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The Impact of Texas Aim on Academic Performance in DETX

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THE IMPACT OF TEXAS AIM ON ACADEMIC PERFORMANCE IN DETX

By

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The Impact of Texas Aim on Academic Performance in DETX

By

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ABSTRACT

School- and community-based after-school programs have evolved within the last 10 to 14 years, to accommodate and reinforce primary education (Mahoney, Larson, Eccles, & Lord, 2005). Students who are enrolled in after-school programs (e.g., Boys and Girls Club, Solid Foundation) have made higher grades in the classroom than their same age/grade peers who are not enrolled in after-school programs (Fredricks, Hackett, & Bregman, 2010). Additionally, after-school programs increase students' self-esteem and confidence (Fredricks et al., 2010). The Boys and Girls Club organization has a strong devotion to their members' academic success in the school setting ("Boys and Girls Clubs of Am," 2019). The organization implements and operates programs, such as Texas AIM, SMART, Project Learn, and Gang Prevention to assist schools in molding the students' academic performance ("Boys and Girls Clubs of Am," 2019). Specifically, Texas AIM is used to help students succeed academically (Sylvan Learning, 2017a). In the state of Texas, Boys and Girls Club members who participate in the Texas AIM program have improved their grades at school (Sylvan Learning, 2017a). The purpose of this study is to answer the research question: How does the Deep East Texas Clubs Texas AIM outcome data compare to aggregated state results?

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CHAPTER ONE

Introduction

Within the last 10 to 14 years, there has been an increase in the amount of research done on the importance of school- and community-based after-school programs toward the positive development of youth in low social economic status communities (Mahoney et al., 2005). Low-income youth are at risk for poorer academic, social, and psychological outcomes and are at increased risk of living in areas of heightened criminal peer pressure, when compared to youth from high- and middle-income households (Mahoney et al., 2005). Youths' involvement in after-school activities have a strong correlation with positive youth development, lower criminal incidence, and higher academic and motivational performance (Fredricks et al., 2010).

One of the leading after-school programs in America is the Boys and Girls Clubs of America (BGCA). There are 4,300 individual clubs that serve over 4 million boys and girls between the ages of 4 to 18 ("Boys and Girls Clubs of Am," 2019). The BGCA has served families on military bases and in towns and cities since 1860 ("Boys and Girls Clubs of Am," 2019). The BGCA promotes a safe, fun, and healthy environment for youth (Mahoney et al., 2005). Prominent figures in American culture have attributed part of their success to the BGCA, such as Denzel Washington and Shaquille O'Neal ("Boys and Girls Clubs of Am," 2019)

The BGCA is a national non-profit organization that creates a safe haven for youth after school, on the weekends, and during school breaks ("Boys and Girls Clubs of Am," 2019). The organization provides youth with a fun, educational, and safe environment to experience and grow (Mahoney et al., 2005). Parents benefit from BGCA's safe environment, responsible staff, low membership cost, and scholarship opportunities (Kreider & Raghupathy, 2010). BGCA provides services to students of all social economic backgrounds (Anderson-Butcher & Cash, 2010). The organization's motto is "To enable all young people, especially those who need us most, to reach their full potential as productive, caring, responsible citizens" ("Boys and Girls Clubs of Am," 2019). BGCA strives through their programs, services, and outreach to develop boys and girls who are confident, influential, motivational, and productive members of society (Anderson-Butcher & Cash, 2010).

Programs through BGCA are designed to make students productive members of society and aid them in becoming better students at school (Mahoney et al., 2005). All programs at the BGCN and BGCL emphasize the importance of education ("Boys and Girls Clubs of Am," 2019). However, no research could be identified that compared how specific clubs compare to aggregated state results. The current study seeks to answer the following question: How does the Deep East Texas (DETX) Clubs (BGCN and BGCL) Texas AIM outcome data compare to aggregated state results (The DETX Club data will be compared to statewide data by analyzing the growth scale values (GSV) and normal curve equivalents (NCE) variables from the pre- and post-test)? The prediction is that the

state data will show a greater academic increase from pre-to post-test than the DETX Clubs' data.

CHAPTER TWO

LITERATURE REVIEW

How Children Spend Their Time After School. The prevalence of parents working outside the home to secure a comfortable income has increased in the 21st century (Cosden, Morrison, Albanese, & Macias, 2001). As parents spend more time at work, less time is devoted to the household and raising children (Cosden et al., 2001). Furthermore, parents are often unable to access affordable childcare (Capizzano, Adelman, & Stagner, 2002). This is especially true for low income families, who may not be able to afford child-care services, such as daycares or nannies (Capizzano, Tout, & Adams, 2000). Often, low income families entrust their oldest children to watch their younger children until a parent returns from work (Rabain-Jamin, Maynard, & Greenfield, 2003). Youth from low income families are at risk of low academic and social performance and criminal activity (Jaggers, Robison, Rhodes, Guan, & Church, 2016; Fletcher, Elder, & Mekos, 2000; Mahoney et al., 2005).

Children from low-income families typically begin their school experience with fewer academic skills than their middle-income peers and they remain on a path of relatively low performance (Hauser-Cram, Sirin, & Stipek, 2003). Hauser-Cram et al. (2003) stated that children from low-SES families are less likely to have experiences that encourage the development of fundamental skills of reading acquisition, such as phonological awareness, vocabulary, and oral language. As a result of the study, the

researchers found that children from low-SES families started school with low expectations for academic success that stemmed from their family. Previous researchers have found that teachers expect less of students who are from low-income families and are less likely to hold them to similar high standards of their middle- to high-income peers (Considine & Zappalà, 2002; Hauser-Cram et al., 2003; Reardon, 2016; Sackett, Kuncel, Arneson, Cooper, & Waters, 2009; Sellers, Chavous, & Cooke, 1998). Kennedy (1995) for example, analyzed data on the academic climate of 250 third-grade classrooms in a stratified sample of 76 schools in Louisiana. The sample of low-income students was strongly and negatively correlated with teachers' perceptions of the students' academic ability (Kennedy, 1995). Furthermore, a student's socioeconomic status (SES) was found to be a strong indicator of low peer support for academic performance; although the influence of low academic peer support disappeared when teacher expectations were entered into the regression analysis (Farooq, Chaudhry, Shafiq, & Berhanu, 2011; McLoyd, 1998). In addition to lower expectations for academic performance, teachers perceive low-income students as lacking the maturity and social skills of their middle- and high-income peers (Farooq et al., 2011; McLoyd, 1998).

Children from low-income families tend to have cognitive and social developmental delays (Connell & Prinz, 2002). Connell and Prinz (2002) expressed that low-income children have fewer parent-child interactions throughout their development, due to external factors such as family structure (i.e., single-parent households) and the parent's educational background. Ellwood and Jencks (2004) stated there has been a rise

in the number of single-parent households over the past few decades. Most low-income families consist of the children living with a single parent (Downey & Powell, 1993; Ellwood & Jencks, 2004). Researchers at Bowling Green State University found that children who live in a single-parent household tend to start school with more social skill deficits and fall within the low-income range, when compared to their peers that live in a married or cohabitating family household (Manning & Lamb, 2003). In order to sustain the family financially the single parent must obtain more than one job, largely due to a lack of educational background (Manning & Lamb, 2003).

Dubow, Boxer, and Huesmann (2009) studied the impact of parents' educational background on their children. Parents with a college degree tend to secure a stable and higher paying job than a parent without a college degree (Dubow et al., 2009). Social learning and social skills are shaped in part through observational and direct learning experiences (Dubow et al., 2009). Furthermore, parents with a college degree tend to provide better social skills training via modeling to their children (McLoyd, 1998). Similarly, Davis-Kean (2005) found that parents' educational level indirectly effects their child's social and cognitive development. Parents with higher educational levels (i.e., at least a college degree) make significantly higher incomes and are able to provide more academic accommodations and resources for their children's social and cognitive development compared to parents with lower educational levels (i.e., no high school diploma; Davis-Kean, 2005). Highly educated parents have the means to place their children in early childhood programs and provide resources, such as tutoring and

preparation classes, to help them be academically successful throughout school (Davis-Kean, 2005).

A strong relationship between poverty, cognitive development, and academic performance was found by Campbell and Ramsey in 1994. They found that children from low-income families are less likely to participate in early childhood programs and rely on school systems to engage their children cognitively. It is beneficial to start early childhood programs at a young age because children's brains are more malleable to new information (Campbell & Ramsey, 1994; Ellwood & Jencks, 2004). For example, Ellwood and Jencks (2004) studied early childhood interventions for children who come from poverty-driven families and the effects it has on students' academic outcomes. They found that families living in poverty who have children with developmental disabilities have shown significant cognitive, academic, and social improvements through participation in early childhood intervention programs. Furthermore, children from low-SES households are at higher risk of entering school with cognitive delays when compared to their middle-to-high-SES peers (Ramey & Ramey, 1998; Ellwood & Jencks, 2004).

Students from low-income families are at risk of being involved in criminal activities (Brooks-Gunn & Duncan, 1997; Loeber et al.,2005; Sherman & Mitchell, 2017). Sherman and Mitchell (2017) studied the association between family poverty and children's development and success in life. Their results indicated that poverty at a young age directly effects outcomes. For example, children who experience poverty

during early childhood education (preschool – 2nd grade) have lower rates of high school graduation than children of the same age who do not live in poverty (Brooks-Gunn & Duncan,1997; Sherman & Mitchell, 2017). In addition, students from families living in poverty are less likely to graduate and experience difficulty finding jobs that hire employees without a high school diploma or General Education Development (GED; Chen, 2008; Fabio, Tu, Loeber, & Cohen, 2011; Krivo & Peterson, 1996). As a result, these individuals turn to their low-SES communities for work and income (Fabio et al., 2011; Krivo & Peterson, 1996). For example, high school dropouts may begin selling illegal drugs and committing crimes to attain means of income for their families, which often results in them going to jail or prison (Fabio et al., 2011).

How Children Spend Their Time in After-School Programs. Caregivers are spending more time in the workforce than in previous years, which has affected the type of activities and the number of activities their children are involved in after school dismisses (Anderson-Butcher & Conroy, 2002). In addition, more youth are engaging in unstructured and unsupervised activities after the school day (Capizzano et al., 2000). A study in 2001 found that children who do not engage in structured after-school programs spend more time watching television and playing video games (Cosden et al., 2001). They also found that participation in an after-school program can serve as a protective factor for children at risk of academic failure. In fact, Schinke, Cole, and Poulin (2000) found that students participating in after-school activities aimed at enhancing the educational performance of economically disadvantaged early adolescents living in

public housing are more likely to experience increased academic performance (Schinke et al., 2000).

Students' participation in structured activities after school is positively correlated with increased academic, social, and psychological performance (Bean & Forneris, 2016; Holland & Andre, 1987). Structured activities, such as athletics, drama, hobby clubs, youth clubs, student government, church activities, and academic–vocational clubs are associated with increased self-esteem and confidence (Anderson-Butcher & Cash, 2010). After-school programs have also been shown to benefit students' academic performance, even if the program is not affiliated with the school (Anderson-Butcher, Newsome, & Ferrari, 2003). An important function provided by after-school programs is the development and enhancement of students' academic skills (St. Pierre, Mark, Kaltreider, & Campbell, 2001). After-school programs that include academic assistance typically do so as part of a cluster of services (Fredricks et al., 2010). Additionally, after-school programs encourage members to participate in other programs that are provided, such as college and career readiness, athletic skill building, and learning foreign languages (Fredricks et al., 2010).

Programs that offer academic support. There are numerous after-school programs that provide a safe, fun, and academically engaging atmosphere (Borden, Perkins, Villarruel, & Stone, 2005). Popular examples include day-cares, non-profit organizations, and schools as well as non-school related extracurricular activities (Hofferth & Sandberg, 2001). Student participation in after-school programs is positively

correlated with improved school attendance and performance, increased interaction with adults, enhanced peer relationships, and enhanced prosocial behaviors (Borden et al., 2005; Haberlin, 2014; Hofferth & Sandberg, 2001). Also, after-school programs and extracurricular activities have a significant and positive correlation with higher academic success for students (St. Pierre, Kaltreider, Mark, & Aikin, 1992; Fredricks et al., 2010). St. Pierre et al. (1992) examined the effect that after-school programs have on a child's development (i.e., drug prevention and higher academic performance). They found that after-school programs have a significant and positive correlation with a child's development. A study done with the BGCA, examined why youth choose to participate in the clubs at the BGCA and found that the youth view after-school programs as having multitudinous benefits (e.g., moral development, educational commitment, leadership skills, health lifestyle skills) toward their developmental growth (Fredricks et al., 2010).

Students' involvement in multiple activities. Fares et al. (2016) examined the effect that extracurricular activities have on the stress levels of preclinical medical students. The students' extracurricular activities were categorized in four categories: physical exercise (football, swimming, cheerleading, gymnastic, etc.), music (band, chore, etc.), reading (books, articles, newspapers, etc.), and social activities (fraternities, sororities, etc.; Fares et al., 2016). A random sample size of 165 preclinical medical students participated, with 62% suffering from stress and 75% suffering from burnout (Fares et al., 2016). The authors found that music-related activities were significantly correlated with lowering burnout outcomes and physical related activities were

significantly correlated with lowering stress outcomes (Fares et al., 2016; Lawendowski & Bieleninik, 2017). In contrast, reading and social activities appeared to increase the amount of stress and burnout for the students (Fares et al., 2016; Ramos, Brauchli, Bauer, Wehner, & Hämmig, 2015).

Marsh (1992) studied the effect that being involved in multiple activities had on the outcome of grade-level students (Pre-K – 12th grade). The authors found that the number of extracurricular activities one participated in was significantly and positively correlated with increased social and academic self-concept, educational aspirations, coursework selection, homework completion, academic achievement, and subsequent college attendance (Marsh, 1992; Ramos et al., 2015). Grade-level students who are involved in multiple activities (i.e., three or more) have additional motivation to put more effort toward their academic success (e.g., social emotional security, adult support, student support, and school connectedness; Martinez, Coker, McMahon, Cohen, & Thapa, 2016).

The link between students' activity involvement, classroom engagement, and academic success (e.g., social emotional security, adult support, student support, and school connectedness) was studied by Martinez et al. (2016). The researchers found that the students involved in extracurricular activities had more favorable perceptions of their social-emotional security, adult support, student support, and school connectedness (Martinez et al., 2016). However, the number of activities each student engaged in that resulted in an increase in their school engagement and academic success varied (Martinez

et al., 2016). Nonetheless, the authors concluded that extracurricular activities serve as a mechanism to promote positive school growth (e.g., school engagement and academic success; Fares et al., 2016; Ramos et al., 2015; Martinez et al., 2016; & Marsh, 1992)

BGCA

Youth development programs provide structured settings and supports for promoting the positive, healthy development of young people (Kreider & Raghupathy, 2010). The BGCA is a popular non-profit organization that has positive benefits (e.g., moral development, educational commitment, leadership skills, health lifestyle skills) for its members through after-school programs (Anderson-Butcher et al., 2003). BGCA strives to develop social awareness through six core program areas: character and leadership development, health and life skills programs, education and career development, arts programming, sports, fitness, recreation, and specialized initiatives (Aberton, Sheldon, & Herrera, 2005). As of 2018, there were 4,300 BGCAs serving over 4 million boys and girls (Fredricks et al., 2010). Clubs primarily exist as stand-alone facilities (47%); however, in some places the programs are co-located in schools, public housing units, military bases, reservations, churches, detention centers, and shopping malls (Fredricks et al., 2010). Becoming a member of the organization is considered to be easy and inexpensive (Fredricks et al., 2010). Members also benefit from an open-door policy that allows students to be picked-up and dropped-off by their parents during the hours the club is open (i.e., parents do not have to stay at the facility; “Boys and Girls Clubs of Am,” 2019). Quinn (1999) found that BGCA student members are at lower risk

of attending juvenile detention centers, having failing grades, and are more likely to have strong self-esteem and self-awareness. Other researchers (Anderson-Butcher et al., 2003; Fredrick et al. 2010) have also found that student participation in the BGCA programs increases social skills, academic performance, and character. Anderson-Butcher et al. (2003) surveyed 150 participants and found their social skills, academic performance, and character were significantly and positively enhanced through participation in BGCA programs.

Programs offered at the Boys and Girls Club. BGCA examined the impact their structured programs have on participants' life development (e.g., moral development, educational commitment, leadership skills, health lifestyle skills; Aberton et al., 2005). The researchers indicated participants receive a significant and positive impact from participating in the BGCA programs (Aberton et al., 2005). For example, a similar study found that in-club programs such as SMART, Project Learn, or Gang Prevention and Targeted Outreach are directly and positively correlated with improving student compliance, problem solving abilities, courteousness with teachers and school personnel, and ethical behaviors as a result of participation (Anderson-Butcher & Cash, 2010). The programs aim to assist children through tutoring, mentorship, character and leadership building, and contributing to their community (Schinke et al., 2000).

Researchers have explored the impact of Club participation on outcomes such as academic achievement and substance use (Anderson-Butcher et al., 2010; Guavain & Perez, 2005; Halpern, 1999). Programs such as Project Learn promote students

strengthening their academic performance (St. Pierre et al., 1992; Hirsch, Roffman, Deutsch, Flynn, Loder, & Pagano, 2000). St. Pierre et al. (1992) found that students who attended a club with academic programs such as Project Learn, perform better academically in the school setting than those that attend Clubs without academic programs. Also, Kreider and Raghupathy (2010) found that students who attend any BGCA club, with or without an academic program, have a significant and positive impact on students' social and cognitive development (i.e., moral development, educational commitment, leadership skills, health lifestyle skills) compared to students who do not attend an afterschool program.

Texas AIM Program. According to the Texas AIM Operations Manual (2016), the Texas AIM program is used by several clubs across Texas in order to help students succeed in school. The Texas AIM and Ace It! programs are identical, but have different names based on the contextual setting (Sylvan Learning, 2017a). The term Texas AIM refers to the program when used at a BGCA facility and the term "Ace It!" refers to the same program when used at a Sylvan Learning center (Sylvan Learning, 2017a). For the purpose of describing the program both terms will be used based on the source of information, but readers should know that both terms refer to the same program.

Ace It! is an intervention designed to remediate specific skill deficits in mathematics and reading within a small group setting (Rockman et al., 2016). The program curriculum is constructed for students with academic concerns within grades K-8 and has an 8:1 maximum student to teacher ratio (Rockman et al., 2016; Rockman et

al., 2017). It provides material to create an instructional plan for each student, using a curriculum that is aligned to national and state education standards. Benchmark assessment, progress monitoring, and daily monitoring is used to track achievement and shared with students to provide performance feedback. Having students involved in tracking their achievement aids student motivation by rewarding effort and achievement (Texas AIM Operations Manual, 2016). Parents are involved in their student's academic tracking through progress reports (every 3 weeks) and weekly reports (every week) sent home with the student (Rockman et al., 2017). Over the course of about 10 weeks, students enrolled in the program receive 30 hours of instruction in math and/or reading (Texas AIM Operations Manual, 2016). Clubs in Texas have been shown to be effective at increasing participant's classroom grades (Texas AIM Operations Manual, 2016). However, only aggregate statewide data has been published.

Texas AIM/Ace it! Tutors. A trained tutor leads all Ace it! program sessions (Sylvan Learning, 2017b). Sylvan trains the tutors how to instruct the students using explicit, intensive, and systematic instructions (Sylvan Learning, 2017b). The tutor monitors students' individual growth using assessments provided by Sylvan. Sylvan instructs tutors to provide an individualized curriculum to fit each student's particular learning style (Sylvan Learning, 2017b). Pre- and post-test assessments are completed using Group Reading Assessment and Diagnostic Evaluation (GRADE) and Group Mathematics Assessment and Diagnostic Evaluation (GMADE) tests that are used to

track the students' summative academic progression (Sylvan Learning, 2017b; 2017c, 2017d).

The tutors chosen to teach the Ace it! program are highly qualified teachers who undergo a comprehensive initial training program and must complete on-going training (Sylvan Learning, 2017b). The training concentrates on small group-and individual-directed curriculum (Sylvan Learning, 2017b). Tutors are taught the most effective way to administer the diagnostic assessments, techniques for diversifying instruction with small groups of students, and how to apply effective motivational strategies (Sylvan Learning, 2017b; 2017c; 2017d; Chadwick & Day, 1971). The training teaches them how to maintain and update attendance and performance records, safety procedures, and to follow their professional code of ethics (Rockman et al., 2014). During training, each tutor receives both an Ace it! Math Teacher's Manual and Reading Teacher's Manual, which they review and use to build their class curriculum (Rockman et al., 2014). Sylvan personnel certify tutors who demonstrate how to accurately implement the curriculum (Sylvan Learning, 2017b). After certification, the tutors are regularly observed and evaluated by Sylvan personnel to ensure program fidelity is maintained. Tutors who do not meet Sylvan standards are provided additional training and all tutors are required to attend regular staff development meetings regarding Ace It! and any updates or changes to the program that have been made (Sylvan Learning, 2017b).

Math. The Ace it! Math program is an engaging and effective intervention for students who struggle in areas of math (Sylvan Learning, 2017c). The math curriculum is

designed for underperforming math students (Rockman et al., 2014). Lesson plans focus on a variety of math skills (i.e., addition, subtraction, multiplication, division, fractions, decimals, percentages, and algebra; Sylvan Learning, 2017c). The students are chosen and placed in small groups of eight based on their score on the GMADE (Sylvan Learning, 2017c). Once the student completes the GMADE, the student is placed in a group with students who have similar academic needs. The results of the GMADE are used to place students in instructional groups and to periodically measure the progress of each student (Sylvan Learning, 2017c). The Ace it! Math program claims to be a research-based intervention curriculum that adheres to theories of teaching and learning (Battista, 1999; Crick, 1994; Rockman et al., 2014). The program follows theories that build a strong bridge between math content and process skills, and encourages students to build, test, and revise their own ideas rather than follow a step by step procedure to form an answer (Rockman et al., 2014). The study's plan is to have the students build their self-awareness and critical thinking to form answers through trial and error through the program (Rockman et al., 2014). The program also purports to align with the standards and reform efforts of the National Research Council, the National Council of Teachers of Mathematics, the National Mathematics Advisory Panel, the National Governors' Association (NGA), Council of Chief State School Officers (CCSSO), and the developers of the new Common Core State Standards for Mathematics (Rockman et al., 2014).

Rockman et al. (2014) examined how students with pre-existing math delays develop knowledge and skills after participating in the Ace it! Math Program. The

students were given a pre-test to determine their mastery of five lesson objectives (Data Analysis Statistics & Probability, Geometry & Measurement, Algebra, Number & Operations, and Math Fact Fluency). The students were then given guided practice to ensure they have a strong grasp of the material. Students were asked to do independent practice on the material. Lastly, students were asked to take a post-test (mastery test) to determine the amount of knowledge and skills they gained after the instruction. The authors concluded that students with pre-existing math delays demonstrated increased knowledge and skills after participating in the Ace it! Math program. The students were able to narrow the academic gap, placing them closer to their same grade-level peers (Rockman et al., 2014).

Reading. The Ace it! Reading program is an effective intervention for students who struggle in areas of reading (Sylvan Learning, 2017d). Participants are chosen and placed in small groups of eight based on their score on the GRADE (Sylvan Learning, 2017d). Scores on the GRADE are used to place participants in instructional groups and to measure the progress of each participant at appropriate points in the program (Sylvan Learning, 2017d). The curriculum builds skills in the areas of Phonemic Awareness, Phonics, Letter Writing, Comprehension, Vocabulary, and Fluency (Sylvan Learning, 2017d). It has a strong evidence base and is founded on theories of teaching and learning (Rockman et al., 2016). The program follows theories that allow readers to engage in multiple, simultaneous processes to make sense of texts, recognizing letters and decoding words, connecting words in their vocabulary, and using comprehension strategies to

connect what they read to what they already know (Freeman & Freeman, 2000, p. 24; Silver-Pacuilla, 2008). Ace It! Reading claims to align with effective language arts and literacy instruction supported by reports from the National Research Council's Preventing Reading Difficulties in Young Children; National Reading Panel, Teaching Children to Read; Alliance for Educational Excellence's Reading Next, U.S. Department of Education's Institute of Education Science's (IES) What Works Clearinghouse; U.S. Department of Education's Institute of Education Science's funded Best Evidence Encyclopedia reports from the Johns Hopkins University School of Education's Center for Data-Driven Reform in Education; as well as studies from the National Institute for Literacy, National Council of Teachers of English, NGA, and CCSSO.

Based on a review of the literature, Rockman et al. (2016) concluded that participants with deficits in the areas of reading and language arts exhibited an increase in their knowledge and skills after participating in the Ace it! Reading program. They found that participants in the program were able to narrow the academic gap with their grade-level peers.

Purpose and Research Questions. Research has demonstrated the positive impact a variety of BGCA programs (e.g., SMART and Project Learn) have had on their members (Anderson-Butcher et al., 2010). There is a dearth of research that has examined the Texas AIM program and its impact on students' academic performance at the individual club level (Aberton et al., 2005; Anderson-Butcher et al., 2010; Guavain & Perez, 2005; Haberlin, 2014; Halpern, 1999). This study seeks to examine the success of

the Texas AIM program and its impact on students of the Boys and Girls Club in Nacogdoches and Lufkin.

Previous research indicates that after-school programs have a positive impact on students' development, especially on their academic success in school (Anderson-Butcher et al., 2010; Haberlin, 2014). Haberlin (2014) found that students spend more time in school and in after-school programs than at home during the day. BGCA provides programs throughout the year to the members of the club to assist them with developmental maturation ("Boys and Girls Clubs of Am," 2019). Members have positively benefited from academic programs implemented by the BGCA (Anderson-Butcher et al., 2003). However, only statewide aggregated data from the Texas AIM program is available. The purpose of this study is to answer the research question: How does the DETX Clubs (BGCN and BGCL) Texas AIM outcome data compare to aggregated state results (The DETX Club data will be compared to statewide data by analyzing the GSV and NCE variables from the pre- and post-test)? It is hypothesized that the state data will demonstrate a greater academic increase from pre- to post-test than DETX Clubs' data.

CHAPTER THREE

Method

Participants. Participants include 64 first through fifth grade (girls and boys) students from BGCN and BGCL in DETX. To be included in the study, participants had to be members of the Texas AIM Program during the Fall 2017 (August 1, 2017 – December 31, 2017), Spring 2018 (January 1, 2018 – April 1, 2018), and Fall 2018 (August 1, 2018 – December 31, 2018) semesters, at the BGCN or BGCL and have completed both the Texas AIM pre- and post-test. These dates were selected in conjunction with BGCN and BGCL who asked the researcher to investigate the effects of their programs and how they compare to aggregated statewide results.

Materials. The same materials used to collect the Texas AIM statewide data are used in the current study. Curriculum workbooks were provided by the Sylvan program and participants used them throughout the entire program. The workbooks provide math or reading skill building activities as the participant advances through the program. Participants completed a pre-test at the beginning of the program, to determine their current academic level, and a post-test at the end, to monitor the educational growth and progression of the participant, to assess the effectiveness of the Texas AIM program. Sylvan created and provided the tests to the BGCN and BGCL to administer to the participants. Participants were provided a pre- and post-test on either Math or Reading, depending on the subject area they enrolled in. Pre- and post-test (multiple choice)

exams are the same and consist of questions related to either math or reading material contained in the curriculum. The same test is administered to the student twice a semester to help determine the amount of growth the student made during the course of the program.

Procedure. Texas AIM candidates are selected by the Unit Director (Director at the BGCL or BGCN). Unit Directors give their club members opportunities to present their academic report cards, every six weeks, to receive a reward for a free food coupon (to Raising Cane's Chicken Fingers). Members only qualify for the coupon if they have at least a "B" average in all of their classes (i.e., grade ranging from 80 – 100). Members who exhibit a weak academic performance (i.e., grades ranging from a 59 – 79) in reading or math on their academic report cards are chosen as candidates for the program. The BGCA notify parents if their child was chosen to be a candidate for the Texas AIM Program. Parents of the selected students are notified of their child's current grade in reading or math and informed there will be an opportunity for extra assistance. Parents are then informed their child is considered a candidate for the program but the student must complete a pre-test that determines admittance to the program. In addition, parents are informed that the program is free, but they must provide the club with a signed consent form and attend an orientation meeting. Two weeks before the program starts, the students are given a standard pre-test provided by Texas Alliance to determine the students with the greatest need for the program. Texas Alliance determines the students that meet eligibility criteria to participate in the program. The student's pre-test score

determines if they are selected for the program. Texas Alliance found the most success in selecting students that were one standard deviation above and below the mean score that semester. Texas Alliance also provides a list of alternate students who can join the program if those initially meeting the criteria dropout of the program because they choose not to participate, become a distraction to the other students in the class, or miss more than two to three classes throughout the 10-week program.

The club's Unit Director institutes and manages the curriculum the students follow. Students are grouped with peers in similar grades. BGCN and BGCL Unit Directors divide their students into two 1-hour sessions, per day Monday through Thursday, for Math and Reading, with the younger students meeting during one hour and the older students meeting during the other hour. Eligible students are often minorities with limited English proficiency from low income households who could benefit from additional academic assistance to help them succeed academically (Rockman et al., 2017). The club then informs the parents if their child is chosen as active members of the Texas AIM program. At the orientation meeting, teachers inform parents of the program rules and expectations. The instructor is a certified teacher who works in a school during the day and for the club during the afternoon. The instructor is required to attend trainings from the Sylvan learning program before teaching the Texas AIM program. Following the student orientation, the students begin a 3-hour a week math or reading intervention that lasts 10-weeks (Monday-Thursday). Students develop their reading or math skills through curriculum workbooks that build on their skills as they advance

through the program. Reinforcements (e.g., snacks, toys, and free time) are given to a participant, by the instructor, when he/she is observed using materials (e.g., workbooks, pencils, and calculators) as directed by the instructor; complying with the instructor's directions; and for demonstrating respect to peers and to the instructor (e.g., raising hand for help, acknowledging the opinion of others). The students complete a post-test following completion of the 10th week of the program to assess the students' progress throughout the program. In addition, a pizza party is provided at the conclusion of the Texas AIM program each semester. These procedures are identical in clubs across the state of Texas.

Design. The academic performance data of BGCN and BGCL was compared to statewide club academic data for the Texas AIM program. A *t*-test was used to compare data from the BGCN and BGCL to statewide data from all of the Boys and Girls Clubs in Texas to determine the degree of success of the DETX Clubs Texas AIM program is having in comparison to clubs in the whole state. Jamovi (version 1.0.7.0) was used to compare the statewide data to DETX data (*t*-test). The most recent statewide data, collected in 2015 (Rockman et al., 2017), was compared to data collected in Fall 2017, Spring 2018, and Fall 2018 from the DETX Clubs. The statewide comparison data included 2,839 first through eighth grade students participating in the program in over 30 BGCAs. There were 1,431 participants in the reading program and 1,408 participants in the math program. The DETX Club data was compared to statewide data by analyzing the GSV and NCE variables from the pre- and post-test (Boys and Girls Clubs Texas

Alliance, 2016). GSVs are a measure of an individual's achievement that can be compared across grades and ages over time. GSVs are the test's internally derived scale score (Cantrell, Almasi, Carter, Rintamaa, & Madden, 2010). For example, the GSV examines group (grade levels) scores pre- and post-test to determine the amount of academic growth made. GSV scores range from 300 to 550. A score of 300 is representative of the lowest academic achievement and 550 is representative of the highest academic achievement (Cantrell et al., 2010). NCE indicates where a student falls on a normal bell curve, compared to same grade peers (Cantrell et al., 2010). NCE scores range from 0 to 100, where a score of 50 is considered average (Cantrell et al., 2010).

CHAPTER FOUR

Results

Descriptive Statistics. The descriptive statistics for each variable are presented in Appendix 1. Prior to interpreting the results of the *T*-test, the data was checked for assumption of normality. A Shapiro-Wilk Test was used to determine the normality of the data (Villasenor Alva & Estrada, 2009). A *p*-value greater than 0.05 indicates normal levels of data; whereas, a *p*-value less than 0.05 indicates significantly deviate levels from the normal distribution (Villasenor Alva & Estrada, 2009). The DETX Clubs Fall 17, Fall 18, and Spring 18 data were examined and all were in the normal distribution range ($p > 0.05$), except for math growth scale values (GSV) Fall 18 post-test which was significantly different from the normal range ($p = 0.022$).

Scatter plots for each variable were also examined and found to be consistent with the state data norm. The statewide and DETX Clubs' scores displayed a positive trend each semester (Fall 17, Spring 18, and Fall 18) from the pre- to post-test scores. State and DETX Club mean scores both increased from pre- to post-test across all semesters.

The math normal curve equivalent (NCE) pre-test mean data was compared to the state mean of 31 (Rockman et al., 2017). The DETX Clubs' mean NCE score on the Fall 17 Texas AIM math pre-test ($M = 32.4$, $SD = 14.6$) was not significantly different than the math NCE state data $t(11) = .336$, $p = .743$. This means that students' pre-test math knowledge, as assessed by the Texas AIM program, was similar in Deep East TX in Fall

17 as youth across the state. The DETX Club's mean NCE score on the Fall 18 Texas AIM math pre-test (M = 25.9, SD = 15.9) was not significantly different than the math NCE state data t(15) = -1.288, p = .217. This indicates that students' pre-test math knowledge, as assessed by the Texas AIM program, was similar in DETX in Fall 18 as youth across the state. The DETX Clubs' mean NCE score on the Spring 18 Texas AIM math pre-test (M =3 2.7, SD = 10) was not significantly different than the math NCE state data t(5) = .408, p = .700. This means that students' pre-test math knowledge, as assessed by the Texas AIM program, was similar in DETX in Spring 18 as youth across the state.

The NCE post-test mean data was compared to the state mean of 49 (Rockman et al., 2017). The DETX Clubs' mean NCE score on the Fall 17 Texas AIM math post-test (M = 40.9, SD = 18.4) was not significantly different than the math NCE state data t(11) = -1.522, p = .156. This means that students' post-test math knowledge, as assessed by the Texas AIM program, was similar in DETX in Fall 17 as youth across the state. The DETX Clubs' mean NCE score on the Fall 18 Texas AIM math post-test (M = 50.1, SD = 19.4) was not significantly different than the math NCE state data t(15) = .219, p = .830. This means that students' post-test math knowledge, as assessed by the Texas AIM program, was similar in DETX in Fall 18 the youth across the state. The DETX Clubs' mean NCE score on the Spring 18 Texas AIM math post-test (M = 47.0, SD = 10.3) was not significantly different than the math NCE state data t(5) = -.477, p = .654. This

indicates that students' post-test math knowledge, as assessed by the Texas AIM program, was similar in DETX in Spring 18 as youth across the state.

The math GSV pre-test mean data was compared to the state mean of 485 (Rockman et al., 2017). The DETX Clubs' mean GSV score on the Fall 17 Texas AIM math pre-test (M = 489, SD = 4.50) was significantly different than the math GSV state data $t(11) = 3.34$, $p = .007$. This means that students' pre-test math knowledge, as assessed by the TX AIM program, was significantly different in Deep East TX in Fall 17 in comparison to youth across the state. The DETX Clubs' mean GSV score on the Spring 18 Texas AIM math pre-test (M = 489, SD = 3.08) was significantly different than the math GSV state data $t(5) = 2.78$, $p = .0039$. This means that students' pre-test math knowledge, as assessed by the Texas AIM program, was significantly different in DETX in Spring 18 in comparison to youth across the state. The DETX Clubs' mean GSV score on the Fall 18 Texas AIM math pre-test (M = 478, SD = 7.66) was significantly different than the math GSV state data $t(15) = -3.72$, $p = .002$. This indicates that students' pre-test math knowledge, as assessed by the Texas AIM program, was significantly different in Deep East TX in Fall 18 in comparison to youth across the state.

The GSV post-test mean data was compared to the state mean of 495 (Rockman et al., 2017). The DETX Clubs' mean GSV score on the Fall 17 Texas AIM math post-test (M = 493, SD = 5.37) was not significantly different than the math GSV state data $t(11) = -1.34$, $p = .206$. This indicates that students' post-test math knowledge, as assessed by the Texas AIM program, was similar in DETX in Fall 17 as youth across the state. The

DETX Clubs' mean GSV score on the Spring 18 Texas AIM math post-test (*M* = 497, *SD* = 3.58) was not significantly different than the math GSV state data $t(5) = 1.37$, $p = .229$. This indicates that students' post-test math knowledge, as assessed by the Texas AIM program, was similar in DETX in Spring 18 as youth across the state. The DETX Clubs' mean GSV score on the Fall 18 Texas AIM math post-test (*M* = 490, *SD* = 8.98) was significantly different than the math GSV state data $t(15) = -2.45$, $p = .027$. This indicates that students' post-test math knowledge, as assessed by the Texas AIM program, was significantly different in DETX in Spring 18 in comparison to youth across the state.

The reading normal curve equivalent (NCE) pre-test mean data was compared to the state mean of 28 (Rockman et al., 2017). The DETX Clubs' mean NCE score on the Spring 18 Texas AIM reading pre-test (*M* = 31, *SD* = 19.2) was not significantly different than the reading NCE state data $t(21) = .723$, $p = .478$. This means that students' pre-test reading knowledge, as assessed by the Texas AIM program, was similar in DETX in Spring 18 as the youth across the state. The DETX Clubs' mean NCE score on the Fall 18 Texas AIM reading pre-test (*M* = 37.3, *SD* = 17.6) was not significantly different than the reading NCE state data $t(7) = 1.483$, $p = .182$. This means that students' pre-test reading knowledge, as assessed by the Texas AIM program, was similar in DETX in Fall 18 as the youth across the state.

NCE post-test mean data was compared to the state mean of 37 (Rockman et al., 2017). The DETX Clubs' mean NCE score on the Spring 18 Texas AIM reading post-

test (*M* = 35.5, *SD* = 24.1) was not significantly different than the reading NCE state data *t*(21) = -.301, *p* = .766. This means that students' post-test reading knowledge, as assessed by the Texas AIM program, was similar in DETX in Spring 18 as the youth across the state. The DETX Clubs' mean NCE score on the Fall 18 Texas AIM reading post-test (*M* = 42.8, *SD* = 15.8) was not significantly different than the reading NCE state data *t*(7) = 1.031, *p* = .337. This means that students' post-test reading knowledge, as assessed by the Texas AIM program, was similar in DETX in Fall 18 as the youth across the state.

The reading GSV pre-test mean data was compared to the state mean of 388 (Rockman et al., 2017). The DETX Clubs' mean GSV score on the Spring 18 Texas AIM reading pre-test (*M* = 357, *SD* = 24) was significantly different than the reading GSV state data *t*(21) = -6.047, *p* = <.001. This means that students pre-test reading knowledge, as assessed by the Texas AIM program, was significantly different in DETX in Spring 18 in comparison to the youth across the state. The DETX Clubs' mean GSV score on the Fall 18 Texas AIM reading pre-test (*M* = 383, *SD* = 26.9) was not significantly different than the reading GSV state data *t*(7) = -.499, *p* = .633. This means that students' pre-test reading knowledge, as assessed by the Texas AIM program, was similar in DETX in Fall 18 as the youth across the state.

GSV post-test mean data was compared to the state mean of 405 (Rockman et al., 2017). The DETX Clubs' mean GSV score on the Spring 18 Texas AIM reading post-test (*M* = 365, *SD* = 32.7) was significantly different than the reading GSV state data

$t(21) = -5.69$, $p = <.001$. This means that students' post-test reading knowledge, as assessed by the Texas AIM program, was significantly different in DETX in Spring 18 in comparison to the youth across the state. The DETX Clubs' mean GSV score on the Fall 18 Texas AIM reading post-test ($M = 391$, $SD = 27.2$) was not significantly different than the reading GSV state data $t(7) = -1.42$, $p = .199$. This means that students' post-test reading knowledge, as assessed by the Texas AIM program, was similar in Deep East TX in Fall 18 as the youth across the state.

Appendix 2 – 5 compare the mean amount of NCE and GSV growth participants demonstrated from pre- to post-test between the DETX Clubs and clubs across the state of Texas. Across all time points, with one exception, the statewide clubs demonstrated greater academic gains from the Texas AIM program. The sole exception occurred in Fall 2018. The Fall 2018 NCE math and GSV math scores for the DETX Clubs outperformed the state data.

Appendix 2 shows the mean growth in math NCE scores from pre- to post-test for the DETX and statewide clubs. The NCE math scores for the DETX Clubs during Fall 2017 showed an 8.5-point increase compared to the 18-point increase across the state. This indicates that clubs across Texas experienced greater gains in math than students in DETX. The NCE math scores for the DETX Clubs during Spring 2018 showed a 14.3-point increase compared to the 18-point increase experienced across the state. This indicates that clubs across the Texas demonstrated greater gains in math than students in DETX. The NCE math scores for DETX Clubs during Fall 2018 showed a 24.2-point

increase compared to the 18-point increase shown across the state. This indicates the DETX Clubs made greater math gains during Fall 2018 than the comparison group.

Appendix 3 shows the mean growth in reading NCE scores from pre- to post-test for the DETX and statewide clubs. The NCE reading scores for the DETX Clubs during Spring 2018 showed a 4.5-point increase compared to the 9-point increase seen across the state. Similarly, the NCE reading scores for the DETX Clubs during Fall 2018 showed a 5.5-point increase compared to the 9-point increase shown across the state. This indicates that clubs across the state of Texas were more effective at increasing reading skills among its members than the DETX Clubs.

Appendix 4 shows the mean growth in math GSV scores from pre- to post-test for the DETX and statewide clubs. The GSV math scores for the DETX Clubs during Fall 2017 showed a 4-point increase compared to the 10-point increase seen across the state. The GSV math scores for the DETX Clubs during Spring 2018 showed an 8-point increase compared to the 10-point increase seen across the state. The Fall 2017 and Spring 2018 data indicate the Texas AIM program was more effective across the state than it was in DETX. However, the GSV math scores for the DETX Clubs during Fall 2018 showed an 11-point increase compared to the 10-point increase seen across the state. This suggests, on average, participants in the DETX Clubs made greater math gains than participants across the state.

Appendix 5 shows the mean growth in reading GSV scores from pre- to post-test for the DETX and statewide clubs. The GSV reading scores for the DETX Clubs during

Spring 2018 and Fall 2018 showed an 8-point increase compared to the 17-point increase seen across the state. This indicates participants in clubs across the Texas, on average, made greater gains in reading than participants in the DETX Clubs.

CHAPTER FIVE

Discussion

Previous research showed students who participated in the Texas AIM program increased their school performance from participating in the program ("Boys and Girls Clubs of Am," 2019). Boys and Girls Clubs in DETX adopted the Texas AIM program into their everyday curriculum to assist their member's academic success ("Boys and Girls Clubs of Am," 2019). Texas AIM scores increased from the pre- to post-test throughout the Fall 17, Spring 18, and Fall 18 semesters regardless of the subject, grade level, instructor, or location (Nacogdoches or Lufkin). The current study sought to answer the following question: How does the DETX Clubs' Texas AIM outcome data compare to aggregated state results?

When comparing the statewide data to the DETX Clubs' data, all scores were within the normal distribution range, except for the Fall 18 GSV post-test score. Even though the statewide data demonstrated a higher pre- to post-test increase than the DETX Clubs, DETX Clubs' reading and math scores also increased. Further, normality, as measured by a Shapiro-Wilk Test, was examined and found to be in the normal distribution ($p \geq 0.05$), except for the math GSV Fall 18 post-test, which was significantly different from the normal range ($p = 0.022$; Villasenor Alva & Estrada, 2009). A non-significantly different score means that there is no departure from the normal bell curve (Villasenor et al., 2009). Math GSV Fall 18 post-test sample scores did not have the same mean and

standard deviation compared to the statewide data of the same variable (Villasenor et al., 2009). Because math GSV failed the normality test, it can be stated with 95% confidence the data does not fit the normal distribution (Villasenor et al., 2009). In comparison, the remainder of the variables matched the statewide data mean and standard deviation well.

An examination of mean score growth from pre- to post-test reveals clubs across Texas, on average, were able to increase participant's math and reading knowledge more than the DETX Clubs. The notable exception to this trend occurred during Fall 2018 for the math Texas AIM group at the DETX Clubs. During the Fall 2018, participants of the math Texas AIM programs at the DETX Clubs experienced greater math gains than participants in clubs across the state, on average. This is seen in both the GSV and NCE scores. It is also worth noting that the DETX Clubs GSV and NCE mean growth scores from pre- to post-test increased every semester. The only time this was not seen was from Spring 2018 to Fall 2018, with the reading GSV scores. The overall increasing trend is promising for the DETX Clubs and their members. One possible reason for the increasing scores is that the DETX Clubs began offering more academic programs during this semester (e.g., Power Hour, Junior Staff, and Smart Girls). The increase in program offerings may have benefiting club members in, at least two, ways. First, the increased focus on academics may have signaled the importance of academic to their members, which in turn resulted in increased focus on academics from each member. Second, members may have been involved in more than one academic program at the same time.

This potential variable should be controlled for in future studies by surveying the number and type of additional programs Texas AIM participants are involved in.

It was hypothesized that the state data would demonstrate a greater academic increase from pre- to post-test than the DETX Clubs' data. The researcher predicted this due to the demographics and social economic status of the participants served at the Boys and Girls Club of DETX. Clubs that are located in cities and affluent areas tend to be exposed to more opportunities for building on their academic foundation outside of the school and Boys and Girls Club settings. Although no causal data are available, three reasons for the discrepancy between the state and DETX Clubs' data are presented. First, the difference between the two variables may be because other clubs in the state have had the opportunity to implement the Texas AIM program longer. Texas AIM is a newer program (est. 1999) being run by the DETX Clubs and they are still learning new strategies to improve it every year. For example, the clubs continue to try and identify teachers who are a good fit for the Texas AIM program and can commit to the program on a long-term basis. Relatedly, the clubs continue to hone their practices of identifying students who dedicate themselves for the duration of the program. Second, it is possible DETX Clubs select students for the program that tend to come from different cultural, academic, and social economic backgrounds than the average state club. A club in a higher social economic neighborhood may have students who are more likely to receive parental support and external resources to build their academic skill set. However, the clubs included in the statewide data were not listed so this theory cannot be tested at this time. Relatedly, DETX

Boys and Girls Clubs may have a different set of resources to provide their participants regardless of their location. For example, other clubs may be able to offer participants additional programs or resources (e.g., tutors, mentors) to help students master their academic skills. This seems likely given that the DETX Clubs were in the bottom two tiers for funding supplied by the national organization.

Limitations. The current study possesses seven primary limitations. First, the Texas AIM program allocates money that allows a certain number of students to participate in the program each semester. The Texas AIM program is divided into tiers that indicate the number of students each club is allowed to accept into that program at a time, including the alternates. The program is divided into freshman, sophomore, junior, and senior tiers, the tier indicates the amount of money a club is allocated to run the program. The amount of money allocated to a club determines the number of students that can be served. The DETX Clubs were at the Freshman (BGCN) and Sophomore (BGCL) tier, which limited the number of participants that could represent DETX Clubs that could be compared to the statewide data.

Secondly, the study did not consider the long-term effects of the Texas AIM program. Future research should examine how long Texas AIM participants retain the information they learn. The current study examined participants scores before and after participating in the Texas AIM program each semester. However, the time period of data collection for the statewide data and the DETX Clubs do not directly align. This poses an internal validity threat as the period of time in which the students participated in the Texas

AIM program differed. In addition to gathering data during the same time period, future research should consider gathering maintenance data a month, 6 months, a year, or more after completion of the program to determine the long-term benefits of participating in the program.

Third, the schools students attend outside of the program play a role in their success as well. Participants from different schools could be learning completely different curriculums from one another. This external variable could be an aid or a hindrance for the participant in the program. The school could be working on the same curriculum the Texas AIM is working on so it would build on the information they are learning and reinforce what is being learned. Conversely, the school curriculum may be sequenced and paced in a manner that is contrary to the instructional design of the Texas AIM program.

Fourth, participants' social economic status (SES) affects their success academically. Participants from a higher SES tend to have more resources at their disposal than participants from a lower SES (Scales, Roehlkepartain, Neal, Kielsmeier, & Benson, 2006). A study including 2,002 lower SES schools, concluded that lower SES students have fewer resources, lower grades, and less ambition to succeed in school compared to their same age higher SES peers (Scales et al., 2006). The participants in the current study could have been affected by their external resources or lack thereof. Participants with the ability to have external tutoring or help at home could have had more opportunities to practice the information being taught (i.e., multiple opportunities to respond/learn;

Cochran Smith et al., 2011; Skinner & McCleary, 2011). Subsequent research should examine the SES status of the participants and that of the school they attend.

Fifth, the statewide data was collected before the DETX Clubs' data was collected. Historically this is problematic as it does not account for changes that occur with time. For example, the clubs may have changed their facilities, director, or staff which affects the delivery of services to the students and ultimately their ability to learn. Both BGCN and BGCL have implemented new programs over the last few years (e.g., Nacogdoches Natural, Passport to Manhood, and Girl Strong). This suggests that club members who participated in the Texas Aim program in Fall 17 may have had less opportunities to be involved in as many club programs than members in Spring 18 and Fall 18. This is important to note because the members could have had fewer opportunities to be engaged with the club. Another unexamined issue is whether there are any crossover effects from being involved in multiple programs at the BGCs or not (i.e., is a club member more likely to improve academically when involved in four programs rather than only one program?). Furthermore, both the BGCN and BGCL changed unit directors and staff during the data collection time period. In order to run effectively, Texas AIM requires the director and staff to be working effectively together. The change in personnel indicates a lack of consistency in the external environment that the students were exposed to from semester to semester.

Sixth, statewide data was collected with students in grades 1 through 8 while the DETX data was collected with students in grades 1 through 5. Given that the statewide

data was aggregated before it was published, it was impossible to directly compare grade ranges. Future research should examine the effects that Texas AIM has on different grade levels.

Last, a parents/guardians' involvement in their child's academic performance can play a major role in participants' academic success. A study published in 2008 looked at the importance of parental involvement in 1,971 seventh and eighth grade students' academic performance (Mo & Singh, 2008). The researchers found that parent involvement in their child's school resulted in higher grades, increased motivation to succeed in school, and a higher likelihood of their children being placed in other programs to help them build on their academic foundation, compared to their peers who did not have parents who were involved (Mo & Singh, 2008). Additionally, parents that are involved in their child's school tend to set goals, monitor, support, and advocate for their student's academic performance more than parents who are not involved with the school (LaRocque et al., 2011). Students are more likely to internalize academic accountability, when they have parents who are involved in their academic success (LaRocque et al., 2011). Future research should examine the role of parental involvement in the school and at the Boys and Girls Club.

Conclusion. In conclusion, the current study found that even though DETX Clubs demonstrated a higher academic improvement in Fall 2018 Math GSV and NCE, they generally did not improve as much as the state mean. However, the DETX Clubs mean growth scores almost always increased each subsequent semester. Although further

research is needed, the following tentative recommendations are offered to clubs providing the Texas AIM program: focus on strengthening relationships with surrounding schools, increase parental involvement with the Texas AIM program, promote student involvement in other academic programs offered by the clubs, and focus on attracting and retaining high quality directors and staff to maintain consistency in services.

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APPENDIX A

Table 1

Summary of Intercorrelations, Means, Standard Deviations, Number of Participants, T Value, and P Value for Scores on R.N., R.G., M.N, and M.G. compared to the overall state data

	State	**Fall 17 (n =12)**	**Spring 18 (n = 28)**	**Fall 18 (n = 24)**	**T-Value**	**P-Value**
Variable	**Mean (*SD*)**	**Mean (*SD*))**	**Mean (*SD*)**	**Mean (*SD*)**	**Mean (*SD*)**	**Mean (*SD*)**
R.N. (Pre)	28	---	31 (19.2)	37.3 (17.6)	1.103	.330
R.N. (Post)	37	---	35.5 (24.1)	42.8 (15.8)	.365	.552
R.G. (Pre)	388	---	357 (24)	383 (26.9)	-3.273	.317
R.G. (Post)	405	---	365 (32.7)	391 (27.2)	-3.555	.100
M.N. (Pre)	31	32.4 (14.6)	32.7 (10.0)	25.9 (15.9)	-.181	.553
M.N. (Post)	49	40.9 (18.4)	47 (10.3)	50.1 (19.4)	-.593	.547
M.G. (Pre)	485	489 (4.50)	489 (3.08)	478 (7.66)	.800	.016*
M.G. (Post)	495	493 (5.37)	497 (3.58)	490 (8.98)	-.807	.154

Note. The T-Value and P-Value numbers have Fall 17, Spring 18, and Fall 18 without State data. R.N. = Reading NCE; R.G.= Reading GSV; M.N.=Math NCE; M.G.=Math GSV; *M* = mean; *SD* = Standard Deviation; and * = statistically significant; A variable is statistically significant if the p >.05.

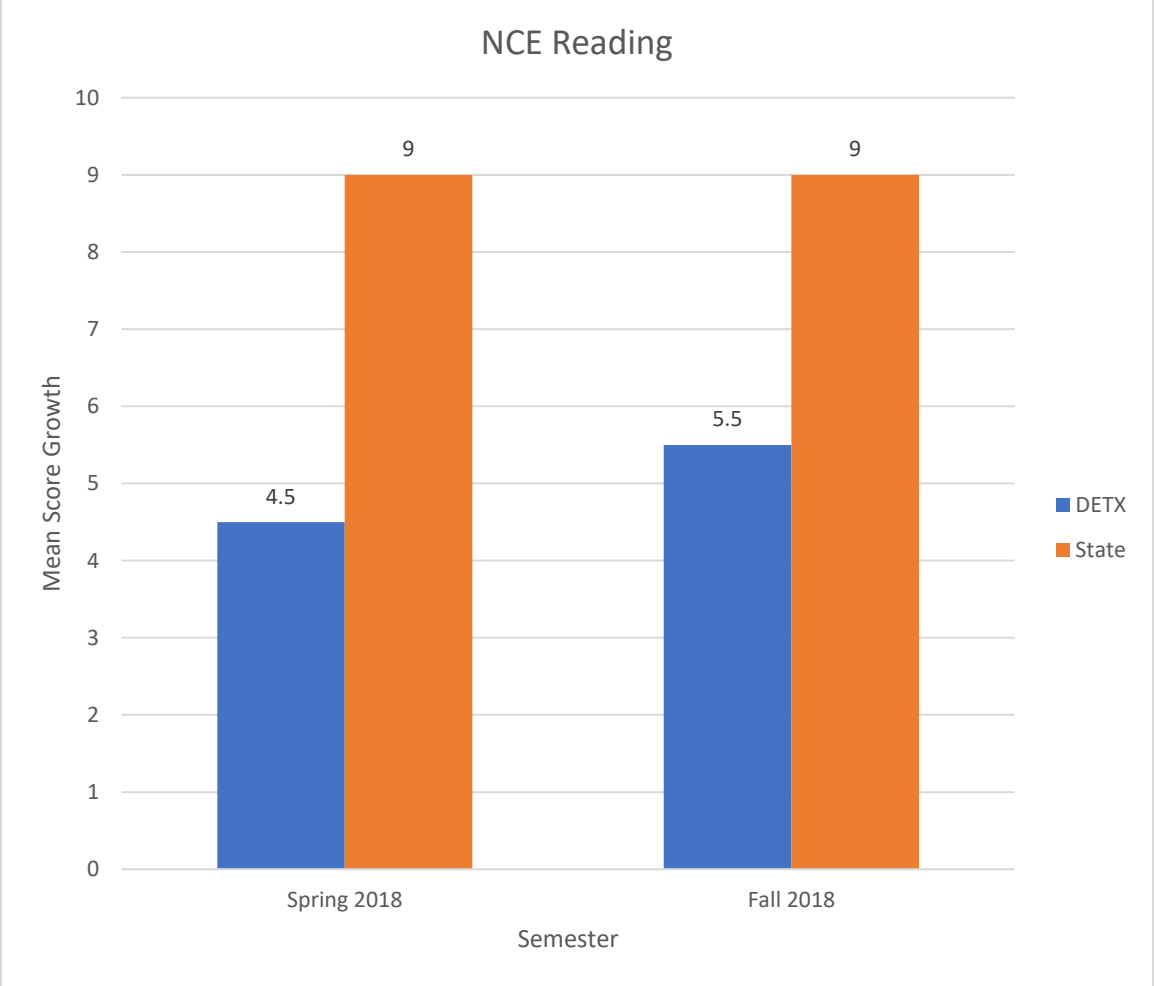
Table 2

Summary of NCE Math mean score growth for Fall 2017, Spring 2018, and Fall 2018 compared to the overall state data

Note. DETX = Deep East Texas Club data; State = State data

Table 3

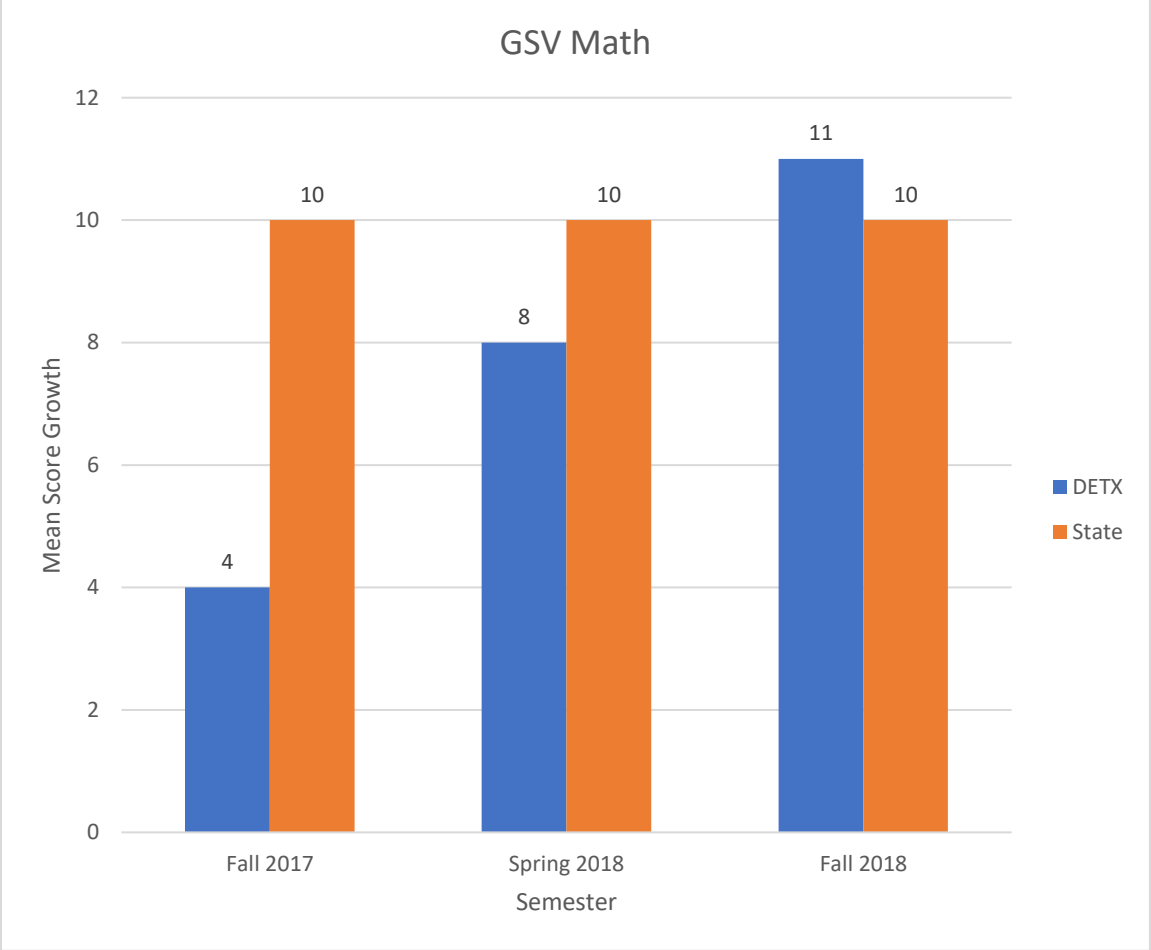
Summary of NCE Reading mean score growth for Spring 2018 and Fall 2018 compared to the overall state data



Note. DETX = Deep East Texas Club data; State = State data

Table 4

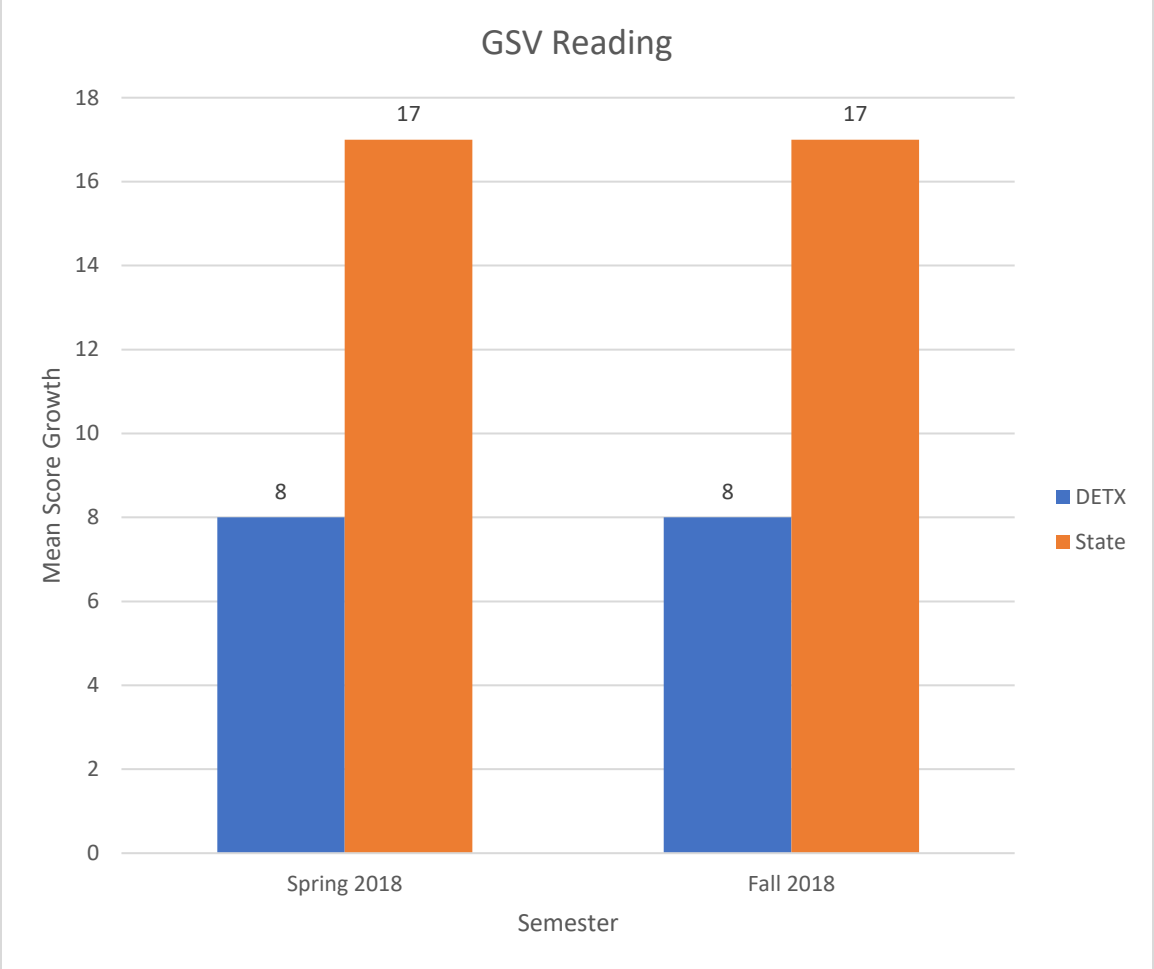
Summary of GSV Math mean score growth for Fall 2017, Spring 2018, and Fall 2018 compared to the overall state data



Note. DETX = Deep East Texas Club data; State = State data

Table 5

Summary of GSV Reading mean score growth for Spring 2018 and Fall 2018 compared to the overall state data



Note. DETX = Deep East Texas Club data; State = State data

APPENDIX

VITA

Nicoli Morgan completed his Bachelor of Science degree at Stephen F. Austin State University (SFA) in August of 2015. His focus was on psychology and sociology. While completing his undergraduate degree, he volunteered as a lab assistant in the Department of Psychology, where he helped produce research and received training in SPSS statistical software, Qualtrics software, and BIOPAC-Psychophysiological Data Acquisition Device. As a capstone project, he designed and conducted an independent study that sought to examine the relationship between physical activity and classroom performance in college students at SFA. In addition, Mr. Morgan began working at the Boys and Girls Club of DETX in Nacogdoches in June of 2015. He worked as a Program Director at the club for a semester, then he accepted the position of Unit Director for the Nacogdoches club for two years. In fall of 2016, he entered the School Psychology program at SFA. He used the Publication Manual of the American Psychological Association (Sixth Edition) as a reference to help write this manuscript.

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