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An Analysis of Elementary Interventions on Academic and Behavioral Performance

Sarah McLean
Abilene Christian University, slr04a@acu.edu

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ABSTRACT

The Communities In Schools (CIS) model promotes individualized one-on-one interventions for at-risk students assessed for needs in the areas of academics, behavior, and/or attendance. While previous research has linked the CIS program to higher graduation rates and lower dropout rates in secondary grades, little research has been done to examine the impact of the CIS program on elementary students. Using data from student records of at-risk elementary students receiving CIS services and those at-risk elementary students on a campus without the CIS program, this study examined the effect of the CIS services on student absences, behavior incidents, citizenship, and academic achievement as measured through grades and standardized testing. Results indicated that at-risk students within the CIS program exhibited significantly fewer absences and behavior incidents per school year and higher yearly averages in core subject areas than at-risk students on a campus without the CIS program. However, students within the program demonstrated a greater decline in core performance averages over the course of the year, had a higher rate of failure on standardized tests, and exhibited no difference in citizenship scores as compared to students on the campus without the CIS program. Though there are mixed results on the academic target, the discussion section identifies factors contributing to those findings. The results of this study do support the conclusion that the CIS program has an effect on the three targeted areas for students—attendance, behavior, and academic performance (in the form of overall student grade averages)—starting in elementary school. Implications for practice and further research are discussed.

An Analysis of Elementary Interventions on Academic and Behavioral Performance

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Master of Science

In Social Work

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To Marc and Graham, thank you for your unwavering support, encouragement and love.

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CHAPTER I

AN ANALYSIS OF ELEMENTARY INTERVENTIONS ON ACADEMIC AND

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Due to educational reform and national policy toward high school completion,

dropout prevention programs are becoming increasingly prevalent across the United

States. These programs are aimed at increasing the graduation rate of students enrolled in

America's public schools by targeting specific populations of students deemed as "at-

risk" for dropout behaviors (Christenson & Thurow, 2004).

Although the percentage of American students dropping out of high school has

been steadily decreasing since the 1980s (Chapman, Laird, Ifill, & KewalRamani, 2004),

the Center for Labor and Market Studies estimates that in 2007 there were still over 6

million dropouts between the ages of 16 and 24, averaging around 16% of the population

in that age range (Sum, 2009). This equals to an average dropout rate of 1.2 million

students per year (Amos, 2008), equivalent to the population of Dallas, Texas. The high

number of students failing to receive a high school diploma is not only an issue for our

schools, but also for the nation.

In the increasingly global economy, education is of growing importance for

personal economic stability as well as for societal benefits. In the United States, the

procurement of a high school diploma is integral for financial stability as well as career

advancement (Amos, 2008). The U.S. Department of Education National Center for

Education Statistics (NCES) (2015) reports that the median annual earnings of full-time,

year-round workers ages 25-34 without a high school diploma was $23,900 in 2013, more than $9,000 less per year than their counterparts who completed high school. The Center for Labor Market Studies estimates this to be a $400,000 loss of wages over a lifetime (Sum, 2009).

However, the consequences do not stop at financial loss. Dropouts are also more likely to experience incarceration, single parenthood, or poor health and to require government assistance (Amos, 2008; Sum, Khatiwada, & McLaughlin, J, 2009). All of these repercussions have a cumulative effect on the nation and economy as dropouts find themselves increasingly less able to provide for themselves and their families.

In order to decrease the number of students failing to receive their diploma, public schools and nonprofit organizations are creating interventions designed to target students at-risk for dropping out of high school. Although some programs only focus on high school age students, there has been a recent focus on establishing early warning indicators to identify students as young as elementary school for interventions (Barry & Reschly, 2012). In order for these programs to be effective, student characteristics contributing to dropout behaviors need to be properly assessed, and interventions need to be targeted toward appropriate outcomes.

While there has not been one singular risk factor associated with future dropout behavior, current research suggests that failure to complete high school is significantly associated with factors in four different categories: demographic characteristics, family background, academic performance, and student engagement and delinquent behavior (Amos, 2008; Gleason & Dynarski, 2002; Jimerson, Egeland, Sroufe, & Carlson, 2000; Sum, 2009). According to the U.S. Census Bureau almost 46% of school-age children

have experienced at least one of these significant risk factors in their lives (Kominski, Jamieson, & Martinez, 2001). The more of these warning indicators a student possesses, the more the characteristics work in combination to raise the probability of the student leaving high school without a diploma (Gleason & Dynarski, 2002). Though there are few things dropout prevention programs can do to directly impact many of these characteristics, previous research has found that a focus on school behavior, engagement, academics, and absenteeism can enhance the overall social and emotional well-being of students and mitigate dropout behaviors (American Psychological Association, 2012).

One such dropout prevention program, Communities In Schools (CIS), provides services to students who have been deemed at-risk because of one or more early warning indicators. The design of CIS provides resources from many outside organizations for students within the public school system to encourage engagement, and provides personalized student and family interventions starting as young as kindergarten. The goal of CIS is to improve the attendance rates, academic performance, and behavior for students receiving "at-risk" classifications in order to increase engagement and, ultimately, the graduation rate. A substantial amount of research has been conducted on the effects of the CIS program on its intended outcome—attendance, behavior and academics—at the secondary level; however, there has been minimal research regarding the effects of the program on the same outcomes at the elementary level (Hammond, Linton, Smink, & Drew, 2007).

Research suggests that improved academics and reduced retention rates and absenteeism at a young age can increase the probability of a youth graduating from high school (American Psychological Association, 2012). This study evaluated the impact of a

CIS program on the attendance, academics, and behavior of students categorized as at-risk in a kindergarten-through-5th-grade elementary school as compared to students at a similar school without the services of any dropout prevention interventions.

Definition of Terms

Absences

According to Chapter 129 of the Texas Administrative Code (2014), students enrolled in public school are counted absent in the following way:

Students absent at the time the attendance roll is taken, during the daily period selected, are counted absent for the entire day, unless the students are enrolled in and participating in an alternative attendance accounting program approved by the commissioner. Students present at the time the attendance roll is taken, during the daily period selected, are counted present for the entire day, and unless the students are enrolled in and participating in an alternative attendance accounting program approved by the commissioner.

Academic Performance

For the purposes of this study, academic performance is defined as the scores given to students in the areas of English, math, and reading over the course of a six-week grading period. For elementary school, AISD defines their grading policy as, "Six-week grades shall be determined by averaging grades in each subject area. Classwork, assessments, projects, etc., carry equal weight at the elementary level" (Abilene Independent School District, 2015a).

At-Risk Student

As defined by the Texas Education Code §29.081d (2013), For purposes of this section, "student at risk of dropping out of school" includes each student who is under 26 years of age and who:

(1) was not advanced from one grade level to the next for one or more school years;

(2) if the student is in grade 7, 8, 9, 10, 11, or 12, did not maintain an average equivalent to 70 on a scale of 100 in two or more subjects in the foundation curriculum during a semester in the preceding or current school year or is not maintaining such an average in two or more subjects in the foundation curriculum in the current semester;

(3) did not perform satisfactorily on an assessment instrument administered to the student under Subchapter B, Chapter 39, and who has not in the previous or current school year subsequently performed on that instrument or another appropriate instrument at a level equal to at least 110 percent of the level of satisfactory performance on that instrument;

(4) if the student is in prekindergarten, kindergarten, or grade 1, 2, or 3, did not perform satisfactorily on a readiness test or assessment instrument administered during the current school year;

(5) is pregnant or is a parent;

(6) has been placed in an alternative education program in accordance with Section 37.006 during the preceding or current school year;

(7) has been expelled in accordance with Section 37.007 during the preceding or current school year;

(8) is currently on parole, probation, deferred prosecution, or other conditional release;

(9) was previously reported through the Public Education Information Management System (PEIMS) to have dropped out of school;

(10) is a student of limited English proficiency, as defined by Section 29.052;

(11) is in the custody or care of the Department of Protective and Regulatory Services or has, during the current school year, been referred to the department by a school official, officer of the juvenile court, or law enforcement official;

(12) is homeless, as defined by 42 U.S.C. Section 11302, and its subsequent amendments; or

(13) resided in the preceding school year or resides in the current school year in a residential placement facility in the district, including a detention facility, substance abuse treatment facility, emergency shelter, psychiatric hospital, halfway house, or foster group home.

Behavior Incident

In AISD, behavior incidents are counted as an occurrence of In-School Suspension, Out of School Suspension, or a Disciplinary Alternative Education Placement (DAEP). The AISD Student Code of Conduct (2015b) includes this in regards to discipline management techniques within the system:

Discipline shall be designed to improve conduct and to encourage students to adhere to their responsibilities as members of the school community. Disciplinary

action shall draw on the professional judgment of teachers and administrators and on a range of discipline management techniques, including restorative discipline practices. Discipline shall be correlated to the seriousness of the offense, the student's age and grade level, the frequency of misbehavior, the student's attitude, the effect of the misconduct on the school environment, and statutory requirements.

Elementary School

For the purposes of this study, Abilene Independent School District defines elementary schools as campuses "serving students in kindergarten through fifth grade" (Abileneisd.org, 2015).

Grade Retention

Jimerson, Woehr, and Kaufman (2004) define grade retention as a student's "non-promotion" or a year when he or she is "repeating his or her current grade level again".

CHAPTER II

LITERATURE REVIEW

As high school dropouts increasingly have an impact on the United States
economy and society (Amos, 2008; Bureau of Labor Statistics, 2015; McCaul,
Donaldson, Coladarci, & Davis, 1992; Sum, Khatiwada, & McLaughlin, 2009), focus and
research on the factors associated with high school dropout have increased. Research has
indicated a correlation between both unalterable and alterable characteristics and a
student's ability to complete high school. Specifically, several studies have linked the
alterable characteristics of absences, misbehavior, and poor academic performance in
various grade levels to the failure to complete high school (Barry & Reschly, 2012;
Harlow, 2003; Suhyun, Jingyo, & Houston, 2007). While much research has been
conducted on the factors relevant to dropout rates and secondary students, there is still
much research to be done about effective interventions that could reduce or prevent
school failure starting in elementary school. This literature review attempts to synthesize
available research on the prevalence of high school dropouts, as well as factors that
influence dropout and programs that attempt to alleviate the impact of those factors
through individualized interventions in elementary school.

Search Methods

An EBSCOhost search was conducted to find literature for this review. Key terms
used: high school dropout, dropout rates, at-risk factors, school dropout prevention,
behavior intervention, academic intervention, attendance intervention, and elementary

prevention programs. From these, the inclusion criteria were applied. The study must (a) be written in English, (b) be completed in the United States, (c) be published between the years 1985 and 2015, (d) include students who are labeled at-risk of school failure, and (e) include students from kindergarten to 12th grade. However, studies pertaining solely to students with diagnosed mental or physical disabilities were excluded from the search criteria.

Prevalence of High School Dropouts

According to the National Center for Education Statistics (2011), the dropout rate for American schools peaked in the 1970s. Over time, educational reform and the increased need for skilled workers in the marketplace drove the dropout rate to its lowest percentage in the early 2000s (Suhyun & Jingyo, 2011). Since that time the estimated dropout rate has become stagnant, leaving about 1.2 million American students each year, 7,000 per day, to drop out of school (Amos, 2008).

These statistics, however, are just estimates. Studies by Greene and Winter (2002) and Swanson (2004) indicate that federal dropout rates are grossly underestimating the number of students who fail to receive their diploma. Much of this underestimation can be contributed to differing methods in calculating graduation rates, even between state governments. Greene and Winters's (2002) calculations estimated the rates to be almost 11% higher than those calculated by the National Center for Educational Statistics (NCES), meaning the number of United States citizens without a high school diploma could potentially be much larger than is currently estimated.

Even using numbers provided by the NCES, the dropout rate in America is significant. At the current rate, an estimated 12 million students will drop out in the next

decade (Alliance for Excellent Education, 2011). While the percentage of students failing

to receive a diploma seems smaller than in years past, the major shift in the United States

job market has made a high school diploma more essential. Up until recent decades, there

were employment opportunities available that allowed dropouts to develop skills on the

job site and support their families without the requirement of a high school diploma

(Bureau of Labor Statistics, 2015). Today, many of those well-paying jobs have been

replaced by advances in technology, leaving individuals without a high school education

at a disadvantage in the work place and with limited options to support themselves and

their families.

Impact on Society

Due to the compounded effects from individual dropouts, society significantly

suffers when the dropout rate increases to its current point. With over 6 million dropouts

in the United States today, the impacts range from influence on the local and national

budgets to a burden on the criminal justice system.

Criminal Justice System

One major aspect of the societal influence of high school dropouts is their effect

on the criminal justice system. Male high school dropouts are more likely to be

incarcerated than their peers with high school diplomas (Amos, 2008; Bjerk, 2012) and

47 times more likely to be institutionalized than college graduates in the same cohort

(Sum et al., 2009). The United States Department of Justice indicates that more than two-

thirds of state prison inmates have no high school diploma, while only 2.4% of inmates

are college graduates (Harlow, 2003). With states spending over $24,000 per year to

incarcerate individuals (Amos, 2008), the cost to imprison those without a diploma is a

significant burden for tax payers. This amount does not even include the cost of care for victims, police force, and other crime-related costs associated with the criminal justice system. The Alliance for Excellent Education (2011) estimates that with all of these costs considered, a 5% increase in the male high school graduation rate would create a national annual savings of $4.9 billion.

Government Assistance

In addition to the heavy burden of crime-related costs, United States dropouts are less likely to secure well-paying jobs and more likely to rely on government assistance (Amos, 2008; Bureau of Labor Statistics, 2015; McCaul et al., 1992; Sum et al., 2009). Without a high school diploma, the National Center for Education Statics suggests that dropouts are at a disadvantage in today's competitive job market and are typically forced to take jobs at a lower wage than those who have graduated from high school (Kena et al., 2015). At lower wages, it is difficult for dropouts to find ways to support themselves and their families. Many turn to government assistance to provide extra support. In a report by the Alliance for Excellent Education Amos (2008) found that in Medicaid cost alone, one dropout costs the state $13,706 annually. For example, in total, this is a cost of around $17 billion in lost government revenue from the dropouts from the class of 2006.

Economic Impact

Due to lower wages, lower tax revenue, and higher amount of government assistance, the typical high school dropout will have a negative fiscal contribution to society, and will cost taxpayers $292,000 over the course of his or her life, while the average high school graduate typically generates a total of $287,000 in government revenue over a working lifetime (Sum et al., 2009). If all the students from one class in

the United States were to graduate, this number would add $154 billion to the nation's economy. However, if the dropout trends continue at the current rate, the next decade will produce 12 million dropouts and a national loss of an estimated $1.5 trillion in economic revenue (Alliance for Excellent Education, 2011).

The globalization of the world economy and increased need for higher education in employment is causing the large number of high school dropouts in America to draw attention from other countries outside of the United States. Currently all of these impacts not only have a societal effect, but they are having a much larger global economic effect. Based on the Organisation for Economic Co-Operation and Development (2015), the United States ranks 28 out of 36 among industrialized nations for school enrollment rates of youth ages 15 to 19 years of age, and 21st in high school graduation rates, a number that has been declining since the nation's first place ranking earned after World War II. These rankings suggest that the dropout crisis is not only a cause for concern in the American economic sector, but that it is also affecting the ability of the United States to be competitive in the world market.

Impact on the Individual

Clearly, the impact of dropping out of high school is the greatest on the individual. The effect of failing to graduate from high school is long-term and contributes to issues with personal health, family dynamics, and employment potential (Amos, 2008; Bjerk, 2011; McCaul et al., 1992; Sum et al., 2009). The opportunities lost in these areas contribute to a cumulative cost for those without a diploma, creating lifelong impacts.

Unemployment

Due in part to the lack of available employment opportunities for those without high school degrees and to the recent recession, high school dropouts are much more likely to be unemployed than those with a high school diploma (Bureau of Labor Statistics, 2015; McCaul et al., 1992). In their 2015 report, the Bureau of Labor Statistics states that the unemployment rate for those ages 16-24 who have dropped out of high school is 32% for men and 24.6% for women, much higher than the overall unemployment rate of high school graduates of 9.6%. Not only is the unemployment rate higher for those who fail to graduate, McCaul et al. (1992) report that incompletion of high school can cause an increase in periods of unemployment as well as lower job security and lower job satisfaction among those who can find employment.

Lower Wages

Even when employed, individuals not completing high school do not fare as well in the labor market as those who have earned a high school diploma (Amos, 2008; Bjerk, 2011; National Center for Educational Statistics , 2015; Sum, Khatiwada, & McLaughlin, 2009). Losing an estimated $9,000 per year and $400,000 over the course of their working lives as compared to their counterparts with high school diplomas (Sum et al., 2009), high school dropouts have less ability to support themselves and their families. Sum and colleagues(2009) found that in 2007 those without high school diplomas were 4 times as likely to have a family income at or below 125% of the poverty line as those with a bachelor's degree or higher. At an average income of around $11,000 per year, lower wages can be attributed to fewer job opportunities and lower earning power for dropouts in today's job market (Sum, 2009). Over the past few decades, the potential

earnings for adults without high school diplomas has been in continuous decline, creating a cumulative impact on many other aspects of their lives, including reduced marriage rates and greater reliance on government assistance (Sum, 2009; Sum et al., 2009).

Incarceration

Unfortunately, one of the most notable statistics of the dropout crisis is the proportion of dropouts residing in correctional facilities. The U.S. Department of Justice (2003) reports that almost two-thirds of state inmates have not earned a high school diploma, a number that has grown by one-third since 1991. In the Alliance for Excellent Education report on school reform, Amos (2008) refers to possible theories for the high rate of incarceration among high school dropouts. These theories give possible reasons why those with lower education are not deterred from committing criminal acts including lowered perceived cost of incarceration to those in lower wage positions, decreased perceived stigma for incarceration for those without high school diplomas, and decreased amount of time spent in classrooms that instilled values opposed to crime. On any given day in 2006, nearly 1 in 10 male dropouts was incarcerated (Sum et al., 2009).

Family Dynamics

Students who fail to complete high school can also be affected as they transition from their individual person to a family unit. Those who do not graduate are overall less likely to marry and more likely to have children than their counterparts with diplomas (Campbell, 2015; Sum et al., 2009). Sum et al. (2009) report that female high school dropouts were six times as likely to have given birth and were nine times as likely to have become single mothers as their peers who were college students or college graduates. These students were also more likely to marry men who were also high school dropouts,

intensifying their financial problems and furthering their need to rely on government assistance or other support.

Health

A less obvious effect of the early exit from high school is a poor effect on health and healthy living habits. The Alliance for Excellent Education reports that 29.4% of high school dropouts are labeled as obese, and that they are five times as likely to smoke cigarettes as those who have graduated (Amos, 2008). McCaul et al. (1992) found higher alcohol consumption in those who had not finished high school. These problems can be compounded by the individual's inability to have employer-provided insurance due to unemployment or the inability to pay for medical care because of low-paying employment (Amos, 2008). While there are a number of contributing explanations for the higher rate of unhealthy habits attributed to those with lower education levels, these habits are leading to higher levels of disease and ultimately shorter life expectancy for those who do not graduate from high school. Currently, the average high school dropout is expected to live 6 to 9 years less that the college graduate (Amos, 2008).

Civic Activities

While there are many negative effects impacting individuals and their families directly, in general individuals failing to graduate from high school are also less likely to engage in social and civic activities. McCaul et al. (1992) found that those who had left high school early are less likely to vote in elections than their peers. They are also less likely to volunteer and participate in hobbies and other social events (Amos, 2008; McCaul et al., 1992). While participating in these types of activities is helpful to society,

the individual benefits as well by becoming more involved and aware of local policies and government practices and feeling more connected to those in their community.

The impact of dropouts on both the individual dropout and collective society is large. While the nation could once withstand a large number of low-educated workers in the workforce, the influx of technology and increased globalization of the world economy have reduced the need for low-skilled workers. An increased burden has been placed on the nation's economy, the taxpayer, and the individual as society works together to support those who are unable to support themselves and their families due to lack of education.

Factors Contributing to Dropout Behavior

In order to determine the best possible prevention and intervention services for those on the path to drop out, previous research has been conducted to identify possible factors and/or early warning indicators contributing to dropout behavior. By determining these factors, programs are able to appropriately target students and their unique needs and ideally increase the graduation rate for those who are at-risk for school failure (Hammond et al., 2007). Barry and Reschly (2012) defined the factors of high school completion by dividing them into two categories: unalterable and alterable. Unalterable factors are those factors that are inherent or difficult to change, and alterable factors are usually developed and are able to be changed through intervention. Within these two categories, the indicators of family backgrounds, demographics, academic performance, defiant behavior, and student engagement will be addressed. Although no singular factor has proven to ultimately predict the graduation status of an individual, research suggests

the culmination of many risk factors increases the chances of a student's school failure rate (Gleason & Dynarski, 2002; Hammond et al., 2007; Jimerson et al., 2000).

Unalterable Factors

Although schools and nonprofit organization can do little to change the unalterable characteristics facing their at-risk clients, identifying these factors is still important to understand the client as a whole and provide services catered to meet his or her needs. Knowing the unalterable factors that lead to higher dropout rates can provide knowledge for policy and program creation as the nation tries to increase the graduation rate of all students across the United States.

Demographic characteristics. Unfortunately, in the United States, students dropping out of high school are more likely to be from a historically underrepresented population. According to the Alliance for Excellent Education (2011), 43% of African American students and 42% of Hispanic students do not graduate on time with a typical high school diploma, compared to 22% of white students. A similar study by Jimerson, Egeland, Sroufe, and Carlson (2000) noted that 46% of African American students dropped out of high school early in contrast to only 28% of white students in their study. The graduation rate gap between individuals from minority backgrounds and white backgrounds is undeniable. The American Psychological Association reports that the dropout rate for African American students was double and the rate for Hispanic students was over double that of white students (2012), and other studies identify Hispanic and African American students as the most likely subpopulations to drop out of school (Cratty, 2012; McCaul et al., 1992; Sum et al., 2009).

As an example of the costly nature of the lack of diploma, the U.S. Department of Justice reports that 44% of African American state prison inmates and 53% of Hispanic state prison inmates have never received a high school diploma, compared to only 27% of their white counterparts in the state prison (Harlow, 2003). Rumberger (2011) suggests that the high dropout out rate in minority culture, particularly for those who are foreign-born, can be due to immigration and difficulties in school revolving around their transition to the United States.

Aside from race, other demographics that factor into high school completion include gender and disabilities. Historically, males graduate from high school at a lower rate than females (Cairns, Cairns, & Neckerman, 1989; Swanson, 2004; Temple, Reynolds, & Miedel, 2000; Sum, 2009).

In a longitudinal study of a third-grade cohort, Cratty (2012) reported that those identified as learning disabled did not drop out of school at a higher rate than typical students after accounting for special education services; however, students labeled with emotional or behavioral disabilities did.

Family background. As a child grows, the characteristics of their family and early home environment impact the child's attitude, growth, and educational achievement. There are many factors that can affect future school performance and eventually a timely graduation. In early life, the home environment and caregiving are important factors in predicting which students remain in traditional education and which students drop out (Jimerson et al., 2000). The education level of both biological parents, as well as the dropout status of any family member, is also an important indicator that can

start having an effect on students from a young age (Cratty, 2010; Gleason & Dynarski, 2002; Hammond et al., 2007; Suhyun et al., 2007).

As students enter the school system, their school mobility becomes an important predictor of their educational outcomes, particularly for graduation (Cratty, 2010; Gleason & Dynarski, 2002; Rumberger, 2011; Temple et al., 2000). The more often a student moves or changes schools, the higher their chance of dropout becomes. Each move can cause a further feeling of isolation from peers and a gap in missed curriculum from one school to the next, causing a decline in academic performance (Rumberger, 2011). These emotions can culminate with each move until students feel lost and are compelled to drop out to alleviate the stress that would come with another move.

Just as mobility can be destabilizing, many times students also face the instability of a broken family. A child who is no longer living with both biological parents experiences an increase in his or her dropout probability, starting as young as elementary school; this risk was found to be significant in each level of schooling (Hammond et al., 2007; Rumberger, 1987). The United States Department of Justice reports that state prison inmates who grew up in homes without the presence of two parents, due to incarceration, death, or separation, were less likely to have obtained a high school diploma than other inmates (Harlow, 2003).

As students enter the school system, parents are encouraged to be active participants in the child's learning process. Parents with infrequent contact with the school increase their child's probability of leaving school early (Jimerson et al., 2000). In their study on the Chicago Child-Parent Centers, Temple and colleagues (2000) also

reported significantly lower parental involvement among students who did not complete high school.

  Socioeconomic status. Although socioeconomic status can be seen as a family background phenomenon, research suggests it should be treated independently due to its clear association with a student's dropout decision (Lawrence, Lawther, Jennison, & Hightower, 2011; Schoeneberger, 2012). Socioeconomic status is considered by most research to be one of the most significant dropout risk factors (Alexander, Entwisle, & Kabbani, 2001; Cairns et al., 1989; Rumberger, 2011; Suhyun et al., 2007). For many students, this is because their low-income neighborhoods are zoned to schools that Balfanz and Legters term "dropout factories" (2004, p. 13). These schools are located in high poverty areas and produce about half of all of the dropouts across the nation. Not only are these schools producing more dropouts, but, in school districts across the United States, graduation rates decrease as the percentage of students on free or reduced lunches increases within a district (Swanson, 2004). Therefore, these studies suggest socioeconomic status is more of a district policy issue than an issue with family background.

  No matter the cause, students who are considered low-income drop out of school at a rate that is three times higher than that of their peers (Alexander et al., 2001; McCaul et al., 1992; NCES, 2013). Bloom (2010) suggests this is because students from lower income families are less likely to be able to get back on track if they make a mistake while in school. Unfortunately, many of the risk factors associated with school dropout tend to multiply as children experience lower socioeconomic status (Kominski, et al., 2001), usually due to the correlated nature of many factors. Data collected by the U.S.

Census Buearu found that 80% of low income school-age children experienced at least two risk factors for school failure and 56% experienced three or more (Kominski et al., 2001). As many programs push to stop viewing risk factors as singular characteristics but rather as cumulative effects over the course of a child's educational career, socioeconomic status should be a consideration due to its effect on multiple other risk factors (Gleason & Dynarksi, 2002).

Alterable Factors

Barry and Reschly (2012, p. 75) describe alterable factors as those that are "predictive of completion status and amenable to intervention". These factors are the most useful to be targeted by dropout prevention programs because they are easily measured and have the ability to change. Based on a survey by the Department of Justice, alterable factors are also one of the leading causes for dropout behavior. Responses by one-sixth of dropouts and one-third of inmates who had quit school described alterable factors as their reasons for leaving high school (Harlow, 2003). These factors include academic performance, school engagement, and delinquent behavior.

Academic performance Academic performance has historically been one of the strongest predictors of school dropout among students (Alexander et al., 2001; Cairns et al., 1989; Hammond et al., 2007; Rumberger, 2011). Three different factors defining academic performance all have an effect on a student's potential dropout behavior: grades/grade point average (GPA), achievement test scores, and grade retention (Rumberger, 2011).

The most common reason students who fail to complete high school express as their reason for leaving is poor grades through GPA, or low performance on achievement

tests (Ekstrom et al., 1986) These two are also often linked as the primary predictors of dropout behavior as well (Barry & Reschly, 2012; Suhyun et al., 2007). However, low scores do not have to start later in a student's educational career to influence school failure. Students achieving low academic scores as early as first grade are more likely to drop out than their peers typically scoring "A"s and "B"s in the same grade level (Alexander et al., 2001). As students age, the trend of lower academic scores continues into higher grades. Dropouts have been found to achieve lower scores on academic testing than those who do graduate from high school (Ekstrom et al., 1986; McCaul et al., 1992). Overall, out of 51 studies analyzed on dropout behavior, Rumberger (2011) found that 30 suggested an increase in testing scores predicted a decrease in school failure.

Connected to poor grades, grade retention can exacerbate many issues a student faces in school, and has been cited as the top, and most consistent, predictor of dropout behavior (Alexander et al., 2001; Cairns et al., 1989; Gleason & Dynarksi, 2002; Rumberger, 2011; Temple et al., 2000; Vitaro, Brengden, & Tremblay, 1999). Similar to poor grades, retention can have an effect on students starting as young as first grade (Alexander et al., 2001), creating a cumulative risk as students age. Students failing one grade level averaged a dropout rate of 71%; those failing a grade level in both elementary and middle school averaged a dropout rate of almost 94% (Alexander et al., 2001). For students retained more than twice, the dropout rate was 100% (Cairns et al., 1989; Cratty, 2012). While students who are retained are more likely to experience multiple risk factors (creating a higher dropout risk aside from the retention itself; Kominski et al., 2001), grade retention is a policy that school districts need to examine in further depth for effectiveness. Although retention is meant to increase student success, the unintentional

consequence for retained students is actually an increased risk of school failure. Based on this knowledge, school systems must decide if the outcomes of grade retention are meeting the needs of students facing academic challenges.

Delinquent behavior. Delinquent behavior, whether within school or outside of school, has been identified as a significant predictor of dropout behavior, particularly when the behavior occurs later in a student's school career (Alexander et al., 2001; Battin-Pearson et al., 2000; Ekstrom et. al, 1986; Jimerson et al., 2000, Rumberger, 2011). Delinquent behavior within the school setting typically results in consequences given by school officials—detention, suspension or even expulsion. Students repeatedly receiving these types of consequences have been identified as at an increased risk for school failure (Rumberger, 1995), and research has indicated multiple suspensions or other school disciplinary actions as main factors in the decision to drop out (Battin-Pearson et al., 2000). Jimerson and colleagues (2000), as well as Rumberger (2011), found that students exhibiting in-school delinquent behaviors prior to 6th grade, or around age 14, increased their risk for dropping out by a significant margin. These findings suggest that age of an initial demonstration of delinquent behavior can influence the level of dropout risk the student encounters.

Students who have experienced disciplinary problems outside of the school setting are also at an increased risk for dropout behaviors, particularly if the behaviors require criminal interventions (Ekstrom et al., 1986). Although there is an array of criminal activity, students choosing to participate in illegal activities such as drug and alcohol abuse were found to be at a higher risk for dropout than their peers who did not engage in those activities (Rumberger, 2011). Similarly, students who showed aggressive

or violent behavior towards peers in the classroom or outside of the school setting were also at an increased risk of school failure (Cairns et al., 1989).

Although the conduct itself has an impact on dropout risk, much of adolescent behavior is influenced by peer-group identification, a factor that also has the ability to increase the probability for school failure. Interacting with other at-risk students or establishing friendships with peers labelled as "anti-social" increases the risk of a student leaving school before the 10th grade (Battin-Pearson et al., 2000; Cairns et al., 1989; Ekstrom et al., 1986), suggesting that peer influence has the ability to affect a student's tendency to graduate. Some studies suggest that it is not peer influence that affects student dropout behavior, but rather isolation. Students who have difficulty making friends and getting along with peers or who exhibit poor social skills also have an increased risk for dropout behavior (Jimerson et al., 2000).

Student engagement. School engagement can manifest itself in a variety of different behaviors and attitudes, both positive and negative. However, when school engagement becomes a general disinterest in school, many of these behaviors become negative. Schoeneberger (2012) describes disinterest in school as "a longitudinal process that occurs overtime and manifests itself in outcomes variables, such as attendance and eventually dropping out of school" (p. 12).

The highest predictors for dropout behavior have been found to be absenteeism and chronic truancy (Gleason & Dynarski, 2002; Rumberger, 2011; Schoeneberger, 2012). Alexander, Entwisle, and Kabbani (2001) found that there was a significant difference in attendance in dropouts and graduates starting as early as elementary school. By high school, those failing to graduate were typically missing school one out of every

four days. Low attendance was also attributed to dropout out behavior in studies by

Cratty (2012), Hammond et al. (2007), and Rumberger (2011). Ekstrom et al. (1986)

found that in later grades, problematic attendance was manifest in the form of chronic

truancy through "cutting" class.

However, absenteeism and truancy are not the only forms of school

disengagement that can contribute to dropout behavior. In a 1980 survey, Ekstrom et al.

(1986) discovered that a general dislike of school was one of two primary reasons

dropouts identified for leaving school early. The less interest the student shows in

education or in the idea of graduation (Gleason & Dynarksi, 2002), the less likely the

student is to graduate from high school. If a student is able to identify his or her purpose

or aspirations in school or occupation following school completion, he or she is less

likely to dropout (Alexander et al., 2001; Rumberger, 2011). Higher school engagement

in other forms could also decrease dropout rates, including such things as participation in

extracurricular activities and inclusion in an age-appropriate regular classroom as

opposed to special classroom placement (Ekstrom et al., 1986; Rumberger, 2001; Vitaro

et al., 1999).

Elementary Interventions

Until recent years, few longitudinal studies had been completed on the early

warning indicators of dropout in elementary age students. Scholars are beginning to

develop explanations that emphasize school experiences and early childhood

development as essential factors in school failure (Barry & Reschly, 2012). Battin-

Pearson et al. (2000) suggest the propensity to drop out begins early in life based on the

significant influence of a student's family history and background characteristics.

Jimerson, Egeland, Sroufe, and Carlson (2000) indicate lower achievement, poorer peer relations, behavior problems, and less parent involvement during elementary school all contribute to a lack of school completion later in life. These early dropout predictors can be evident in students even before they enter kindergarten (Hammond et al., 2007). A retrospective look at students who have dropped out of high school shows that the educational warning signs, based on attendance, behavior, and academics, could have been identified as early as third grade (Lehr, Sinclair, & Christenson, 2004), suggesting that dropping out is a process that begins early in development and progresses until its finality in the departure from school (Jimerson et al., 2000).

Current intervention strategies at the elementary level are rarely for dropout prevention, although recent interventions have begun to target early warning indicators in hopes of changing potential dropout behavior (Barry & Reschly, 2012). Many of these studies have focused on one or two alterable at-risk factors and an intervention potentially able to decrease a student's risk of school failure.

Academic Performance

Schools can implement academic interventions in a variety of methods. However, these can be the most difficult interventions for a dropout prevention program because they are typically implemented through curriculum changes or instructional strategies within school policy. Many programs use community resources such as tutoring volunteers, parent engagement activities, or even opportunities for teacher training as methods of academic performance interventions for students at-risk for school failure.

Since grade retention is one of the strongest predictors of dropout behavior (Alexander et al., 2001; Cairns et al., 1989; Gleason & Dynarksi, 2002; Rumberger,

2011; Temple et al., 2000; Vitaro et al., 1999), at-risk intervention programs at the elementary level must focus on preventing retention in students struggling with academic performance. Temple et al. (2000) found that implementing an intervention focused on parent involvement even before elementary, in preschool, reduced the overall grade retention and school mobility that students faced as they entered school. The decrease of these two factors, combined with increased parent involvement, reduced student probability of dropout by a total of 8% for students who consistently attended the program as preschoolers.

Other family involvement programs have also had success in improving students' math and reading performance (Bradshaw, Zmuda, Kellam, & Ialongo, 2009). Denti and Guerin (1999) suggest that family involvement in early literacy efforts is a key factor to decrease the dropout rate and can be implemented easily through early literacy programs in the school and community. The goal behind these interventions is to encourage parents to continue the learning process outside of school and to create a positive environment at home that values the academic gains of students, in hopes of decreasing the probability of future dropout behavior.

School-based interventions, such as tutoring and teacher trainings, can also increase academic performance for elementary students at-risk for school failure. One-on-one tutoring has shown particular significance in regard to growth in literacy and reading skills, specifically when administered before third grade, but has little effect on math performance (Denti & Guerin, 1999; Ritter, Barnett, Denny, & Albin, 2009).

Bradshaw, Zmuda, Kellam, and Ialongo (2009) tracked 678 first grade children from an urban school in Baltimore City from first grade until high school graduation.

During their first-grade year, the students were placed into one of three different possible intervention groups: the control group, the family involvement intervention, or the classroom-centered intervention. The family involvement intervention focused on parental involvement and behavior management strategies. In the classroom-centered intervention teachers were trained in curriculum components, universal behavior management concepts, and unique strategies for uncompliant children to implement with students. The study found that students in the classroom-centered intervention showed significant improvement in reading and overall academic achievement over the control group, but no significant improvement in math. Students in the classroom-centered intervention also showed an increased likelihood for high school graduation and college attendance versus the overall sample, even when controlled for academic readiness at the beginning of the first grade.

While this intervention indicates that classroom-centered interventions have more success than family involvement interventions, due to the nature of state curriculum laws, it is not always possible for dropout programs to implement classroom-centered interventions. Bradshaw et al. (2009) also found slight improvement in math and reading performance from the overall sample through the family involvement intervention, although effects were not as large as classroom-centered intervention, indicating that dropout prevention programs can use other available community resources to implement successful interventions.

Delinquent Behavior

Classroom misconduct and aggressive or illegal behavior outside of school can increase the risk for dropout behavior in students, especially if exhibited continuously

from a young age (Alexander et al., 2001; Battin-Pearson et. al, 2000; Ekstrom et. al, 1986; Jimerson et al., 2000; Rumberger, 2011). Elementary prevention and intervention programs target these behaviors through classroom management strategy trainings for teachers, social skills trainings for students, and parenting skills trainings for parents and guardians. These interventions aim to decrease disruptive behaviors in the hopes that they will increase the likelihood of graduation for students.

One such intervention, implemented by Vitaro et al. (1999), incorporated two strategies to decrease disruptive behaviors among elementary school age boys in a low socioeconomic neighborhood. One aspect of the intervention provided social skills training and problem-solving strategies for the boys, while another aspect of the intervention focused on parental skills training and behavior modification strategies to help parents reduce problem behaviors in the home setting. All families included in the intervention received both aspects of the program, although family participation in parental trainings did vary.

Overall, the research found that children included in the intervention demonstrated significantly fewer disruptive behaviors than those in the control group for up to 3 years following the intervention. The intervention also indicated a reduction in grade retention and placement into special classroom environments as compared to students in the control group. Furthermore, students receiving the interventions ultimately decreased their risk of school failure by more than half when compared to the control group. These particular findings indicate that an early reduction in delinquent or disruptive behaviors can improve graduation rates due to the longitudinal impact on grade

retention and special classroom placements, two known factors in early school dropout (Jimerson, Carlson, Rotert, Egeland, & Sroufe, 1997).

A different model, implemented by O'Donnell, Hawkins, Catalano, Abbott, and Day (1995), included students in first and sixth grade as part of a school-based dropout prevention program. The 6-year program focused on a three-part intervention model in hopes of reducing the rate of school failure of low-income children, as well as decreasing their evidence of drug abuse and delinquent behaviors. The intervention model included teacher trainings for classroom management and instructional methods, student interventions in the form of social skills training, and parental interventions in the form of parental training classes. This study also indicates a varied rate of attendance during the parenting classes, despite efforts for recruitment.

Overall, results of this intervention suggest that students involved in the intervention group enhanced their classroom participation and commitment to school. High-risk boys in the intervention group showed increased social skills among peers and higher scores on school work and standardized achievement tests than high-risk boys in the control group. The boys also found lower instances of delinquency initiation outside of school. Girls participating in the intervention showed a significant decrease in substance abuse compared to girls in the control group and a better response to classroom rewards compared to boys. Although the study did not follow the students until graduation to determine dropout and graduation rates, the interventions did show success in lowering several key behavioral risk factors that typically lead to higher dropout behavior: substance abuse, peer group, and delinquent conduct.

Though both of the previous studies including social skills training indicated significant findings in decreasing risk of dropout behavior, Gottfredson, Jones, and Gore (2002) received mixed results using a cognitive-behavioral intervention that implemented a social skills program into a middle school setting. The program intended to decrease problem behaviors among students, increase attendance, and ultimately increase school persistence. Within the intervention, students attended a class during an elective period twice a week that implemented lessons focusing on problem-solving strategies and social skills. However, the curriculum was found to be difficult to consistently implement within the disorganized nature of the school, and students lost several days of class due to instructor absences and school-related attendance issues.

Although the curriculum was found to be difficult to implement consistently, the findings do indicate significant outcomes associated with the program. Those participating in the intervention group received at least one semester of the intervention programming and were found to have increased school persistence as compared to the control group. The intervention group also self-reported more positive peer association and less exhibition of rebellious behavior than those in the control group. This indicates the intervention was able to decrease two factors typically associated with increasing risk for school failure. Interestingly, the research did find that students in the intervention group experienced more absences and tardiness after attending the program, one factor that typically increases risk for school failure.

These results could have been affected by the disorganized composition of the school and the lack of fidelity in the implementation of the intervention. However, the mixed results in this intervention do call into the question the significance of this type of

treatment for students experiencing behavior issues. Before implementing a similar program, a school would need to address the ability to consistently engage students in the program in order to receive the best results.

Attendance and Engagement

In elementary school, many times attendance and truancy issues are responsibilities of the student's guardian. Therefore, prevention programs must account for the engagement of not only the student, but also the parents and guardians when implementing attendance interventions.

Many attendance and engagement interventions involve school-wide programs due the universal nature of absences and tardiness. A school-wide intervention usually either focuses on consequences, such as warning letters home and meetings with parents (Lawrence et al., 2011), or on an incentive program for good and/or perfect attendance (Ford & Sutphen, 1996). Some models have seen a reduction in truancy and absences during times of direct intervention (Lawrence et al., 2011), but had attendance rates return to normal once normal attendance measures were put back into place for the students. Neither model has shown a significant consistent increase in attendance across intervention sites, and results tend to be mixed. The results from these studies indicate that school-wide interventions need to be tailored to the specific school they are implemented through and not a general approach followed by every school.

Interventions that are more focused on individual student needs have resulted in more significant outcomes (Ford & Sutphen, 1996; Lehr et al., 2004). Ford and Sutphen (1996) introduced a focused intervention for elementary students at high-risk based on absences. These interventions were split into two parts: the school-based intervention

provided incentives for perfect attendance, and one-on-one interventions provided

students with the opportunity to speak with social work interns serving on the campus.

The focused interventions monitored student attendance daily and provided students with

attendance charts and the ability to win stickers, prizes, and tokens for their attendance.

Parents were often included through home visits or telephone calls, and referrals for

social services were made if the need was demonstrated. The results of these focused

activities showed a significant decrease in absences during the intensive daily

accountability phase of the intervention. After the daily phase, social work interns began

to meet with students only once a week, and a slight increase in absences was noticed

from the intensive intervention phase. This suggests that the daily accountability and

feedback of a caring adult on campus encouraged students to attend and was an effective

tool in reducing absences among students who were high-risk.

  Another program focused on individual student need, Check and Connect,

emphasizes providing at-risk students with an individualized intervention once a week

instead of generalized interventions, and on creating relationships with each student in

the program (Lehr et al., 2004). Although the intervention can differ from student to

student based on need, the basic interventions rely on discussing student issues,

attendance, and problem solving. After reviewing the Check and Connect model, Lehr et

al. (2004) found that elementary students receiving services and interventions through the

program reduced their incidence of tardiness by 76% and absences by 28%. The success

of this program on engagement indicators suggests that individualized one-on-one

interventions for elementary at-risk students can contribute to increased attendance, an

early warning indicator that has predicted dropout behavior as early as elementary school (Alexander et al., 2001).

Overall, interventions for engagement and attendance are more consistently successful with at-risk students when implemented on an individual scale. Students showing the greatest increase in attendance received individual attention through positive teacher feedback and daily attendance monitoring and accountability from a social worker on campus (Ford & Sutphen, 1996). Due to the success of these interventions, prevention programs focusing on at-risk student attendance should consider replicating the Check and Connect or similar models to increase student attendance and engagement.

Communities In Schools

Communities In Schools (CIS) is a nationwide dropout prevention and intervention program that serves 2,700 schools across 28 states and the District of Columbia. Founded in the 1970s, the mission of the program is "to surround students with a community of support, empowering them to stay in school and achieve in life" (Communities In Schools, 2013).

One affiliate, Communities In Schools of the Big Country (CISBC), was founded in 2000 and has expanded to a program that serves three high school campuses, six junior high and middle school campuses, and one elementary campus. Currently, CISBC operates within Abilene and Wylie Independent School Districts within Abilene, Texas (Guerra, 2015).

The organization provides a campus coordinator to work in a full-time capacity on a school campus to identify and serve students who have been labeled as at-risk by the Texas Education Agency. Once students are identified as needing services, they are

assessed for an area of need in academics, behavior, attendance, or basic needs and provided a service plan. The campus coordinator then works throughout the year to provide the student with services either personally or through community organizations and local businesses (Communities In Schools, 2013).

Conclusion

After reviewing the literature on early warning indicators of school dropout and impacts of dropout prevention programs, questions about effective programs still remain. As previously discussed, many risk factors for school failure can be identified as early as kindergarten, but limited studies have been performed to determine the impact of dropout interventions during these formative years (Barry & Reschly, 2012).

The purpose of this study is to determine the effects of the Communities In Schools program on the "alterable" early warning indicators of school dropout by comparing students within a Title 1 elementary school campus with a CIS program to students from a campus not receiving services, addressing the following research question: What is the impact of a Communities In Schools (CIS) program on the school attendance, academic performance, and classroom behavior of at-risk students receiving CIS services compared to at-risk students on a campus not receiving services?

The following hypotheses are made on the basis of previous research:

Hypothesis (a): At-risk students receiving CIS services will have fewer absences compared to at-risk students enrolled on the campus not receiving CIS services.

Hypothesis (b): At-risk students receiving CIS services will have fewer indicators of behavior issues, as measured by behavior incidents and citizenship, as compared to at-risk students enrolled on the campus not receiving CIS services.

Hypothesis (c): At-risk students receiving CIS services will have no difference in STAAR scores as compared to at-risk students enrolled on the campus not receiving CIS services.

Hypothesis (d): At-risk students receiving CIS services will have no difference in academic performance, as measured by mean classroom grades, as compared to at-risk students enrolled on the campus not receiving CIS services.

CHAPTER III

METHODOLOGY

Using a quasi-experimental non-equivalent control group design (Rubin &

Babbie, 2015, this study utilized existing data from Abilene Independent School District

(AISD) to identify demographic characteristics and compare school attendance, academic

performance, and classroom behavior trends in at-risk students receiving CIS services to

at-risk students not receiving services. Due to the school-wide nature of the CIS model,

for accurate comparisons the sample group and comparison group are from two different

campuses, one with the CIS program, Elementary School A, and a campus not receiving

services, Elementary School B,[1] in Abilene, Texas. The data selection utilized student

files from the years 2013-2014 and 2014-2015.

Sample Population

The sample population includes students at Elementary School A who were

enrolled in and received services through the CIS program. Students in the CIS program

were referred by school staff on the basis of poor academic achievement, behavior issues,

multiple absences, or social service needs. All students in the sample were in grades 1-5

as of August of 2013, and met the Texas Education Agency criteria to be labeled as at-

risk for school failure or dropout, as a requirement for enrollment in CIS. There were no

exclusion criteria for students that fell within this category. The sample group contained

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[1] The names of the elementary schools have been replaced in order to retain confidentiality.

148 students from the 2013-2014 school year and 132 from the 2014-2015 school year, for a total of 280 students.

Overall, Elementary School A is composed of 92% economically disadvantaged students and includes an ethnic distribution of 67% Hispanic, 18% white, and 12% African American (Texas Education Agency, 2014). The sample exhibited a similar composition of students.

The comparison group included a randomized sample of students from Elementary School B who were in grades 1-5 as of August 2013 and who met the Texas Education Agency criteria to be labeled as at-risk for school failure or dropout. There were no exclusion criteria for students that fell within this category, and there was an initial sample of 300 students in the comparison group, 150 students from 2013-2014 and 150 students from 2014-2015.

Elementary School B has a similar demographic to Elementary School A, with an economically disadvantaged rate of 88% and an ethnic distribution of 74% Hispanic, 15% white, and 8% African American (Texas Education Agency, 2014). The comparison group has a similar composition to the population of the school as a whole.

Procedure

After approval from the Abilene Christian University Institutional Review Board, Abilene Independent School District (AISD) indicated its commitment to approve the data collection and analysis process. Data provided from AISD included student files with academic performance in the form of STAAR scores, academic performance grades for each reporting period, attendance for each reporting period, and behavior incidents

and citizenship for each reporting period. Data were entered into SPSS for statistical analysis in order to compare students on each campus.

Human Subjects Protection

The prospectus of this study was reviewed by the Abilene Christian University Institutional Review Board and determined to be exempt non-human research. This rating indicates minimal risk due to the de-identification of all data utilized in the study. In order to ensure that all data were not individually identifiable by the researcher, all student information provided by AISD had identifying data (names, social security numbers, student identification numbers, etc.) removed. Information used in this study was not collected by AISD for the purpose of this research, and there were no interactions or interventions with past or current students in AISD by researchers for the purposes of this study.

Data Destruction

In order to maintain security of the data, the researcher agreed to destroy all data and information acquired for use with this study within 60 days of the completion of the research. The researcher had responsibility for deleting all electronic files and data used in analysis and shredding information provided by AISD for the purposes of this study.

Measurements

Data were collected on student demographics, standardized testing scores (STAAR), academic performance, absences, behavior incidents, and citizenship. Several concepts within this study were operationalized for data collection purposes.

Ethnicity

Student ethnicities were determined based on data provided from the school district. Students in the School B data file were primarily coded into four basic categories: black, Hispanic, white, or two or more races. The School A data files included the first three codes, but were coded into more specific values for the category of two or more races. For the purposes of this study, all data files in School A labelled with two or more races (i.e. Hispanic/American Indian, White) were recoded into the category, "Two or more races".

State of Texas Assessment of Academic Readiness

The State of Texas Assessment of Academic Readiness (STAAR) was developed to assess student achievement in grades 3-10 in the core subjects of math, science, social studies, and language arts. Each assessment varies in length and composition. The internal consistency estimates range from 0.85 to 0.93 and seem to be similar across grades and content areas. The internal validity is taken based on feedback from teachers and instructors on alignment with TEKS, and curriculum and external validity has only been conducted on tests that align with end-of-course tests that occur in high school (Texas Education Agency, 2015).

Data on the STAAR test were gathered on both the STAAR Math and STAAR ELA (English Language Arts) tests. Only students present on the day of the test in grades 3-5 take the STAAR tests. Therefore, the sample size for STAAR Math was 91 from School A and 232 from School B. For STAAR ELA, the sample size was 185 from School A and 232 from School B. Data from STAAR scores were coded as pass or fail for both tests.

Academic Performance

The district provided information about each student's grades in their math, English, and reading classes per reporting period in each school year. The district provides each student with grades on a 100-point scale in six different 6-week reporting periods. For the purposes of this study, the first reporting period will not be part of the comparison. First, based on the teaching experience of the investigator, data from this period could potentially skew the findings because of the higher average of grades given seen the first grading period. This is typically due to the nature of the material given at the beginning of a new school year, usually reviewing previous years' objectives rather than introducing new ones. Second, AISD does not give averages during the first grading period for students in the first grade. Therefore, for analysis the comparison of data was between second 6 weeks and sixth 6 weeks. The analysis compared the differences in each of the student's math, English, and reading grades from the second 6 weeks to the sixth 6 weeks as well as the mean of the subject scores for the entire year.

Absences

Data obtained from the district provided official records of attendance. For the purpose of this research, student absences only included full-day absences in which the student was counted absent during the official ADA attendance process. For analysis, the total number of absences as well as the average number of absences per 6 weeks was calculated.

Behavior Incidents

The school district provided information on the number of behavior incidents recorded for each student. This included any incidents resulting in in-school suspension

(ISS), off-campus suspension, reassignment center placement, or expulsion. Number of behavior incidents was averaged across the six 6 weeks.

Citizenship

Data obtained for citizenship were provided from the official student records. Citizenship records are provided based on teacher scoring in the following ways: Excellent (E), Satisfactory (S), Needs Improvement (NI) and Unsatisfactory (U). Citizenship was converted into a numerical scale (1-4) and averaged across the six 6 weeks.

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Data Analysis

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Data provided from the school district were analyzed using the SPSS software system. Descriptive analysis of the demographic characteristics of the sample were performed and parametric comparisons of the two groups were conducted using *t*-tests, cross tabulations, and analysis of variance. All of the analyses examined the impact of CIS program on students receiving program services compared to students at a campus without the program.

CHAPTER IV

FINDINGS

In order to examine the impact of CIS programs on the achievement of at-risk students, data were compared from students enrolled in the CIS program at School A to at-risk students attending School B, which does not have a CIS program. Students in both groups were analyzed for descriptive data in order to determine similarities in demographics. In addition, hypotheses were tested using t-tests and cross tabulations.

Description of Sample

The study compared data from at-risk students in the CIS program at School A during the years 2013-2014 ($n = 148$) and 2014-2015 ($n = 132$) to a random sampling of at-risk students at School B during the years 2013-2014 ($n = 150$) and 2014-2015 ($n = 150$). The total sample size contained 580 students. The students at School A represent the entire group of students enrolled in the CIS program for each year, all of whom needed to be at-risk to qualify for services. In order to have a relatively equal sample for School B, at-risk students from the school were randomized into the sample group. Two different campuses were chosen to ensure that students not receiving services from CIS were not affected by the school-wide services provided by the CIS program at School A.

The sample included students in kindergarten, but those students were not included in the analysis due to the small amount of relevant data kept on students in that grade. The distribution of students in each grade and school is presented in Table 1.

Table 1

Student Grade Distribution

			School		Total
			A	B	
Grade Level	1	Count	42	26	68
		% within School	15.0%	8.7%	11.7%
	2	Count	49	39	88
		% within School	17.5%	13.0%	15.2%
	3	Count	62	55	117
		% within School	22.1%	18.3%	20.2%
	4	Count	59	81	140
		% within School	21.1%	27.0%	24.1%
	5	Count	68	99	167
		% within School	24.3%	33.0%	28.8%
Total		Count	280	300	580
		% within School	100.0%	100.0%	100.0%

Student groups were comparable with regard to demographic characteristics (Table 2). Both schools were relatively equal in regards to the non-white population, 88.9% for School A and 89% for School B. Within the non-white population the proportion of black students is higher in School A (23.6%) compared to School B (7.7%). The proportion of Hispanic student appears to be higher in School B (79.7%) when compared to School A (41.8%); however, the race category labeled "two or more races" for School A was typically a combination of Hispanic and one other race, increasing the similarity of each group.

Economically disadvantaged status was coded as either "yes" or "no", with any student receiving free or reduced lunch considered economically disadvantaged. Again, the percentage of at-risk students at both schools that were economically disadvantaged was very similar (97.1% in School A, 93.0% in School B, Table 2). The gender of

students in both groups was only slightly different with 51.8% females and 48.2% males

at School A, and 46% female and 54% male at School B. The distribution of race,

economically disadvantaged status, and gender across the total sample is also similar to

the populations at each school, as previously referenced.

Table 2

Student Demographics by School

			School		
			A	B	Total
Race	Black	Count	66	23	89
		% within School	23.6%	7.7%	15.3%
	Hispanic	Count	117	239	356
		% within School	41.8%	79.7%	61.4%
	Two or more races	Count	66	5	71
		% within School	23.6%	1.7%	12.2%
	White	Count	31	33	64
		% within School	11.1%	11.0%	11.0%
Economic Disadvantaged	N	Count	8	21	29
		% within School	2.9%	7.0%	5.0%
	Y	Count	272	279	551
		% within School	97.1%	93.0%	95.0%
Gender	F	Count	145	138	283
		% within School	51.8%	46.0%	48.8.%
	M	Count	135	162	297
		% within School	48.2 %	54.0%	51.2%
Total		Count	280	300	580
		% within School	100.0%	100.0%	100.0%

Effects of CIS Programming

As described earlier, analyses completed within this study compared the at-risk

students from School A receiving intervention services though CIS to a random sampling

of at-risk students in School B. Student data were analyzed to determine the impact of

CIS programming on student at-risk indicators in the areas of attendance, behavior, and academic performance.

Hypothesis (a): Absences

The first hypothesis predicted at-risk students receiving CIS services (School A) would have fewer absences compared to at-risk students enrolled on the campus (School B) not receiving CIS services. A *t*-test analysis indicated a significant effect for the CIS program interventions over the course of the two years on the total number of absences per school year, with students at School A having a mean of 6.2 and students at School B having a mean of 7.4 (t (578) = -2.18, p = 0.03, Table 3). This indicates a 1.26 day (16%) difference in average number of absences between students receiving services and those not receiving services. The average number of absences per 6 weeks was also analyzed with at-risk students in School A incurring an average of 1.03 averages per 6 weeks and students at School B averaging 1.24 absences per 6 weeks (t (558) = -2.16, p = 0.03, Table 3). The hypothesis was supported by both analyses.

Table 3

Absences in Days by School

	School	*N*	Mean	*SD*
Average absences per six weeks*	School A	280	1.03	1.20
	School B	300	1.24	1.13
Total absences per year**	School A	280	6.16	7.18
	School B	300	7.42	6.76

* t (578) = -2.18, p = 0.03
** t (558)= -2.16, p = 0.03

Hypothesis (b): Behavior Incidents

In this analysis, the behavior incidents and citizenship for the students receiving CIS services at School A were assessed and compared to the students at School B (without the services). Behavior incidents for students in School B averaged 0.08 incidents per year over the 2-year period, approximately 2.7 times higher than students receiving CIS services at School A which averaged 0.03 incidents per student per year. A significant difference in behavior incidents between schools was found (t (574)= -2.93, p=0.004, Table 4).

Citizenship scores were converted to ordinal numbers (scale of 1-4, with 4 representing Excellent and 1 representing Needs Improvement) for comparison purposes, then analyzed with t-tests. The mean citizenship scores of students per 6 weeks at both School A and School B was 3.3 (a Satisfactory on the typical school scale). No significant effect was observed for the CIS intervention on citizenship scores among elementary age students ($t(476) = -1.090$, $p = 0.28$, Table 4).

Table 4

Behavior Incidents per Year by School

	School	N	Mean	Std. Deviation	Std. Error Mean
Behavior Incidents*	A	278	.03	.11	.01
	B	298	.08	.26	.02
Citizenship**	A	280	3.30	.77	.05
	B	296	3.30	.71	.04

* t (574) = -2.93, $p = 0.004$
** t (476) = -1.09, $p = 0.28$

The behavior hypothesis predicted that students receiving CIS services at School A would have fewer indicators of behavior incidents than students, not receiving services,

at School B. Behavior as measured by behavior incidents does support this hypothesis, indicating an impact of CIS services on students in School A; however, behavior as recognized by the subjective citizenship scores does not support the previous hypothesis.

Hypothesis (c): STAAR Performance

By conducting a cross tabulation and chi-square test, student scores on the STAAR ELA and Math tests were analyzed and compared. Hypothesis (c) predicted that students taking the STAAR ELA and Math tests were predicted to have no difference in their passing rates in regards to campus. However, the chi-square test indicates a statistically significant difference in math scores, with the higher percentage passing in School B, without CIS services (χ^2 (1, $N = 323$) = 5.02, $p = 0.03$, Table 5). Though the chi-square did not indicate significant difference in STAAR ELA scores, School B had a higher percentage of student passing than students receiving CIS services at School A (χ^2 (1, $N = 417$) = 2.02, $p = 0.16$, Table 6). The hypothesis was not supported due to the higher percentage of passing students at School B.

Table 5

STAAR Math Scores by School

			School		Total
			A	B	
STAAR Math	Fail	Count	53	103	156
		% within School	58.2%	44.4%	48.3%
	Pass	Count	38	129	167
		% within School	41.8%	55.6%	51.7%
Total		Count	91	232	323
		% within School	100.0%	100.0%	100.0%

$\chi^2(1, N = 323) = 2.02, p = 0.16$

Table 6

STAAR ELA Scores by School

			School		Total
			A	B	
STAAR ELA	Fail	Count	87	93	180
		% within School	47.0%	40.1%	43.2%
	Pass	Count	98	139	237
		% within School	53.0%	59.9%	56.8%
Total		Count	185	232	417
		% within School	100.0%	100.0%	100.0%

$\chi^2 (1, N = 417) = 2.02, p = 0.16$

Hypothesis (d): Academic Performance

It was hypothesized that students enrolled in the CIS program in School A would have no difference in academic performance scoring than students not enrolled in a CIS program in School B. This hypothesis was tested in two ways, through *t*-tests on both the total student grade mean for each core subject and the difference in second 6 weeks' and last 6 weeks' grades in the same core subjects.

The primary way that the academic performance was analyzed was through a comparison of total mean grades for students at both schools in each core subject area. When considering overall mean of grades for students in each core area (Table 7), there is a significant statistical difference between students receiving services in School A and those enrolled in School B without CIS services (math: $t (578) = 2.33, p = .02$; English: $t (578) = 6.06$, p < .00; reading: $t (578) = 3.20, p = .001$). The difference between grade means for each school is the greatest in the subject of English, with at-risk students receiving CIS services at School A averaging almost 5 points higher than at-risk students attending School B and not receiving services. The difference is smallest, though still significant, in math grades, with the students receiving CIS services at School A

averaging 1.7 points higher than the students attending School B and not receiving

services. Through this particular test, the hypothesis is not supported because students

receiving CIS services recorded higher averages in all core areas as compared to students

at the school without a CIS program, rather than no difference as predicted in the

hypothesis.

Table 7

Core Performance Averages Compared Between Schools

	School	N	Mean	Std. Deviation
MathAVG*	A	280	80.86	8.92
	B	300	79.15	8.66
EngAVG**	A	280	83.44	10.95
	B	300	78.57	8.28
ReadAVG***	A	280	79.17	8.70
	B	300	76.89	8.43

*t (578) = 2.334, p = .02
**t (578) = 6.062, p < .001
*** t (578) = 3.201, p = .001

The second way the academic performance was examined was by comparing the

change in grades over the course of the year. The difference in last 6 weeks grades to

second 6 weeks grades in each subject was found for students at School A and School B.

While both schools showed a decline in student grades, students without services at

School B had a significantly smaller decrease in grades as compared to students receiving

services at School A in all subject areas except math (math: t (529)= -0.46, p = 0.645;

English: t (529)= -2.57, p = 0.01 ; reading: t (529)= -3.62, p < 0.0, Table 8). This test did

not support the hypothesis because students receiving CIS services at School A actually

had greater declines in grades over the course of the year as compared to students at

School B without services.

Table 8

Difference in Core Performance Averages Compared by School

	School	N	Mean	Std. Deviation
Math Difference*	A	259	-.05	7.91
	B	272	.30	9.23
English Difference**	A	259	-2.45	9.98
	B	272	-.14	10.68
Reading Difference***	A	259	-3.44	10.51
	B	272	-.16	10.33

*$t(529) = -0.46, p = 0.64$
**$t(529) = -2.57, p = 0.01$
***$t(529) = -3.62, p < 0.001$

CHAPTER V

DISCUSSION

Communities In Schools has been serving students in the United States for almost 40 years, and has been the subject of studies that explore its ability to increase student engagement in secondary grades as well as graduation rates (Communities In Schools, 2016; Porowski & Passa, 2011). However, little research has been completed about the effect of the CIS model on students in elementary school.

This quasi-experimental study explored the differences in student achievement through academics, behavior, and attendance between at-risk elementary students receiving CIS services and those students on a campus not receiving CIS services. The study examined four hypotheses in the three areas of performance. Based on the data collected from the school district, evidence suggests the CIS interventions have an effect on number of absences, behavioral incidents, and student grades in elementary schools.

Review of Findings

Absences

In the area of attendance, at-risk students receiving services through the school-based CIS program had an average of 16% fewer absences than at-risk students who attended a school lacking the CIS program. The decrease in absences calculates to a difference of 1.2 more school days a year in attendance for students receiving CIS interventions. Similar to previous studies (Ford & Sutphen, 1996; Lehr et al., 2004), these

data suggest that the consistent interaction and feedback from a caring adult and individualized one-on-one interventions have an effect on student attendance.

In addition to decreasing student absences, CIS programs could have large effects on the budgets of campuses with a high proportion of at-risk students. If the average for total decreased absences, 1.2 days, was extrapolated to all at-risk students at School B, a total of 272 students (TEA, 2014), the school would experience 326.4 fewer absences per year. At the average ADA rate for at-risk students, $34 per day per student, this equals to $11,097 in additional state funding for the campus in one year, a possible $22,195 difference in funding over the two years studied in this research (M. Irby, personal communication, March 31, 2016).

Behavior Incidents

The two approaches to the measurement of behavior gave mixed results in regard to the hypothesis. The citizenship data indicates that students at both campuses have the same average citizenship score, implying that the CIS program does not have a statistically significant effect on the perception of behavior held by teachers through the citizenship grade. However, it is worth noting that there are no set criteria in AISD for citizenship scores, which means they are a subjective approach to discipline and behavior at the elementary level.

Although the perception of teachers of behavior performance shows no difference, the average number of behavior incidents for students enrolled in the program was less than one-third of those incurred by students in the comparison group. Behavior incidents at the elementary level are rare, both schools averaging less than one behavior incident per student. However, these types of incidents take students away from the

individualized instruction of the classroom. Current methods either place them in a self-paced setting, through in-school suspension, or in a reassignment center, or relieve them from instruction all together, in the case of an out-of-school suspension. Although these incidents do not typically count against attendance, they are added time that these students spend away from the learning environment, widening the gap in skills and knowledge.

STAAR Performance

The data indicate that CIS interventions have no effect on STAAR performance of students in elementary school. Students in School B, without the CIS program, had higher percentage of passing rates on both the STAAR ELA and Math test than those students in the CIS program at School A. The higher percentage of STAAR failures seen at students receiving services at School A has a few possible reasons. First, after the conclusion of 2014-2015, the final year in this study, School A was identified and targeted by the state of Texas as a school with an "improvement required" rating in the area of STAAR testing (TEA, 2015). This could indicate some issues with fidelity to which standards were being taught within the school during the time of the study.

A second reason for the lower passing rate in students at School A could be the significant difference in English Language Learners (ELL)/ Limited English Proficiency (LEP) students on the two campuses. School A is considered a bilingual campus and has almost 30% of students characterized as English Language Learners, while School B has only 13% of their students classified with the ELL indicator. Since the STAAR test is given in the English language, except in rare cases, many students at School A are reading a test that is not in their native language. For this reason, and the lack of

opportunity for CIS coordinators to work directly on STAAR-related material with students, there is reason to believe that the poorer performance by School A maybe related to something other than the CIS program.

Academic Performance

With the knowledge of previous research studies, the hypothesis predicted no difference in academic performance between groups due to the lack of classroom-centered interventions provided by Communities In Schools (Bradshaw et al., 2009). The academic performance of students in the two groups was tested two ways. The primary analysis utilized total averages in each of the core subject areas for both students receiving services at School A and those not receiving services at School B. Data indicate a 1.7, 2.2, and 4.8 point difference in overall averages for math, English and reading, respectively, with students receiving services having the overall higher average. Like some previous research, students receiving the interventions did end up with the biggest difference affecting overall reading and English achievement, and a smaller difference in overall math scores (Bradshaw et al., 2009; Ritter et al., 2009). The mean scores did not support the hypothesis that no difference would be found in the two schools, with student receiving services actually performing in a higher grade range in the core subject areas.

However, the irony of the findings is that the second analysis indicated that students in School B, without services, showed less decline in grades over the course of the year than students enrolled in CIS services at School A. While both schools did show a decline in grades, students within School B declined on a smaller scale. This analysis does not support the hypothesis of no difference, but rather implies a difference in favor of students at School B, not receiving services from the CIS program.

The mixed results of this data lead to more questions about the nature of content and expectations between the two schools. First, is the presence of the CIS program and its model for school-wide services having a larger effect on the accountability of both teachers and students in School A? Particularly, does the awareness and identification of issues within the school lead to school officials recognizing and solving student issues more efficiently—even with those students on campus not enrolled in the program? If these are true, higher accountability could explain the larger decline in grades as the year progresses. With the end of the year typically focusing on standardized testing and previewing the content for the next grade level, teachers could be expected to be presenting a more rigorous curriculum later in the year. Answers to these questions, as well as further research, could help identify reasons for the mixed results within student data.

Implications for Practice and Policy

A major contribution of this study is the evidence of CIS programming effects on student achievement and the at-risk indicators of absences, behavior incidence, and poor academic performance in elementary school. Communities In Schools of the Big Country annually performs data checks to assess student progress in attendance, behavior, and academics within their program, but has never compared students within their program to at-risk students not receiving any type of CIS services. Data indicate that the individualized one-on-one interventions do impact student achievement in respect to absences, behavior incidents, and average academic performance.

In recent school years, there has been discussion of the impact of CIS on elementary students and whether their services are as effective in these grade levels. The

current study does indicate effectiveness on these campuses, and should be taken into account when discussing the expansion of the CIS program to other schools and districts. Although the impact and long-term effects of the outcomes is unknown, literature does indicate that at-risk students receiving effective interventions early are more likely to stay in school and graduate (Barry & Reschly, 2012; Jimerson et al., 1997; Lehr et al., 2009). Evidence in this study indicates that CIS programming is having an effect on the three major factors influencing school completion—attendance, behavior and academics— possibly creating positive habits in these areas that will persist.

Considering the effects of the program on these influential dropout indicators, CIS should also be seen as having an impact on the concept of social justice within the educational setting. The results of this study provide evidence that the program is creating a more equal playing field for students who have historically struggled in the public school system by reducing the number of potential at-risk indicators they face. As the CIS program provides intervention and prevention at critical times in the developmental process, at-risk students receiving services are able to have increased opportunity to educational resources and support they might not otherwise receive.

For school districts, one major implication from this study is the probability for increased state and federal funding for campuses due to decreased absences. Districts should also consider the increase in funding available due to the decrease in student discipline issues and resources spent in alternative discipline placements. These savings and funding increases should be compounded as the effects of the program continue to payout in subsequent years. With this in mind, districts should consider adding CIS, or similar programming, to their campus with the realization that any money spent on the

program could be recuperated and even surpassed if outcomes from this study are

replicated.

As the mixed results of the academic performance portion of this study indicated,

policies for grading criteria and accountability might need to be addressed within the

school system. Although norming grades across campuses would be a difficult objective,

knowing that grading systems were similar would increase the reliability of results.

CHAPTER VI

CONCLUSIONS

Through the current study, the Communities In Schools program is indicated as having a significant effect on absences, behavior incidents, and average grade totals for at-risk students receiving services. The study design and variables have both strengths and weaknesses, and the findings presented have implications for future research in regard to at-risk students.

Strengths

The large sample size and quasi-experimental design of this study have both led to increased validity of the findings. The large sample size, along with the two different school years tested, allows for greater strength in testing significant values. The quasi-experimental nature of the design allowed for a randomized comparison group in order to isolate the impact of CIS programming on student achievement.

Limitations

There are at least three limitations in this study. First, the high rate of mobility within Abilene Independent School District left gaps in data for some students within the sample. Second, the data analyzed do not control for students affected by other characteristics, such as language barriers. As a bilingual school, School A has no exact comparison school in the district, leaving the possibility open that language barriers could be a variable not experienced by students at School B. Third, two variables are based on teacher subjectivity: grades and citizenship. While the distribution and size of both the

sample and control populations should control for teachers with outlying marks in either area, there is the potential for bias within the groups. Without a standardized criteria for grades and citizenship, there is potential for issues of reliability.

Implications for Future Research

Currently, due to the lack of longitudinal data available, there is little evidence of the lasting impact of the outcomes found in this study. Future research should focus on the long-term impacts of the CIS program on student achievement and at-risk indicators, particularly following cohorts similar to the samples in this study. This study also raises the question of the impact of CIS programming to student achievement indicators in both middle school and early high school. If adult interaction and individualized interventions using the CIS model are started or continued through secondary grades, are the outcomes similar or even exponential compared to students experiencing the program in elementary school?

The current study also brings up the question of the direct impact of CIS on academic performance due to the mixed nature of hypothesis support. Any future research should focus on replicating the findings from the current study with other demographic populations and within other grade levels to determine impact, particularly in the area of academic achievement, to determine if the CIS program is effective among a broader baseline of students.

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APPENDIX

IRB APPROVAL

ABILENE CHRISTIAN UNIVERSITY
Educating Students for Christian Service and Leadership Throughout the World

Office of Research and Sponsored Programs
320 Hardin Administration Building, ACU Box 29103, Abilene, Texas 79699-9103
325-674-2885

November 30, 2015

Ms. Sarah McLean
School of Social Work
ACU Box 27866
Abilene Christian University

Dear Ms. McLean,

On behalf of the Institutional Review Board, I am pleased to inform you that your project titled "An Analysis of Elementary Interventions on Academic Behavior and Performance" is exempt from review as non-human research under Federal Policy for the Protection of Human Subjects (Federal Regulation 46.102(d)).

If at any time the details of this project change, please resubmit to the IRB so the committee can determine whether or not the exempt status is still applicable.

I wish you well with your work.

Sincerely,

Megan Roth, Ph.D.
Director of Research and Sponsored Programs

cc: Dr. Tom Winter