. Administrative ideology change is achieved by developing a school to focus on the level of engagement between staff and students.

Schools were given the freedom to choose how they were going to implement their programs. SLCs are primarily located within a larger school campus but are independent from the other students on the campus. The SLC may not be crucial for all students. Furthermore, SLC allows districts an option for their students who may be at-risk of dropping out and may benefit more from individualized instruction, high academic expectation, and a higher level of involvement (Bridgeland, DiIulio & Morison, 2006). The SLC describes a place where students are educated together in smaller groups and with a core group of teachers. The *No Child Left Behind Act* presented schools with potential funding for the development, implementation, or expansion of SLC (Title V, Part D, Subpart 4, Section 5441(b). SLC programs focus on a theme, others a vocation, and still others on a specific population of students, such as freshman academies. SLCs known as the freshmen academy is designed for incoming freshman to support their transition into high school (Bernstein et al., 2008). The SLC models is based upon the number of students involved in each program. The student class number ranges from 400 to 600 for one program, to 250 to 300 in another, and as low as 100 in yet another study (Bloom, Thompson, & Unterman 2010; Gregory, 2001; Meier, 1993). Federal funding programs such as electing, or attempting, to initiate SLCs must be open to all interested; there can be no selection or qualification in order to take part.

Career academies, school-within-a-school, career clusters, and freshman academies are all SLC structures (Bernstein et al., 2008). SLCs make the experience of education more personal. The SLC strives to overcome the obstacles of high school.

SLC is enhanced by the size of the population, although size alone doesn't prevent failure (Noguera, 2002). Interventions are used in SLCs and include course projects (64%), cooperative learning integrated into the curriculum (63%), core teachers acting as advisors or mentors for their students (60%), and smaller class sizes (36%), in an attempt to make each student's experience more personal (Bernstein et al., 2008). Student body size and interventions are a combination that set the SLC apart from other educational interventions.

Fifty-five percent of SLCs use the design referred to as the freshman academy. The freshman academy attempts to increase academic achievement, student perceptions of staff, and student involvement for the new high school students through the additional supports and attention provided by teachers and staff to freshmen (Styron & Peasant, 2010). The freshman year of education has been identified as the most critical of all high school years where students struggle emotionally and academically in the new environment they have been thrust into and without support during this transition school districts continue to see this population struggle (Reents, 2002). Students enrolled in freshman academies are grouped together and assigned a core group of teachers who collaborate and coordinate curriculum. The freshman cohort stays together with these teachers for the entirety of their freshman year. The freshman year of high school is a time when students are moving to a bigger school, they can be overwhelmed by the socially and academic expectations placed on them, and simultaneously a larger number of parents are less involved in their student's education (Chmelynski, 2004).

Benefits of Smaller Learning Communities

Research on SLC reveals a collection of benefits in the form of student and teacher perceptions, lower dropout rates, and a reduction in the number of classes students fail, improved attendance, and improved scores on standardized assessments. McIntosh and White (2006) evaluated the success of a school's high school freshman academy found student perception of their ability was rated high. Researchers compared the educational outcomes of freshman to a baseline year before the freshman academy had been established. When compared to that baseline year freshman teachers in the freshman academy reported an increase in perceived effectiveness in reaching and educating their students. A research review of finds students in SLCs report they like school and feeling comfortable confiding in their teachers (Noguera, 2002). Students enrolled in one SLC felt their teachers had high expectations, were capable of completing the work expected of them, had higher levels of confidence of completing difficult tasks, improved social connections, and 95% agreed they were fortunate to be involved in the SLC (Johns, 2008). Teachers reported similar perceptual changes noted in the SLC environment.

Teachers reported knowing their students and their parents in a two year study. They report enjoying the ability to coordinate with their colleagues, appreciate their flexible schedules, and ability to support their students with a reduced size of school community (Wasley et al., 2002). Teachers in SLC's feel effective and have a renewed energy with their teaching (Wasley et al., 2002). While this research is encouraging it

must also be critically evaluated. SLC is a new program and researchers should take into account the level of interest. Teachers perceive themselves as an integral part of the educational process and students reciprocate when noticing the difference. It is unknown whether or not this perception, by students and staff, will continue past the first few years of inception; SLCs have additional benefits beyond these reported perceptions.

Students enrolled in SLCs are connected to their school by being involved in extracurricular activities (US Department of Education, 2002). Students in a 29 year longitudinal study receiving part of their education in smaller classes have a longer life expectancy compared to students not enrolled in smaller classes (Muennig, 2011). Muennig's research presents the cognitive benefits possible in a learning environment, like higher grades, higher test scores, and higher levels of high school graduation rates, and educational environment plays a significant role in life outcomes.

Longitudinal studies reveal the effects from the SLC lasting beyond the initiation of the intervention. While there continues to be much more to understand it would seem something about these smaller learning environments acts like an investment in the future of those involved. Students whose perception of their school will improve, improved teacher perception of their school and their students, and increased life expectancy there are also benefits like lower dropout rates, improved class grades, increased attendance, fewer discipline problems, and higher standardized testing scores. Students, teachers, and parents report positive experiences with SLCs (McIntosh & White, 2006). Research

reveals multiple benefits available through SLCs with one of the most import being the reduction of the high school dropout rate.

Graduation

One purpose in establishing these smaller learning communities was the attempt to combat the dropout rate. Research has demonstrated how academic success, attendance, and discipline all play a pivotal role in a student's decision to drop out of school (Bridgeland et al., 2006). Research on SLC reveals a reduction in the number of students who drop out of school. Students of larger schools have twice the dropout rate of students in smaller schools; large high schools had 12% more dropouts than small schools (Wasley et al., 2002; Werblow & Duesbery, 2009). This trend has also been observed when looking at the number of 9th graders promoted to the 10th grade. SLC implementation has proven fewer students drop out after their ninth grade year more students successfully complete their freshman year of high school and transitioning to their sophomore year (US Department of Education, 2007). Reducing the number of students who drop out and increasing the number of students who successfully transition from their freshman year of high school to their 10th grade year are just two of the many benefits of the SLC.

Research of SLCs reveal a greater number of students continuing their education from grade to grade. These studies bring into question just how much the SLC is responsible for this success. Students stay in school to satisfy their parents' wishes and to use school as a social connection. If this is the case then these are also directly related to

social capital theory. If students are maintaining their enrollment grade to grade because their parents refuse to allow them to drop out then it could be argued the improved communication between home and school, in connection with a parent willing to support them is due to the equity they have banked. Or if fewer students who have been involved in a SLC drop out because they want to stay connected to their friends then this also supports the positive influence of the SLC in bringing students closer together, and again the equity they are able to cash in on that they have been saving throughout the process.

Grades

Students in SLC have demonstrated success in their classes, increased faith in their abilities, and failing fewer classes (Johns, 2008). Student perception of their ability to complete work improved significantly from 69% to 77% (Johns, 2008). McIntosh and White (2006) discovered when freshman students are kept together in freshman academies with core teachers, lockers, principal, and counselor located in the *Freshman Wing*, fewer freshmen fail core classes. The number of freshman students who failed science decreased from 8.7% to 5.7%; the number of freshman students who failed history decreased from 5.5% to 4.5%, the number of freshman students who failed math decreased from 7.2% to 6%, the number of freshman students who failed English decreased from 4.4% to 2.3% and overall the number of freshman students who failed one or more class fell from 29% to 22.6% when freshman students were placed in a freshman academy. The statistical data was captured over a five-year period at the *freshman academy*. Educators involved in the freshman academy stressed the importance

of the SLC school. School should be a place where students feel students feel supported, get support, and receive praise for the things they've done. SLC program educators were not able to eradicate failing grades. Educators were able to reduce the number of classes their freshman students fail. Changing student perception and behaviors are possible. The students average GPA in schools with fewer than 350 students (2.11) was greater than students in the host school (1.89) (Wasley et al., 2002). Freshmen academies are academically better than students not in the academy (Fulco, 2009). SLCs also improve student attendance and discipline.

Attendance

Students attending SLCs have higher attendance rates than classmates enrolled in the same school before the SLC was initiated (McIntosh & White, 2006). Students attending smaller schools in Chicago had higher attendance rates than students in other schools in Chicago (Wasley et al., 2002). Moreover, Chicago students in smaller schools attend four or five more days each semester than students from the average high school (Wasleyet al., 2002). At one freshman academy the attendance rate rose from 94.19% to 95.5% in four years (McIntosh & White, 2006). While this difference does not seem sizable it does present an effect. If on average students are coming to school five more days each semester then it would seem appropriate to assume these students are coming to school 10 or more days each year because high schools will typically have two semesters a year. This seems like a much more sizeable effect as there are on average around 20 school days in a month which means due to the SLC, on average, students are

attending school on half of a month more than they would have without the SLC. In addition to the increase in attendance rates, discipline problems diminished for students in SLC.

Discipline

Students attending SLC have fewer discipline problems than classmates enrolled in the same school before the SLC was initiated (McIntosh & White, 2006). Research demonstrates a significant drop in the number of suspensions from 29.4% to 17.8% in the first year a 9th grade academy was started at a large school in Tennessee (Chmelynski, 2004). The number of arrests decreased by 50% in the first three years the freshman academy was initiated (Chmelynski, 2004). McIntosh and White (2006) posited the number of students expelled decreased from 20 students a year to four students in five years. SLC has begun a trend that occurs with a reduction in the number of incidents and a decrease of 1.4 violent incidents, per 100 students (US Department of Education, 2007). Discipline issues on high school campuses and SLCs can impact student success on standardized assessments.

Standardized Test Scores

Standardized testing is a factor used in determining student success. Students enrolled in SLC did better than students in traditional high schools (Styron & Peasant, 2010). SLC students improved their Algebra I subject area test scores by 15 points and almost 25 points higher on the Biology I subject area test (Styron & Peasant, 2010). SLC student scores improved from the 33rd percentile during pre-test of the 2003-2004 school

year, to the 52nd percentile for the post-test in the area of math computation, and an improvement from the 46th percentile to the 50th percentile for the complete composite score (Clark & Hunley, 2007). The cost benefit to SLCs are small; however, there is a significant connection between smaller school size and increased scores on state assessments at the high school level (Humann, Palaich, Fermanich, & Griffin, 2015).

Students are making marked improvements academically while enrolled in SLC. SLC students are dropping out of high school at a reduced rate. SLC students attend class regularly, fewer are causing trouble, students increasing their knowledge base in classes and improving on standardized assessments. The SLC significantly affects the general population and has the potential to produce an affect for at-risk students by reducing the impact of factors found to be involved in a student dropping out of high school.

Factors Involved in Students' Decision to Drop Out of High School

No one reason fully encompasses why each and every student drops out of school or stays in school to graduation. Students drop out of high school for a variety of reasons including control, behavior, poor grades and high levels of absenteeism (Rumberg & Lim, 2008). Thirty-five percent of high school dropouts reported failing grades and 30% reported they could not keep up with their schoolwork (Bridgeland et al., 2006). Students with failing grades, low test scores, and fall behind in their class work are less likely to graduate (Jerald, 2006).

Five academic risk factors differentiate high school graduates and high school dropouts. The five factors include a grade average of less than C in middle school, being retained sometime between 2nd and 8th grade, students having no plan to continue with any level of education after high school, students being sent to the office during their 8th grade year, and students whose parents had to be contacted by the school for a problem (Croninger & Lee, 2001). Dropouts fail significantly more classes than graduates, which affects their ability to accumulate necessary credits required for graduation (Wasleyy et al., 2002). Student attendance is a key factor involved in whether a student may be at-risk of dropping out of school.

School attendance is not a high school graduation requirement, yet it seems plausible to assume regular attendance would play an important part in a student's ability to pass their classes. It is reasonable to assume students who are not attending class regularly would fall behind, not receive necessary information to pass their classes hence increasing their chances of dropping out. Forty-three percent of students who dropped out of school report their absenteeism affected their ability to catch up with the rest of the class; over half of students who dropped out reported frequent absenteeism the year before they dropping out of school (Bridgeland et al., 2006). These students report were in a regular pattern of sleeping late, avoiding class, and took extended lunches.

In one state in 1999 students missed, on average, 13.4 school days of English, science, math, or social science. Students who miss multiple days of school have a higher likelihood of dropping out than students with regular attendance (Jerald, 2006).

Twenty-seven percent of student's report leaving school to get a job, students more consistently report feeling no one cares if they are even at school and 29% report disagreements with teachers as a reason why they did not want to be at school (Wasleyet al., 2002; Rumberger, 2001). Behavior factors such as these seem to affect a student's level of engagement in school and further support an intervention like the SLC designed to connect teachers and students.

The student's level of engagement is a dependable predictor if a student is going to achieve a high school diploma (Jerald, 2006). The student may be capable but disinterested then no matter what their attendance looks like students cannot be expected to persist through the educational process to their diploma. Forty-six percent of students that have dropped out of high school report they do not like school, 47% say they aren't interested, and 42% spend time with students who also say they are not interested (Bridgeland et al., 2006; Rumberger, 2001). Eighty percent of dropout students report doing an hour or less of homework because they have no motivation, although they felt they could do the work if there were higher expectations. Moreover, 70% of those dropout students reported confidence in their abilities to successfully complete high school if they tried.

Students who achieve their high school diploma compared with students who drop out experience a significant difference of social variables. Three major variables in students who drop out of high school include poor student-teacher relationships, a lack of student-teachers discussions, and 10th grade behaviors. The 10th grade behaviors include

avoidance of study time, avoidance of class preparation, and classmate perception (Croninger & Lee, 2001). A significant number of these dropouts describe their relationship with their teachers as less positive than students who graduate (Croninger & Lee, 2001). Students who fail to graduate high school experience a lack of connection. The SLC, student-teacher connection, addresses the variables revealed by students who have dropped out of high school.

Summary and Conclusions

Students who remain in school and continue until they graduate are significantly different from students who do not; high school graduates do their work, come to school, and avoid trouble (Croninger & Lee, 2001). The question then becomes if these behaviors can be changed and if high school is too late to make a significant change. Rumberger and Lim (2008) discovered a significant level of improvement at the high school level; in fact, there is an increase in graduation rates as a result of SLC. The SLC is a place where students report feeling cared for and supported by their teachers (Armstead, Bessell, Sembiante, & Plaza, 2010). The SLC fosters an environment that students report avoiding their homework, failing classes, avoiding school, and feeling disconnected. The students at SLC can find a connection and through their relationships a majority report confidence in their ability to find success.

SLC is an older educational intervention; it has not been used as an intermediation for at-risk students. The gap in current literature reveals the SLC could affect a group of freshman high school students who have been labeled in an at-risk category. The gap is

the result of the program restrictions in the No Child Left Behind Act, which spotlighted the use of the SLC as an intervention. Schools using the SLC as an intervention allowed open enrollment to benefit from the financial supports available through the No Child Left Behind Act. Research has not focused this intervention on a specific group of students who have been identified as at-risk, transitioning from middle school to high school. The inquiry presented in this chapter demonstrates the need for additional investigation spotlighting the first year of a high school students and identified leading into high school that are most at-risk for dropping out of high school. I will present a SLC highlighting the gap in the literature review in the next chapter.

Chapter 3: Research Method

Introduction

Approximately 7,000 high school students drop out of high school each day in the United States (Alliance for Excellent Education, 2011). Education professionals have to search for alternative ways to educate children to avoid this level of failure. SLC is one method of attempt with a significant success. The federal government adopted SLC as an alternative educational program funded through the 2001 reauthorization of the Elementary and Secondary Education Act (Bernstein et al., 2008). Since then, the SLC has increased in popularity and success, but it has not been used as an alternative for at-risk students. This study adds to the body of work to better understand the ability of the SLC to positively affect the educational outcomes of at-risk students. More specifically, this study focused on students identified by their middle school counselors as at-risk for dropping out of high school. This study is an evaluation of a SLC for at-risk students enrolled the entirety of their freshman year of high school and the comparison of this group to similar at-risk students who were not involved in the SLC.

I will describe the research design of this study, the population, data collection, the program in question, and ethical considerations. I will continue the chapter by describing the variables, information available through the use of archival data. Furthermore, I will finish the chapter by describing where the information was obtained, how it was collected, and the techniques used in order to maintain the confidentiality of the students involved.

Research Design and Rationale

The quasi-independent variable was participation in the SLC (yes/no). Based on review of literature dependent variables were graduation rates, GPA, attendance, discipline, and high school exit exam scores. The statistical analysis was used to compare students include a Chi-Squared analysis, a one factor analysis of variance using a nonequivalent group design, and a two factor analysis of variance using a nonequivalent group design. The Chi-Squared analysis compared the graduation rates of the two groups. The one factor ANOVA using a nonequivalent group design compared CAHSEE scores between the two groups. I used the two factor ANOVA toward a nonequivalent group design to compare the GPA, attendance, and discipline between groups, over a period of time. A nonequivalent group design was used in place of a randomized sample in order to utilize an intact population of students enrolled in a SLC.

All data was collected using archival data available to me through the district's database. I used archival data, which allowed the comparison of large amounts of data in a relatively short amount of time. The information was obtained through research did not allow me to make causal determinations; instead, I did have the ability to discuss differences between two groups of at-risk students and determine the degree of relationship between measured variables. In spite of extensive research on the impact SLC communities have on students, no peer-reviewed articles were located specific to at-risk students and SLCs. I was able to add to the body of knowledge concerning SLCs and the at-risk student.

Methodology

The target population was an SLC that focused on ninth grade students identified as at-risk. The SLC was located on the campus of a high school in suburban southern California. The high school was one of three high schools in the district housing around 2,700 students (Temecula, California, 2013). The community housing the high school had a population of approximately 100,000 individuals with an estimated median household income of $75,000 (Temecula, California, 2013). The population was 71% White origin with Hispanic origin being the second largest group and the next largest populations being of Asian origin, and then African American origin (Temecula, California, 2013). The city was made up approximately 50% male and 50% female (Temecula, California, 2013).

The SLC was a freshman academy and all students enrolled were in their first year of high school. Students enrolled in the SLC were selected at the end of their eighth grade year by the SLC educational team using research based criteria. The SLC educational team included the principal, core classroom teachers, and the guidance counselor. The SLC educational team collaborated with eighth grade counselors who screened those students based on certain criteria set by the team.

Population

The school housing the SLC was located in the suburb of a large city in the state of California. The high school had been a top performing academic school with a 2010 API of 805. The student population during the 2009-2010 school year consisted of 618

students (Temecula, California, 2013). The students enrolled were 365 White (57.6%), 41 African-American (6.6%), 22 Asian (3.6%), six Native American (1%), 60 Filipino (9.7%), 128 Hispanic American (20.7%), and five Pacific Islander (0.8%) (Temecula, California, 2013). Students who were eligible to take part in the SLC were transitioning from middle school, the eighth grade, to high school and the ninth grade. Students enrolled in the SLC were first identified by their middle school counselors based on California standardized testing scores, discipline, attendance, additional supports, and cumulative middle school GPA, which did not include grades at the completion of their eighth grade year. Students feeding into the SLC at the high school were recommended for review. Middle school counselors at each middle school designated students from their caseload of outgoing middle school students using the Aeries student information system. The counselors spoke with teachers and reviewed their personal interactions with students and their parents. Counselors did not include students who may receive additional educational supports, such as special education, English Language Learner, or Advancement via Individual Determination (AVID) programs. Students were considered for the SLC if they had a GPA of approximately 2.5 or below, CST scores of 1-5, minimal discipline, and truancy issues. Middle school counselors compiled student names before the end of the school year and agreed upon a date that the SLC educational team would review the individual student files.

The SLC educational team included the principal of the high school where the SLC was located, classroom teachers from the core subjects, and the guidance counselor

designated to the SLC student population on the high school campus. The core subjects include English, World History, Algebra, and Global Science. The team reviewed each file looking for those students who met the goals of the program; the criteria included identifying students with low grade point averages, not receiving any other support, and underachievers. The team also attempted to maintain an equal population of boys and girls in the SLC. The SLC could offer placement for 120 students to maintain the appropriate teacher to student ratio, which was 30 students for each teacher. In order to account for natural attrition130 students were selected by the team as possible SLC members.

The SLC educational team read each student's file, reading notes from past teachers, comments from meetings on students, school grades, test scores, and the courses they were enrolled in for the freshman year. The SLC supported students transitioning into high school so students take freshman classes. Freshman students typically took English 9, Geography/Health, Algebra, Biology, Physical Education, and an elective. SLC required the students were enrolled in Algebra. Students were ineligible for SLC if they ahead or behind the freshman academy algebra level. SLC students were required to take a social science class. The core social science class for freshman was a Geography course and a Health class. Students in the SLC were required to take a World History course, which was a core class for sophomore students. Students in SLC had similar core freshman classes that were not in the program. Each student in SLC had the same English, Algebra, and Global Science teacher.

Sampling and Sampling Procedures

Student information for this study was obtained from the students enrolled in the Freshman Academy SLC during the 2008-2009, 2009-2010, and 2010-2011 school years. Students whose records may have been used as the control group were also first year high school students at the same time as those indicated for the SLC group; they were enrolled at the high school housing the SLC. Students involved in the SLC were selected as part of a process and students selected as members of the control group will be chosen through a similar process. The selection process for SLC members started when the SLC educational team visited all middle schools and analyzed all student files. The parents of each student chosen to participate were sent information inviting their student to be a part of the SLC. The parents of each student selected determined if their future high school freshman attended the SLC at the high school where they would be attending. The SLC started with a mandatory introductory meeting where the SLC was presented to parents, students, the SLC educational team members, and questions were taken.

Student data was collected for those enrolled and not enrolled in the SLC. Some students were not enrolled in the SLC program because the lack of parental consent or those who presented with similar characteristics and were not chosen to participate. Students utilized as the control group were selected by the same requirements established by the SLC team. Control group members were considered if they had a GPA of approximately 2.5 or below, CST scores of 1-5, minimal discipline, and truancy issues.

I am understood the sample size; calculating the sample size was vital in making decisions about statistical analyses. It was my specific duty to reject the null hypotheses and make predictive analyses with the data collected. In research, a desirable power level is 80% or higher but as a power level increases the sample size also increases (Suresh & Chandrashekara, 2012). For the current research, the same population was used to complete the statistical analysis of the 11 different hypotheses. I used the multiple analyses method; using the same sample required a correction for familywise error, such as the Bonferroni correction. This exploratory research study featured increased sensitivity of alpha levels to detect promising trends, which provided a hypothesis for future researchers to test in confirmatory studies. Therefore, familywise corrections were not applied and the alpha level for this study was set at $p<=.05$. Accordingly, findings are qualified as exploratory trends only; definitive results were not tested nor found in this study. I used an alpha level of .05, power .80, and effect size of .25 the sample size was computed at 128 (G*Power 3). One hundred twenty-eight students was the necessary requirement for this test and the level of expectation was exceeded for the current study.

Data Collection

I collected data from the district's Aeries archival system. The Aeries system allowed district personnel to compile student records in a centralized database. Information available to district staff included cumulative high school transcripts, grades, attendance, discipline, and standardized testing results. I collected data on graduation

rates, GPA, attendance, discipline, and standardized test results. All results were reported as the dependent variables. I also collected demographic information of those students whose information was evaluated. Demographic information includes student gender and years enrolled in high school. Information collected was on those students who enrolled in the SLC at the beginning of the 2007-2008, 2008-2009, and 2009-2010 school years and remained until the 2010-2011, 2011-2012, and 2012-2013 school years.

Graduation was calculated using each participant's cumulative record, which indicated if a student qualified for a high school diploma. Some of the information used in making this determination was a students' number of accumulated credits, GPA, and their California High School Exit Exam scores. Graduation was defined as completing all necessary graduation requirements within 4 years. Graduation was recorded in the statistical analysis as a *yes* or *no*; if a student met these requirements they were marked as a *yes*, but if they were lacking in any of these requirements they were marked as a *no*.

GPA was calculated at the end of each year of high school. A student's GPA was computed by dividing their grades by the number of classes they were enrolled in. To compute this number a letter grade of A was equal to the number 4, a B was equal to the number 3, a C was equal to the number 2, and anything below a C was equal to the number 0. For example, a participant who graduated from this school had four grade point averages, one for each of the 4 years. GPA was calculated for the 4 years it takes the majority of students to complete high school. GPA for the year represented a students' academic functioning over the year; their ability to maintain academic

expectations within the classroom throughout the school year. I computed four different GPAs, which allowed me to determine if there was a difference in GPA each year, especially after being involved in the SLC intervention.

Attendance was computed as the total number of period absences for each completed year of attendance. A participant who graduated from this school had four scores for absences. The attendance score represented the number of classes a student missed during the year. For example, if there were 180 days in a year and a student was enrolled in six classes then there are a potential 1,080 periods of class for that year. This attendance score allowed me the ability to view student improvement areas of the SLC intervention.

Discipline was calculated using each participant's discipline record as maintained on the school's computer system. The data included incidents where student misconduct resulted in a formal report. Examples of incidents include causing a disruption in class or failing to follow the request of a teacher. Discipline data was the accumulation of inputs in a participant's record for each year of attendance. For example, a participant who graduated from this high school had four scores for discipline. Again, collecting four different scores allowed the researcher to evaluate if there was a difference between years.

Standardized assessment scores utilized the California High School Exit Exam (CAHSEE) scores. The CAHSEE was broken into Language Arts and Mathematics. A passing score on the language arts subject was a scaled score of 350 or higher which

equated to a score of about 55% correct. A passing score on the mathematics subject of the CAHSEE was also a scaled score of 350 but equated to a score of about 60% correct (CDE). All questions were presented in a multiple-choice format, for both language arts and mathematics, except for the essay (Becker, Watters & Sacramento, 2008). Questions were aligned with content standards through grade 10 in the area of language arts and through to the level of algebra for mathematics (Becker, Watters & Sacramento, 2008). The score collected for this research were each participant's first attempt at the CAHSEE. For example, if a participant took the assessment three times before finally passing the only score used in the research was the score from the first attempt, so each student has one score. The researcher obtained consent from school district administration to collect all necessary information.

I met with the school site principal to discuss the possibility of conducting a program evaluation. The site administrator brought up concerns regarding anonymity and confidentiality. This program evaluation utilized archival data and students did not officially participate in the current research. The meeting concluded that all students had to remain anonymous. All identifying information was withheld from the research. In addition, all information on students remained confidential.

Research Questions and Hypothesis

The following research questions were addressed in this study:

Research Question 1: Will there be a significant difference in the number of students from the SLC who graduate from high school in 4 years compared to those students with similar characteristics but not in the program?

H_01: There will be no difference in the number of students from the SLC who graduate than those students with similar characteristics but not in the program.

H_a1: There will be a difference in the number of students from the SLC who graduate than those students with similar characteristics but not in the program.

Research Question 2: Will students from the SLC achieve higher GPAs each of the 4 years of their high school career compared to students with similar characteristics but not in the program? The two independent variables are type of student (learning community or not) and time. This research question produces three sets of nondirectional hypotheses.

H_02-*Program*: Students from the SLC will have equal GPAs compared to those students with similar characteristics but not in the program. In other words, the main effect of type of student will not be significant.

H_a2-*Program*: Students from the SLC will have different GPAs compared to those students with similar characteristics but not in the program.

H_02-*Time*: Mean GPAs across years attended will be comparable

H_a2-*Time*: Mean GPAs across years attended will be significantly different

H_02-*Interaction*: Mean GPAs will be consistent across years attended and across the two student groups.

H_a2-Interaction: Mean GPAs will be inconsistent across years attended and across the two student groups.

Research Question 3: Will students from the SLC have fewer numbers of period absences during each of the 4 years of their high school career compared to students with similar characteristics but not in the program? The two independent variables are type of student (learning community or not) and time. This research question produces three sets of nondirectional hypotheses.

$H_0$3-Program: Students in the SLC will have the same number of period absences than those students with similar characteristics but not in the program. In other words, the main effect of type of student will not be significant.

H_a3-Program: Students in the SLC will have different number of period absences compared to those students with similar characteristics but not in the program.

$H_0$3-Time: Mean number of period absences across years will be consistent.

H_a3-Time: Mean number of period absences across years will be inconsistent.

$H_0$3-Interaction: Mean number of period absences will be consistent across time and across the two student groups.

H_a3-Interaction: Mean number of period absences for students in the SLC will be inconsistent across years will be consistent across time and across the two student groups.

Research Question 4: Will students from the SLC have fewer discipline referrals from the school each of the four years of their high school career compared to those students with similar characteristics but not in the program? The two independent

variables are type of student (learning community or not) and time. This research question produces three sets of nondirectional hypotheses.

$H_0$4-Program: Students from the SLC will have a similar number of discipline referrals from the school compared to those students with similar characteristics but not in the program. In other words, the main effect of type of student will not be significant.

H_a4-Program: Students from the SLC will significantly differ in the number of discipline referrals from the school compared to those students with similar characteristics but not in the program.

$H_0$4-Time: Mean number of behaviors requiring discipline by the school will be consistent across years.

H_a4-Time: Mean number of behaviors requiring discipline from the school will be inconsistent across years.

$H_0$4-Interaction: Mean number of behaviors requiring discipline from the school by students from the SLC will be consistent across years and across the two student groups.

H_a4Interaction: Mean number of behaviors requiring discipline from the school by students from the SLC will be inconsistent across years and across the two student groups.

Research Question 5: Will students from the SLC score higher on the California High School Exit Exam during their first attempt compared to students with similar characteristics but not in the program?

H_05: Students in the SLC will score the same on the California High School Exit Exam during their first attempt than those students with similar characteristics but not in the program.

H_a5: Students in the SLC will have different scores on the California High School Exit Exam during their first attempt than those students with similar characteristics but not in the program.

I used three different statistical analyses to answer the research question. First, I compared graduation rates with a Chi-Squared analysis, testing the null hypothesis that there will be no difference in graduation rates between students in the SLC and those not. Students who graduated were coded as a 1 and nongraduates were coded as a 0. Then distributions of 1s and 0s for the SLC were compared to the number of 1s and 0s for the students not enrolled in the SLC.

A two-factor mixed analysis of variance was used to compare GPA, attendance, and discipline. The between groups factor was whether or not students were in the SLC, presented as two levels. The within groups factor was four levels of time; one level for each of the four years of high school. GPA, attendance, and discipline, were compared between students enrolled in the SLC and students not enrolled in the SLC, at each of the four years. A separate ANVOA was conducted for each dependent variable.

Finally, I compared standardized assessment scores, using the CASEE, a one factor between group analysis of variance was used. The mean CASEE score for students in the SLC was compared to the mean CASEE score for students not in the SLC.

The mean CASEE scores for students was taken for each student's 10th grade attempt at the assessment, which was the first year high school students were given the CASEE. The analysis of variance test didn't allow the researcher the ability to see if there was a statistical difference between the mean scores of students enrolled in the SLC and students outside the SLC.

Threats to Validity

Internal validity speaks to the researcher's ability to faithfully infer the effects of the independent variable on the dependent variables. One threat to the internal validity of this research was the selection of the students for this study. Enrollment in the SLC was not random and self-selecting in nature. A true experimental design would encourage random sampling selections as a research participant or part of the control group. Additionally, the population of students represented a group who were selected based on predetermined characteristics and whose parents chose to allow them to participate. These parents may represent a population who recognized their students' needs more than a typical high school education and are more actively involved.

Another threat to internal validity involved the attrition rate for the experiment. The research did not account for those students who dropped out of the school where they were initially enrolled within the SLC. Some students may have completed their high school education at another other high school or through an alternative program, this research did not account for those students.

I accounted for threats to external validity. External validity communicates the researcher's ability to apply the observed effects of the current research to other populations. One major threat to external validity was the sample size. I used students enrolled in the SLC and had a limited control group, which was based on the number of students in the same school and presenting with similar at-risk characteristics. I strived to minimize additional internal and external threats of the research.

Ethical Considerations

I maintained complete anonymity for participants and confidentiality to the data collected. All data collected was in archival form. School employees gain access to the archived data. The school district was responsible for downloading the program on their computer, which used an ID and Password. School district employees were granted rights and privileges to view the different types of data available by the district office. I used appropriate measures, consulting, securing access through administration, and collect data on all participants. I continuously strove to maintain confidentiality for all participants. All student identifying names were excluded from the information collected. The participants were assigned a number making all names anonymous. Numbers were randomly assigned when student information was taken from the district database and input into a Microsoft excel file. I collected the raw data to statistically analyze using SPSS, Graduate Pack 16.0. The collected data was stored on a specific flash drive, which was stored in the researcher's locked filing cabinet until the completion of the research.

Summary

This study compared at-risk students enrolled in an SLC to at-risk students with similar identifying characteristics attending high school in the traditional setting. I used three different statistical analyses in order to evaluate the data. A Chi-squared analysis was used to compare graduation rates. Second, compared GPA, attendance, and discipline with a two-factor mixed analysis of variance. Finally, a one factor between group analysis of variance was used to compare standardized assessments. I was able to make a predictive analysis toward the level of influence the SLC had on at-risk students. Furthermore, I was given the ability to make certain calculations as to the effectiveness of the SLC on a very specific population of students who had been identified as at-risk compared to similar at-risk students who received no intervention. Further research might be conducted on younger populations of students to understand optimal times when an intervention of this level has maximum effectiveness. I will present the analyzed data in the next chapter.

Chapter 4: Results

Introduction

The purpose of this study was to compare and examine the effects an SLC has on at-risk students' graduation rates, absences, grade point average (GPA), discipline, and standardized assessments versus a similar group of at-risk students who did not receive the intervention of the SLC. My aim is to add to the known information about the SLC as an intervention and variables used in measuring student success at the high school level, specifically designed for at-risk students. Approval was granted through the Walden University Institutional Review Board (IRB) process, and the IRB application was approved and assigned the #10-20-14-0144080. Populations for the current study included all students who participated in the SLC, and a nonequivalent control group of students who were evaluated but not selected to be members of the SLC were used as the control group.

The hypothesis of this research is there will be a difference in data points between students in the SLC verses similar at-risk students who were not enrolled in the SLC intervention. I will present the five hypotheses and the results of the statistical analyses conducted in this chapter. For graduation rates, a Chi-Squared analysis was used to compare the at-risk students with the control group students. GPA, attendance, and discipline were compared using a two-factor mixed analysis of variance (ANOVA); a one-factor between group (ANOVA) was used to compare standardized assessment scores, using the CASEE.

Data Collection

There were no departures from the data collection plan presented in Chapter 3. Data collection for the current study lasted over a period of 4 weeks and required my examination through multiple student files. The data analyzed to deconstruct the information collected and reconstruct the data in such a way to maintain confidentiality for each student. Archival data was collected for the study and the student information was used to compare the at-risk students with the control group students. The student information was gained by accessing the district database that has the students enrolled in the SLC. The student identification process for the control group was time intensive.

Students to be used in the control group were presented in Chapter 3 as students with similar at-risk characteristics but not enrolled in the SLC. I used the list of proposed students for the SLC created by the middle school counselors each year of the SLC and provided to the staff responsible for selecting those students who would be involved in the SLC. Moreover, I examined the potential SLC student's digital file for exclusion criteria. The exclusion criteria was reported in Chapter 3; SLC team members determined the best candidates for the SLC program and did not included students designated as an English language learner, special education, or enrolled in the AVID program. I used the addition controlled confounding variables to include minimal discipline issues or attendance problems. Finally, I arranged each possible control group student to ensure his or her enrollment at the same high school housing the SLC. A

boxplot was used to determine outliers of the initial group of possible control group candidates.

An outlier is a data point that stands out from the other data points in a given variable or population and can affect the assumptions of normality and sphericity (Aggarwal, C. (2015). Conducting an ANOVA or repeated measure ANOVA test of the distribution of the data is naturally distorted there will be an increase in the likelihood of Type 1 error, or finding a significant difference where a difference does not exist. I considered outliers as originating from two different places, outliers from data entry error, and outliers derived from verifiable cases sampled from the correct population. Next, I checked each outlying data point in the boxplot for accuracy. I found incorrect data points that were input incorrectly; these data points were corrected. I verified that the outlying data points were correctly sampled from the population. Furthermore, I had a choice to remove the data points, alter the data points, or keep the data points. I verified the remaining data points as correct, next I ran the analysis of variance on the variables with and without the outliers. The analysis with and without the outliers revealed no major differences. Therefore, I kept the verifiable outlying cases for each AVOVA as the outlying cases and did not distort the results.

The 2010 demographics for students enrolled at the SLC high school were 57.6% White, 20.7% Hispanic American, 6.6% African American, 3.6% Asian, 1% Filipino, and .8% Pacific Islander during 2010. The data collected represents freshman enrolled at the same high school for the 2008-2009, 2009-2010, and 2010-2011 school years. Data was

collected on 250 SLC students and 114 control students who were enrolled as freshman during 3 school years; 159 girls and 205 boys. The data is represented in Table 1. The data was collected on 364 students; however, not every student continued enrollment for all four years of their high school education.

Table1

Participants in each group by grade and gender

Gender by Grade	Smaller Learning Community	Control	Total Number of Participants	
	N	*N*	*N*	%
Freshman Girls	107	52	364	100
Freshman Boys	143	62		
Sophomore Girls	88	44	298	82
Sophomore Boys	109	57		
Junior Girls	68	38	244	67
Junior Boys	93	45		
Senior Girls	66	27	214	59
Senior Boys	81	40		

I gathered participant information from 349 students; 207 students remained all 4 years at the SLC school housing and graduated with their high school diploma. One hundred forty-two students did not remain for all 4 years of high school. Both groups included more graduates than nongraduates; however, visual inspection of the raw data reveals a higher percentage of students from the SLC successfully completed their high

school education at the same school where they were enrolled their freshman year. These data points are represented in Table 2.

Table 2

Graduate success based on group

	SLC		Control	
	N	%	*N*	%
Graduate	144	61.5	63	54.8
Nongraduate	90	38.5	52	45.2

The study involves a group of students who have all been identified as at-risk by educational professionals. The difference between the research group and the control group is a single intervention employed during the freshman year of high school and discontinued at the end of the freshman year. The research population of students was enrolled in the SLC during their freshman year; the control group of students was not enrolled in the SLC. I compared graduation rates, GPA, attendance, discipline, and standardized assessments between these two groups over a period of time.

Analysis of the Data

I used different statistical analyses to compare graduation rates, attendance, GPA, discipline, and standardized testing scores. The graduation rates were compared with a Chi-Squared analysis. The GPA, attendance, and discipline were measured with a two-factor mixed ANOVA over 4 years of high school. The CASEE was used to compare standardized assessment scores, for which a one factor between group ANOVA was used. All analyses were conducted using SPSS, version 21.0 software.

Research Question 1

The first question asked will there be a significant difference in the number of students from the SLC who graduate from high school in 4 years compared to those students with similar characteristics but not in the program?

H_01: There will be no difference in the number of students from the SLC who graduate than those students with similar characteristics but not in the program.

H_a1: There will be a difference in the number of students from the SLC who graduate than those students with similar characteristics but not in the program.

The researcher conducted a Chi-Square test in order to determine if there is a difference between the independent variable of SLC or no SLC, and the dependent variable graduation rate. Data sets met the assumptions necessary to run a Chi-square test as the frequencies in each cell are greater than 5. The data collected was nominal (graduate or nongraduate) and involved two groups (SLC or control). Quantitative analysis revealed graduation rates were slightly higher for students attending the SLC compared to students from the control group (see Table 2). The Chi-square test was not statistically significant, $X^2(1) = 1.458$, $p = .227$, $\varphi = .065$. I failed to reject the null hypothesis that there will be no difference in the number of students from the SLC who graduated than those students with similar characteristics but not in the program and the number who graduated.

Research Question 2

The second question asked would students from the SLC achieve higher GPAs each of the 4 years of their high school career compared to students with similar characteristics but not in the program? The two independent variables are type of student (learning community or not) and time. This research question produces three sets of nondirectional hypotheses.

H_0*2-Program*: Students from the SLC will have equal GPAs compared to those students with similar characteristics but not in the program. In other words, the main effect of type of student will not be significant.

H_a*2-Program*: Students from the SLC will have different GPAs compared to those students with similar characteristics but not in the program.

H_0*2-Time*: Mean GPAs across years attended will be comparable

H_a*2-Time*: Mean GPAs across years attended will be significantly different

H_0*2-Interaction*: Mean GPAs will be consistent across years attended and across the two student groups.

H_a*2-Interaction*: Mean GPAs will be inconsistent across years attended and across the two student groups.

Data collected for the following ANOVA was evaluated based on necessary assumptions. The dependent variable is interval, the independent variable includes two or more groups, and the groups are independent of each other. In the preliminary analysis of the first variable, GPA by group (overall SLC vs. overall control) and by time

(years attended), as well as the interaction (years attended and group), the assumptions of normality and homogeneity of variance were assessed. GPA scores by program and grade were normally distributed as assessed by Shapiro-Wilk's test ($p > .05$) for all programs and grades except for the SLC during the ninth grade. Because of the robustness of the ANOVA to deviations from normality the repeated measure ANOVA for GPA was continued. Mauchly's test of sphericity indicated that the assumption of sphericity had been violated, $\chi^2(2) = .155$, $p = .0005$; therefore, the Greenhouse-Geisser correction was used.

Mean GPAs of learning community and control students for each year enrolled are presented in Figure 1. The main effect of grade (years attended) for GPA was not significant, $F(1.592, 323.171) = 3.166$, $p = .055$. Grades were statistically similar across the 4 years of the study. The main effect of program (SLC vs control) for GPA was not significant, $F(203, 1) = .1.034$, $p = .310$. Grades were statistically similar between the two groups. Finally, the main effect for the interaction when analyzing GPA was not significant, $F(1.592, 323.171) = .727$, $p = .455$, partial $\eta 2 = .004$. Grades between groups and across the 4 years of the study were statistically similar. As a result, I failed to reject the null hypothesis for program and grade level for GPA. The ANOVA results are represented in Table 3.

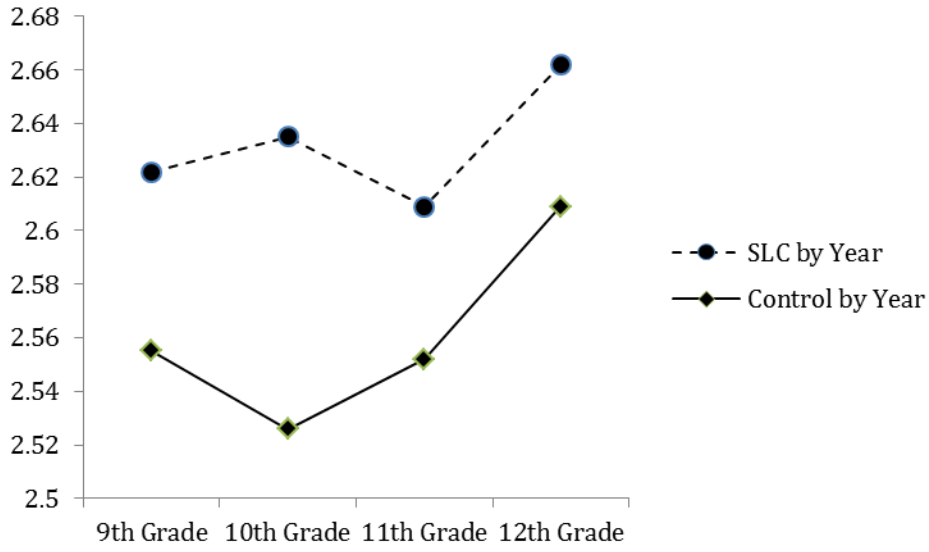


Figure 1. Mean GPA for SLC and control group students for all 4 years.

Table 3

Two-way mixed ANOVA for GPA by program, grade, and SLC vs control group over time (interaction)

Source	*df*	*SS*	*MS*	*F*	*p*	Partial η2
Between Groups (program)	1	.905	.905	1.034	.310	.005
Error	203	177.764	.876			
Within Treatments (grade)*	1.592	.369	.232	3.166	.055	.015
Group over time (interaction)	1.592	.085	.053	.727	.455	.004
Error	323.171	23.680	.073			

Research Question 3

The third question asked will students from the SLC have fewer numbers of period absences during each of the four years of their high school career compared to

students with similar characteristics but not in the program? The two independent variables are type of student (learning community or not) and time. This research question produces three sets of nondirectional hypotheses.

$H_0$3-Program: Students in the SLC will have the same number of period absences than those students with similar characteristics but not in the program. In other words, the main effect of type of student will not be significant.

H_a3-Program: Students in the SLC will have different number of period absences compared to those students with similar characteristics but not in the program.

$H_0$3-Time: Mean number of period absences across years will be consistent.

H_a3-Time: Mean number of period absences across years will be inconsistent.

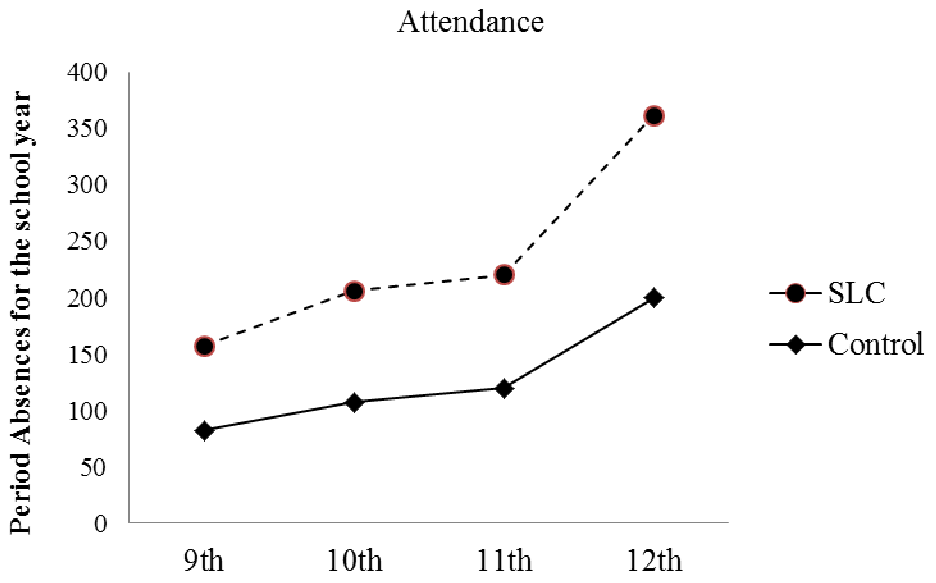
$H_0$3-Interaction: Mean number of period absences will be consistent across time and across the two student groups.

H_a3-Interaction: Mean number of period absences for students in the SLC will be inconsistent across years will be consistent across time and across the two student groups.

Data collected for the following ANOVA was evaluated based on necessary assumptions. The dependent variable is interval, the independent variable includes two or more groups, and the groups are independent of each other. In the preliminary analysis of the second variable, attendance by group (overall SLC vs. overall control) and by time (years attended), as well as the interaction (years attended and group) the assumptions of normality and homogeneity of variance were assessed. Period attendance by program was normally distributed for the control group, during the 11th grade, but not

normally distributed as assessed by Shapiro-Wilk's test (p>.05) for the remaining groups. The square root transformation was performed in an attempt to change the shape of the distribution (Hoaglin, 1983). The square root transformation normalized the data and the ANOVA was run on both the raw data as well as the transformed data. The results of the ANOVAs on the transformed data were the same as the ANOVA run utilizing the raw data. As a result and for the sake of clarity the researcher will present the raw data ANOVA. Mauchly's test of sphericity indicated that the assumption of sphericity was violated for the two-way interaction, X^2 (2) = .575, p = .0005, therefore the Greenhouse-Geisser correction was used.

The means class period absences for SLC and Control group students for each year is presented in figure 2. The main effect of grade (years attended) for attendance was significant, F(2.157, 437.895) = 227.892, p = .0005. The main effect of program (SLC vs control) for attendance was also significant, F(203, 1) = 6.735, p = .010. The main effect for the interaction when analyzing attendance was significant, F(2.157, 437.895) = 6.007, p = .002, partial η2 = .029. I was able to reject the null hypothesis for program and grade level for attendance, and accept the alternative hypothesis students in the SLC will have a different number of period absences compared to those students with similar characteristics but not in the program. The ANOVA results are represented in Table 4.



Research Question 4

The fourth question asked will students from the SLC have fewer discipline referrals compared to those students with similar characteristics but not in the program? The two independent variables are type of student (learning community or not) and time. This research question produces three sets of nondirectional hypotheses.

H_o4-Program: Students from the SLC will have a similar number of discipline referrals from the school compared to those students with similar characteristics but not in the program. In other words, the main effect of type of student will not be significant.

H_a4-Program: Students from the SLC will significantly differ in the number of discipline referrals from the school compared to those students with similar characteristics but not in the program.

Figure 2. Mean class period absences for SLC and Control group students for each year.

Table 4

Two-Way Mixed ANOVA for Attendance by Grade, Group, and Interaction

Source	*df*	*SS*	*MS*	*F*	*p*	Partial η2
Between Groups (program)	1	61813.390	61813.390	6.735	.010	.032
Error	203	1863100.249	9177.834			
Within Treatments (grade)*	2.157	1025398.050	475355.388	227.892	.0005	.529
Group over time (interaction)	2.157	27029.845	12530.531	6.007	.002	.029
Error	437.895	913398.360	2085.884			

$H_0$4-Time: Mean number of behaviors requiring discipline by the school will be consistent across years.

H_a4-Time: Mean number of behaviors requiring discipline from the school will be inconsistent across years.

$H_0$4-Interaction: Mean number of behaviors requiring discipline from the school by students from the SLC will be consistent across years and across the two student groups.

H_a4-Interaction: Mean number of behaviors requiring discipline from the school by students from the SLC will be inconsistent across years and across the two student groups.

Data collected for the following ANOVA was evaluated based on necessary assumptions. The dependent variable is interval, the independent variable includes two

or more groups, and the groups are independent of each other. In the preliminary analysis of the third variable, discipline by group (overall SLC vs. overall control) and by time (years attended), as well as the interaction (years attended and group), the assumptions of normality and homogeneity of variance were assessed. Discipline referrals by program were not normally distributed as assessed by Shapiro-Wilk's test ($p > .05$). A review of raw data reveals a vast majority of all students had very few discipline events regardless of program. The inferential statistic was not performed, but a group frequency distribution is presented in Table 5. The grouped frequency distribution reveals a consistent difference between SLC students and control group students for the second and third years of high school. While the first and last years of their high school education reveal very similar scores students in the SLC increased in the number of students with 0, 1 and 2 incidents each year, and while students in the control group also increased in this area their increase were not at the same level as students in the SLC. Analysis of the raw data presented in the grouped frequency distribution also reveals a leveling off during student's senior year. The number of students from both groups receiving no discipline inputs their 11th and 12th grade years, compared to their 9th grade year increased.

Table 5

Grouped Frequency Discipline Incidents by Group and Grade

	Learning Community	0	1-2	3-4	5+
9thGrade	Control	27.0	31.3	14.8	26.9

	Delta	26.9	28.6	18.8	25.7
10thGrade	Control	23.5	26.5	14.3	35.7
	Delta	26.4	30.5	16.3	26.8
11thGrade	Control	34.9	26.5	18.0	20.6
	Delta	43.5	33.6	8.0	14.9
12thGrade	Control	32.8	46.3	10.5	10.4
	Delta	36.6	44.1	12.9	6.4
Overall Mean Percentage	Control	29.5	32.7	14.4	23.4
	Delta	33.4	34.2	14.0	18.5

Research Question 5

The first question asked will students from the SLC score higher on the California High School Exit Exam during their first attempt compared to students with similar characteristics but not in the program?

H_05: Students in the SLC will score the same on the California High School Exit Exam during their first attempt than those students with similar characteristics but not in the program.

H_a5: Students in the SLC will have different scores on the California High School Exit Exam during their first attempt than those students with similar characteristics but not in the program.

CAHSEE scores were normally distributed for both the SLC and the control group for the English assessment, as assessed by Shapiro-Wilk test ($p > .05$).

Homogeneity of variances, as assessed by Levene's test of homogeneity of variances ($p = .545$) was found to meet the assumption.

Students from the SLC scored 4.26 points higher on the CAHSEE English section of the state assessment than students from the control group. Group means and standard deviations are presented in Table 6. A one-way ANOVA was conducted to determine if scores from the CAHSEE English assessment would be different for students from a smaller learning community ($n = 196$) than students from a control group ($n = 95$). CAHSEE English scores for students enrolled in the SLC were different from students in the control group, but the difference in scores for these groups was not statistically significant, $F(1, 289) = 2.111$, $p = .147$. The group means were not statistically significantly different ($p < .05$) and, therefore, the researcher failed to reject the null hypothesis that there is no difference between CAHSEE English scores for students in the SLC and students in the control group.

CAHSEE Math scores for students in the SLC differed from students from the control group by 2.51 points. Group means and standard deviations are presented in Table 6. The researcher conducted a one-way ANOVA to determine if scores from the CAHSEE math assessment differed from the SLC group to the control group. There was homogeneity of variances, as assessed by Levene's test of homogeneity of variance ($p = .432$). Scores for students from the SLC on the CAHSEE math assessment and scores for students in the control group differed but the difference in scores for these groups was not statistically significant, $F(1, 290) = .692$, $p = .406$. The group means were not

statistically significantly different (p>.05) and, therefore, the researcher failed to reject the null hypothesis that there is no difference between CAHSEE math scores for students in the SLC and students in the control group.

Table 6

Mean standardized testing scores for English and math assessments, for students of both groups who were enrolled during their 10th grade year.

CAHSEE Subject	Learning Community	Mean	SD
English	Control	384.19	24.192
	SLC	388.45	23.126
Math	Control	384.42	25.452
	SLC	386.93	23.707

Conclusion

I presented the results of multiple statistical analyses used to test five different null hypotheses. Moreover, I attempted to add to the body of research knowledge on the SLC by focusing on at-risk students and determining the education effect of SLC students. The variables used for the determination were obtained from at-risk students and a control group by measuring the variables of graduation, GPA, attendance, discipline, and standardized test scores. The variables assessed were available through archival data on students who were enrolled in an SLC and was compared to the data from students with similar at-risk characteristics but not enrolled in an SLC. The analysis of the visual representation of data revealed perceived differences; however, not all variations in data were significant. Slight differences were revealed for graduation, GPA, attendance, discipline, and standardized test results, but only four statistically significant

results were observed. I discovered one interaction between learning community and grade, which was determined as attendance.

Statistical analysis included a Chi-squared analysis, which was used to test the difference in graduation rates between students in the SLC (61.5%) and those not enrolled in the SLC (54.8%) revealing no statistically significant difference between groups. Multiple ANOVA's were used to compare GPA, attendance, and discipline including a two-factor mixed analysis of variance. I found a significant interaction between groups, SLC or not, and time, over the four years of high school for attendance but no significance for GPA or discipline. The number of absences for students enrolled in the SLC (116.95) was different from the control group (136.71) over all four years, including year to year. One factor between group analysis of variance was used to compare scores on a state mandated exit exam, which revealed no significance. The next chapter will discuss this information and the implications it has to the educational community, as well as the limitations of the current research and recommendations for future research.

Chapter 5: Discussion, Implication, and Recommendations

Introduction

In Chapter 5, the findings of the current research will be discussed and the implications they have for understanding the SLC as an educational intervention. I will add to the body of knowledge on the SLC as an intervention for high school students; specifically, the SLC as an intervention for at-risk students. Moreover, an evaluation of the current program was specifically designed to explore a new process, which was support at-risk students transferring from middle school to high school. The national dropout rate has improved in recent years; however, continues to be at an unacceptable level of approximately two out of every 10 students (Stetser & Stillwell, 2014). The number of students dropping out of high school has decreased over the past 5 years (Stetser & Stillwell, 2014). It cannot be acceptable that 20% of American students will not finish high school. I am attempting to add to known information on graduation rates, GPA, attendance, discipline, and standardized test scores for one specific intervention called the SLC. The SLC intervention places students with a core group of teachers who collaborate with one another on curriculum and assignments, and where students have an opportunity to connect with their classmates and their teachers through a supportive environment (Styron & Peasant, 2010). The SLC is based in the idea that there is worth in the relationships a student has while in school (Coleman, 1988). Review of literature in Chapter 2 revealed that with increased class size, the increase demand on standardized

testing, and increased sizes of schools around the United States developing student-teacher relationships have become far less tangible (Shakrani, 2008).

There is a possibility that introducing an SLC as student enter high school could positively affect student success. The population used for the SLC focused on the freshman year of high school. The freshman year is a difficult time in a student's life; many dropout freshman students fail one out of every four classes (Rumberger & Lim, 2008). This research compares SLC students to students with the same risk factors who did not participate in the SLC. Eighth grade counselors throughout the district reviewed the students in their caseload and presented a group of qualifying students to the SLC team. Students who qualified for the SLC had low GPAs and were not receiving any support from the school.

I conducted a comprehensive analysis of past research on the topic of the SLC to analyze five different dependent variables. The variables used in this research were graduation rates, GPA, attendance, discipline, and standardized assessment scores. Archival data was collected on at-risk students enrolled in an SLC and compared to students who were also labeled as at-risk, attended the same high school, but were not enrolled in the SLC. Data were collected from both sets of students the year they were enrolled in the SLC. I had originally hypothesized that the initial reaction to the SLC may not present itself the first year. Instead, the years students would be enrolled at high school would reveal residual effects and the interaction between the initial intervention

and time following the interventions would be most significant. Data was collected from both freshmen groups during their remaining 3 years of high school.

Archival data was collected on both freshmen groups to determine successful completion of high school. The successful completion for this study included a high school diploma for students who attended the same school they were originally enrolled in as a freshman. Data was collected on each student's score on the state mandated standardized assessment. The student's first attempt of the standardized assessment took place during the second year of high school. Finally, data was collected for each student's GPA, class attendance, and discipline incidents for each of the 4 years.

Visual inspection of the data collected revealed overall differences in all five variables. More students in the SLC graduated high school than did students in the control group. Students in the SLC had higher GPAs than students in the control group overall and during each year of enrollment. Students in the SLC had fewer class period absences than students in the control group overall and during each year of enrollment. Students in the SLC had fewer discipline referrals than those students in the control group overall and during each year of enrollment. Finally, students in the SLC scored higher on standardized assessments of English and Math than students in the control group. Students who were enrolled in the intervention appeared to be different than the control group in every area they were not statistically different in every area.

The results were conclusive the learning environment can affect high school students in the realm of attendance. The comparison of days absent for each group and

across each of the 4 years of attendance proved a statistically significant interaction between group and time. Furthermore, the analysis revealed that the number of days absent between the two groups and across the 4 years of enrollment were different. In other words, the number of periods absent freshman, sophomore, junior, and senior years were different for the SLC and the control group of students.

Interpretation of the Findings

This research included a specifically developed program that was implemented for at-risk students. I looked at the differences in student graduation rates, GPA, attendance, and discipline between two groups of freshmen students. Moreover, I analyzed the differences between at-risk students who were enrolled in an SLC and similarly identified at-risk students who were not enrolled in the SLC. The research included a hypothesis there would be an overall difference between groups in every area based on the comprehensive review of past research conducted in Chapter 2. An additional hypothesis was the dependent variables of GPA, attendance, and discipline would be different over time; the SLC would leave a lingering effect on students which would be seen in data collected in the high school years following the SLC intervention. Finally, I hypothesized this difference may be from the interaction of the SLC and time. These hypotheses were based in the thorough review of records conducted as a part of the current research.

Two of the five variables evaluated in in the current research were statistically significant. Those variables were GPA and attendance. The first significant findings had

to do with changes over time. The GPA and attendance comparison results indicated a main effect. Student GPA and student rates of absence were statistically significantly different when comparing the 4 years of high school and only the years attended. I cannot use the information from the trends in GPA and attendance rates to make comparisons between students in the SLC and students in the control group. The AVOVA was significant but not important; I did discover another statistically significant finding. I found a significant interaction between groups for the variable of attendance. There was an interaction between groups over time in the area of attendance.

Graduation

The first question of the current research used graduation as the dependent variable. SLC research demonstrates students enrolled in such an intervention drop out of school in lower numbers than students not enrolled in SLCs (Wasley et al., 2002). Werblow and Duesbery (2009) demonstrated students who were enrolled in a large high school compared to those students enrolled in a smaller school had 12% more students drop out. The current research revealed more students from the SLC (61.5%) graduated from the same high school where the SLC was located than did students in the control group (54.8%), yet the Chi-squared revealed the graduation percentages were not statistically different, $X^2(1) = 1.458$, $p = .227$. Therefore, chance as an explanation for the differences revealed in the raw data cannot be ruled out.

One major difference between the current research and past research is the population. Past research randomly selected and placed students in the SLC whereas

with the current research I analyzed data from a population that was specifically selected due to their at-risk qualities. There is no direct comparison between the current research and past research; the findings of the current research were not significant. Instead, my findings revealed a similar trend compared to past research on the SLC intervention. Wasley et al. (2002) reported a 12% difference between groups of randomly selected students. I found a 6.7% difference in graduation rate between at-risk students and SLC students.

The population may be a key factor regarding why I failed to discover the same difference as previous researchers. It may be that at-risk students require a higher level of intervention. Another factor may be the length of time the intervention was implemented for this specific population. The observation of the same group of students in an earlier educational career or if the SLC intervention were continued beyond the freshman year of high school may have provided a different outcome.

Grade Point Average

GPA was the dependent variable of the second research question, which was based on research revealing students enrolled in freshman academies failed fewer classes and did better academically than students not enrolled in SLCs (McIntosh & White, 2006; Fulco, 2009). Three different statistical analyses were used to compare program, grade, and the interaction as it relates to student GPA. There is a difference between GPAs over the years at-risk students are enrolled but not for program or interaction in this study.

These differences over time do not support my SLC analysis as it includes all student information; that is the differences were not found to be related to SLC.

The ANOVA computations failed to reveal a relevant significant effect; the lack of significance is equally as important. Previous researchers looked at grades, focused on core classes, and the number of classes students failed; I viewed the cumulative grades to aid future researchers. The past research has observed the potential effects that current researchers may opt to focus on classes rather than cumulative GPA. There was no potential effects revealed in the current research. This finding may be related to a floor affect where the data used was not able to detect potential differences between groups.

Attendance

With the third question of the current research, I hypothesized there would be a difference in the number of periods absent between students in the SLC and control students. This hypothesis comes from research reporting an increase in student attendance once they start an SLC (McIntosh & White, 2006). The current research found the most significant results in this area, that there was a significant effect observed in student attendance for those enrolled in the SLC for their freshman year. I found a statistically significant difference in overall attendance, year to year attendance, and an interaction between group and time as observed in Figure 2. A second finding included the differences similar to those observed in past research where students from the SLC were attending more classes each year compared to the control group (Wasley et al., 2002).

I added to the understanding of the SLC as an intervention demonstrated a difference of the use of SLC for at-risk students and compared to other at-risk students. There were severe attention problems to rule out when SLC members initially selected students. Figure 2 illuminated the largest difference between groups and by year was during the last year of high school enrollment. This data supports the hypothesized difference that is related to the continuing effect the SLC may have on student attendance. Causational conclusions cannot be made based on the findings of the high school at-risk student or those who are enrolled in an SLC may attend more school than those not enrolled. Additionally, one variable revealed an interaction between groups and years, which it is compelling to see any change that could be hypothesized based on the group. That is, how can a student's GPA or test scores improve if they aren't first exposed to the curriculum being measured?

Discipline

I developed the fourth question looking at student discipline after research where students who were attending SLC had fewer discipline problems than classmates enrolled in the same school before the SLC was started (McIntosh &White, 2006). Chmelynski (2004) discovered a significant drop in the number of suspensions and a 50% drop in arrests). I demonstrated a noticeable difference in the number of discipline referrals for students in the SLC compared to students in the control group the data that reveals a floor effect. Similar to data used for the current research to explain GPA, the data used to explain discipline may not be adequate to demonstrate the differences between groups.

I was unable to normalize the data as too many students had zero as the number of incidents. The number of individuals without incidents is left out of the current analysis by the researcher, giving more statistical weight to the incidents and taking away the significance of a student who does not get in trouble at school. I presented a grouped frequency distribution that revealed differences between grade levels and potential differences between groups. The data indicated the students who remained until their senior year had a leveling off from their junior to senior years, with the greatest difference between 10th and 11th grade years. Future researchers may group data into levels that may drop the floor when assessing and allow researchers the ability to normalize the data sets necessary to conduct analyses.

Standardized Test Scores

The fifth hypothesis for this study follows previous research where freshman enrolled in an SLC scored higher on standardized assessments in the area of math and biology (Styron & Peasant, 2010). I used the standardized assessment in California called the California High School Exit Exam, which each student takes their second year of high school. The assessment is broken into English and math sections; the scores are reported in the same way. The results of the English section were slightly different between students in the SLC compared to students in the control; however the difference in scores for these groups was not statistically significant. The results of the math section were different between both student groups with no statistical significance. Styron and Peasant (2010) found a 25-point difference and a similar trend was revealed in this study.

One major difference between the current and past research is the population. Past research compares randomly selected students who were enrolled in an SLC to other randomly selected students, whereas the current researcher used a very specific group of at-risk students. As a result of all the students whose information were used in the current research being from the same pool of at-risk students it is encouraging to see any differences between groups.

Limitations of the Study

Five limitations were presented in Chapter 1 of this study. Areas of limitation were indicated in the population, the location, and a lack of follow up. Each student enrolled in the SLC was invited to be involved. The SLC intervention was not a mandatory intervention. Not every student invited was enrolled in the SLC. Additionally the individuals selected for the SLC were selected from different middle schools, but only those students who were matriculating to the high school housing the SLC were involved in the SLC. Three high schools and one SLC are in the school district. Another limitation within the population of the study includes the demographics of the SLC population. School populations are based on student residence. This SLC included students who lived within the boundaries of the school housing the SLC which may or may not follow district wide demographics. Another limitation was the researcher's inability to collect information about the students who did not complete the required four years at the SLC.

The researcher did not account for those students who may have left the high school housing the SLC program just to be enrolled at another high school where they may, or may not have completed their high school education. In addition the researcher did not follow those students who dropped out of high school but returned to obtain their GED certificate or high school diploma through an alternative placement. This may be an area future researchers could continue; does the intervention of an SLC have implications for students that can last from adolescence through early adulthood? Are there dependent variables not measured by the researcher revealing benefits of the SLC beyond those presented? In addition to those limitations reported in chapter one the researcher discovered additional limitations through the current research process.

One area of limitation discovered includes the variables used to measure GPA and discipline. The statistical analysis I conducted on both of these variables revealed no interaction between group and time. It is possible the variables used by the researcher may not have been adequate in evaluating potential differences between groups, instead returning a floor effect for each analysis. Future researchers may want to change the variables used to measure and compare GPA and discipline. For GPA, researchers may choose to look at the number of classes a student passes each semester of high school; as each class a student takes, for each semester, represents potential credit toward graduation. Looking at the smaller success of at-risk students, individual grades, rather than the sum of multiple successes and failures, cumulative grades, may provide future researchers a more complete perspective into those potential academic benefits of an SLC

program for at-risk students. For discipline, researchers may choose to use group frequency distribution to measure discipline. Breaking up the number of incidents into groups, allowing for zero incidents to be its own group, will allow those students who have no discipline incidents to be better evaluated and give weight to no events.

Recommendations

This research is based on the theory of social capital, which posits relationships have an educational value. I evaluated the effect of an intervention on a group of at-risk students. I demonstrated the differences in attendance between the group of at-risk students who were enrolled in the SLC for their freshman year of high school compared to a similar at-risk group of students who attended the same school but who were not enrolled in the SLC for one school year. Moreover, I demonstrated a statistically significant trend in all five areas measured. The at-risk students enrolled in the SLC had different scores in each area when compared to at-risk students in the control group. The results of this research could be used to develop an SLC that starts before the 9th grade, focusing on another transition period in a student's career: the transition from elementary school to middle school. A future researcher may begin an SLC during an earlier educational transition or increase the length of SLC, greater than one school year. The early SLC intervention or continuation the SLC for a longer period of time may allow a greater effect on student academic performance. Future researchers may want to survey students who leave, survey students past their high school career to discover the equity gained through the SLC.

In addition to this, the current research was not able to follow those students who left the high school where the SLC is housed. Are at-risk students who were exposed to the SLC and drop out more likely to finish their educational career later on in their life than at-risk students not involved in an SLC? Do at-risk students who drop out but have been enrolled in an SLC have a better life outcome where they are more likely to have and hold a job, find financial security, and live a healthier life than at-risk students who dropped out but were not enrolled in an SLC?

Implications

The SLC may be a viable intervention to affect the academic success of at-risk students. Student academic success encourages the completion of 12 years of education. The high school diploma sets people apart financially, in health, and longevity. I am unable to make the determination of SLC and its effect on the academic success of at-risk students even though past researchers reported significant academic effects for populations of students randomly selected (Belfield & Levin, 2007; Bloom, Thompson, & Unterman 2010; Snyder, Dillow, & Hoffman, 2007). The current program evaluation finds an SLC designed for at-risk students transitioning from middle school to high school and implemented for one year may be able to change the attendance rates of those students. The SLC program may not be enough for future school boards to designate significant funding and resources without more substantive results.

If the SLC intervention, which was only implemented for one year, positively affected at-risk high school student attendance, and revealed a similar trend in the other

four areas measured, then it may be a significant intervention for future researchers to evaluate. If an SLC that is implemented for one year can produce positive trends then one that is implemented on a longer timeline may be able to produce more significant results in GPA and ultimately, graduation rates. The SLC program provides an opportunity for school districts to use an intervention on a larger scale over an extended timeline. It would be appropriate to hypothesize that if school districts implement such an intervention earlier and continue the intervention longer then the trend may increase to reach the level of significance revealed in attendance in the current research. Further, if this trend is correct it may produce results, which could compel future school districts to allocate significant resources toward its implementation.

Conclusion

An SLC was organized and implemented on a high school campus that focused on at-risk students transitioning from middle school to high school. The SLC program was developed to support 120 students each school year, was run by four teachers, one administrator, and a counselor. The program surrounded the at-risk students with a level of support not available to other freshman high school students. The idea behind this SLC was that all people can benefit from relationships, and the opportunity for these students to form more meaningful relationships with their teachers, the current research set out to evaluate whether there were any differences between students enrolled in the SLC compared to a similar at-risk group of students who did not receive the SLC intervention.

I evaluated student graduation rate, GPA, attendance, discipline, and standardized testing results to measure student success. Graduation was measured utilizing the number of students who remained for their entire four years and graduated at the high school where the SLC was housed. A higher percentage of SLC students graduated, but this difference was not statistically significant. The research scores for each student was obtained from the sophomore year standardized tests in California are administered . I used a statistical analysis method, yet the results failed to reject the null hypothesis. GPA, attendance, and discipline were measured using three different data points, overall, year to year, and year to year against the intervention or no intervention. I found differences in three areas of attendance, so students in the SLC had lower rates absenteeism than control students.

Overall findings of this research support past studies that the SLC intervention can affect student performance. I was unable to replicate findings revealed in the review of past research and deviated from the population used in those studies to focus on at-risk students. Moreover, I demonstrated high school as a point in a student's education career which is not too late to intervene, especially with at-risk students. The students chosen for the SLC were 13 and 14 years old and had been experiencing educational difficulties for a long period of time. The at-risk students chosen to be a part of the SLC were identified because of behavioral characteristics. The student characteristics were discovered in previous research and presented in the literature review to increase a student's probability of dropping out of school. Inversely, a student in SLC intervention

can have a statistically significant change. I found a one year intervention changed how much at-risk students attended school after many years of academic struggle, and invites future researchers to ask what is possible if such an intervention could be employed earlier or for a longer period of time?

Past researchers have been able to demonstrate the power of the SLC as an intervention for a group of randomly selected students. I hypothesized this effect is directly related to the human interaction and positive relationships possible within an SLC. Past researchers reported the SLC environment reinforces for students that while school can be extremely difficult their teachers and the educational staff that work with them are not going to give up on them. I added to the understanding of the SLC as an intervention by focusing on at-risk students and while only attendance was identified as significant, the overall trend revealed suggests the SLC has potential to be a significant intervention for at-risk students. My findings ultimately add to the understanding of the SLC as an intervention for high school students. Implications for future researchers is that in order to significantly impact the educational performance of students in the at-risk population it may be that the level and the length of time the intervention is employed may be significant, especially if implemented during the high school years. The SLC utilized significant resources at the high school where the SLC was housed, imposing on multiple staff members outside the program, and impacting the school as a whole yet the findings were at best hopeful.

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