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Examining the Relationship Between Extracurricular Activities, School Belonging, Classroom Inclusiveness, Algebra 1 State Exam and Academic Success in Somerset Academy Brooks School.

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Examining the Relationship Between Extracurricular Activities, School Belonging, Classroom Inclusiveness, Algebra 1 State Exam and Academic Success in Somerset Academy Brooks School.

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By

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The thesis entitled '**Examining the Relationship Between Extracurricular Activities, School Belonging, Classroom Inclusiveness, Algebra 1 State Exam and Academic Success in Somerset Academy Brooks School.**

presented by **Veronika Rosin**, a candidate for the degree of **Master of Science in Mathematics,** has been approved and is worthy of acceptance.

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ABSTRACT

There are always questions of how to increase every student's academic success. Of course, its been an important subject for discussion. Numerous research has been done to identify the key components necessary for developing and increasing student achievement. On top of that federal and state government put a lot of pressure on public schools to improve test scores and overall student performance. While the government proposes laws to address these issues, the budget still remains a persistent challenge. It often results in underfunded extracurricular and school activities. Teachers also face substantial pressure to meet these demands despite inadequate compensation.

Even though Education is balancing between those issues it is important to understand that the whole picture of education is a complex, interconnected web where student achievement is influenced by various factors that are interrelated. This study explored the impact of extracurricular activities, the sense of belonging, and performance on the Algebra 1 state exam on academic success at Somerset Academy Brooks, a charter Title 1 school with approximately 90% Hispanic students. The research examined how these variables interact and influence each other. The findings revealed that students who participate in extracurricular activities have higher GPAs compared to those who do not. Although a sense of belonging does not directly impact academic performance, it positively influences participation in extracurricular activities. This indicates that fostering a sense of belonging encourages students to engage in extracurricular activities, which in turn enhances their academic success.

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CHAPTER I: Introduction

School systems are striving to boost academic standards through different means. Despite the lowering of standards and simplification of tests by states, along with reductions in required proficiency scores due to federal laws like No Child Left Behind(NCLB) and its successor, Every Student Succeeds Act (ESSA), schools continue to grapple with the challenge of improving academic performance and graduation rates (Ryan, 2004). In the first chapter, an exploration of various obstacles will be undertaken, particularly those encountered by districts and educators, that have a significant impact on the academic achievement of students.The chapter will emphasize the importance of extracurricular activities and the sense of school/classroom belonging within the school environment to achieve better performance as well as a lower dropout rate. Additionally, this chapter will cover methodologies used to gather and analyze data within the Somerset Academy Brooks charter school. The research aims to understand the contributions to a students' academic achievement.

Introduction

Although district and school leaders aspire to ensure the effective and efficient allocation of resources, they often struggle to determine the most impactful use of available funds to achieve district objectives (Choi, Kim& Newell, 2022). This can have significant implications on the quality of education for students and the educators' well-being. Districts sometimes lack sufficient information regarding the importance of Extracurricular Activities (ECA) and the positive effects of teachers' efforts to foster a sense of school/classroom community (Bouchard , Denault & Guay, 2022).

Different Laws have had both positive and negative reactions within districts, forcing them to change the allocation of funding. For example, the federal laws "No Child Left Behind" (2001) and its successor, the ESEA reauthorization, force school districts to direct funds toward "excellence and equity," often resulting in budget cuts for nonessential activities (Ryan, 2004; Craft, 2012). On the other hand, Texas educators are contending with Texas House Bill 3 (HB 3), which, enacted in June 2019, provides incentive allotments and pay increases to eligible teachers with specific certifications leaving “non-essential” teachers unnoticed (Center for Innovation in Education, 2019). Despite collaborative efforts among teachers to promote academic success through a positive and inclusive environment, not all teachers may qualify for the pay increase.

There appears to be differing opinions and not enough studies about managing school funds to boost student success. This is done by giving more money to teachers and activities outside of class. Though studies have explored the positive and negative outcomes of extracurricular activities, school belonging, and classroom inclusiveness, there is a lack of information regarding the interaction of all these outcomes at once. This study will build on earlier work. It will look at things like involvement in examining organized nonacademic activities in a Title I charter school in San Antonio, TX.While prior studies have examined the above, along with participation, this research seeks to expand on critical aspects of academic success, effective educational settings and the emotional and organizational climate influencing participation in extracurricular activities, including GPA and Algebra 1 state exam parameters, all of which are crucial for school funding (Ryan, 2004).

This chapter will address the issues from previous studies and resolve it later in this study It will also include the purpose statement with the significance, research questions and hypothesis and the attachment theory that supports the additional problem statement through foundational guidance of the whole study. In addition, this chapter will include the weaknesses and limitations that restrict this study and cannot be easily and/or reasonably dismissed. Finally, this chapter will define the important terms that will be used throughout the research.

Background of the problem

Both federal and state governments aim to implement policies and laws potentially benefiting both students and educators. School authorities contribute to a form of an equitable education system in response to public demands for increased student achievements (Broh, 2002). Every state strives for the success of its students and aims to demonstrate positive educational outcomes. (Long, 2011) However, in order to achieve students' success in schools and truly understand where funding should be applied, it is important to address the significance of extracurricular activities as well as school/classroom belonging. Doing so would increase students' engagement as well as overall attachment to their school.

Multiple researchers have highlighted the significance of government school funding and its distribution, with decisions that impact several aspects of the educational environment. Districts navigate the challenge of making choices that meet students' needs while maintaining the quality of education. However, financial obstacles arise due to governmental laws, such as the No Child Left Behind Law (NCLB) proposed in 2001, which introduced accountability for school districts (Craft, 2012). While the law aimed to

enhance student academic achievement, it mandated school systems to establish standards and metrics for evaluating student performance, leading to sanctions for schools unable to show proficiency within 12 years (Ryan, 2004). As a result, districts faced constraints in allocating funds for state test requirements, leaving minimal resources for other essential needs (Craft, 2012). The subsequent law, the Every Student Succeeds Act (ESSA) of 2015, although introducing more funds to support high-needs students, continued to impact educators and students negatively, raising concerns about reliance on standardized assessments (Good, 2023). Districts were compelled to make budget cuts, reduce teacher workforce, and eliminate non-essential activities (Craft, 2012, Kim,Newell & Choi, 2004).

In an attempt to address issues within the teacher workforce, Texas enacted House Bill 3, aimed at raising teachers' salaries by evaluating performance and linking funding to both administrative evaluations and student performance on state exams (TEA House Bill 89). However, this legislation has its gaps, as not every teacher qualifies for higher pay, creating divisions among educators and potentially leading to a shortage of teachers (Pecore, 2023). Thus, before any other budget cuts or placing substantial challenges on schools and educators, districts should thoroughly investigate the impact of extracurricular activities and the role of teachers in fostering a sense of school or classroom belonging that can significantly influence students' achievement.

Previous literature explored various factors influencing students' achievements, highlighting relationships between extracurricular activities, academic success, and school/teacher belonging (Laskos, 2019). However, limited studies have combined these factors. Studies have revealed statistically significant outcomes between extracurricular

activities and high GPA, improved exam scores, and a sense of belonging with positive effects on academic achievement (Dearman 2017; Demiroz, 2020; Moallem, 2013).

Despite the positive effects of extracurricular activities and school belonging, some negative aspects, such as over-scheduling, over-performing, and associations with alcohol, violence, and drug use, may be overlooked by educators and districts (Dearman, 2017; Marsh, 1988; Turanovic & Siennick, 2022). Chapter 2 will research closely the positive and negative effects of different types of extracurricular activities, the effect of feeling accepted in school and the classroom, and academic achievement that concerns everyone.

This study aims to investigate how educators continuously influence children through the classroom/school environment and after-school activities to increase academic achievement. It will examine how factors like extracurricular activities and school/classroom belonging work together to increase GPA and interest in participating in extracurricular activities. Data for the study will be collected from surveys at Somerset Academy Brooks during the 2023-2024 school year, with parental consent and a focus on numerical data obtained securely from the school district's database (Dearman, 2017). The research will include GPA for every student, entered into a spreadsheet without personal identification, and will utilize the R program for descriptive statistical analysis.

Statement of the Problem and Significance of the Study

This study will examine the bridge between student achievement, the sense of belonging in school or classroom settings, and involvement in extracurricular activities. Both federal and state governments place a significant emphasis on improving student achievement, particularly by enhancing test scores (Craft, 2012). Since every school's

budget depends on student scores, schools are actively seeking methods to boost students' achievement, sometimes cutting funds from activities such as extracurriculars which are not directly related, but could help with raising the scores (Yeban, 2023). Teachers in Texas also face differential treatment based on achievement metrics, prompting the need for a study to demonstrate how teachers influence student achievement(Kim et al. nd). Therefore to prevent potentially misguided budget decisions this research will investigate those issues.

School/classroom belonging and extracurricular activities play substantial roles in academic achievement (Booker K). Most of the teachers invest time before, during, and after school hours, as well as on non-operational days to provide social experience beyond the standard curriculum. They also in the leadership position try to build relationships and encourage enthusiasm among students to promote change in academic success (Good, 2023). Since colleges are interested in boosting pupil achievement, it is vital to determine if trainer salaries and lowered funding for extracurricular activities affect scholar fulfillment. This research will present findings from Somerset Academy Brooks, to shed light on the school/classroom climate, the components of relationships, sense of protection, and belonging that affect scholar participation in extracurricular activities (Lester & Cross, 2015). It will also identify the significance of institutional inclusion and active participation in after-school activities, that affect academic attainment, regardless of whether or not high school students take the state exams.

Analyzing these factors that can contribute to improving student academic achievement and reaching educational goals needs to be done to provide valuable insight to local governments and district boards as they make decisions on how to support

extracurricular activities and all teachers equally to increase academic achievements (Dearman, 2017). Furthermore, the research can potentially propel the Somerset Academy school toward higher engagement, better classroom environment, and fewer behavior problems by addressing the value of extracurriculars and distribution of educational resources in a way that actively contributes to achieve strategic scholastic goals (Kim, Newell & Choi,2004). Moreover, the study might steer Somerset Academy towards increased participation, improved learning spaces, and reduced behavioral issues. It does this by evaluating the worth of extra-curricular activities and suitable allocation of resources. These activities and gains can help meet key goals within the school.

Purpose of the study

Different variables form the educational environment for students, including management practices from administrative and coaching personnel. While exploring every variable and assessing its man or woman effect on pupil educational achievement is impractical, the influential techniques employed by adults at Somerset Academy Brooks to enhance pupil participation and motivation can be pivotal factors considerably contributing to instructional achievements. This examination will offer facts for selection-makers as it relates to academic investment on highlighting the significance of an educator's impact, emphasizing teacher-student attachment, and showcasing the leadership position in guiding students through extracurricular involvement for educational achievement. Therefore, before government officials make wrong choices regarding the fiscal equality of instructors or eliminating nonessential programs, such as extracurricular activities, they need to understand the importance of a cohesive approach toward instruction and extracurricular significance on students' success.

A variable in this research that concerns every person, along with students,parents, instructors, college administrators, and the authorities is pupil achievement. This examination will explore a couple of components that instructors can provide to attain this intention, through school/school room belonging and extracurricular sports. This is key in understanding inner controls and/or elements associated with district budget cuts and it's now not the same salaries for lecture room educators.

Primary Research Questions

The study aims to address the following questions:

1. Are Extracurricular activities, STAAR testing status, and an overall feeling of belonging score significant predictors of academic success as measured by Grade Point Average (GPA)?

2. Are school sense of belonging and classroom sense of belonging significant predictors of involvement of extracurricular activities?

3. Is the mean overall sense of belonging score significantly different across state test (STAAR) status?

The study will use various variables obtained from a survey. The independent variables will be categorical, encompassing 17 questions related to the sense of belonging at school and in the classroom. Additionally, there will be independent variables encompassing questions about student involvement in extracurricular activities and their participation in the Algebra 1 state exam. The dependent variable for this study will be GPA scores, representing a quantitative variable ranging from 50 to 100.

Hypotheses

1. There exists a noteworthy correlation among participation in clubs or sports, school belonging, and academic success, particularly when students undertake the state Algebra STAAR 1 exam.

2. Statistical significance is observed in the comparison of the school sense of belonging and classroom environment between students engaged in extracurricular activities and those who are not.

3. A statistically significant distinction is noted in the feelings of connectedness to the school and acceptance in the classroom between students undergoing the state Algebra 1 test (STAAR) and those who are not.

Research Design

Based on a survey distributed at Somerset Academy Brooks High School involving high school students from grades nine through twelve in the 2023-2024 school year, this research will collect students' surveys, assent forms, and parental consent forms from those interested in participating, ensuring that all three documents were submitted for inclusion in the study. Public information, such as grades, was obtained from the school-provided database, and this data was securely entered into a spreadsheet. To prioritize confidentiality for educational purposes, the information has not been and will not be shared on any open platform. However, cumulative results from the study will be

available for publication, ensuring no privacy or confidentiality risks to the participants or their parents.

This research utilizes the correlational survey "School Environment Impact." This survey consists of two parts, aiming to emphasize the large role teachers play in influencing a students academic success. The first part, adapted from "Building a Culture of Hope" (R. Barr, E. Gibson 2013), assesses students' feelings of belonging in school and classrooms using a 17-question Likert scale response ranging from 1 to 5. The second part, drawn from "The Interface of Leadership Development and Extracurricular Activity: Exploring the Effects of Involvement in Extracurricular Activity on Community Leadership" (J Kim, E. Wargo, 2022), focuses on students' engagement in extracurricular activities through a set of eight questions. The survey will be administered to 340 students at Somerset Academy Brooks in San Antonio, Texas, with data collection expected from January to March. Anticipating a sample size ranging from 150 to 200 students due to voluntary participation, only surveys with completed assent and consent forms will be considered, and incomplete surveys will be excluded.

Through the use of the R program, a mathematical software the data within this research will be put through various tests such as the Cronbach alpha test, which analyzes the internal consistency and reliability of the surveys. The Cronbach alpha test will assess the internal consistency and reliability of the survey to show that the collection of questions consistently measures the same characteristics. A similar test in related research, such as Bradford's examination of sports motivation was effective in predicting mathematics semester course grades. That research identified that “Extrinsic Motivation - Regulation was the only one factor of the seven other factors that provided statistical

significance in predicting semester course grades" (Bradford 2021). Ahmadi and Hassani's (2020) study also effectively employed the Cronbach alpha test to assess and validate the reliability of measurements related to student-teacher relationships, autonomy, and perceptions of fairness. For the sense of fairness, their Cronbach alpha coefficient was determined as, =0.83, and for student-teacher relation the reliability scale was =0.803,the school autonomy overall the reliability coefficient was reported as =0.939 which was determined to be very high. Also to investigate the relationship between extracurricular activities and GPA this research will use Anova and 2tests. Similar tests were found in "Examining the Relationship between Participating in clubs or Sports and Academic Success."(Laskos, 2019) All those researches showed validity through the Barlett value test that this study will use to validate a formative answer. This study will also use the ANOVA and Chi-squared tests. These tests will help look at the links between variables such as after-school activities and GPA. It will try to confirm the results using the Barlett value test.

It is commonly discovered that children engaged in extracurricular activities (Broh, 2002; Craft, 2012; Archer, 2022; Dearman, 2017; Laskos, 2019) and feel emersed in school(Keys, 2019; Demiroz, 2020) generally tend to exhibit better academic overall performance or make investments extra attempt of their research.The expectations from this research will be some patterns like previous studies. It will try to establish a connection between student engagement, participation in school activities, and educational fulfillment.

The consistency of this study can be maintained through measurements taken throughout the 2022-2023 school year. While this research might not collect attendance

records for all 340 high school students, the sample size will likely consist of 150 to 200 students. The analytical validity will appropriately interpret the results, addressing the hypothesized research. Some variables will be controlled so as not to influence the relationship. I will not include any discriminating factors that may alter the findings of the study.

Ensuring moral behavior in our studies is important. Any outliers or potential dangers will be addressed at some point of the examination. The studies will delve into the sensible significance of findings in terms of statistical importance. Additionally, this study will define the limitations of my studies, supplying avenues for future investigations.

Ethical Considerations

Through organising a connection between high school students' sense of belonging in school, engagement in extracurricular sports, and their instructional achievements in high faculty, the goal of providing instructional authorities and policymakers with insights into the widespread impact of personal and non-important applications on shaping school students' mastering studies and fostering enthusiasm for training will be accomplished. This fact is essential for making knowledgeable decisions whilst allocating school sources as opposed to enforcing cuts at the district or federal stage (Craft, 2012).

Data for this study will be collected from high school students at Somerset Academy Brooks in San Antonio, TX, spanning grades 9 through 12, through the distribution of a survey. All data collection will occur only with parental consent and student assent forms. Students' GPAs will be sourced from the school's official

gradebook. Any participation in the study will be voluntary and participants are safeguarded in the case that any sort of consent is not approved. Also, participants can withdraw from the study at any point, even if all consent forms have been signed in the beginning.

As an incentive, participating students will have the chance to enter a raffle drawing. On April 2, 2023, the Assistant Principal or the Principal will randomly select five students, who will be contacted the following day during the first period to receive a $20 Walmart gift card. Every participant will have an equal opportunity to win a gift card.

While the total number of high school students is 340 (National Data for Educational Statistics), the sampling process aims to include a diverse representation, targeting 150-200 students (N. Archer 2022). The collected data will be securely entered into a spreadsheet, and for privacy and educational purposes, all names and identities will be excluded before inputting the data into the R statistical software. Through strict confidentiality, individual information will be inaccessible or publicly available. However, cumulative findings regarding the said information will be made available for publication, and results will be assessed to verify that privacy has not been breached for any parties involved.

To align with ethical considerations and adhere to Protecting Human Research Participants (PHRP) guidelines, this research study will only proceed with the approval of the Institutional Review Board (IRB), following all necessary guidelines outlined by Shawnee State University (See Appendix B). Contact information for students and parents will be provided for any questions or concerns regarding privacy.

Theoretical Framework

Identifying the exact sources for a student's academic success is highly difficult as each student is different from one another. However, other studies have explored a multitude of impacts regarding extracurricular activities, school belonging, and classroom inclusion. Although, certain limitations still persist and this research aims to clarify any gaps that haven't been explored. This includes unveiling possible issues pertaining to an institution's emotional connectedness, classroom inclusion, and engagement in nonacademic pursuits beyond the taught curriculum. One limitation of my study is the specific set of participants that will participate as the school is a Title I charter school with a 90% Hispanic population in San Antonio, TX. (National Center for Educational Statistics)Nevertheless, by emphasizing the importance of creating an effective educational setting, outlining the emotional and organizational climate that develops participation in extracurricular activities will be possible.

This study will explore critical elements to consider when understanding the foundation of school and classroom belonging through incorporating applicable psychological theories. One such theory is attachment theory, a framework designed to elucidate the importance of fostering an emotional bond to instill a sense of belonging in a classroom environment (Crittenden 2017). Moreover, this theory explores characteristics of key individuals that play pivotal roles in facilitating cognitive, emotional and social development through forming bonds, further contributing to a student's academic success and positive social pressure.

Attachment figures, whether within the administration or among peers, create a support system that enhances students' focus on mental and physical well-being,

ultimately benefiting academic success (Ruvalcabaa et al., 2017). Extracurricular affiliations, such as involvement in arts and sports, have been shown by Ruvalcaba at el. to foster resilience and emotional intelligence, as students consistently navigate social settings(2017). The bond between the teacher and student creates a supportive classroom environment, which qualitatively supports academic performance, school engagement, GPA, SAT scores, standardized state testing, and positive relationships between students' sense of school belonging and their academic achievements (Adelabu, 2007; Goodenow, 1993).

Assumptions, Limitations, and Scope

Assumptions:

This study will make a few assumptions. They form our approach. It will also consider factors out of the testing administrator's control. By acknowledging external factors beyond the controls implemented by this study, a fair assumption can be acknowledged that there is a fair representation of the school environment and a degree of honesty in any participant's responses. Though there are biases toward the educational setting in each of the students, a functional alteration in the sample might take place.

Another assumption can be made regarding students having no other motive, other than purely voluntarily, to join the extracurricular activities. Finally, similar to the prior assumption, there is no other motive, other than purely out of parental influence, to join the extracurricular activities.

Limitations:

A limitation represents a study's inherent weakness beyond the researcher's control (Evans, 2022). This research is confined to data collected solely from one school in San Antonio, Texas, exhibiting relatively minimal diversity. The school's demographics indicate 89.6% Hispanic, 5.2% White, 3.2% Black, 1.2% Asian, and 0.2% Other Ethnicity (National Center for Educational Statistics).

Another constraint faced by this study is attrition limitation, where participants permanently withdraw or temporarily refrain from interviews, resulting in incomplete or missing data. (Mitchell, Fahmy, Clark & Pyrooz, 2021). The study's participants will be limited to 150 to 200 high school students out of the total 340 students at Somerset Academy Brooks High School.

Finally, because this research will focus on a specific population, students in their primary or early-secondary education will not accurately be represented. Nevertheless, conclusions made in this study will be applicable toward secondary institutions with similar characteristics.

Definition of Terms

APY - Annual Yearly Progress

No Child Left Behind Law (NCLB) - a law for K-12 public schools in the United States (2002-2015), an updated version of the Elementary and Secondary Education Act(ESEA).

ESSER III Funding - Provides funding to Local Educational Agencies (LEAs) through Section 2001 of the Elementary and Secondary School Emergency Relief (ESSER III) Fund.

Every Student Succeeds Act (ESSA) - An educational law for public schools in the United States from 2015 which replaced the No Child Left Behind Act.

Extracurricular Activities (ECA) - Activities/programs which exist outside of the curriculum.

Grade Point Average(GPA) - The measure of academic performance found by adding students' grades and dividing by their total grade.

Co-curricular activities - An extension of formal learning in a course referred to as supplementary activities.

ELA- English Language Arts

R - A statistical program used to analyze data.

Socio-economic Status (SES) - The position of an individual or group on the socioeconomic scale.

Sports - Any extracurricular related to physical activity.

Summary

Educators have grappled with the substantial accountability imposed by NCLB and ESSA on every school district, leading to budget cuts and the need for strategic resource allocation to meet Annual Yearly Progress (APY) (Craft, 2012). The distribution of $123 billion in ESSER III funds under the American Rescue Plan by September 2024 aims to empower school leaders to formulate multi-year strategies for resource distribution (Kim, Newell & Choi 2004). However, as noted by Kim J and the team, these new strategic plans often lack significant changes for efficient resource allocation. Consequently, school leaders frequently face decisions on the continuity of effective programs within their institutions, resulting in the unfortunate cutting of various

programs and extracurricular activities (Craft, 2012). Despite increased funding to support high-need students, set higher expectations, and enhance accountability, these policies persist in negatively impacting both educators and students (Good, 2023).

In addition to program cuts, teachers in Texas grapple with another controversial funding aspect. House Bill 3 (H.B. 3), sanctioned in 2019 by the Texas Legislature, aims to provide additional funding for Texas schools, elevate teacher compensation, and introduce the Teacher Incentive Allotment (Teacher Incentive Allotment 2023-2024 guidebook). This law permits incentive allocations for qualified teachers possessing specific certifications, however, there are teachers who will not be eligible for the incentives due to their certification status, a subject they teach, or district determination. This creates a number of questions and concerns on the educator's side as to the existence of discontinuities amongst extracurricular efforts and the unity of curriculum.

CHAPTER II: Background and Literature Review

Introduction

Academic success is the most important part of any law affecting education. To achieve the goal of academic success, Federal and State governments, along with districts, work together to provide better solutions for governmental funding to increase accountability for public schools (Dearman, 2017). However, the US economy is forcing school districts to reduce school budgeting, and either reduce the teacher workforce or increase salaries to only one teacher and lay off others (Craft, 2012). At times, it appears governments overlook the fact that teachers and administrative staff have more information on key factors affecting their students. This literature overview is made to analyze the link between instructors, administrators, and students in the educational process that may guide to improved academic outcomes. This review has focused on the activities done during recess and after school, as some of those activities are potent in enhancing students' performance in class. On the other hand, the analysis will cover the unique roles the teachers and afterschool programs play in developing the students academically and emotionally through, among others; successful psychological functioning, full engagement in extracurricular activities, going to school, and a sense of

belonging. Lead to the policymakers seeing the complex nature of a good education process. The role of Teacher Support Systems and Afterschool Life-Decisions programs will be emphasized, and while it is not comprehensive, it will include Student Achievement and the Academic Gap.

Students Achievement and Academic Gap

Students' achievement could be defined by different measures including the grade point average, state tests, college entrance exams, ACTs, SATs, TSIs, student growth, and others. Many states are focused on their students' performance through state testing due to federal requirements. Some states have made various adjustments to increase the number of students passing these tests. Louisiana, Colorado, Connecticut, and, most recently, Texas, for example, have all made adjustments to their scoring systems to boost the count of students classified as proficient for NCLBA-related assessments (Ryan, 2004.) However, when students enter high school, they get informed about the significance of attaining a high grade point average. Usually, experts assume that GPA may be the most important measure of a student's overall performance in the high school classroom, surpassing test scores and other metrics(Claybourn, 2022). Belew(2019)explained that one possible explanation for standardized testing might not explain academic achievement is that it might not be the most suitable method. In these tests, there are models of questions with a single "correct answer," which in a way detrimental to the development of students' initiative, autonomy, and creativity (Belew, 2019). Additionally, traditional assessment methods often neglect the social development aspect of students. The individualistic and competitive nature of examinations can impede the

holistic and healthy development of one's personality. Instead of looking at standardized tests, experts commonly argue that Grade Point Average (GPA) stands out as the most comprehensive measure of a student's overall performance in the high school classroom, surpassing other metrics such as test scores (Claybourn, 2022). This individual measure of educational performance, such as Grade Point Average (GPA), is employed to rank students for various purposes, including college admissions (Hatos & Gyarmati, 2023). This research will use GPA as a student achievement form, even though it will address the Algebra state test exam.

It is very important to understand that an individual's knowledge is valued if the person continues to learn more and more, and improves that knowledge for his own good, the welfare of his country and the entire humankind(Brew, Nketiah & Koranteng, 2021). Looking at the US Census (2023) In the year 2022, the educational attainment of the U.S. population aged 25 and older exhibited a diverse range as follows: extending from less than a high school diploma to advanced degrees beyond a bachelor's level where 9% had completed less than a high school diploma or its equivalent, 28% had high school as their highest level of completed education, 15% had pursued some college courses but had not obtained a degree, 10% had achieved an associate degree as their highest educational attainment, 23% held a bachelor's degree as their highest educational achievement.14% had completed advanced education, including master's degrees, professional degrees, or doctorates. Unfortunately, it is important to mention that the percentage of individuals with a bachelor's degree did not show from 2020 to 2022 significant increase. In 2020, 37.5% of individuals aged 25 or older had attained at least a bachelor's degree, and in 2022, this figure slightly rose to 37.7%, but the difference is not considered statistically

significant(US Census 2023). There still seems to be a high percentage of young people who choose not to achieve higher education but understand that high school is a necessity.

Educational reforms since have been placed which compare standardized testing to international test results (Tian & Sun, 2018). The United States is striving to achieve a leading position in international rankings through current reforms, commonly characterized as a "race to the top" (Turgut, 2013). This endeavor involves a focus on comparing standardized tests at the national level to assess and improve the education system.

Due to the importance of standardized testing, federal and state laws pertaining to education were placed into effect to increase students' performance. This includes No Child Left Behind and later ESSA. However, it created a wave of discussions among educators, researchers, policymakers, and politicians(Turgut, 2013). The botom line it would be wise to ask whether those policies actually help children academically succeed.

In order to understand why some students are failing, especially when we are talking about the Somerset Academy Title 1 school with 89% Hispanic population, we need to look at different factors that could relate such as socioeconomic status, cultural /ethical differences, and parental involvement (Brew, Nketiah & Koranteng, 2021).

Effect of Socioeconomic Status on academic achievements

Various studies have shown that students' academic achievement is associated with their families' level of income(Brew, Nketiah & Koranteng, 2021). Brew, Nketiah & Koranteng, (2021). noticed that the current educational system in deprived regions is plagued by a wide array of challenges, namely, truancy, insufficient textbook availability,

limited access or lack of libraries, an inadequate stock of practical labs, poor feeding programs and a number of other problems. Regretfully, Texas is aware of the issue with falling students reading and math scores against other states' ones in the TEA report (TEA, 2023). The National Assessment of Educational Progress (NAEP) scores for Texas reveal a decrease in reading scores across various demographics, including Hispanic, and economically disadvantaged children. The significance of family resources becomes more apparent when one acknowledges that the achievement gaps in minority group students are substantial during their initial years in school (Neal, 2021). Family and social background factors, including parental background, and the social and cultural environment of the family, likely influence student achievement (Szeil, 2013).

The persistent issue of standardized testing disparities among economically disadvantaged students, particularly in Algebra I state exams, has sparked considerable educational discourse in some states. From the Texas Education Agency report of 2023, it is the gap in achievement that remains very striking and is observed among students from economically challenged families(TEA, 2023). Taking the Texas Education Agency (TEA) report of 2023 as a focal point, it is evident that a stark achievement gap exists among economically disadvantaged students. From a cohort of 28,920 students, a mere 1% met the required level, with an even smaller fraction, less than 1%, mastering it. Similarly, among 22,706 students, only 2% met the level, with less than 1% mastering it. Remarkably, a correlation emerges between the economic status of students and their performance on standardized tests, particularly in reading. The link is apparent when considering the percentage of economically disadvantaged students at various schools and their corresponding performance on reading assessments. For instance, in the 2017-

2018 academic year, Brooks Collegiate Academy reported 56.1% of students as academically disadvantaged, with 59% of reading tests falling below grade level(National Education Association, 2023). In contrast, Brooks Academy, with an even higher socioeconomic status (SES) at 89.5%, showed lower results, with only 71% of reading tests below grade level, marking an 18% difference. However, this pattern is not universal, as evidenced by Mission Early College High School, where the SES is 72.4%, yet only 9% of reading tests are below grade level. These disparities prompt the question: why do certain schools with high percentages of economically disadvantaged students outperform others? Further exploration into the educational practices and support systems implemented within these institutions may provide valuable insights into addressing this pervasive issue.

Demiroz (2020)suggested that from 340 sixth and seventh graders at a secondary school participants the strongest student-level predictor of belonging to school was SES ($y = .22$, $p < .001$). The gamma coefficient of .22 shows that a 1-unit increase in SES produces a .22 standard deviation increase in belonging. Unfortunately, we cannot say the same about extracurricular activities. From Meehrin & Daud's (2023) research, the rates of student participation in extracurricular activities appear to be influenced by their socio-economic status. Yet the findings suggest that students from higher socio-economic backgrounds (high status) exhibit a greater involvement in extracurricular activities compared to their counterparts from middle or low socio-economic backgrounds. There were only 40% low socioeconomic students involved in extracurricular activities compared to 75 % from the high socioeconomic student population (Meehrin & Daud's, 2023). More than that the availability of extracurricular opportunities for students

demonstrated a negative correlation with both the percentage of students receiving free school lunches ($r = -.37$, $p < .001$) and the poverty rate of the surrounding area ($r = -.25$, $p < .01$) (Neal, 2021). Moreover, an analysis of variance between groups revealed that high schools in poverty areas tended to have fewer extracurricular student organizations, activities, and clubs compared to schools in non-poverty areas, $t(118) = 2.38$, $p = .019$. Principals of schools in poverty areas reported an average of 16 student organizations and clubs, while schools not located in poverty areas had an average of 23 organizations and clubs. The principals' responses suggested that students attending schools in poverty areas were generally less likely to participate in extracurricular activities, organizations, and clubs, although this finding did not reach statistical significance ($\chi 2 = 2.60$, n.s.). Further analysis using contingency tables indicated that schools in poverty areas were significantly less likely to have a special interest in after-school clubs ($\chi 2 = 12.74$, $p < .001$) and student political organizations ($\chi 2 = 8.14$, $p = .008$). Unfortunately, some researchers proved that extracurricular activities could be the reason why students in low socioeconomic areas cannot increase academic achievement (Dearman, 2017; Demiroz, 2020; Moallem, 2013).

Cultural and ethnic differences

From 2012 to 2022, the educational landscape in the United States witnessed notable advancements in high school completion and attainment of bachelor's degrees across various racial and ethnic groups. According to data from the US Census Bureau (2023), the percentage of adults aged 25 and older who had completed high school exhibited a positive trajectory for all demographic groups during this period. Specifically, high school completion rates rose from 92.5% to 95.2% for the non-Hispanic White

population, from 85% to 90.1% for the Black population, from 88.9% to 92.3% for the Asian population, and from 65% to 75.2% for the Hispanic population. Similarly, the proportion of adults attaining a bachelor's degree or higher also demonstrated an upward trend. For the non-Hispanic White population, this percentage increased from 34.5% to 41.8%, for the Black population from 21.2% to 27.6%, for the Asian population from 51% to 59.3%, and for the Hispanic population from 14.5% to 20.9%. (US Census Bureau, 2023). Such a development shows the gains made in educational attainment with distance of racial and ethnic segments over the past decade, but at the same time, it shows the gaps in other parts that warrant continued attention and need to be addressed by targeted intervention in order to ensure the equitable distribution to all the people of educational opportunities and outcomes.

Despite general advancements in educational achievement among various demographic cohorts, Hispanic students persist in experiencing the least favorable outcomes. This enduring pattern underscores a concerning reality wherein minority students not only contend with the weight of stereotypes that unfairly overshadow their capabilities but also face persistent doubts regarding their academic potential (Harrop & Hoppitt, 2023). Hispanics represent a significant portion of the US population, comprising 16 percent according to the 2010 Census, with varying population sizes across states, particularly in California, Florida, Illinois, New York, and Texas. Neal (2021) believes that polarization of achievement gap among different minorities occurs even before the official schooling begins while disparities keep showing up in test scores persisting into adulthood. Data from the Texas Education Agency (TEA) in 2023 revealed proficiency levels among Hispanic students, with only a small percentage, 2%,

meeting the required standards in subjects such as Algebra I. Additionally, studies by Fan, Williams & Corkin,(2011) indicate lower perceptions of safety and orderliness within schools among Hispanic and Asian students compared to their White peers. Furthermore, Hispanic students exhibit higher dropout rates and lower completion rates compared to White and Black students, although they are more inclined to complete advanced foreign language classes Fan, Williams & Corkin (2011).This demographic also tends to have lower GPAs, as evidenced by research conducted by Fujiyama, Kamo & Schafer (2021).These findings demonstrate the multidimensional nature of the problems, which often are related to the complexities of the underachieving education system of Hispanics, and landscape them with the help of policies that address the cycles of inequalities and promote equitable opportunities for all students.

Equality still being a pressing concern, it is not a surprise that researchers tend to offer different ways of implementation that aim to help achieve the said goal. Consequently, the space for equality is created in two major ways as one view on the matter states. The point of departure, fairness, focuses on making a learning habitat, in which factors like gender, ethnicity, and educational background don’t act as a barrier to academic performance(Szeil, 2013).

This strategy avoids the systemic obstacles and the prejudices that normally give rise to the society being equally divided; in the process, all the individuals will have equal chances of doing well. Moreover, approaches that aim at embracing diversity (inclusion) are at the forefront, which entails facilitating the development of personal abilities and skills needed for social integration and involvement(Szeil, 2013). This very foundation of the notion has the inbuilt assumption that a learner should attain basic skills, including

literacy and numeracy during his academics while exploring and developing skills and talents Szel(2013). emphasizes that integration of both fairness and inclusion in education will help educators, policymakers, and other individuals dedicated to education to shape an educational landscape that is void of prejudice and that offers students a chance to excel and play their part in the uplifting of society.

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Parent involvement

Family and social background factors, including parental background impact student achievement (Szeil, 2013). Additionally, family structure exhibits a positive correlation with peer relatedness, a connection strongly associated with intrinsic motivation, reduced engagement in risky behavior, and an affiliation with extracurricular activity participation (Bouchard, 2022). Adolescents who perceive a lack of support from adults, coupled with the presence of academically motivated peers adhering to academic norms, may experience a strong influence from peer groups. This influence can potentially lead to a gradual disconnection from the school and reduced commitment to academic achievement goals (Goodenow, 1993).

According to Demiroz's research (2020), additional findings indicated a positive correlation between a sense of belonging to school and parental involvement ($y = .08$, $p < .05$), academic self-efficacy among students ($y = .062$, $p < .05$), and peer support ($y = .13$, $p < .001$). A notable pattern of significance exists between the mediating variables (expectations, absenteeism, homework, and truancy) and parent involvement. (McNeal, 2014). McNeal showed that parent involvement is strongly correlated with educational

expectations (r=.341, p<.05), absenteeism (r=-.080, p<.05), homework (r=.193 p<.05) and truancy (r=-.146, p<.05) He also show the importance of parent-teacher organization (PTO) at the school. Parent-teacher organization (PTO) involvement demonstrates a stronger correlation with student attitudes than with behaviors, whereas monitoring displays the opposite pattern. Strategies for educational support exhibit, at most, a weak association with attitudes and generally lack an association with behavioral outcomes (Ruranovic & Siennick, 2022)

Students from minority groups, however, highlighted a form of parental involvement that wasn't directly tied to academic performance(Szeil, 2013). The students identified valuable parental involvement as inquiring about the student's day, offering general encouragement, building trust with the student, encouraging siblings to support each other, providing transportation to extracurricular events, and implementing discipline (Fan, Williams & Corkin, 2011). In this study students emphasized the significant importance to the emotional support and motivation provided by their parents, considering it more crucial than having their parents volunteer at the school or participate in the PTA. Since it is important to raise academic achievement for all the schools, but most importantly for minority groups and low-income families, it is important to bring the parents' involvement in school culture One of the ways to include parents' involvement is through extracurricular activities will be explained later in this chapter.

An ongoing drive to improve the American education system is in process, which is based on the equilibrium between the many needs like higher student achievement, educational options, tougher conditions, professionalism of teachers, the introduction of new standards, and continuous improvement.(Farkas & Duffet, 2012)All these demands

persist despite facing increasingly constrained budgets. Student achievement and academic gaps will play an important role in understanding why extracurricular activities and feelings of belonging play significant roles in the school setting.

No teachers left behind?

School districts often find themselves in a struggle with the government to secure financial backing for their educators, students, and various activities. West Contra Costa, CA, district voted to eliminate all sports programs and close school libraries. On top of those reduction, districts would lay off 201 employees such as school counselors, librarians, psychologists, and elementary music teachers. (Gehring, 2004) As districts explained, it was a necessary cause due to 5 million cut from the 35,000-student district's $1 million budget. Now those schools were looking for local donors who could financially support the programs, creating an outrage from the community.(Gehring, 2004)

Another district in Pflugerville ISD, Texas faced complete school closures due to deficit. Within 10 proposed plans the district had to stay afloat and ended up shutting 2-3 elementary schools due to location in older buildings, low enrollment, and low attendance rate. (Lopez, 2023) Regrettably, as highlighted by Lopez, schools categorized as Title 1 schools, with a substantial percentage of Black and Hispanic students, frequently indicate a higher proportion of economically disadvantaged students. Through Lopez's research, it became clear that the closing down of Title I schools could reverse the performance of students in both reading and mathematics.

The economic downturn across the US is requiring both state and local school districts to cut down their budgets. (Staff, 2023) The financial obstacles, however, will most probably lead to larger classes, and some other setbacks like the discontinuation of programs and supplies, the deterioration of structures within schools, and the focus on allocation of the number of educators. There are two laws that may be of extreme importance in this situation. The federal educational policies such as the No Child Left Behind (NCLB) and its successor, the Every Student Succeeds Act (ESSA), alongside state-level measures such as House Bill 3, pose challenges in comprehending the allocation of funds and determining how this expenditure directly influences student academic success. Therefore, before our governmental bodies and districts make a misjudgment toward the schools or school staff, this research will provide guided information on beneficial teamwork of all teachers to provide steps toward the harder work of substantive education improvement through feeling of belonging and extracurricular activities.

Evolution of Federal Education Policy: No Child Left Behind to Every Student Succeeds Act

To comprehend how the Every Student Succeeds Act (ESSA) as a continuation of the No Child Left Behind (NCLB) influenced legislation, we need to see the differences between them and understand the impact they provided and will provide on schools, educators, and students.

No Child Left Behind(NCLB)

The No Child Left Behind (NCLB) Act of 2001, as outlined by Ryan (2004), was created to establish a framework for school accountability based on student performance. Fundamentally, the core objective of NCLB is to ensure that students attain grade-level proficiency by the year 2014. (Risso, 2010) This federal legislation left an enduring impact on the educational landscape, with its influence still perceptible two decades later. Ryan (2004) explained that this law's emphasis on accountability, and data-driven decision-making, has become a lasting influence in educational practices. The goal of NCLB was to bridge the achievement gap and elevate students' academic performance, primarily through increasing national test scores (Ryan, 2004). It wielded both positive and negative influences on the education system.

On the positive side, NCLB instigated a heightened emphasis on accountability, compelling schools to prioritize student performance and endeavor towards narrowing achievement gaps (Craft, 2012). According to Craft (2012), the accountability of standards and assessments at both state and school district levels significantly influenced nearly all educational institutions. Many school districts continuously explore innovative strategies to inspire students to attain high levels of academic success and engagement (Craft, 2012). The role of motivation is paramount in shaping student learning experiences and overall educational outcomes, prompting schools to adopt diverse approaches to achieve this objective. Nevertheless, economic challenges have compelled school districts to make tough decisions, leading to the reduction or elimination of extracurricular activities, including athletic and band programs, or even staff layoffs in an effort to conserve resources (Craft, 2012).

Team (2023) had identified the main ideas of NCLB where states had the responsibility of ensuring schools were held accountable for student achievement. Although the states follow the law, no significant room for variety in the state they could create their own content. States were concentrated on the academic performance of students, predominantly relying on state reading and math test scores to assess the performance of schools. Therefore, schools had to publicly disclose test results and various indicators of student achievement. Not only did schools disclose the information, they also broke the achievement down by specific student subgroups such as those in special education, minority groups, economically disadvantaged backgrounds, and English language learners. This became a huge purpose of offering a comprehensive understanding on a national level. It helped to breakdown information to identify which groups of students may be facing challenges, enabling the state to formulate targeted and specific actions aimed at enhancing assessments and improving the educational outcomes of these particular student populations (Team, 2023).

However, NCLB faced criticism for its restrictive nature and its negative side effects. By 2014, it became increasingly evident that more than 80% of schools were likely to fall short of meeting the required standards for adequate yearly progress toward achieving this ambitious goal(Long, 2011). States faced a challenging situation, as they didn’t have the option to use tests other than their own state tests. According to Team (2023) The law did not forbid the federal government from encouraging states to adopt a particular set of standards, thus restricting local autonomy in decision-making. Also, NCLB didn’t include a national literacy center despite the presence of various literacy

programs within NCLB. Unfortunately, NCLB had several literacy programs that have since been defunded (Team, 2023).

Budgeting is a pivotal aspect of school district management, as discussed by Kim & Wargo (2022), involving the strategic allocation of resources to achieve specific objectives. Unfortunately, schools and districts depend on budgeting to provide valuable education. Particularly for schools dependent on federal funding falling short of adequate yearly progress, the designation of needing improvement triggers a series of increasingly serious interventions. In the first year of perceived failure, schools are mandated to receive technical assistance. After two years, students in underperforming schools gain the option to transfer to another public school, including charter schools within the same district. Following three years, students who remain in these schools can access tutoring, publicly funded, by an external provider, whether public or private. After four consecutive years, the school must replace its staff. If the situation persists for five years, the school must relinquish control to the state government and reopen as a charter or private school (Ryan, 2004). It is important to see the crucial role of budgeting and the interventions required for schools dealing with performance challenges, reflecting the delicate balance between financial constraints and mandated actions to address educational shortcomings.

Regrettably, the federal government finds itself in the position of having to allocate funding for a law it imposes on states, especially since low-performing students, arguably the most vulnerable, stand to lose the most if their schools lack the necessary resources. (Russo, 2010). Russo (2010) explained that budgeting for federal education funding escalated from .4 billion in fiscal year 2001 to .9 billion in fiscal year 2009 and

continued rising. However, the lack of effective controls overseeing additional expenses linked to testing and the recruitment of highly qualified teachers raises the possibility that federal involvement may impose financial burdens on local boards, potentially surpassing any intended savings. This created challenges associated with federal education funding.

Title I schools unfortunately faced increasingly harsh measures. Morris (2021) explained in his research that Title I is a program designed to identify public schools characterized by low property tax revenue allocations and high concentrations of low-income students. The average spending per student through Title I hovers around $500–$600 annually, despite studies indicating that an amount closer to $4000 per student is necessary to effectively address and close the achievement gap. This seems to address the educational challenges faced by such schools by providing additional federal funding as a supplementary aid. The objective is to assist these schools in providing quality education and resources to students who might face disadvantages due to economic circumstances, thus fostering increased educational equity(Morris, 2021).However, instead of providing adequate support to Title 1 schools, for each year they fail to make adequate yearly progress. Since those schools continued to fail, they were either be shut down and reopened as charter schools, taken over by the state, or taken over by a private management company(Ryan, 2004).

Different studies researched what could help those schools to raise their scores. Some studies suggested that students who were involved in Extracurricular activities and students who feel accepted, and supported at school had a better chance to raise state exams(Bradford & Franjesevic, 2021). On the other hand, there were still massive amounts of schools that were not able to provide appropriate results.

The government realized that there is a need for significant revisions to the No Child Left Behind (NCLB) legislation in order to effectively address the challenges and deficiencies identified within the education system (Long, 2011).

Every Study Succeeds Act (ESSA)

Since the 2009 federal grant competition known as Race to the Top (RttT), schools across the United States have undergone a significant transformation, largely driven by movements advocating for standardization and increased accountability in education (Good, 2023). In 2015 Every Study Succeeds Act (ESSA) replaced NCLB, which notably pivoted away from some of the most stringent accountability practices of the previous era (Good, 2023).

According to ESSA & NCLB (2016) the main goal of this Law was to uphold rigorous academic standards for all students, preparing them for success in both college and careers. It also emphasizes accountability, ensuring that measures are taken to assist students and schools in improvement, with a specific focus on the lowest-performing schools, high schools witnessing high dropout rates, and schools where subgroups are lagging. The proposed method encompasses making parents and educators get the results of a test every year while declaring that there should be a reduction of tests that are irrelevant, unnecessary, and redundant. Additionally, it gives precedence to individual states, granting them the authority to customize their educational goals according to the unique context and needs of their student body (Team, 2023) It also promotes the reduction of unnecessary testing by encouraging states and districts to streamline their assessment practices. To facilitate this process, the law allocates funding to support states and districts in conducting audits of their existing testing procedures. This emphasis on

evaluation and the potential elimination of redundant assessments aims to create a more efficient and focused testing system, ensuring that assessments align with educational goals while minimizing unnecessary burdens on students and educators.(Team, 2023)

Compare ESSA to NCLB (2016) Under the Every Student Succeeds Act (ESSA), the evaluation of schools extends beyond state test scores only. States are mandated to consider four academic factors stipulated in the law, namely reading and math test scores, English-language proficiency test scores, and high school graduation rates, along with a state-chosen academic measure for grade schools and middle schools. Additionally, states should consider the fact that not all kids are prepared for kindergarten and they do not have the chance to get into advanced courses or college-level programs. In response to this requirement, the Maryland Department of Education, a comprehensive school climate survey designed for both school staff and students in April 2017. This initiative, highlighted by Kautz et al (2020), reflects a commitment to assessing and addressing the broader aspects of the school environment beyond academic performance, recognizing the importance of factors such as school climate in promoting overall student success. Texas legislators, on the other hand, identify the importance of evaluation of students' performance across all subjects, encompassing both general and alternate assessments (Texas Education Agency, 2020). The evaluation also considers indicators related to College, Career, and Military Readiness (CCMR), along with graduation rates. According to the strategy detailed by the Texas Education Agency, the first aim is to enable the school leaders at the state and local levels to manage formidable systems for school' improvement. Another strategy that is important to mention is safeguarding students from low-income families and minority backgrounds against teachers who lack adequate

license to teach or do not have enough experience to work with that population. This strategy provides help to different students, regardless of their background. It only aims to provide quality education from qualified and competent teachers (ESSA & NCLB, 2016).

Schools are still responsible for analyzing outcomes while the administrators are functioning within an adaptable structure established by law. Simply, while this legal structure provides federal directives, it grants each state the independence to define its own goals for student achievement within this wider context. Such an approach recognizes the varied needs of students and aims to offer a comprehensive evaluation of their academic achievements and preparedness for the diverse array of future endeavors, as highlighted by Ali (2020).

Unfortunately, where positive outcomes exist, negative consequences that affect education do too. ESSA provision emphasizes the importance of allowing states flexibility in choosing assessments and setting their own targets tailored to their unique educational contexts and needs without numeric long-term goals(Egalite et al., 2017). They explained that by avoiding a "one-size-fits-all approach", the legislation seeks to encourage independence and flexibility within the education system by steering clear of a uniform approach, thereby promoting innovation and responsiveness to local needs and conditions. However, Egalite et al. (2017) raise their concern that even though the Every Student Succeeds Act (ESSA) shows its potential impact on equity by empowering states to exercise greater autonomy over their educational policies and foster a more equitable educational landscape by allowing states to tailor standards to better meet the diverse needs of their students and communities. Civil rights advocates express apprehension

regarding the potential consequences of this shift, fearing that without federal oversight, some states may fail to uphold equitable educational practices.(Eglite et al. 2017) Although alterations in school socioeconomic composition bear a significant association with average school performance on standardized assessments, it accounted for a substantial portion of the limited variation observed between scores from one year to the next—even schools undergoing substantial shifts in socioeconomic status may anticipate yielding closely correlated to results over a span of two or three years (Gibbs, Pivovarova & Berliner, 2023). Gibs found that correlations remained robust, even in schools experiencing substantial changes in socioeconomic composition, with correlations persisting up to two years later and ranging between 0.68 and 0.79. This creates a concern that certain states may fail to uphold equitable educational practices, particularly for marginalized or disadvantaged student populations (Good, 2023).

Another issue that came to light was exposing under-resourced school districts, this presents a challenge because they are not equipped with the human capital nor the funding to provide the support and guidance that states once offered.(Saldivar, 2020; Kim & Wargo, 2022). Kim & Wargo (2022) observed that while public school districts routinely engage in periodic reviews and adjustments to their strategic plans, the execution of new strategic initiatives often fails to result in significant changes in resource allocation or updates to resource distribution. Despite the intention to improve resource management, the implementation of these initiatives often falls short of achieving substantial alterations in how resources are allocated and distributed within school districts. This gap between planning and execution underscores the challenges

faced by districts in effectively translating strategic goals into tangible resource allocation strategies.

Schools primarily rely on funding from state and local taxes, with federal funds contributing to approximately 10% of all education funding. (Morris, 2021) This allocation highlights the significant role played by state and local governments in financing education, while federal contributions constitute a smaller proportion of the overall funding landscape for schools. Unfortunately, since the schools depend on local property tax, Title I schools are public schools that depend on low property tax revenue allocated towards education. It creates financial challenges that some states use “Robin Hood” law to redistribute local property tax revenue. However, such measures frequently encounter significant resistance from wealthier taxpayer (Morris, 2021).

As schools face increased challenges, in particular those experienced by Title I schools, it is imperative to explore strategies aimed at enhancing student outcomes. Craft (2012) Also, other studies propose a simple formula that leads students to achievement by giving bigger schools a classroom belonging and more student participation in extracurricular activities. Prioritizing these initiatives and financially supporting them, schools, especially Title I schools, can create environments that promote student engagement, motivation, and overall academic success.

House Bill 3 (HB 3)

For years Texas utilized a rating system spanning from "Unacceptable" to "Exemplary" (SY 1998 to SY 2011), and only a few school districts received ratings of "Exemplary" or "Unacceptable." (JonesP, Greer & Reitano, 2021). The predominant changes were ratings that involved downgrades from "Recognized" to "Acceptable" or

upgrades from "Acceptable" to "Recognized." There were approximately twice as many instances of school districts being downgraded to "Improvement Required." (JonesP, Greer & Reitano, 2021).Texas Legislature started asking questions on how to improve the school students' accomplishments.

In 2019 House Bill 3 (HB 3), passed by the 86th Texas Legislature, directed school boards to establish literacy and math student achievement goals for all student groups and encourage continuous improvement (Belew, 2019). Additionally it provides compensation for teachers based on their performance and the impact they have on students' achievement (Belew, 2019; TEA, 2023). The Legislature Institutions were encouraged to get equipped to nurture the success and prosperity of future generations as well as to help the teachers (Kim & Wargo, 2022).

One of the goals of that bill is to develop and implement instruction that is both highly effective and rigorous, ensuring delivery that promotes student mastery(Belew, 2019). This involves a commitment to continual improvement, and actively engaging in professional development to stay abreast of best practices and innovative strategies. Additionally, fostering rigorous learning environments requires attention to behavior expectations and cultivating a positive climate and culture where students feel supported and motivated to excel (Belew, 2019). These efforts collectively contribute to creating an educational setting conducive to academic success and personal growth.

To achieve this Legislature approved House Bill 3 which gives an opportunity to receive additional compensation contingent upon their performance and impact on students' achievement (T*ex. Educ. Code § 33.0811).* This bill outlines that teacher performance will be evaluated according to statewide performance descriptors,

categorizing them as "Master, Exemplary, or Recognized." Depending on their evaluation and ability to effectively prepare students for state exams, eligible teachers may receive compensation ranging from $3,000 to $32,000. This incentivizes educators to strive for excellence in their instructional practices, however, does it actually help the teachers and students?

Even though ESSA removed the definition of “highly qualified” teachers from its regulatory language the States want the teachers to be certified in the area they teach (Green et al., 2020). The Texas Public Policy Foundation (TPPF) underscores the critical role of classroom teachers, emphasizing that they stand out as the most critical in-school factor impacting student success. (Belew, 2019)

Research by Green et.al.(2020) highlights a concerning trend where schools serving high proportions of students from low socioeconomic backgrounds tend to have a higher concentration of teachers with limited experience and qualifications. They continue to explain that schools with more experienced and highly qualified teachers are often found in areas with lower rates of socioeconomic disadvantage. This teacher distribution that seems to be unequal, highlights the strategies that are important to implementing in order to attract and retain talented educators who could help the community. By following this strategy it will certainly ensure that all students have access to high-quality education and opportunities for academic success, regardless of their socioeconomic background.

HB 3 is designed to increase teacher retention and recruitment by introducing a pay system that would bring effective teachers and keep them in the classrooms. It would help not just the students but the whole community(Morris, 2021). Legislators hold the

belief that placing and retaining more effective teachers in Texas classrooms is beneficial for both students and the state as a whole. Evidence supporting the effectiveness of merit pay programs can be found in Dallas ISD's Teacher Excellence Initiative (TEI).(Center for Innovation in Education, 2019)It is true, that our students need effective teachers, but it may not be possible to require a teacher's relatively quick achievement of the goal and there is a question does the increase of a small amount of teachers help education in Texas?

Before the implementation of the law, according to Belew(2019), Dallas ISD middle schools witnessed notable improvements in student achievement from 2012 to 2018. Overall, student achievement rose from around 23 percent to 34 percent across the district. Additionally, approximately 25 out of 35 schools experienced growth in student achievement of at least 5 percentage points or more. Moreover, the district's student achievement growth surpassed the statewide Texas middle school growth average, increasing by approximately 11 percentage points compared to the statewide average of 7 percentage points.(Belew, 2019)The occurrence wasn't solely due to changes in pay; various factors beyond salary adjustments can influence students' performance. These include transportation, extended school hours, provision of free meals throughout the day, additional academic support, emphasis on social and emotional learning, resources for character and leadership development, fostering a culture of high expectations, after-school enrichment programs, financial incentives to attract and retain skilled educators, as well as specialized training and extra professional development opportunities for teachers.(*Accelerating Campus Excellence (ACE)*, n.d.).

Teacher retention is always a valuable aspect of education. Unfortunately, every year the teacher's resignation amount is between 10-20%. In 2023 there are 16% of teachers in Texas who resigned from their jobs (Ramos, 2023). There are different reasons why teachers would quit. Ramos collected the data and found out that from 14.1% of teachers who quit 1.7% retired, 1.9% career change, 1.9% relocation to another state, 2.4% transferring to another Texas school, 2.6% Personal, 3.6% other reasons (Ramos, 2023). When eight teachers were asked if the pay increase would be effective Five of the eight who responded selected moderately effective, and three selected moderately ineffective(Ramos, 2023). so there are teachers who are unsatisfied with the pay.

As a result teachers are looking for extra income. Teachers frequently obtain stipends for fulfilling roles such as club sponsors, coaches, event coordinators, and other supportive positions within their schools. However, these opportunities are constrained, and the stipends may not adequately cover all expenses. As reported, roughly 16% of all U.S. public school teachers hold second jobs during the summer, with this percentage increasing to 32% among new teachers(Schaeffer, 2021).

In 2012-13, the primary source of discontent among voluntary departures was related to testing and accountability measures, accounting for 25% of cited reasons. This was followed by dissatisfaction with school administration (21%) and discontent with the teaching profession itself (21%), influenced by various factors. Some of these teachers may have been among those who left to pursue alternative employment opportunities (31%), while others departed due to financial concerns (13%), as teachers often cited multiple reasons for their departure, as outlined by Morris(2021). According to Morris

(2021), teacher salaries often rise in correlation with years of experience in the classroom and, in many districts, whether or not a teacher possesses an advanced degree. While educators with an advanced degree in teaching typically earn higher salaries, with an average increase of $3205 in the initial year of teaching, obtaining an advanced degree in education can entail considerable expenses. Tuition costs alone for such degrees can reach upwards of $50,000 per year(Morris, 2021). It seems that getting a stipend for an advanced degree is the same or less than the amount of money teachers would get for an allotment. So the teachers would reconsider to advance their knowledge in the subject they teach.

Due to the problems, Around 32% of teachers who had been teaching for one year or less engaged in non-school employment during the summer break before the school year, a significantly higher proportion compared to public school teachers in general. In contrast, 20% of teachers with two to four years of experience took on summer employment, along with 17% of teachers with five to nine years of experience (Schaeffer, 2021). Having a second job can detract from teachers' time allocated for tasks such as conducting research and preparing for classes, grading assignments, communicating with parents, holding tutoring sessions, and engaging in other activities that contribute to the school community. Therefore, it is important to increase teachers' pay, but is allotment a better way?

Student achievement and teacher effectiveness, are certain essential aspects of teaching, such as pedagogy and classroom management(Green et al., 2020). To identify effective teachers based on output characteristics, primarily revolving around student standardized assessment scores. This approach has led to a shift in accountability

measures, with teachers being expected to demonstrate clear evidence of student progress on standardized assessments, increasingly perceived as the paramount aspect of their roles (Good, 2023). Unfortunately, every year there are different numbers of points all students are supposed to show as growth. One year it was 18 points and the next year it was 26 (Ramos, 2023). Ramos (2023) explained there are students in the classrooms that probably will not be able to achieve those points such as bilingual students, students with low attendance, special needs students, and lack of support from home. Different level classes that teachers teach, for example, regular and pre-Ap, could also play a large role(Ramos, 2023).Imposing unrealistic expectations of perfection on teachers only serves to exacerbate stress levels.

Districts now have the chance to develop their individualized teacher evaluation protocols. The district under study has seized this opportunity and included its unique evaluation system in this research (Good, 2023). At Dallas ISD, teacher performance is assessed using various criteria, T-TESS, which encompass a teacher's capacity to develop clear, focused, and suitable lessons. This evaluation considers factors such as lesson structure, utilization of data, and the design of assessments.(Center for Innovation in Education, 2019) However, there were concerns that have been raised regarding the consistency, subjectivity, and reliability of the T-TESS observation instrument. Contrary to the perception that a teacher must meet all criteria outlined in the evaluation, it is sufficient, but almost impossible for teachers to meet most of the specified criteria to be placed in a particular category(Ramos, 2023). Even though Districts are given the choice to integrate additional data sources into their evaluations, ensuring alignment with the goals and values of the district such as student and parent surveys, leadership exhibited

within the school community, mentorship initiatives, club sponsorship, or records of teacher attendance(Teacher Incentive Allotment 2023-24 Guidebook, 2023). School administration uses one evaluator per teacher to score those teachers. However, One evaluator's interpretation and scoring may differ from another evaluator's, largely influenced by the training and guidance each evaluator has received(Ramos, 2023).

Unfortunately, in examining teacher compensation policies, it becomes apparent that not all educators are eligible for pay increases. A prevailing belief among many schools is that a teacher's eligibility for such allotments hinges on their ability to prepare students for state exams (Teacher Incentive Allotment 2023-24 Guidebook, 2023; Ramos, 2023; Belew, 2019). Consequently, teachers in subjects such as Music, Sports, and Art, who do not directly prepare students for state exams, find themselves ineligible for these incentives. It brings to the question of why educators who contribute time and effort to students' education in non-standardized testing subjects do not get equal recognition.

House Bill 3 stipulates that newly allocated taxpayer funds for public education should be utilized to compensate teachers based on their effectiveness in enhancing student outcomes and teacher retention. (Center for Innovation in Education, 2019) However, there are questions raised if this law will actually help the teachers or divide them since not all teachers get the allotment (Teacher Incentive Allotment 2023-24 Guidebook, 2023) Ramos (2023) mentioned that the administration and teachers have to keep it a secret or the teacher would put the blame on the administration for not receiving it. Also if teacher turnover poses significant challenges with far-reaching consequences for student achievement, the school environment, and district finances, Research

consistently demonstrates that high rates of teacher turnover are associated with adverse impacts on student success, both in the immediate and long-term (Morris, 2021). The instability caused by frequent turnover disrupts the continuity of instruction, diminishes the sense of community within schools, and strains district budgets due to recruitment and training costs. Thus, addressing teacher turnover emerges as a critical priority in efforts to enhance educational outcomes and foster a conducive learning environment (Morris, 2021).

The proposition to invest on the enhancement of teacher skills and workforce in a school is a step in the right direction. However, all the teachers must have fair wages to be paid for all their work that is done since it is a collaborative effort of teachers as a unified force to impact students' achievements. Acknowledging the efforts of every teacher as part of a unified team is crucial for fostering a nurturing and efficient educational setting.

General Benefits of Extracurricular Activities

Despite facing an unprecedented $32 billion surplus, lawmakers this year declined to allocate additional funds to assist schools in covering salary increases and/or activity funding for the academic year 2023-2024 (Lopez, 2024). Lopez explained that the decision comes despite Governor Greg Abbott's establishment of a task force a year before, aimed at enhancing teacher compensation and retention. For example, in Fort Davis ISD, located approximately 150 miles southwest of Odessa, Superintendent Graydon Hicks has not implemented a pay raise for teachers since 2019. It's very

upsetting that some politicians prioritize elections over different State issues forgetting the children of their state. In recent years, the threat of education funding has become severely frayed, with allocations failing to keep pace with inflation. Student well-being, equity in student opportunity and achievement, and addressing student needs must be central considerations in all education funding formulas. (Ali, 2020) Recognizing these priorities as fundamental pillars of educational funding is essential for ensuring equitable access to quality education for all students. It is important to find the way to help have positive influence on education and its support through different resources without looking back at the budget. One of those influence that has a positive effect on students are extracurricular activities. Despite numerous studies highlighting the importance of extracurricular activities, there remains a lack of attention from legislators to address this particular issue adequately over time.

ESSA /HB3 and extracurricular activities

Two main laws oversee the budget of the schools. Federal law ESSA, unfortunately, provides only 10% of the school budget The rest comes out from the State budget (Morris, 2021). Even though Federal law provides such a small amount to districts this bill still has requirements to oversee how the funding is distributed. For example, they required states to Report expenditures on actual teacher salaries rather than average salaries. They are also required to publish online the per-pupil spending for each school and district in the state. (Woods, 2018) However, there is only one place where extracurriculars are mentioned in the ESSA funding opportunities.

That section talks about a grant program that aimed at assisting parents to actively participate in their children's education and supporting them in monitoring their

children's potential for them to meet state academic requirements. In order to help those students it is crucial to include parents in every aspect of education such as academic performance improvement, learning, and homework support, as well as in after-school and extracurricular events and activities(ESSA & NCLB , 2016) This law also says that it is essential to guarantee that English Learner (EL) students have equitable opportunities to actively participate in both curricular and extracurricular activities. Indeed, there is not enough discussion even in political discourse about extracurricular activities and their benefits, especially the lack of sufficient financing to support these initiatives. This leave of absence exposes the deficiency of the legislature in recognizing the extra-curricular activities as being enriching to the students and potent tools for molding them into holistic characters.

House Bill 3 dedicates an entire chapter to non-curricular activities, as outlined in Education Code Section 33.081. (*Tex. Educ. Code § 33.0811*)While this provision does acknowledge the importance of extracurricular activities, its focus primarily lies in regulations governing participation. Specifically, the State Board of Education is tasked with establishing rules to restrict participation and practice for extracurricular activities during both the school day and week. These rules aim to prioritize academic activities during the school day without interruption from extracurricular engagements. Furthermore, students in Texas are subject to district policies and extracurricular activities such as University Interscholastic League (UIL) regulations regarding participation, provided they are under the direct supervision of school or district personnel. However, students suspended under this section are permitted to practice or rehearse for extracurricular activities but are barred from participating in competitions or

public performances.(*Tex. Educ. Code § 33.0811*) It is noteworthy that while House Bill 3 includes provisions for punishments related to extracurricular activities, it does not explicitly address the importance of these activities or the funding required to support them. This oversight raises questions about the legislative emphasis on enforcement rather than recognition of the value and necessity of extracurricular programs in enhancing student development and overall educational experience.

By emphasizing the value of extracurricular engagement in enriching students' educational experiences and promoting their holistic development, research can advocate for the necessary resources to sustain and expand these essential components of the educational landscape.

Extracurricular activities and academic accomplishments

There is an increasing amount of studies being conducted to comprehend extracurricular significance, along with teacher involvement, and the ways these contribute to enhancing student education(Dearman, 2017; Craft, 2012; Archer, 2022; Laskos, 2019; Richards, 2018; Reed,2014). Some studies found that the incorporation of physical education routines in education can improve the academic achievement of students who otherwise would not participate (Laskos, 2019; Craft, 2012; Bradford & Franjesevic, 2021) .

Most researchers divide Extracurricular activities into two groups. One group is athletics, such as football, volleyball, soccer, Track, and other physical activities. Another famous type of extracurricular is co-curricular activities, such as quire, band, art club, robotics, and other non-sport activities. In a study conducted by Richards(2018), teachers and administrators were asked about their observations regarding the positive effects of

extracurricular participation on academics. They reported a relationship that contributes to improvements in ACT scores, GPA, attendance, and behavior. Specifically, they highlighted the positive impact on ACT scores, GPA, and attendance. Similarly, findings were in Reed (2014) research. 69.7 % of teachers agree and strongly agree with the positive effect of extracurricular activity on test scores. The section on academics showed there was a significant difference in the responses between teachers ($M = 3.80$, $SD = .85$) and administrators ($M = 4.06$, $SD = .67$); $t(476) = -2.75$, $p = .005$. The most significant negative response from teachers regarding the impact of extracurricular activities was the lack of time available for schoolwork (Moran, 2017). In his survey teachers would note that some students reported that schoolwork was lower on their priority list due to their involvement in extracurricular activities. However, teachers understand that Students sometimes use their extracurricular involvement as a reason for not completing homework assignments or for not getting adequate rest.

Student perceptions of this relationship may differ. In a survey conducted by Richards(2018), students were asked whether being involved in extracurricular activities has improved their academic success. The results indicated a mixed response, with a mean score of 3.59 on the Likert scale. Only 27% of students strongly agreed that extracurricular activities had improved their academic success, while 16% agreed. Notably, the largest percentage of students were neutral (40%), indicating that they neither believed extracurricular activities helped nor disadvantaged them academically. Additionally, 12% of students disagreed, and 5% strongly disagreed with the statement.

There was some correlation among male students in grades 9-12 between involvement in 0 to 1 activity, 2-4 activities, and 5 or more activities (Richards, 2018).

Sophomore Males the more activities they were in the better GPA they got. 0-1 activity their overall GPA was 2.93, 2-4 Activities GPA grew to 3.38 and 5 or more activities overall GPA is 3.68. Unfortunately, Freshman Males GPA decreased as their amount of extracurricular activities were taken. From 0-1 Activity is 3.48 , 2-4 activity is 3.15and 5 or more is 2.68. The rest of the male groups and all-female groups had equal amounts of increases and decreases in their GPA scores. Dearman (2017) found a moderately strong .554(greater than .500) positive relationship between GPA and hours of extracurricular participation per week and when tested for a curvilinear relationship, the R^2 value increased negligibly from linear curvilinear and it showed no decline (Dearman, 2017). So the number of extracurricular hours explained 31.8% of the variance in overall GPA and statistically significant $p<.005$ level. The same strong relationship he found between extracurricular activities and ACT.

Even though the data set in Reed's(2014) study is bigger than in Richards (2018) he still got the same result. He found a statistically significant correlation between extracurricular participation and GPA scores, with a Pearson Correlation coefficient of .320 and a p-value of $\leq .001$. Moreover, his findings suggested that factors such as gender, race, and lunch status may serve as significant predictors of extracurricular activity participation. Specifically, these independent variables exhibited an $R^2 = .052$, $F(3, 540) = 9.957$, $p \leq .001$. Reed's(2014) and Laskos (2019) study revealed a notable disparity in extracurricular participation, with a significantly larger number of Black males engaging in such activities compared to other groups. When he separated socioeconomic status he found no statistical significance difference within multiple regression. Reed(2014) points out that different minority groups need to have equal

access to skills development and enrichment outside of the classroom. That would give them the tools to cope with challenges that come up later in life. This by the need for the disparity rates on extracurricular participation to be addressed for all of them, especially the more marginalized groups that may not have all these opportunities. This takes care of their needs for personal and academic development. (Reed, 2014)

Unfortunately, there are studies that show no statistical significance between extracurricular activities for a different subgroup/sport and GPA. (Broh, 2002; Craft, 2012) Craft (2012) results indicated there were no statistically significant differences between participation in sport and GPA, $t\ (438) = 1.766$, $p = .078$. However, students who participated in music had statistically significant $t\ (438) = 2.547$, $p = .011$, between participation in music and grade point average.(Craft, 2012; Broh, 2002) Finally, the results indicated that there was a statistically significant difference, $t\ (438) = 13.856$, $p < .001$, between participation in school clubs and grade point average. When Craft (2012) researched the relationship between extracurricular activities and SAT, only school clubs had statistical significance. Music and sports had no statistically significant difference between students who participate in athletics, and music, and students who are not involved in any extracurricular activities in terms of SAT. Interesting Craft(2012) shows that 99.4% of the students who participated in sports passed the Georgia High School Graduation Writing Test compared to 97.8% in the music program and 100% of students who participated in school clubs. Broh (2002) found the benefit of participating in sports also generalizes to scores on math tests but not to scores on reading tests. Dearman (2017) on the other hand showed that highest performers were those who participated in both the sportand and non competitive extracurricular activity, the second highest

performers were those who participated only in non-competitive extracurricular activities and the third highest performing group were those that participated only in competitive extracurricular activities and the lowest performing group was those that participated in no activities (Dearman, 2017). Using the odds ratio, however, it is shown that students who were involved in extracurricular activities were 5.61 times more likely to have a GPA above 3.0 then students who were not involved. Also, students involved in both clubs and sports were 12.01 times more likely to have a GPA of 3.0 or above than students who were not involved in extracurricular. (Laskos, 2019) Laskos (2019) also displayed evidence that involvement in sports and school clubs makes students more likely to pass the ELA test.

In conclusion, these studies provided valuable insights into the complex interplay between extracurriculars and academic achievement. While some studies directly compared the relationship between school climate, belonging, and achievement, other studies tackled a more nuanced interpretation. Despite the differing findings, these studies collectively emphasized the complex relationship between different factors influencing academic performance, and highlighted the importance of thorough investigations aimed toward revealing underlying mechanisms in the significance of extracurricular activities. Extracurriculars influence student achievement and advance, not only the progress in their scholastic achievement, but also their chances to find successful careers (Wilburn, 2023). The research field that focuses on how the environment affects student's academic outcomes needs to be explored further.

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involved and students involved in both clubs and sports were 12.01 times more likely to have a GPA of 3.0 or above than those students who were not involved in extracurricular. (Laskos, 2019) Laskos (2019) also showed that being involved in sports and school clubs makes students more likely to pass the ELA test.

Extracurricular activities and school inclusion

Participation in extracurricular activities has been linked to various positive outcomes for students. Besides academic achievement, there is social development and overall well-being of students who participate in extracurricular activities. Students' involvement in extracurricular activities is correlated with their ability to create relationships between students, parents, and schools by studies that are published in some journals reporting that these activities involve interaction between different stakeholders that include working together (Broth & Shaffer, 2019). Moreover, these activities play a crucial role in the physical and emotional development of young individuals across the nation. In high the acquisition of skills such as leadership, teamwork, self-discipline, and self-confidence through extracurricular activities contributes significantly to students' sense of connection with their school environment (Fujiyama, Kamo & Schafer, 2021) These experiences not only enhance their engagement and enjoyment within the classroom but also foster positive relationships throughout the entire school community. As students develop these skills and make those valuable connections, they develop a more inclusive, supportive, and thriving school culture.

A foundational skill that will serve students in their futures is leadership. While some aspects of leadership can develop naturally, individuals may achieve this quality through hands-on experience, such as extracurricular activities. Many studies, such as one

by Kim & Wargo, have been conducted to analyze academic performance and its correlation to students with leadership qualities. While these qualities consist of an array of separate skills, their combination proves to serve the students along their professional path.

In the study by Kim & Wargo (2022), a quantitative based research was conducted revealing significant differences in test scores based on time spent in extracurricular activities. This would indicate that additional time commitments by a student on non-academic activities could play a role in their leadership skill development, and more so if the student takes part in the organization's leadership roles. These extracurriculars, with enough commitment, can also strengthen the student's relationship with both the peers involved and the administrators that sponsor the affiliated club, strengthening social and communication qualities. This too cultivates a sense of belonging within the school community. Additionally, administrators perceived these students as well-rounded individuals who possessed valuable teamwork skills. Another quality that can positively affect students is their own self-fulfillment. Simply receiving passing scores may not be enough for individuals to fulfill this quality, which is why extracurriculars, providing non-academic and interim achievements, can extend to satisfy this trait.

Few studies can be related to the nature of this research, however, it is important to locate those that consist of a similar population as the one of Somerset Academy Brooks. A study by Ruvalcba, Galegos, and Borgers & Gonzalez, specifically examined a Hispanic population showing groups consistently achieving statistically significant higher scores across most measures consisting of scout, art, and sports related groups.

Furthermore, belonging to artistic and scout groups exhibited a correlation with higher levels of emotional intelligence, while membership in sports and artistic groups showed a statistically significant correlation with increased levels of resilience. It is important to notice that extracurricular initiatives also create social connections among disadvantaged students, their families, and educational institutions, which could consequently enhance their academic performance. (Broh, 2002) Danothe study that draws contextual data being from the Swedish Sports Confederation and the Swedish Arts Council, Hjalmarsson's (2023) study still found a sufficient number of participants to draw general conclusions. He observed a significant positive correlation between disposable household income and weekly participation in extracurricular activities.

It is imperative for districts and government entities to collaborate closely with educators to establish more constructive ways to compensate them. By ensuring adequate remuneration and support for educators, schools can prioritize enriching students' experiences without imposing undue burdens on teachers. For these efforts, the districts must collaborate with government agencies and school stakeholders so that the programs are structured and sustainable.

The Importance of a Sense of Belonging

The concepts of school and classroom belonging have recently been studied a lot. Goodenow and Grad identify belonging as a potentially critical factor influencing academic motivation, engagement, and participation, particularly among students at risk of school dropout (1993) . There is a lot of attention on both school and classroom belonging indicates its significant influence on students' academic experiences and outcomes (Goodenow, 1993).

As a result, among scholars who research for this discourse, we find Goodenow (1993) who gave an explanation of what it takes to promote a sense of belonging is the school and the community. According to Goodenow's study (1993), those factors as students' perception of belonging, acceptance, and support that the classrooms and the school hold are highly significant. Goodenow's (1993)investigation into school belonging and academic achievement has brought forth knowledge that has subsequently been used to inspire school professionals to create interactive and diverse learning spaces that promote thriving and attending. Of particular focus in the review that follows is Goodenow's work (1993) and research that is relevant at both the level of the school and the classroom, with the implication of which is that it gives teachers and policymakers better understanding of classroom belonging. By conducting a complete literature review this review intends to expand our comprehension regarding the effect of belonging in the educational sector and the role it plays towards empowering the students, especially the most susceptible which comprise disengagement and drop-out.

A significant proportion of deviant and delinquent behavior can be attributed to factors such as boredom and a lack of opportunities for creative fulfillment during free time. When individuals find themselves unable to engage meaningfully or express themselves creatively, a sense of frustration regarding their untapped potential may emerge. This anger can come out in unfriendly patterns, as people get driven into the matter when looking for a way to discharge all the stored energy. Generally, the lack of positively oriented activities for a person would cause a rage among the behavior (Antovska & Kostove, 2016).

The existing literature on the role of students as leaders and their collaboration with teacher leaders in enhancing classroom behavior may be limited or scattered. However, this area of inquiry holds significant potential for understanding the dynamics of classroom management and student engagement (Moran, 2017). Student engagement and motivation are crucial components of the learning process. Without motivation, students are unlikely to invest effort in their learning tasks or take the initiative to explore new concepts and ideas. Motivation acts as the driving factor that encourages students to engage in classroom activities, finish assignments, and strive toward academic objectives.

Definition of School and Classroom Belonging

Goodenow and Grady (1993) identified belonging as a potentially critical factor influencing academic motivation, engagement, and participation, particularly among students at risk of school dropout. The increased interest indicates that there is a significant influence of belonging on students' behavioral, motivational, and academic experiences and outcomes. However, belonging, plays a vital role in the educational atmosphere, especially for those most vulnerable to disengagement. Its implications for the educational practice are paramount in fostering the success of students, and in turn, the entire school.

The most important role, however, belonging plays in education, especially for those most vulnerable to disengagement and dropout. Its implications for educational practice and policy are paramount in fostering students’ and schools’ success.

Without districts and governmental support of school staff, educators, administration, and others it would be hard to provide a successful inclusive school and classroom environment that could benefit all students.

It is important to recognize that while school and classroom belonging are interconnected concepts, they also exhibit distinct characteristics. According to Goodnow and Grady (1993) while both concepts pertain to students' sense of connection and inclusion within the educational environment, school belonging typically refers to students' overall perception of belongingness to the broader school community. While school belonging encompasses factors such as school climate, culture, and relationships with peers and staff across the entire school, classroom belonging is more centered on the dynamics and interactions within a specific classroom setting. Therefore, these concepts not only impact each other, but come together to impact student experiences and outcomes" or something like that. It feels weird to have them broken up.. Understanding these distinctions and their interconnection helps educators and policymakers effectively address the diverse needs of students and foster environments conducive to both school and classroom belonging.

Children who derive security and emotional bonds from these relationships, which they may not have attained with their own parents. (Ainsworth,1989)Ainsworth explained that These secondary or supplementary attachments between students and teachers, coaches, or administrative personnel may differ slightly from primary attachments in their longevity and pervasiveness in an individual's life. While primary attachments typically refer to the bond between an infant and their primary caregiver, secondary attachments may develop between individuals in various contexts, such as

school or extracurricular activities. Harlow (2021) pointed out that Those secondary attachments contribute to individuals' sense of security, support, and emotional well-being, albeit to varying degrees compared to primary attachments. There are many contextual factors that could affect students' sense of belonging which include: peer relationships, inclusive school culture, and student-teacher relationships.

Peer Relationships and School Belonging

In the study conducted the Goodenow and Grady (1993), the profound effects of the perception of school belongingness in several outcome measures are presented by statistically significant correlations. Notably, school belonging exhibited strong associations with friends' values, as well as with all four outcome measures investigated in the research. Essentially, it accounts for about 1/5 of the variance in expectation of success (r= .19) and general school motivation (r= .21), indicating its shaping of the student's academic expectations and overall enthusiasm for school. In addition, school belonging was very close to one-third of the variance in value (r=0.30), demonstrating the role it plays in increasing the student perception of the value of education This result establishes a vital role in promoting students' sense of belonging within the relationships between peers, as it not only improves their social interactions but also enhances their academics anticipation and involvement positively.

Demiroz (2020) also found a complex relationship between peer support, health-risk behaviors, and school misconduct. While higher levels of peer support are generally associated with an increased likelihood of engaging in health-risk behaviors, such as smoking, the study found that peer attachment alone did not show a significant

association with school misconduct (c = -0.004; $p<0.05$). However, when perceived teacher support and general school belonging were introduced into the analysis, a positive association between peer attachment and school misconduct emerged.(c = 0.070;$p<0.001$) (Demiroz, 2020). Even though the association being weak, as indicated by the standardized coefficient, it suggests that when the supportive teacher is there to help the student, the sense of belonging and attachment might grow. These findings show multiple factors, including peer relationships and school climate, in understanding and addressing student misconduct in educational settings($p<.001$) (Demiroz, 2020)Despite this association being weak, as indicated by the standardized coefficient, it suggests that the presence of supportive teacher relationships and a sense of belonging within the school environment may moderate the impact of peer attachment on student behavior. All these findings are important to consider since multiple factors, including peer relationships and school climate, addressed student misconduct in educational settings.

According to the study of Ahmadi S., Hassani and Ahmadi F.(2020) entitled, influential factors of school belonging in Iran, which are carried out on high school students in Iran, peer support and leadership have been brought to light as the contributors to school autonomy. The researchers noted the lowest link between school autonomy and peer support, with a correlation coefficient of r = .110 and a significance level of p = .01.The correlations above, therefore, emphasize that while the level of autonomy in the school environment exhibits a relatively weak link with the support students receive from peers compared to other variables in this study It's important to note research was implemented in secondary schools which were single-sex institutions in Iran in terms of selective, private, and public secondary schools. Furthermore, the

research revealed positive associations between school belonging and various factors, including parental involvement ($\gamma = .08$, $p < .05$), students' academic self-efficacy ($\gamma = .062$, $p < .05$), and peer support ($\gamma = .13$, $p < .001$). These findings highlight the nature of school belonging and the diverse influences that contribute to students' sense of connection within their educational environment.

Another researchers who indicated that peer attachment may correlate with school misconduct were Demanet & Houtte (2012). Demanet & Houtte (2012) explained that it is important to consider student behavior which involves grasping the complexity of peer interactions and their impact. Interestingly, for students who exhibit strong attachments to their peers but lack supportive relationships with teachers and a sense of belonging within the school community, the likelihood of engaging in misconduct may be heightened (Demanet & Houtte, 2012). This implies that helping the students to develop good relationships with fellow students and the teachers will promote a sense of belonging which in turn can lower school misconduct behavior and encourage positive behavior.

Since peer relations are so important, classroom teachers should incorporate team learning exercises, collaborative learning, and group research projects. That would Integrate students across various academic abilities and ethnicities. Students who have difficulties making friends will have an opportunity to enhance their interpersonal abilities and forge deeper connections, broaden social circles, venture outside their interpersonal boundaries, and refine cross-cultural communication skills which in turn increases the strong sense of belonging. Another manner that schools can help their students to increase meaningful relationships is by way of promoting and helping extracurricular sports at schools. Governmental bodies and districts need to understand

participation in extracurricular activities foster environments that promote social interaction, collaboration, and personal growth by offering diverse and inclusive activities both in and out of the classroom. One of the goals of this research is to help the readers see how students' overall well-being and sense of belonging relate to extracurricular activities and therefore help academically. At the same time, schools should see that after-school activities play an important role in shaping a positive school culture and fostering the growth and development of all students.

Inclusive School Culture and School Belonging

During adolescence, children are looking for social support and acceptance. (Goodenow, 1993). Goodenow (1993) explained that young adults embark on a journey of self-discovery, contemplating their identity, affiliations, and aspirations for the future. When teenagers are thinking about themselves and trying new things, it shows how important it is for them to feel like they fit in and have friends. This helps them understand who they are and where they fit in society. As articulated by Goodenow (1993), this period of adolescence is characterized by a profound need to establish meaningful connections, determine one's social identity, and chart a course for personal growth and fulfillment.

Some research found a significant relationship between institutional belonging and various measures of mental health outcomes that include stress, psychological well-being, and loneliness (Cooney,2022). He notes that the presence of a supportive and inclusive institutional environment is not only for tailoring positive health effects in students but also for fostering their valuable skills and promote healthy development in a

holistic manner. As school counselors and teachers often invest time in identifying and assisting students who may struggle with these issues, recognizing the impact of institutional belonging on mental health can guide efforts to enhance student well-being. The role of stakeholders in supporting as well as enhancing students' living and learning environments in the institution is the creation of a productive learning and character-building environment.

The mental health of both students and teachers also depends on the safety in school. While certain individual characteristics such as agreeableness and engagement in prosocial behaviors contribute to a sense of school connectedness and reduce the likelihood of school violence, other predictors such as victimization, antisocial behavior, and child maltreatment are strongly associated with violence perpetration. Interestingly, factors including school size, extracurricular participation, and socioeconomic status showed null associations with violence perpetration. On the other hand, school bullying impacts teachers as well, such as the increased levels of work stress and lower job satisfaction which are likely for them, and school belonging becomes less common. Thus, projects like after-school programs which are developed to limit the negative consequences of bullying work as a positive force thereby, reinforcing social well-being within the school environment. By jointly identifying and trying to eliminate the complications of individual as well as environmental factors, educators, and policymakers, can cooperate hand-in-hand to develop an environment in schools where all students are assured safety and support.

Unfortunately, schools in economically disadvantaged areas face higher rates of school misconduct and lower levels of supportive relationships, as indicated by Demanet

& Houtte, (2012).Students from these schools often benefit disproportionately from a sense of school community due to their limited social capital outside of the school environment. Supportive relationships within the school setting are particularly beneficial for disadvantaged students. In schools with lower socioeconomic status (SES) and a higher proportion of minority students, there tends to be less school misconduct, as noted by Demanet & Houtte (2012). Urban schools, for example, often struggle with poor perceptions of school belonging and low levels of school motivation among students, as highlighted by Goodenow & Grady (1993). Interestingly, students lacking a strong sense of belonging are more likely to exhibit motivation and academic engagement compared to those with lower belonging levels. Moreover, ethnic and gender differences influence these relationships, with Hispanic students showing stronger associations between school belonging and academic motivation compared to Black students, according to Goodenow & Grady (1993). Additionally, perceptions of school order, safety, and discipline vary among ethnic groups, with Hispanic and Asian students reporting less favorable perceptions compared to Black students (Fan, Williams, & Corkin, 2011). They explained that factors such as parental education level, nativity status, behavior problems at school, family structure, and grade repetition also influence students' perceptions of school order, safety, discipline, and teacher-student relationships. However, Goodenow (1993) found no significant influence of belonging on school membership among minority or special education students, though Hispanic students expressed a higher level of school membership in schools with a 75% Hispanic population.

In efforts to foster a sense of belonging among students from diverse cultural backgrounds, international students often encounter additional challenges, including

linguistic barriers, social isolation, and the need for cultural adjustment (Zhang, Li, & Unger, 2022). To address these hurdles, initiatives such as the Student Extracurricular Engagement (SEE) award have been implemented, particularly at institutions like the University of Leeds in the UK, aiming to incentivize international students to participate in extracurricular activities as a means of enhancing their sense of belonging (Harrop & Hoppitt, 2023). Feedback obtained from participants surveyed about the SEE award initiative has shown promising outcomes, indicating that it has effectively encouraged greater involvement in school activities among international students. Furthermore, it has been noted as a motivating factor for their personal development, facilitating social interaction and aiding in the formation of their individual identities (Harrop & Hoppitt, 2023 ; Neal, 2021). As observed from the experiences of international students, bilingual students, in particular, may benefit from mentors who can help boost their confidence, enthusiasm, engagement, and motivation (Zhang, Li, & Unger, 2022).

To foster a sense of belonging among students from various countries international students faced additional hurdles, such as linguistic obstacles, isolation, and cultural adjustments.(Zhang&Li&Unger, 2022) In response, the University of Leeds in the UK, introduced the Student Extracurricular Engagement (SEE) award, aiming to incentivize these students to engage in extracurricular activities, thereby enhancing their sense of belonging(Harrop & Hoppitt, 2023). According to feedback gathered from surveyed participants, the initiative has successfully encouraged them to become more involved in school activities. Moreover, it has served as a motivating factor for their personal development, facilitating social interaction and the formation of their own identities.(Harrop & Hoppitt, 2023; Neal,2021) Bilingual students as we can conclude

from international students need mentors who will increase their confidence, enthusiasm, engagement and motivation.(Zhang&Li&Unger, 2022)

The study conducted by Ahmadi S., Hassani, and Ahmadi F. (2020) focused exclusively on single-sex secondary schools, encompassing selective, private, and public institutions in Iran. Notably, socioeconomic status (SES) emerged as the strongest predictor of school belonging at the student level, with a significant positive association ($\gamma = .22$, $p < .001$). Their data demonstrated the great influence of SES on students' perceptions of school membership, as indicated by a gamma coefficient of .22, suggesting that a one-unit increase in SES corresponds to a .22 standard deviation increase in school belonging. And the thing they noticed was that the homogeneous communities especially the suburban ones where the more educated families generally dominate, turned out they have more sense of school membership. This underlines the idea that the role of social and economic elements significantly contribute to a student's belonging to their school's social group.

Besides coming from different countries, transitioning from primary to secondary school presents a significant challenge for students, particularly 9th graders, as highlighted by Lester's (2013) research. Lester basically looked into how environmental rain colleges' effects (positive or negative) can contribute to students in that important development stage of their teen ages. The study highlighted a vast fall in students' sense of safety, as well as a disconnection from the school and teachers. This occurred after the students advanced from primary to secondary schools notably, levels of peer support remained relatively constant throughout the transition. On a positive note, depression, anxiety, emotional problems, behavioral issues, as well as other difficulties had a great

increase among the individuals; but on the other hand, this all took place in their later years. Importantly, safety at school and connectedness emerged as critical predictors of mental well-being, with higher levels correlating with lower levels of depression (=-3.14), anxiety(=-4.01), and stress. As it turns out, there are also other screenings they undergo between 9th and 12th grade, such as the Algebra I test, and the study very clearly points to how emotions do influence academic success. This stresses how crucial the role of the school community is in enacting the extensive support systems aimed at students managing the emotional distress they undergo while transitioning to school.

Some researchers also suggested that absenteeism could be the result of low school belonging. (Bowles and Scull, 2019; Direksciet al. 2020) Direksci et al.(2020) conducted a study where they investigated the factors influencing student absenteeism and found that school engagement contributed the highest variance compared to teacher support and friend support which could support attendance. The data in this context implies that those students whose attachment to their educational environment is deeper are more likely to be present in the school on a regular basis. Interestingly, their statistics further showed that there was a link between absenteeism and the emotional attachment or affiliation to the school by the pupils. Accordingly, these findings enable other evidence demonstrating these students' truancy as a result of the lack of connection or belongingness. On the other hand inclusive school settings will have a positive impact on student attendance and engagement.

The former studies were limited to some extent, and this may imply that these studies do not accurately encompass inclusive school culture and its effect on the students' sense of belonging. Since much of the existing research in this area relies on

self-reported measures from students, teachers, or administrators to assess inclusive school culture and school belonging, however, self-report could mean susceptible to biases and subjectivity. Additionally, relying solely on self-report measures may overlook objective indicators of inclusive school culture, such as policies, practices, and structural arrangements within schools. Besides that, merely using self-reporting means may overlook comprehensive issues concerning school culture that can be observed by objected indicators such as schools' culture, mechanisms, and structures. Also, we need future research to examine the situations and conditions of marginalized or vulnerable students who are also of involvement as in the aspect of inclusive school culture. This involves the assessment of how dimensions like race/ethnicity, economic status, disability, and LGBTQ+ status intersect with the school culture and inclusive school environment to shape the belonging of students. Therefore, paying attention to the contribution of extracurricular activities to community inclusion is the key to progressing our studies on the relationship between club culture and belonging in a school.

Positive Teacher-Student Relationships and School Belonging

In educational settings, teacher-student relationships have been widely recognized as pivotal factors in shaping students' social, psychological, and cognitive development (Pastore & Luder, 2021). However, while the importance of these relationships is evident, there remains a fundamental question in educational research: how are these connections accentuated with the teacher-student relationships? Pastore and Luder (2021) wanted to see whether teacher-student relationships are characterized by a single defining characteristic and understand what specific emotional aspects contribute to their impact

on students' engagement and achievement. Their study found that making sure everyone feels included in the classroom helps teachers and students build strong relationships.

One of the major connections that researchers found between teacher and student relationships is deviance. In the endeavor to prevent school misconduct, the establishment of a caring school community and the cultivation of meaningful, supportive relationships between students and school actors are essential prerequisites. Research by Demanet & Houtte (2012) emphasizes the critical role of perceived teacher support and general school belonging in this regard. It's interesting that when these factors are included, conduct behavior at school becomes less common. This shows that students who are close to their parents have fewer behavior problems. This research shows the importance of the student-parent relationship as well as the teacher-parent relationship. By highlighting the need for actions that bring students, teachers, and parents together to make them get along is better to make school a good place for learning and growing (Demanet & Houtte, 2012). On the other hand, to Prevent school deviancy is necessary to foster a caring school (Demanet & Houtte, 2012).l community and establish meaningful relationships between students and school staff. Demanet & Houtte (2012) emphasizes the negative association between perceived teacher support, general school belonging, and school misconduct, indicating the crucial role of supportive school environments in curbing behavioral issues.

The nature of the relationships that teachers establish with children is also very likely to depend on the level of teacher sensitivity; this applies especially to the issue of addressing the different needs of students. Beckh & Becker-Stoll (2016) underscore the challenges teachers face in responding to attachment signals and emotional needs,

especially among children with insecure attachment histories. Interventions aimed at intensifying emotional connection and at practices of reflectivity of teachers, particularly those to the aggressive students show potential in improving such teachers' sensitivity and having them form more resourceful relationships (Beckh & Becker-Stoll, 2016). Furthermore, teachers must recognize the impact of their own personality and experiences on student interactions, emphasizing the importance of regular reflection and supervision to refine their responses. Studies have shown that students belong to their school community which has a great impact (Demanet & Houtte, 2012). Demanet & Houtte (2012) highlights that students who may lack meaningful connections with their school/teachers may seek belonging from peer groups, potentially leading to deviant behaviors. Conversely, studies cited by Bleile (2012)demonstrate that students who feel connected to their school are less likely to engage in negative behaviors such as skipping classes, fighting, bullying, and vandalism (Booker, 2004; Keys, 2019). portray how the teachers' clarifications play a role in making the students feel accepted, normal, and motivated to learn but overall, the teachers hold the valuable role of creating memorable and learning-compatible environments that are both suicide and academically successful.

Students with low feelings of belonging often have difficulties in their relationships with teachers, citing issues such as perceived lack of communication, inability to compromise, and challenges in establishing rapport (Booker, 2004) In his study it was revealed that only 54% of students believed their teachers showed personal interest in them and cared about their success, indicating a significant gap in teacher-student relationships. Similarly, Keyes' (2019) also shared what students thought and why of the least favorite teachers and classes. Students reported that their least favorite

teachers struggled to communicate effectively, manage the classroom, or teach in an engaging manner. Additionally, Keyes (2019) noted instances where teachers lost control of the classroom, employed authoritarian teaching styles, or provided overly critical feedback that failed to validate students' perspectives. The result of these studies draws attention to the great influence of constructive teacher-student relationships, which involve quality communication, encouraging feedback, and creative educational methods, on the feeling of belonging to the school and the academic performance of students.

Among the outcomes of the Keyes (2019) research are some issues proving what factors can have a positive or negative influence on university student's proficiency in the area of English as a Foreign Language (EFL) instruction. Firstly, students' perceptions of innovative and well-structured instructions were found to positively impact their academic gains. This underscores the importance of continuous movement and organization is a distinctive feature of the proficiency of the English as a Foreign Language learner. Additionally, the study revealed that a supportive classroom climate, characterized by equal treatment and positive teacher-student relationships, was conducive to academic success. This can conclude that student relations with peers who can understand each other create collaborative learning and also to higher academic achievement among the students.

Besides peer relationships, teacher-student relationship also has an impact on the students academic performance. In the Li, Z., & Li, B. (2022) study that was conducted at a university in China, originating from 29 different classes. These students had similar ages but exhibited diversity in terms of gender, socioeconomic background (SES), academic discipline, and prior academic achievement. Upon commencing their first-year

study, these students were randomly distributed across the various classes, ensuring a balanced representation across different demographic and academic variables. The outcomes of the study emphasize the contribution of some factors that are significant in the context of the program that is meant to improve students' achievement in English as a Foreign Language (EFL). They demonstrated noteworthy correlations with various factors, including Teacher-Student Relationships (r = .35), Innovation (r = .69), Peer Relationships (r = .25), Task Orientation (r = .55), Cooperative Learning (r = .32), and Equity (r = .25)(Li, Z., & Li, B. 2022). Relationships with Teacher-Student, which exhibited a high correlation with Equity, highlight the role of fair and impartial attitude by teachers in forging appropriate relationships with students. Learners strive for the same quality of education that is just and equitable. In this study, equity was viewed by students as the uniform treatment, regardless of their demographic or academic backgrounds. This entails ensuring that all students receive fair and impartial treatment from their instructors, without favoritism or discrimination based on any distinguishing factors that lead to their positive learning behaviors and performance.

The idea of students' sense of school belongingness is regarded as this students' views about the caring and supportive environment they are in at school generally by their peers and their teachers. Booker (2004) emphasizes how the sense of belonging to the educational environment can be achieved if students feel desired and provided with support by other people within the school community. In addition, Bradford & Franjesevic(2021) argues that extracurricular activities probably help to increase student academic performance and that the teacher is a central figure in motivating students through non-intrinsic methods, not through extrinsic ones. These findings have a clear

understanding of the pivotal role of teachers in shaping students' experiences and perceptions of school belongingness. Teachers transmit not just academic but also provide conditions for emotional comfort, warmth, and motivation; hence, they direct a lot to the student's sense of belonging and overall happiness within the school framework. Teachers also can establish and maintain positive relationships with students and further positively influence the environment of learning where students feel they download hooks and in connection with the school environment therefore the students can effectively achieve high academic performance and overall development. Fostering a sense of belonging among students requires concerted efforts from teachers, administrators, and parents alike. Teachers are among the core actors of the whole learning process: they know their student’s personalities and interests, they listen actively to their partners' needs and they always provide encouragement and positive feedback. Conveying trust in the student's abilities and the students` welfare being attended to as well should be among the central factors of reinforcing the teacher-student relationships. On the other hand, by incorporating an active and responsible approach to teaching and learning, as well as creating a disciplined and structured classroom environment with clear expectations, and consistent rules, the learning experience of students is elevated and opens doors for smooth communication among the classmates. However, teachers cannot accomplish this task alone; they require support from school administrators and parents. A collaborative approach involving all stakeholders is essential to create an environment where students feel valued, supported, and motivated to succeed academically and personally. By working together, educators, administrators, and parents

can foster a culture of inclusivity, support, and belongingness that benefits the entire school community.

Implications of School and Classroom Belonging on Academic Achievements

Some studies identified a strongly significant relationship between institutional belonging and GPA (Cooney,2022; Harrop & Hoppitt, 2023; Keyes,2019 ; Direkci et. al,2020). Cooney (2022) research offers a broader perspective on the significance of maintaining a positive relationship between institutional belonging and GPA to foster academic success over time. He found that Students who had first-generation status (M=3.504, SD=0.628) reported lower average GPA than continuing-generation status students (M=3.645, SD=0.517). He also found that biological females reported a higher average GPA (M=3.620, SD=0.576) compared to biological males (M=3.483, SD=0.565).(Cooney, 2022; Goodenow 1993; Demiroz, 2020) This might explain why male students often feel that school rules are less fair and transparent and perceive teacher-student relationships as less supportive and nurturing compared to female students. (Fan, Williams & Corkin, 2011). Therefore, the question arises: are grades or gender responsible for differences in the sense of belonging? Unfortunately, there was not too much research done to investigate that question.

Fan, Williams, and Corkin's study (2011) also showed a correlation between students' perceptions of school climate and their academic achievement. Although this relationship was significant, it was only able to explain 27% of the variance in academic performance. On the one hand, it was also noted that the link between the student's sense

of school belonging and academic success also was found to be even much stronger, with both variables explaining 52% of the variance in academic achievement. This emphasizes the point concerning building a healthy school atmosphere where students find a pleasant place to learn and help students academics. Furthermore, the research model demonstrated overall significance, indicating that stress, psychological well-being, and loneliness collectively accounted for 4.6% of the variability in students' GPA. Therefore, the role of psychological well-being as the primary moderator in the model, suggests its crucial influence on students' academic performance and overall well-being(Cooney, 2022).

Compared to the previous findings, Booker's (2004) study presented different insights into the relationship between school belonging and academic achievement. Specifically, when investigating school belonging as a predictor of GPA, Booker (2004) observed that it did not explain a significant portion of the variance in academic performance. Within his regression analysis, both gender and mother's education were included simultaneously as control variables. However, the combined effect of these variables only accounted for 2% of the variance in GPA, and this result lacked statistical significance. However, classroom belonging, unlike global school attribution, was not the direct factor affecting academic achievement. Booker (2004) identified the importance of classroom belonging is significant since students' relationships with their peers and adults in structured activities within the classroom setting influence students academically. He revealed that The association of estimated between semester GPA and institutional belonging is very important. Where it is predictable that an increase of institutional belonging may become a factor to higher GPA rates, it is also possible that students with

more GPAs are the ones who experience a stronger affiliation with the institution(Cooney,2022). Still, these students in the low belonging group have reported the lowest mean GPA and in consequence, are proven to impact the student's academic results.

Conclusion

Various scholars have emphasized that government funding for public schools and its distribution matters a lot in numerous ways (Craft, 2012) School districts are confronted with the dilemma of designating resources to more critical areas and thus improving the learning environment for the students as well as meeting the education standards. However, financial hurdles emerge due to government legislation like NCLB, ESSA, and House Bill 3. While their goal is to improve academic performance and apply funding toward that, districts encounter challenges in allocating funds for state testing and teachers who teach those subjects, leaving fewer resources for other essential needs(Ryan, 2004).

In this literature review, it becomes evident that schools, educators, and policymakers all share a common goal of promoting students' academic success. However, while some interventions may lead to noticeable improvements in achievement, others may have varying effects and potentially entail unintended consequences. This study aims to emphasize teachers as the pillar of stable performance at school and as the motivators of extracurricular activities and teacher support toward students' achievement. Moreover, it aims to show how school/classroom belonging and

getting involved in school activities are related to positive outcomes for students' academic performance.

Although studies are indeed imperfect in making assessments, it is still not able to identify their limitations. A lot of research depended on the self-reporting methods used, for instance in the form of data collected from students, teachers, or school authorities, which consequently creates an opportunity for biases or subjectivity. Some studies relied on self-reported measures from students, teachers, or administrators to assess inclusive school culture, extracurricular participation, and school belonging, potentially introducing biases and subjectivity. Moreover, relying on self-report measures may overlook objective indicators of inclusive school culture and academic success, such as GPA. Additionally, some challenges related to the measurement of variables such as school belonging and the quality and quantity of extracurricular participation. These variables are usually studied with different tools, which makes their comparison across studies a challenge and the possibility to draw general conclusions difficult.

Furthermore, plenty of related studies have been carried out in US schools and other countries with different social groups that are not equal to other population groups or living conditions, denying the possibility of substantive universal applicability of the findings. Moreover instance, there is a notable lack of research involving predominantly Hispanic students or Title 1 suburban schools. More research is needed to explore how the relationships between extracurricular activities, sense of belonging, and academic success vary among students coming from different backgrounds, for instance, different cultures, socio-economic statuses as well and educational contexts. Diverse cultural, socio-economic, and educational contexts. Addressing these limitations will be crucial for

advancing our understanding of these complex dynamics and informing targeted interventions to support student success across various settings.

CHAPTER III: METHODOLOGY

Introduction

Although several studies found what could benefit students' academic achievement, there are always gaps in every research. This was shown in Chapter II. The population of a study seems to play an important part in each research as various populations convey different characteristics. To understand what influences the student's academic achievements in San Antonio, Texas, it is important to see the contributions from the management practices applied by administrative and teaching staff in the Texas schools. Therefore, this study was developed to see what effective strategies are utilized by adults at school that can increase student engagement and motivation.This study could provide valuable insights for policymakers, as it is important to highlights for policymakers as it is important to highlight the true impact that teachers, teacher-student bonds, and strong leadership can have on academic achievement. These could inspire children to join out-of-class activities. Despite the availability of funds for extracurricular programs and teacher compensation, there appears to be a lack of clarity regarding the collaborative efforts between teachers and school administration to support student success comprehensively. Therefore, this study also presents key insights for local gove-rnments and school districts. It guides them in making sensible decisions about equal division of resources and assistance for after-school activities and teachers. Such efforts aim to boost academic success and achievement. The study's findings offer a fresh pe-rspective on an important issue facing education today (Dearman, 2017).

Chapter III looked at the methodology used in this study and provided an overview of the settings and participants involved. Here it was outlined the chosen research design, aimed to investigate the impact of the sense of belonging in both school and classroom on extracurricular participation. Additionally, it explored how these variables influence students' Grade Point Average (GPA) in relation to whether or not they take the Algebra 1 State exam. By going over methods, settings, participants, and design, it made it easy to understand the structure and implementation of the study. This paved the way for carefully examining the results.

Setting and Participants

The setting of this study encompasses high school students spanning from 9th to 12th grade, all of whom are enrolled at Somerset Academy Brooks Charter School during the academic years 2023-2024. Situated in the southern region of Texas within the suburban landscape of San Antonio, the school's location holds significance within the context of the city's rich military history, as highlighted by Sullivan (2017). Notably, San Antonio is renowned as a military city in the USA, owing to its extensive military presence spanning several centuries, with numerous military bases dotting the area. Somerset Academy Brooks Charter School itself occupies the grounds of a former military base that ceased operations years ago, yet it continues to serve a community with a notable military presence. Demographically, the school comprises a diverse student body, with statistics from the National Center for Educational Statistics indicating that approximately 89.6% of students identify as Hispanic, followed by 5.2% White, 3.2% Black, 1.2% Asian, and 0.2% from other ethnicities (National Center for Educational Statistics, nd). It's important to note that transportation to the school is not provided,

necessitating that students either be dropped off by their legal guardians or commute independently if they possess a valid driver's license.

The socioeconomic backdrop of the students within Somerset Academy Brooks Charter School is notably diverse, yet the institution is classified as a Title I school, indicating a predominant composition of students from low-income families, as reported by the National Center for Education Statistics. Among the 1317 students enrolled, 63.6% were eligible for Free Lunch, with an additional 4.1% qualifying for reduced-price lunch(National Center for Educational Statistics, nd). Title I designation serves to ensure that disadvantaged students have equitable access to high-quality education, as outlined by Bouchrika (2023). The financial constraints faced by some students extend beyond the classroom, with certain individuals looking for full-time employment to assist their families with financial obligations, while others take on part-time jobs to fulfill their personal needs. This socioeconomic dynamic contributes to the challenges students encounter, including limited participation in extracurricular activities and frequent absences from school.

This school was comprised of three distinct schools for different age groups: an elementary school, a middle school, and a high school: an Elementary school, a Middle school, and a High School. The Elementary school accommodated a total of 581 students, while the Middle school had 363 students enrolled. The High School section of the school had 373 students in attendance(National Center for Educational Statistics, nd). This school is an example of a school where a student can attend only one school from kindergarten till 12 grade. Parents see it as beneficial especially when they know that all their children can attend one school. Therefore, for the past years, there was a declining

K–12 student enrollment in public and private schools and the substantial increase in charter and home school enrollments (Pecore, 2023).

According to TEA (Texas Education Agency), there is one of the requirements to pass 5 State exams to graduate High School(Texas Education Agency, nd). This research will only concentrate on the Algebra 1 state exam. This exam is taken after 8th or 9th grade and if the student fails this test, he/she has to retake the exam until it is passed. During this study, most of the students of the 9th grade will take Algebra 1, and some students from the 10th, 11th, and 12th grades who previously failed it. The research will not coin the score, but consider it as one of the variables in the research. One of the goals of this research is to find the difference between students who do/ do not take the Algebra 1 state exam and their perception of the school, involvement in extracurricular activities, and GPA.

At this school, a diverse array of extracurricular activities are available and divided into two categories: sports and non-sport activities. Students at Somerset Academy Brooks Charter School have the opportunity to participate in one or multiple extracurricular activities based on their interests. The sports options available include powerlifting, soccer, football, wrestling, baseball, softball, volleyball, track & field, girls JV basketball, cheerleading, and cross country. Non-sport activities encompass initiatives like NJHS, NHS, prom community, ACE car, Robotics, student counseling, cosmetology, AP clubs, theater, anime, gaming club, band, drum line, self-care, Art, class 2024, esport, marching band, modern band. Club Earth, Guitar. While participation in extracurriculars is voluntary, certain activities impose prerequisites or conditions for eligibility. For instance, athletic involvement necessitates passing a physical examination

and maintaining satisfactory academic performance, while academic clubs like NJHS and NHS require students to maintain A and B grades and secure teacher approval. Furthermore, limitations such as participating in only one sport per season may apply to certain activities, ensuring students can effectively balance their academic and extracurricular commitments. Overall, the school fosters a rich extracurricular environment, empowering students to explore their interests, develop their talents, and contribute meaningfully to their school community(Craft, 2012).

The intensity of multiple extracurricular activities can vary significantly, with participation time per week ranging from under one hour to over eight hours, depending on the activity and its classification. As these activities often take place before or after school, students involved in them typically do not receive extra academic support compared to those who are not involved. Consequently, understanding students' perceptions regarding the benefits of extracurricular activities becomes imperative (Dearman, 2017).

Unfortunately, there is no expectation to estimates from a sample to be exact. The sample will have 156 students in it. This amount cannot fully represent the entire population of high school students. It is crucial to anticipate a margin of error when projecting findings from this sample to a broader population. Even though the researcher chose a Title 1 school with an 89% Hispanic population, it does not mean that the study represents all HIspanic high school children from low-income families. This research will abstain from requesting demographic information from the participants which means it will generalize the results only to the students in Somerset Academy Brooks.

Utilizing G*Power for evaluating power, a fixed model F-test in linear multiple regression with an effect size of 0.15 and an alpha level of 0.05 confirms the necessity of a sample size of 86 for achieving the desired 80% power (Archer, 2022). This decision is informed by a linear multiple regression model with three tested predictors out of four total predictors, as suggested by Cohen (1992). Ensuring a significance level of 0.05 and a power of 0.80 is crucial in minimizing Type II errors, with a calculated probability of 0.20 representing the risk of such errors. The emphasis on an 80% chance of avoiding Type II errors underscores the importance of adequate power in statistical analysis. While the current sample size 156 meets requirements, vigilance is warranted to maintain the desired power level throughout the study (Nottle, 2023).

Even though this study might collect a decent amount of information to generalize the findings there is always variability that can impact the generalizability of findings from a sample to the larger population. Our assumptions are based on the results of a sample which creates a degree of uncertainty associated with the findings. This will be explained in more detail in the limitations of this study.

Instrumentation

The survey for this research, "School Environment Impact "combined different survey questions into one survey to understand the role teachers play in influencing a student's academic success. There are two parts to this survey. The first part, adapted from "Building a Culture of Hope " (Barr & Gibson 2013), assesses students' feelings of belonging in school and classrooms using a 17-question Likert scale response ranging from 1 to 5. In the same section, the researcher also asked to identify their gender and class level, if they take the Algebra 1 Texas State exam called the Algebra 1 STAAR test,

and their GPA. The second part, derived from “The Impact of Extracurricular Activities on Medical Undergraduates” (Sathiyasenan, Arumugam, Suppiah & Sathiyaseelan, 2020). It focuses on students' engagement in extracurricular activities through a set of eight questions. It asked about the amount of extracurricular activities students are involved in, how many hours they spend on after-school activities, and how those activities help them in school life. Questions 18, 19, and 20 ask how many and what extracurricular activities students participate in and how many hours a week. Questions 21-24 asked students how extracurricular activities improve their academic, work ethics, and feeling of belonging.

In designing the survey which became an instrument for this study, the researcher reviewed multiple pieces of literature to determine which variables better represent the effective design. With every article and paper that was reviewed, there were more questions than answers. To understand the topic clearly and see how the variables affect students at Somerset Academy, Brooks researcher collected questions that were used by different studies and could be used by this study in order to be relevant to the research topic. Once the survey was designed it was distributed to all students at Somerset Academy Brooks High School where they were given the option to participate in the survey. Students then had an option to submit their responses to the researcher.

By leveraging information from earlier studies, the researcher acquired a deeper comprehension of the key factors that significantly impact the subject being examined. Chapter 2 identified and explained the maximum applicable variables for inclusion within the survey. Moreover, the literature assessment played a crucial position in shaping the instrument's layout, guiding choices concerning the structure of survey questions, the

selection of size scales, and the overall format. These considerations had been instrumental in ensuring the validity and reliability of the collected records, thereby enhancing the credibility of the take a look at outcomes.

The study was conducted to understand the interplay between extracurricular activity participation, the sense of school/classroom belonging, and academic success among students. A previous research study was tested to evaluate the consistency and reliability of the survey (Bradford & Franjesevic, 2021). It was designed to show that the collection of questions consistently measures the same characteristics. Acceptable Cronbach alpha coefficients were calculated in Ahmadi and Hassani's (2020) study that assessed and validated the reliability of measurements related to student-teacher relationships, autonomy, and perceptions of fairness. For the sense of fairness, their Cronbach alpha coefficient was determined as, =0.83, and for student-teacher relation the reliability scale was =0.803,the school autonomy overall the reliability coefficient was reported as =0.939 which was determined to be very high.

Besides Cronbah alpha this research intended to investigate the relationship between extracurricular activities and GPA this research will use ANOVA and 2tests. Similar tests were found in “Examining the Relationship between Participating in Clubs or Sports and Academic Success.”(Laskos, 2019) All those researches showed validity through the Barlett value test that this study will use to validate a formative answer.

In order to shape the study, it is first key to understand the student’s perspective on the role of extracurricular activities. As reflected in prior studies, students’ understanding and value of extracurricular activities play an integral factor in academic success. For instance, Dearman found that the correlation between the number of hours

students engaged in extracurricular activities and high school academic success(grade point average) was moderately strong .554(greater than .500) where the number of extracurriculars. Moreover, using descriptive statistics and semi-structured interviews from a study with a similar focus, it was found that engagement in ECA fosters a stronger commitment to the institution and improves academic performance.(Sathiyasenan, Arumugam, Suppiah & Sathyiasenan, 2020) Even though this study was done at a university outside of the United States, the qualitative and quantitative data showed reasonable consistency between ECA, school belonging, and students' GPA.

Procedure

The researcher used a “School Environment Impact " survey that was distributed to the High school students at Somerset Academy Brooks in Appendix A. The students had to complete 26 questions that included their opinions about classroom experience, school experience, and extracurricular activities. There are questions about the type of extracurricular activities the students are participating in and how many hours a week they spend on extracurricular activities. In this study, researchers will divide the ECA into 3 categories: athletics and non-athletic extracurricular activities or no extracurricular activities.

Both students and parents needed to complete and sign the ascender form for students and the consent form for the parents. The instructions and confidentiality rules were written on both forms to make sure students and their parents know their rights and can decide if they want to participate in the study. Since most of the population in this school is Hispanic, both of the forms (consent and assent forms) were translated into Spanish. Both students and parents had the freedom to participate in the research because

they understood that their information was confidential. Only those who submit all three documents: survey, assent form and consent form had a chance to be included in the study. This data was entered into a secured spreadsheet. For educational purposes, the researcher kept all information confidential. The data will not be provided in any open platform, however, cumulative results from the study will be available for publication. It is essential to note that the result published will not pose any risk to privacy or confidentiality to any student or parents.

Before distributing the survey, the researcher contacted and submitted a request to Corry Oliver, Deputy Superintendent, Courtney Oliver, Academic Specialist, Bonnie Salas, principal and Latasha Washington, assistant principal. The Institutional Review Board's (IRB) permission was granted to acquire permission to collect the data from the Somerset Academy Brooks students(Appendix A). The principal of the school received a copy of research approval from an IRB before distributing the surveys.

The researcher established a timeline spanning approximately one and a half months for students to complete the surveys. The deadline for survey completion and submission to the researcher was set for March 8. A total of 167 surveys were submitted; however, 12 of these surveys were deemed incomplete due to missing signatures in consent and/or assent forms, or unanswered survey questions. Consequently, data from the remaining 156 surveys were meticulously entered into an Excel spreadsheet. To safeguard anonymity, students' identities were removed from the dataset once their information was entered into the spreadsheet. Furthermore, after all statistical analyses are conducted and results reported, the physical survey documents will be securely

shredded to ensure that participation remains anonymous throughout the study, maintaining the integrity of the research process.

Data Processing and Analysis

Once the correlational survey "School Environment Impact"(SEI) was collected, it was analyzed by using an R program. Out of the 340 students at Somerset Academy Brooks, only 168 high school students participated, but only 156 surveys, 45.9%, were able to use it for the study. The survey comprises two sections, both designed to underscore the significant role that teachers play in influencing a student's academic success. All the questions in the survey one way or another reflect research questions in this study.

1. Are Extracurricular activities, STAAR testing status, and an overall feeling of belonging score significant predictors of academic success as measured by Grade Point Average (GPA)?

2. Is there a difference in survey responses about school sense of belonging and classroom environment over students who are involved/not involved in extracurricular activities?

3. Is there a statistical significance in the feeling of connectedness to the school and classroom acceptance over students who are taking the Algebra 1 state test (STAAR) and those who are not?

To address all stated research questions in this analysis, the researcher decided to use descriptive and inferential statistics (Moran, 2017). Reliability estimates were calculated for each question too. Quantitative responses were synthesized to discover any relationships that were present(Moran, 2017).

It is important to get summaries of data that will be presented as well as descriptive analysis which includes means and standard deviation of SEI for the first 15 questions where the survey asks about belonging in school and classrooms(Bradford & Franjesevic, 2021). The first 15 questions will be added up to measure the overall feeling of belonging in Somerset Academy Brooks. It will also be divided into 2 measurements; school belonging and classroom belonging to test the mean value for each group such as 1, 5,8,11, 12, 13,14 questions for school belonging, and 3, 4,6, 7, 9,10 for classroom inclusion and teacher acceptance. Since questions 2 and 15 applied to both school and classroom belonging, the researcher chose to include them only in the overall mean (Bradford & Franjesevic, 2021). Bradford and Franjesevic used a similar method to measure overall anxiety, incapacity, and worry.

ANOVA methods were used to examine the relationship between the type of sport in which the athlete participates (athletic, nonathletic, both) and academic performance. Assumptions for implementing ANOVA techniques typically include the normality of the data distribution and the homogeneity of variances among the groups being compared(Bradford & Franjesevic, 2021; Laskos, 2019). These assumptions can be assessed using statistical assessments, particularly the Shapiro-Wilk approach for normality testing and Levene's check for trying out the homogeneity of variances(Bradford & Franjesevic, 2021). Bradford and Franjesevic'sstudy showed statistical significance in the mean grade point average across three types of motivation. This research will use ANOVA also to find statistical significance between each independent variable Extracurricular activities(Y or N), Algebra 1 state exam (Y for

taking it and N for not taking it), Belonging (Low, Medium, and High) and dependent variable GPA to determine.

The analysis for the first hypothesis, "There exists a noteworthy correlation among participation in clubs or sports, school belonging, and academic success, particularly when students undertake the state Algebra 1 exam," was commenced with data examination using multiple regression techniques. Specifically, multivariate multiple regression will be employed, ensuring no multicollinearity among variables. This approach is very similar to a study conducted by Reed (2014), where multiple regression analysis was taken to investigate the correlation involving GPA(dependent variable) and factors such as gender, race, lunch status, and extracurricular activities. Extracurricular activities were included as independent variables to control for other factors.

Hypothesis 2 seeks to ascertain if a significant difference exists in the sense of the sense of belonging and classroom environment between students engaged in extracurricular activities and those who are not. Logistic regression techniques were employed to analyze the second hypotheses, which aim to identify statistical significance. Hypothesis 3 investigates whether there are feelings of connectedness between students undergoing the state Algebra 1 test (STAAR) and those who are not. For Hypothesis 2, logistic regression models will be developed with the dependent variable dichotomized as either participating in extracurricular activities or not. Similarly, for Hypothesis 3, logistic regression models will be developed with the dependent variable being dichotomized based on taking the Algebra 1 state exam or not.This technique is supported by previous studies, such as Laskos' look at, which applied logistic regression fashions to understand academic success primarily based on specific predictors which

include gender, socioeconomic status, and involvement in golf equipment or sports activities(2019). The dependent variables in Laskos' included the dichotomously coded dependent variable as GPA to assess specific thresholds(2019).

Additionally, the research used a chi-square test of independence in order to consider which extracurricular activities correlate to the positive feeling of belonging (Bradford & Franjesevic, 2021). It also helped with the distribution of responses to questions 21-24." Does participation in Extracurricular activities benefit your academic performance?", " Does participation in Extracurricular activities help you adjust to a daily routine?", "Participation in extracurricular activities promotes a better work ethic", and "Participation in extracurricular activities promotes a better work ethic." Similar techniques were used in Moran's study where he used questions with 5 Likert scale analysis.

Chapter 4 will present findings from the statistical analysis that will help to see what effect students learning and how. There the researcher will use an R program to conduct each statistical test previously discussed. Knowing the appropriate tests to use for each question allowed researchers to receive the most accurate data for the current study.

Summary

There are various challenges that school leaders and educators experience in today's world, particularly in the context of fund allocation and policy implementation. Policymakers try to make the right decision on which effective program should be continued and which should not, which sometimes unfortunately leads to the discontinuation of various programs and extracurricular activities. (Craft, 2012).

Moreover, in Texas, teachers contend with the complexities of House Bill 3 (H.B. 3), enacted in 2019, which aims to provide additional funding for schools and elevate teacher compensation through initiatives like the Teacher Incentive Allotment (Teacher Incentive Allotment 2023-2024 guidebook). However, concerns arise as some teachers may not qualify for incentives due to certification status or other factors, raising questions about potential disparities in extracurricular efforts and curriculum cohesion(Ramos, 2023). It is important to understand that teachers make a big impact on students' future with both during classtime and through after-school activities. This study explored how extracurriculars, school belonging, and grades are all related. There are multiple inner connections between those variables that affect one way or another. Learning all this information helps to see how those factors connect, assisting educators, officials, and researchers. A close look at those topics aims to provide useful findings and ideas to tackle educational obstacles. It also helps to provide beneficial findings and ideas to tackle educational limitations. It's vital to grasp that teachers shape students' paths via supple intellectual sessions during school time and extracurriculars.

CHAPTER IV: RESULTS

Introduction

This Chapter examines relationships between participation in extracurricular activities, the sense of belonging within the school and classroom environments, and students' Grade Point Average (GPA) within Somerset Academy Brooks High School using a summarized data analysis. Quantitative analysis was conducted to understand insights into factors that may influence academic achievement, participation in extracurricular activities, and significance of Algebra 1 STAAR testing. This quantitative analysis would be important information that local governments and district boards use in their decisions regarding the support of extracurricular activities and equitable distribution of resources among teachers to enhance academic outcomes (Dearman, 2017). The main variables in this study consist of total belonging, school belonging, classroom inclusion, extracurricular activities, Algebra 1 STAAR test and GPA. To get more information about each variable, the researcher inspected them both individually and collectively to understand their interaction. Research results could lead to new ways to keep programs that help students academically. Schools sometimes stop these programs due to money problems, but if research shows programs are valuable for the students, schools may find new ways to persist. The research will use math to test ideas and show what works best for academic institutions. Therefore, school and state boards may try new methods based on the research results. The researcher used a detailed description of the sample research to thoroughly describe the full sample of participants (Moran, 2017). This study is followed by addressing each research question with

participant responses. In order to have a complete picture of the study between the variables, the researcher used multiple regression, direct logistic analysis, and two sample t-tests to analyze the data and answer the research questions.

Materials and Methods

The sample for this study was taken from students who attended Somerset Academy Brooks High School during the 2023-2024 school year. Surveys were distributed to all high school students in different classes. College and Career Readiness office assisted students in determining their current GPA by calculating their accurate cumulative GPA for them. This survey is available in Appendix II. After the surveys were gathered, there were a total of 168 participants in the survey. However, 12 surveys were completed partially so they were not used. The rest of the 156 surveys were compiled into a Microsoft Excel document(Bradford, 2021; Archer, 2022; Nottle, 2023; Laskos, 2019) To calculate School belonging, classroom belonging and total belonging researcher sumed questions from the surveys(Bradford, 2021). Extracurricular activities were divided into three groups: sport, nonsports, and extracurricular activities. This document was saved as a "csv" file and analyzed using the statistical software R. Once the analysis was complete, the surveys were shredded to keep information confidential.

The sample included 156 students who attended Somerset Academy Brooks High School. Of this,33(21%) students ninth graders, 53(34%) students tenth graders, 28(18%) students eleventh graders, 42(27%) students twelve graders. There were 84(53.8%) female and 72(46.2%) male participants. When the researcher reviewed the answers from the students, it became obvious that some students who participated in more than one extracurricular were involved in both sports and nonsport extracurriculars. The

breakdown of participants according to the type of extracurricular activity was as follows: sports only, 47 (30.1%); nonsports, 28 (17.9%); both sports and nonsport, 21 (13.5%); and not involved in any afterschool program, 60 (38.5%).Table 1 presents all the above frequencies and percentages.

Table 1 Frequency of Grades, Gender, Extracurricular activities

Variable	Frequency	Percentage
Grades		
9th grade	33	21%
10th grade	53	34%
11th grade	28	18%
12th grade	42	27%
Total	156	100%
Gender		
Female	84	53.8%
Male	72	46.2%
Total	156	100%
After school programs		
Participate in any activity	96	61.5
Sports only	47	30.1%
Nonsport	28	17.9%
Both sport and nonsport	21	13.5%
Not participating in any activity	60	38.5%
Total	156	100%

Students identified which extracurricular activity they participated in during the 2023-2024 school year. From 156 participants 17 in Powerlifting, 7 in Football, 8 in Wrestling, 5 in Baseball, 9 in Softball, 18 in Volleyball, 7 in Track,16 in Soccer, 11 in Basketball, 4 in Cross Country, 4 in ACE racing, 14 in NHS, 3 in NJHS, 7 in Robotics, 10 in Student Counseling, 4 in Cosmetology, 4 in Self-care, 3 in Ap club, 3 in Theater, 5 in Anime, 4 in Gaming club, 8 in Band, 4 in Art, 2 in Prom council, 1 in Cheer, and 1 in Esport. Other extracurricular activities had no students participating based on data

received from the surveys students completed. Of course, some students choose not to participate in any extracurricular activities.

On average, each grade participated in a similar number of clubs, exhibiting comparable means and standard deviations: 9th grade (M=2.03, SD=1.16), 10th grade (M=2.26, SD=1.24), 11th grade (M=2.29, SD=1.21) 12th grade(M=2.17, SD=1.29). Table 2 presents the frequencies and percentages of students who participate in extracurricular activities. From 156 students there were 60 students (38.5%) who did not participate in extracurricular activities, 41 (26.3%) participated in one extracurricular activity, 29 (18.6%) participated in two extracurriculars, 17 (10.9%) participated in three extracurriculars, 9(5.8%) participated in four and above extracurricular activities.

Table 2 Frequencies and Percentages of Participation Level

Variable	Frequency	Percent
No Participation	60	38.5%
one activity	41	26.3%
Two activities	29	18.6%
Three activities	17	10.9%
Four and above activities	9	5.8%

The number of clubs for female students(M=2.19, SD=1.26) was almost the same as for male students (M=2.19, SD=1.19). Similarly, on average, the number of hours that female students participated (M=2.78, SD=1.61) was almost the same as that of male students (M=2.89, SD=1.52)

The overall time students spend on extracurriculars varied. According to the students' answers from 96 students who participate in extracurricular activities, students who spend one or fewer hours per week on extracurricular activities were 23 (23.9%), 2-3

hours per week were 26(27.1%) students, 4-5 hours per week 12 (12.5%)students, 6-7 hours per week 10(10.4%) students, and 8 or more hours per week 25(26.04%) students. Unfortunately, during the survey, it was noted that certain students reported being engaged in the same after-school activity, but provided varying accounts of the time they devoted to extracurricular pursuits. Of these instances, the students noted varying numbers of hours dedicated to their activities, ranging from less than one hour to 4-5 hours per week. Since the survey reflects the student's answers, the researcher assumed that different students spend different time in the same clubs.

To understand how students feel about extracurricular activities, the researcher asked 4 questions that are represented in Table 3. Here we wanted to see the frequency of answers that were divided into three categories: disagree/strongly disagree(D), undecided(U), and strongly agree/agree(A).

Table 3: Frequency of disagree/strongly disagree(D), undecided(U), and strongly agree/agree(A)

Does participation in extracurricular activities benefit your academic performance?		
D	27	17.31%
U	57	36.54%
A	72	46.15%
Does participation in extracurricular activities help you adjust to a daily routine?		
D	20	12.82%
U	40	25.64%
A	96	61.54%
Participation in extracurricular activities promotes a better work ethic.		
D	16	10.26%
U	44	28.21%
A	96	61.54%
Do you feel a stronger sense of pride in your school because of your participation in extracurricular activities?		
D	35	22.44%
U	56	35.9%
A	65	41.66%

The number of students who were taking the Algebra 1 STAAR state test this year was 45 (28.8%) students from 156 students. Students who already passed the Algebra 1 state test and were not required to take the exam in the 2023-2024 school year were 111(71.2%).

The participants in the study were asked about their feeling of inclusion and belongingness in Somerset Academy Brooks High School in the first 15 questions. These questions will be added up to measure the overall feeling of belonging in Somerset Academy Brooks. It will also be divided into 2 measurements; school belonging and classroom belonging to test the mean value for each group such as 1, 5, 8, 11, 12, 13, 14 questions for classroom belonging, and 3, 4, 6, 7, 9, 10 for classroom inclusion and teacher acceptance. Since questions 2 and 15 applied to both school and classroom belonging, the researcher chose to include them only in the overall mean (Bradford,). Out of the 156 participants, the average score for both school and classroom belonging was 3.21. Specifically, the mean score for school belonging was 3.25, while for classroom belonging it was 3.11. It's noteworthy that most questions had a mean score of around 3. However, questions 5, 6, 7, and 8 scored below 3. These questions inquire about students' perceptions of the school and classroom environment resembling a big family and whether they feel valued and important in these settings. Interestingly, the lowest mean score among all questions was for question 5, which asked about the extent to which the school feels like a family.

Despite the seemingly low average scores, it's essential to recognize that students across different grade levels perceive classrooms and schools in varied ways. For example, when examining responses to the statement "My school encourages me to

explore various career opportunities after graduation," the average score for grade 10 students was 3.36, whereas for grade 12 students, it was 4.29. Similarly, regarding the statement "I feel like I am an integral part of my classroom," the mean score for 10th-grade students was 2.4, while for 11th-grade students, it was 3.18. To compare the differences in mean scores across each grade level, the researcher segregated the responses by grade and calculated the average value for each. The school/classroom belonging means for 9th grade is 3.34, 10th grade is 2.9, 11th-grade mean is 3.3, and 12th-grade mean is 3.43. Hence, it appears that tenth-grade students perceive lower levels of inclusion compared to students in other grades.

Grades play a crucial role in students' education. Consequently, the final question on the survey aimed to collect information about the GPAs of students during the 2023-2024 school year. The overall GPA for the school is represented by a mean of 87.58 with a standard deviation of 7.37. Table 5 displays the mean and standard deviation of GPAs for each grade level, gender, and extracurricular activities.

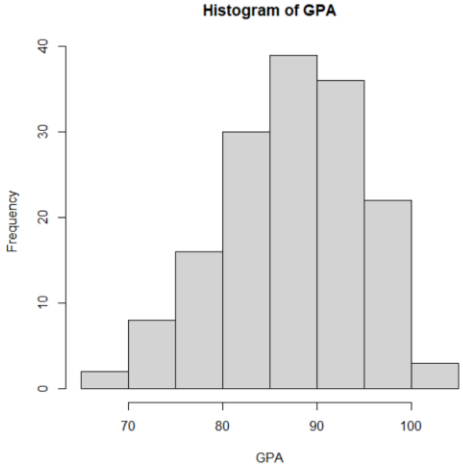
Table 4: Means and standard deviation of GPAs for each grade level, gender, and extracurricular activities.

	Mean	SD
All participants 156 students	87	7.37
9th grade	88.92	7.54
10th grade	88.68	7.18
11th grade	85.29	7.34
12th grade	86.65	7.25
Female	88.76	6.92
Male	86.20	7.68
Participate in Extracurricular activities		
Non-sport	89.64	6.90
Non-sport and sport	90.71	7.06
Sport	87.96	7.32

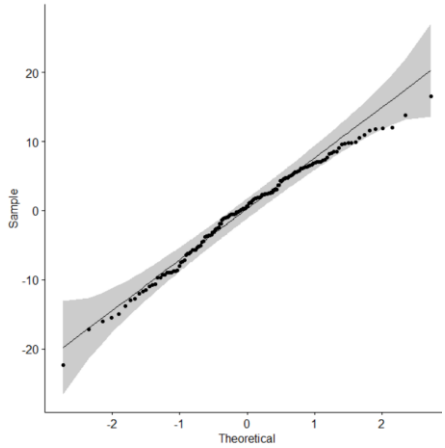
Not participate in any extracurricular	85.21	7.14
Algebra 1 STAAR testing		
Take Algebra 1STAAR test	85.91	7.84
Do not take Algebra 1STAAR test	88.25	7.09

Graph 1 shows a histogram of the raw scores for the GPA. Graph 2 shows the plot of ANOVA model over its residuals where the graph raised a little concern at the right end.

Graph 1: Histogram of the raw scores for the GPA



Graph 2: Plot of ANOVA model over the residuals



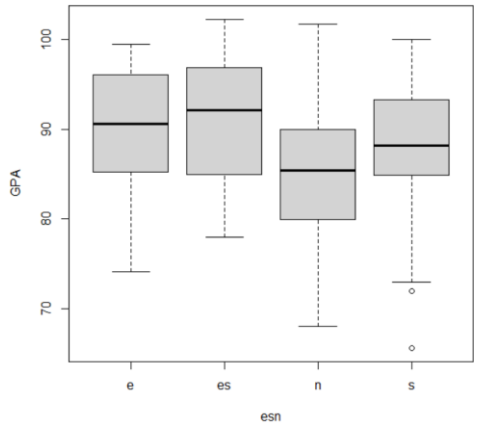
Using a one-way ANOVA, , the study assessed the disparity in Grade Point Average (GPA), scored out of 100 points, among four categories: students engaged in non-sport activities, those involved in sports, individuals participating in both sports and non-sport activities, and those not engaged in any extracurricular activities. Results from Bartlett's

test of homogeneity of variances indicate that the constant variance assumption is not a concern, test statistics = 0.12, df=3, p=.99. Shapiro-Wilk test results indicate that the normality assumption may be assumed, W= .98, p=0.05. The results revealed a statistically significant difference in mean GPA across ECA, F(3,152)=4.37, p<.01, medium effective size was observed, 2=.06. The descriptive statistics are presented in Table 5. A boxplot is presented in Chart 1.

Table 5: ECA descriptive statistic.

ECA	N(%)	MEAN	ST.DEV.	MIN	MAX
Sport(S)	47(30.13%)	87.96	7.32	65.60	100.2
Non-sport(E)	28(17.95%)	89.64	6.90	74.14	99.45
Both S &NS(ES)	21(13.46%)	90.71	7.06	78.00	102.3
Non-Engaged(N)	60(38.46%)	85.21	7.14	68.00	101.75

Chart 1



Two cases emerged as outliers for students who are taking sport activities at school. Tukey's HSD test for multiple comparisons found that the mean quiz score was significantly different for ECA:

ES and NS (difference=1.07, p=.95, 95% C.I.=(-4.28,6.43), g=.15),

N and E (difference=-4.43, p<.05, 95% C.I.=(-8.68, -.18), g=.62),

S and E (difference=-1.68, p=.76, 95% C.I.=(-6.11,2.75), g=.24),

N and ES (difference= -5.50, p<.05, 95% C.I.=(-10.21,-.8), g=.77),

S and ES (difference=-2.75, p=.46, 95% C.I.=(-7.62, 2.12), g=.39),

S and N (difference=2.75, p=.2, 95% C.I.=(-.86, 6.37), g=.39)

Research Questions and Hypothesis

This section of the analysis will focus on the quantitative results from analyzing the relationship between extracurricular activities, school/classroom belonging, and academic success which in this case is GPA. Three questions were dedicated to exploring the interconnectedness of variables that mutually influence one another.

1. Are Extracurricular activities, STAAR testing status, and an overall feeling of belonging score significant predictors of academic success as measured by Grade Point Average (GPA)?

2. Are school sense of belonging and classroom sense of belonging significant predictors of involvement of extracurricular activities?

3. Is the mean overall sense of belonging score significantly different across state test (STAAR) status?

Research Question 1

"Are Extracurricular activities, Staar testing status, and an overall feeling of belonging score significant predictors of academic success as measured by Grade Point Average (GPA)?"

Hypothesis 1: There exists a noteworthy correlation among participation in clubs or sports, school belonging, and academic success, particularly when students undertake the state Algebra STAAR 1 exam.

A Standard multiple regression was performed between grade point average(GPA) the dependent variable and 3 factors: school/classroom belonging, Extracurricular activities, and Algebra 1 State exam as an independent variable. Belonging was calculated as a total score from questions 1 to 15. Extracurricular activities were entered for students who participated in ECA and n for students who did not participate in extracurricular activities. The algebra 1 STAAR test was divided into 2 categories y is for the students who took Algebra 1 during the 2023-2024 school year and n for students who did not take A1STAAR test during the 2023-2024 school year. No cases had missing data, so the results were calculated on the full sample data, n=156. Since the number of cases per predictor exceeds 15 (Field, 2012), there was no concern with adequate sample size. Analysis was performed using R(R Core Team, 2015).

“The assumption for multiple regression techniques are linearity, independence, homogeneity of variance, and normality”(Bradford, p57). Results of the evaluation of the assumptions indicate no concern with independence, equal error variances, or multicollinearity. Independence was verified with the Durbin-Watson test, DWstatistic=1.73, p=.08. Shapiro’s test for normality revealed some concerns; W=.99, p=.24. Additional plots that were used to check the normality and equal variance assumptions are presented in Chart 2. Multicollinearity was examined using variance

inflation Factors, which ranged from 1.03(Total belonging) to 1.07(Extracurricular activities)

Chart 2. Plots for Normality and Equal Variance Assumptions

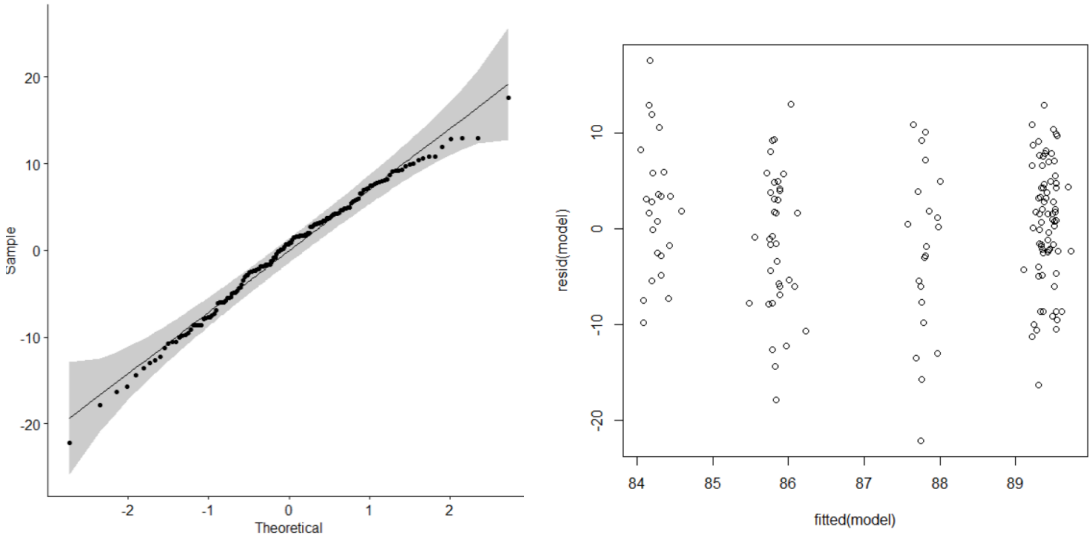


Table 6 displays the correlations between the variables, under standardized regression coefficients, and the adjusted R2. A test of the full model against the intercept-only model was significant; F(3,152)=4.073, p<.001.The set of predictors in combination contributed to approximately 5.62% the variance in GPA score. The only one regression coefficient Ext(ECA)that was included in the model emerged significant, so test-statistic values and confidence intervals are presented for each:Totbel: (t=-0.214,(-0.13,0.10)), Ext:(t=3.60,(1.18,6.00)), A1STAAR: (t= -1.24,(-4.15,0.94)).

Table 6: The correlations between the variables, under standardized regression coefficients, and the adjusted R2.

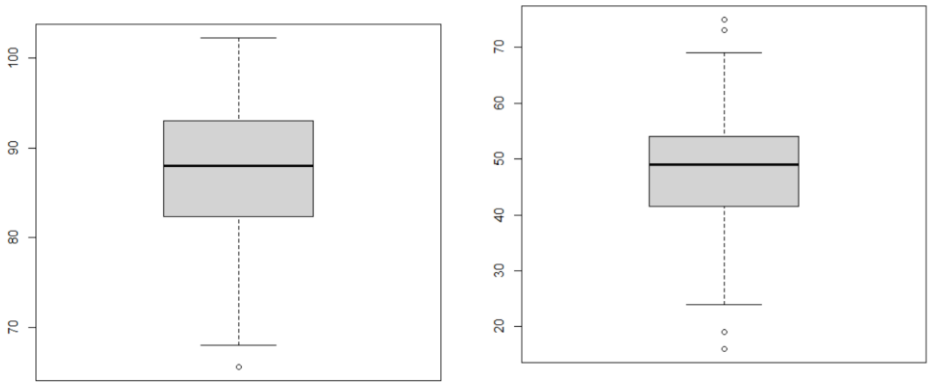
Variables	Totbel	Ext	A1STAAR	B	SE
GPA	0.03				
Totbel	– –			-0.01	0.06
ESN		– –		3.60**	1.22

A1STAAR			– –	-1.6	1.29
Intercept				86.42	2.897
Means	48.10				
St. Dev.	9.96				
Freq/%		No: 60/38.46% Yes: 96/61.54%	No 111/71.15% Yes 45/28.85%		

Adjusted R2=5.62%
F(3,152)=4.073
Note : *, significant at the .05 level; **, significant at the .01 level; ***, significant at the .001 level

Examination of outlier cases showed that GPA has only one outlier and totbel has 4 outliers. Both of the boxplots shown in chart 3

Chart 3: Boxplots for GPA and totbel



High standardized residuals and influential cases led to the deletion of no cases even though there were two cases with stres below -3.

A backward elimination step function was performed and only Ext predictor in the model was retained. The full model had the AIC 618.90 and eliminating both A1STAAR and totbel, resulted in AIC 615.82. Therefore the model that predicts GPA from students who participated in Extracurricular activities was better model fit (Buran& DeBer, 2023).

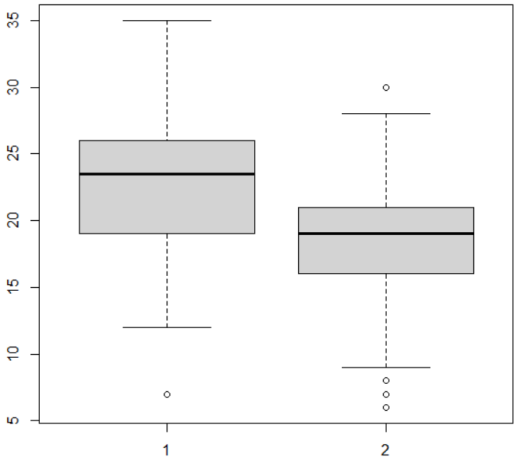
Research Question 2

“Is there a difference in survey responses about school sense of belonging and classroom environment over students who are involved/not involved in extracurricular activities? “

H2: Statistical significance is observed in the comparison of the school's sense of belonging and classroom environment between students engaged in extracurricular activities and those who are not.

A direct logistic regression analysis was performed on extracurricular activity participation and predictors of School belonging (Sbelon) and Classroom belonging (Cbelon). Data from n=156 students were available for analysis: 60 (38.46%) students who do not participate in any extracurricular activities and 96 (61.54%) students who participate in Extracurricular activities. Analysis was performed using R(Laskos, 2019). Chart 4 shows the boxplot of School belonging and Classroom belonging. There is one outlier for school belonging and multiple outliers for classroom belonging.

Chart 4: Boxplots of school and classroom belonging.



A test of the full model with two predictors against a constant-only model was not statistically reliable, 2(3,N=156)=4.5272, p= .10, indicating that the set of predictors did not reliably distinguish between students who do not participate in extracurricular and

those who participate in extracurricular activities. The variance in Extracurriculars accounted for is small with McFadden's rho=0.022, df=2. AIC for the full model (209.35) is almost the same as the constant-only model (209.88) indicating no better fit.

Prediction success(using 0.5 as the threshold) was unimpressive with 96 of 156 cases (61.54%) accurately classified or predicted correctly. Sensitivity and specificity values were 0.94 and 0.1, respectively.

Table 7 displays the regression coefficients, Wald statistics, odd ratios, and 95%confidence intervals for odds ratios for the two predictors. According to the Wald criterion, neither school nor classroom belonging are statistically significant. Participating in extracurricular activities was not predicted by a sense of school belonging (Sbelon), z=1.45 , p=.15. Additionally, a feeling of belonging in the classroom (Cbelon) did not predict participation in extracurricular activities, z=-.025, p=.98. A models with School or Classroom belonging omitted showed different outcomes. A model with Cbelon omitted and only using Sbelon was statistically significant if predicting participating in extracurricular activities, z=2.08, p<.05, with 2(1,N=156)=4.52, p<.05.A model with Sbelon omitted and only using Cbelon was not statistically significant if predicting participating in extracurricular activities, z=1.53, p=.13, with 2(1,N=156)=2.396, p=.12. However, both Sbelon and Cbelon were not reliable from full model. Sbelon 2(1,N=156)=.0006, p=.98 and Cbelon 2(1,N=156)=2.13, p=.144. This confirms that School belonging plays a significant role in the participation of extracurricular activities without the Classroom belonging predictor variable. The odds ratio-unfortunately showed a big change in the likelihood of extracurricular activities based on one unit change.

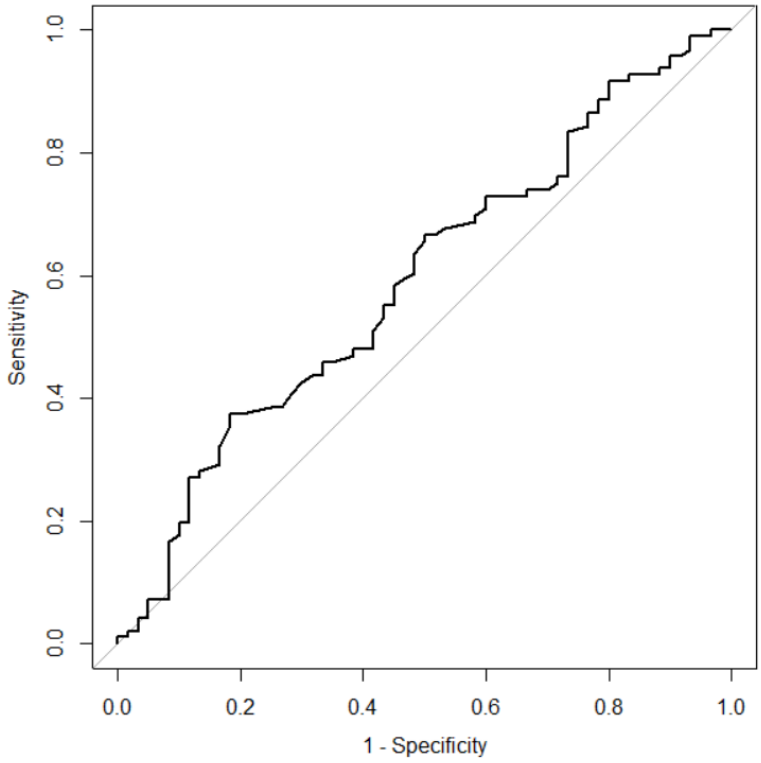
Variance Inflation Factors (VIF) values are exactly the same 2.13027 indicating that multicollinearity is the problem. Examination of the significance levels of the interaction between each predictor and the log of itself indicates that linearity between each predictors and the logit of itself may be assumed.

Table 7: Logistic regression analysis of fall status as a function of patient information.

Variables	β	Wald (z-ratio)	p-value	Odds Ratio (OR)	95%CI Lower, OR	95%CI Upper, OR
Sbelon	0.07	1.45	0.15	1.07	0.98	1.19
Cbelon	-0.002	-0.025	0.98	0.998	0.89	1.12
(Constant)	-1.11	-1.35	0.18	0.33	0.06	1.63

Using the two-predictor model, which was found not statistically significant and reliable, a receiver operating characteristic curve (ROC) is presented in Graph 3. Receiver operating characteristics graphs (ROC) have been shown to be a reliable technique for visualizing, organizing, and selecting classifications. ROC analysis could be extended for use in visualizing and analyzing behavior of diagnostic systems and for determining the accuracy of a test using the area under the curve (AUC). The AUC was found to be .591 which indicates a poor accuracy classification (Tape, 2015).

Graph 3: ROC Curve, ECA Status



Research Question 3

Is the mean overall sense of belonging score significantly different across Algebra 1 state test (STAAR) status?

Hypothesis 3: There will be a significantly positive relationship between total belonging scores and the Algebra 1 STAAR test taking.

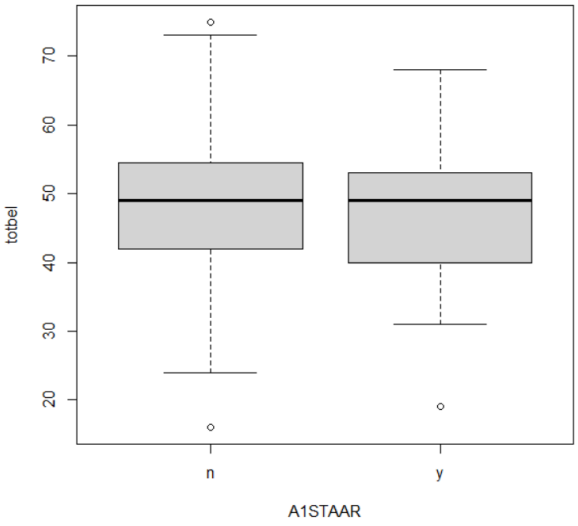
A two-sample t-test was performed to analyze the disparity in mean scores of "totbel" (the sum of scores from survey questions 1-15 regarding students' sense of belonging in school and the classroom) between students who took the Algebra 1 STAAR test (yes) and those who did not (no). Table 8 shows the mean, standard deviation, maximum, minimum, and frequency.

Table 8: Mean, standard deviation, maximum, minimum, and frequency for Algebra 1 STAAR test.

	Maximum	Minimum	Mean	Standard Deviation	Frequency
Taking A1STAAR	68	19	47.35	9.89	45
Not taking A1STAAR	75	16	48.35	10.02	111

A priori poser power analysis conducted using G*Power 3.1. The results indicate that to achieve the desired power of .80 that a sample size of 122 subjects is needed; therefore, adequate power is not a concern since the sample size 156 students. A boxplot of total belonging(totbel) over A1STAAR test taking is presented in Chart 5. Both boxplots contain outliers. Students who took Algebra 1 STAAR test have 2 outliers and students who did not take Algebra 1 STAAR test have only 1 outlier. Medians are at the same level. Variance however are not similar, variance for no is higher.

Chart 5: boxplot of total belonging(totbel) over A1STAAR test taking



Since the samples were collected randomly from each population, independence may be assumed. The results from Shapiro-Wilk test indicated there is no threats to the normality assumption(Not taking: W=.98, p= .23; Taking: W=.97, p=.25). The results from Levene's test indicated no concerns with the equal variance assumption, test statistic= 0.005, p=.94.

On average, totbel scores for students who were taking A1STAAR test (M=47.49, SD=9.89) were lower than the students were not taking A1STAAR test (M=48.35, SD=10.02), t(82.56)=.49, with 95%confidence interval(48.35, 47.49). A negligible effect size was represented d=.087.The significant difference observed may be attributed primarily to the large sample size rather than indicating an actual disparity in re-enrollment rates between the two groups. This implies that if the discrepancy between the means of two groups is less than 0.2 standard deviations, the difference is considered trivial, regardless of whether it is statistically significant (Cohen, 1998).

Summary

This chapter gives information of the study's results based on the survey data collected from students who took part in it. The students themselves responded to this questionnaire. For this reason, all identifiers were removed before analyzing the data. The researcher described in great detail each survey question through a breakdown of the sample. Furthermore, these variables such as total belonging, school belonging and classroom belonging were constructed by means of combining several related questions into one variable. With these variables, further analyses were undertaken with other factors including extra-curricular activities; Algebra 1 STAAR test and GPA.

It was observed that there is a statistically significant relationship between participation in extracurricular activities, such as clubs and sports, with GPA. No statistical significance was noticed between the total belonging score, Algebra 1 STAAR test, extracurricular activities, and GPA. Multiple regression analysis was performed in this study to identify how those variables can be combined in a model and influence academic success (GPA). Next, a direct logistic analysis was performed to analyze the school's sense of belonging and classroom environment over students who are involved/not involved in extracurricular activities. When analyzing both variables, the predictors did not show significance, with the ROC indicating poor accuracy at an area under the curve of .591. However, examining the variables separately to understand their influence on students' participation in extracurricular activities revealed that only school belonging emerged as a statistically significant factor. This finding suggests that school belonging is a crucial consideration for students when engaging in extracurricular activities.

The third question examined whether there was a difference in the mean scores of "Total" (total belonging) between students who took the Algebra 1 STAAR test (yes) and those who did not (no) using a two-sample t-test. The analysis did not yield a statistically significant result. On average, the "totbel" scores for students who were taking the Algebra 1 STAAR test were lower than those for students who were not taking the test.

This study found statistical evidence supporting a relationship between participation in clubs or sports and academic success (Laskos, 2019). Other predictors, such as total belonging and the Algebra 1 STAAR state test, did not demonstrate statistical significance in the GPA model. While school belonging is crucial for

encouraging student participation in extracurricular activities, it did not exhibit statistical significance in the extracurricular model. Consequently, students who feel a sense of school connectedness are more inclined to join clubs and sports, leading to academic benefits despite the lack of statistical significance in the extracurricular model. Chapter 5 will include a comprehensive discussion of the results obtained from the study and their relevance to the existing literature on ability grouping (Buran & DeBer, 2023).

CHAPTER V: SUMMARY

Discussion and Summary

This study originated from the concern that while students and educational staff collaborate to promote academic success, there are forces that negatively impact their relationship. Educators have struggled with the effects of the No Child Left Behind act (NCLB) and Every Student Succeed Act (ESSA) on school districts, resulting in budget constraints and the necessity for strategic resource management to fulfill Annual Yearly Progress (APY) requirements (Craft, 2012). The allocation of billions of dollars in ESSER III funds through the American Rescue Plan by September 2024 is intended to enable school leaders to devise multi-year plans for resource allocation (Kim, Newell & Choi, 2004). However, as emphasized by Kim and associates, these fresh strategic initiatives frequently fall short of producing significant improvements in effective resource allocation. Consequently, educational institutions are compelled to decide how to allocate their financial resources, often resulting in cuts to nonessential programs such as extracurricular activities (Craft, 2012). Furthermore, teachers in Texas grapple with another controversial funding aspect, HB 3, where the legislature provides funding that allows for incentive allocations to be granted to eligible teachers who hold certain certifications (Center for Innovation in Education, 2019). However, there are teachers who may not qualify for these incentives due to their certification status, the subject they teach, or decisions made at the district level (Teacher Incentive Allotment 2023-2024 guidebook).

The goal in this research is to examine the impact of extracurricular activities and the sense of belonging on academic success. These factors facilitate students' development and enhance academic achievement including educational objectives which is crucial in the classroom and school environment. Taking these factors into consideration as a valuable insight can provide local governments and district boards with strategies to support extracurricular activities and ensure equitable assistance for all teachers. This support is vital for enhancing overall academic accomplishments (Dearman, 2017).

This research also provides valuable information that can help Somerset Academy Brooks High School achieve several favorable outcomes. Some of the outcomes could include increased student engagement in the classroom and the school in general, enhanced classroom environments, and a reduction in behavioral problems. The most positive outcome could be to create more conducive learning environments and address behavioral challenges effectively. This study highlights the importance of extracurricular activities and ensuring the equitable allocation of educational resources to aid in attaining strategic academic objectives within the institution (Kim, Newell & Choi, 2004).

This section revisits the previous chapter's results to investigate whether the impact of participation of students in extracurricular activities is benefited by a sense of belonging or not. Moreover, it will analyze how both factors, sense of belonging and participation in extracurriculars, along with performance on the Algebra 1 State test, affects students' academic achievement. The chapter starts by summing up what was found in Chapter 4 then how these results can be interpreted based on the theoretical framework that will be later discussed. Additionally, those findings will be examined

alongside existing literature to see similarities and differences. Lastly, this chapter reflects on the limitations of the study and offers suggestions for future research agendas.

Interpretations of the findings

The study was conducted at Somerset Academy Brooks during the 2023-2024 school year. The participants of this study were High School students from 9th to 12th grade. The data was collected through surveys that students filled out and submitted for the research. 156 students of the total 373 completed the survey which was 41.8%. The return rate and participation rate illustrated the challenge of persuading students to take part in the voluntary survey. There were multiple reasons why this happened. Students and/or parents choose not to take a part in the study. Some students choose not to answer some questions in the survey (Craft, 2012). However, some teachers believe that taking a survey is the best way to know how their students feel about the school and their classrooms, which was the goal of this study (Kautz, Tilley, Ross, & Larkin, 2020).

The dataset provided by the school encompassed various variables, including grade level, gender, inquiries concerning belonging, involvement in extracurricular activities, and GPA. Researchers employed the R statistical software to analyze the data, utilizing techniques such as ANOVA, multiple regressions, logarithmic regression, and two-sample t-tests to quantify the findings. The survey aimed to gather student perspectives on extracurricular involvement in relation to their sense of belonging in school or the classroom, academic performance, and performance on the Algebra 1 STAAR state test (Reed, 2014). Descriptive statistics were used to elucidate the characteristics of each question posed in the survey.

Major Findings

The study conducted analyses on both the data collected directly and the data processed using R, with a significance level set at $\alpha = 0.05$ (Reed, 2014). The study conducted analyses on both the data collected directly and the data processed using R, with a significance level set at $\alpha = 0.05$(Reed, 2014).The research questions in this thesis compare school/classroom belonging, extracurricular activities, Algebra 1 STAAR test scores, and GPA, with GPA serving as the indicator of academic success. The central premise is that students who feel welcomed and cared for at school and in the classroom, and who are motivated through extracurricular activities, are likely to perform well academically. In order to test these relationships, the researcher used several examinations to evaluate hypothesis using multiple regression, logistic regression, and two-sample t-tests. These statistical methods were necessary to analyze how feelings of belonging and participation in extracurricular activities correlate with and potentially enhance students' academic performance.

Research Question 1

" Are Extracurricular activities, Staar testing status, and an overall feeling of belonging score significant predictors of academic success as measured by Grade Point Average (GPA)?" The model was created $GPA = \beta0 + \beta1(\text{Total belonging}) + \beta2(\text{Extracurricular activities}) + \beta3(\text{Algebra 1 STAAR testing})$. After utilizing a multiple regression on these variables, it was determined that the only one regression coefficient Extracurricular activities(ECA)that was included in the model showed statistical significance with respect to Great Point Average(GPA) $p < .05$. Total students belonging

and Algebra 1 STAAR test were not statistically significant. Test-statistic values and confidence intervals are presented for each:

Totbel: (t=-0.214,(-0.13,0.10)), Ext:(t=3.60,(1.18,6.00)), A1 STAAR: (t= -1.24,(-4.15,0.94)).

When data was collected and then analyzed, a significant correlation emerged between students' participation in extracurricular activities and their academic performance. When the different groups of students under sports, clubs, both sports and clubs, and no participation in extracurricular activities were compared, discernible patterns were noted. The group of students who took part in the extracurricular activities got higher GPAs than the group of learners who did not participate. An interesting finding was the fact that those who participated in both types of clubs and sports showed a greater mean GPA value compared to those who participated in either clubs or sports (Archer, 2018; Richards, 2018). Similarly, Laskos discovered through his research that students who were not involved in afterschool activities were over five times more likely to attain a GPA of 3.0 or better than those not taking part in any after school activity(2019). Rather interestingly, persons engaged in both extracurricular and sport had about twelve times the chance for achieving such high grades compared with persons not enrolled into any extracurricular activities (Laskos, 2019). By looking at the findings and comparing them to the previous research, it is noticeable that there is a positive relationship between extracurricular involvement and academic success, emphasizing the importance of encouraging students to participate in such activities.

The findings also showed that an overall sense of belonging did not significantly impact GPA. However, this does not mean that feelings of inclusion and support are not

important. According to Goodenow's (1993) study, factors such as students' perception of belonging and acceptance within classrooms and the school are highly significant. Previous studies suggest there's an indirect link between a sense of belonging and GPA. Feeling accepted and supported in school or class is associated with increased behavioral engagement, stronger interpersonal relationships among students, greater participation in class activities, and a desire for academic improvement stemming from the validation of one's perspective (Keyes,2019). Additionally, previous research indicates that peer attachment may correlate with school misconduct (Demanet & Houtte, 2012). Demanet and Houtte explained that understanding student behavior, particularly interactions between peers and teachers, leads to a nurturing academic setting(2012). Goodenow's research on school belonging and academic achievement has encouraged educators to design interactive and diverse learning environments that boost engagement and attendance (1993). Students who exhibit strong attachments to their peers but lack supportive relationships with teachers and a sense of belonging within the school community may be more likely to engage in misconduct (Demanet & Houtte, 2012).

Although the study observed that while the overall sense of belonging did not yield statistically significant results, this does not diminish the potential importance of feelings of inclusion in students' daily lives. Furthermore, independence was assessed through the Durbin-Watson test, with a DW statistic of 1.73 and a p-value of 0.08, suggesting a marginally insignificant result. Although Shapiro's test for normality raised some concerns ($W = 0.99$, $p = 0.24$), the assumptions of normality and equal variance were not deemed problematic. Additionally, multicollinearity was assessed using variance inflation factors, with values ranging from 1.03 (for total belonging) to 1.07 (for

extracurricular activities), indicating no significant multicollinearity issues among the variables under consideration.

The absence of statistically significant relationships between total school belonging and Algebra 1 performance with GPA prompts further exploration into underlying dynamics. While the literature suggests that learning is enhanced when students experience a sense of belonging (Barr & Gibson, 2013), research findings indicate an indirect relationship between belonging and GPA. Feeling accepted and supported in school or class is associated with increased behavioral engagement, stronger interpersonal relationships among students, greater participation in class activities, and a desire for academic improvement stemming from the validation of one's perspective (Keyes, 2019). It's worth noting that the variable of Algebra 1 State test performance may not directly impact GPA, as students may have varying grades in this subject. However, as noted by Archer, participation in extracurricular activities may positively influence state test performance, suggesting a potential reverse effect whereby involvement in such activities contributes to improved academic outcomes on standardized assessments(2022). This shows the diverse and complex impact of school and classroom belonging that shapes students' behavior and academic results.

Research Question 2

“Is there a difference in survey responses about school sense of belonging and classroom environment over students who are involved/not involved in extracurricular activities? “

The investigation into the second research question involved conducting direct logistic regression analyses to examine the impact of school belonging and classroom belonging on students' participation in extracurricular activities. Data collected from survey responses provided insight into students' perceptions of school belonging and classroom inclusion, with questions 1, 5, 8, 11, 12, 13, 14 contributing to the assessment of school belonging, and questions 3, 4, 6, 7, 9, 10 focusing on classroom inclusion and teacher acceptance. While the mean scores for school and classroom belonging were relatively close, with scores of 3.25 and 3.11 respectively, there were specific questions that received notably lower ratings.

It is unfortunate that many students do not perceive the school environment as akin to a family setting, as becoming a member of a family entails embracing shared expectations and values (Harlow, 2021). Variations in upbringing and familial experiences mean that children may interpret the notion of family differently (Ainsworth, 1989), with some finding solace and security in school relationships that may be lacking at home. As students navigate the complexities of personal identity, they increasingly rely on friendships and non-kin relationships for support and a sense of belonging (Goodenow, 1993). However, despite generally supportive school environments, individual students may still experience social marginalization or exclusion due to factors such as poor social skills or stigmatized statuses (Goodenow, 1993). These findings emphasize that schools that create welcoming environments help students to feel they belong no matter the cultural differences of the students.

The logistic regression model yielded non-significant predictions for both school belonging and classroom belonging. A test of the full model with two predictors against a

constant-only model did not demonstrate statistical reliability ($\chi^2(3, N=156) = 4.5272$, $p = .10$), suggesting that the set of predictors did not effectively distinguish between students who participate in extracurricular activities and those who do not. Despite this, the prediction success rate, using a threshold of 0.5, was modest, with 96 out of 156 cases (61.54%) accurately classified. Sensitivity and specificity values were 0.94 and 0.1 respectively, indicating that the test successfully detects 94% of individuals participating in extracurricular activities but misses 6% of such individuals. Moreover, among the 60 students who did not participate in extracurricular activities, only 10% were true negatives while 90% tested positive, further highlighting the limitations of the predictive model.

While both school belonging and classroom belonging together did not prove reliable in the full model when tested alongside extracurricular activities, an interesting finding emerged: school belonging emerged as statistically significant when predicting participation in extracurricular activities independently ($z = 2.08$, $p < .05$). It shows the significant role that school belonging plays in influencing students' engagement in extracurricular activities, even in the absence of the classroom belonging predictor variable. The odds ratio analysis indicated a substantial change in the likelihood of participating in extracurricular activities with each unit change in school belonging. However, the Area Under the Curve (AUC) value was calculated at .591, suggesting poor accuracy in classification. Similar research, such as Boker's study, found that participation in extracurricular activities serves as a facilitator of belonging and connection to the school environment, with varsity sports specifically linked to school belonging (2004). Moreover, Goodenow's work emphasizes the importance of a sense of

belonging in promoting commitment to school goals and student engagement (1993). Like Goodenow, O'Donnell et al. observed in their research that participation in extracurricular activities predicted higher levels of school belonging two years later, illustrating the reciprocal relationship between extracurricular involvement and feelings of belonging within the school community (2024). Additionally, survey data indicated that 41.66% of students agreed that participating in extracurricular activities made them feel a stronger sense of pride in their school, highlighting the positive impact of such activities on students' connection to their educational institution.

The lack of statistical significance in classroom belonging can be attributed to various factors. Students often discussed specific teacher characteristics and their impact on promoting or inhibiting classroom belonging, particularly in relation to feelings of acceptance, respect, inclusion, and support (Keyes, 2019). However, there were instances where students associated their sense of belonging with easier classes or those in which they achieved higher grades. Keys also mentioned that students expressed discomfort when their peers engaged in disruptive behavior or challenged teachers inappropriately, highlighting teachers' ineffectiveness in fostering positive relationships and creating engaging learning environments (2019). Another contributing factor could be the general nature of the questions about classroom belonging, which prompted students to provide feedback based on their collective experiences across all classes, regardless of whether they liked or disliked them. The diverse factors that make students like their classes and dislike others vary depending on the student. Therefore, it is important to find and follow common denominators that help to understand what students cherish in a classroom setting as a guide for a better classroom environment.

Research Question 3

“Is the mean overall sense of belonging score significantly different across state test (STAAR) status?”

A two-sample t-test was conducted to compare the means of total belonging scores between students who took the Algebra 1 STAAR test and those who did not. Out of the 156 students surveyed, 45 (28.8%) took the Algebra 1 STAAR test, while 111 (71.2%) did not, having already passed the exam or not being required to take it during the 2023-2024 school year. The results indicated no significant difference ($p = 0.25$) in the mean total belonging scores for students who took the Algebra 1 STAAR test ($M = 47.49$) compared to those who did not ($M = 48.35$, $p = 0.23$). These findings suggest that students' sense of belonging within the school environment remains consistent regardless of their Algebra 1 STAAR test participation. This aligns with previous research, such as Demanet's study, which highlighted the role of interpersonal bonding and school belonging in preventing misconduct (2012). Furthermore, the results suggest that individual feelings of bonding with peers, teachers, and school are more closely associated with school misconduct than overall school cohesion. Higher perceived teacher support and school belonging were linked to lower rates of school misconduct, while higher peer attachment was associated with increased incidents of misconduct.

Several studies have been looking at how a sense of belonging can influence different state scores. For example, Webster's study investigated the association between a sense of belonging and academic achievement, particularly in the context of English II standardized test scale scores (2021). His research revealed no statistically significant differences in these scores based on students' sense of belonging. However, in his

research, it was observed that different students who scored in the low range of sense of belonging tended to have slightly lower English II state standardized scale scores compared to students who identified in the medium and high ranges of sense of belonging. These findings show that there is a complex relationship between how students feel like they belong and how well they do on standardized tests. This suggests that there should be more things to explore when it comes to understanding how belonging affects.

Implication for a Theory and Research

The commitment of many schools to cultivate a nurturing environment that supports the healthy development and optimal learning of all students, irrespective of their academic performance, language proficiency, learning style, or behavioral disposition (Pastore & Reto Luder, 2021). Past research, as noted by Goodenow (1993), underscores the significance of meaningful relationships and attachments in motivating student behavior and academic engagement. Demanet looks further into the process that holds school community bonds together, discussing three types of student engagement in schools: emotional engagement; behavioral engagement; and cognitive engagement (2012). These components play a role in making the educational experience more enjoyable for the student, even guiding some to take on opportunities for higher academic achievement(Demanet, 2012). This is important for educators and policymakers to provide inclusive and supportive learning environments that support the overall well-being and success of all students.

The primary concept of attachment theory is that nurturing relationships between children and adults cultivate a child's sense of security, which is crucial for their willingness to explore their surroundings (Ainsworth, 1989). Key factors that influence the quality of teacher-student relationships include the social attention teachers give to their students and their genuine interest in each individual. This attention and care, commonly known as nurturing, are essential for children and adolescents to develop their identity, bolster their self-concept, and improve their overall well-being (Reed, 2011).Consequently, school attachment captures various dimensions of school commitment and involvement, highlighting its importance in fostering a supportive educational environment (Ruranovic & Siennick, 2022).

In the present paper, based on attachment theory and research on extracurricular activities, the concepts of school belonging and school staff-student relationships are examined as key components of academic achievement (Pastore & Reto Luder, 2021). Considering the different sources of attachment at school such as between teachers and peers, or between peers is crucial for gaining insight into the unique roles each plays in preventing or promoting school misconduct. While few studies have incorporated both teachers and peers as sources of support (Demanet, 2012), this study focuses specifically on the attachment between educational staff and students. It explores how students who develop a sense of attachment to their school and feel a sense of belonging are more likely to commit to school goals and engage actively in their education (Goodenow,1993). This approach aims to highlight the importance of fostering strong, supportive relationships within the school environment to enhance academic outcomes (Archer, 2022).

The research noticed that students who were engaged in multiple activities turned out to have higher grades. This connection might be because of the bonds students form with teachers during extracurricular activities, as many of these clubs are led by teachers. These interactions help develop feelings of belonging and reliability, which the students take back into the classroom and enhance their academic performance. Developing one-on-one relationships with the teaching staff establishes a friendly atmosphere in which students feel all the more enthusiastic to engage in their learning processes. It ensures students are encouraged to excel and get better grades at school. Moreover, helping students learn how to communicate effectively with their classmates and other teaching staff at school, offering them a solid foundation to grow, which allows them to gain fame through unity and cooperation in class.

Implications for Practice

The perpetual endeavor to enhance academic achievement within the educational sphere remains a central focus for both educational institutions and governmental entities (Long, 2012). Ryan's analysis highlights that laws that promoted education in the past or now could help the students to achieve better results and could be the key for academic progress and graduation (2004). On the other hand, as illuminated in Chapter 2, the implementation of laws such as NCLB, ESSA Elementary and Secondary Education Act, and House Bill 3, intended to bolster accountability and elevate academic standards, has unveiled inherent shortcomings. By research, it was noticeable that these laws have inadvertently heightened stress levels among educators and students alike, revealing the complex interplay between accountability measures and their impact on the educational environment (Ryan,2004; Long, 2012). Moreover, the researchers pointed out that there

are challenges stemming from inadequate funding, which can hinder the effective execution of reforms and place additional burdens on teachers and administrators. Insufficient resources may impede the provision of necessary support systems, exacerbating the pressure on grassroots educators tasked with navigating these reforms within their schools (Long, 2012). Thus, Chapter 5 underscores the intricate dynamics between policy implementation, resource allocation, and the practical realities faced by educators striving for academic excellence amidst systemic constraints.

This study focuses on some influencing factors on students' grades and aims at providing some suggestions to teachers and administrators in Somerset Academy Brooks on how to motivate students to become better students. There are some policies such as No Child Left Behind, ESSA, and House Bill 3 that tackle on making sure no children are left behind but rather, every child is able to achieve proficiency in reading and mathematics.

In many cases, school districts and other staff tend to focus on the main indicators of success, but sometimes there are other important factors that they are missing. Both schools and students come in a variety of ways, but there are always consistent factors derived from previous studies that will be examined. Any conclusions are built on each other to assist in answering the question of what exactly are effective strategies to help students raise their grades and participation, and overall increase their sense of belonging.

The study at Somerset Academy indicates that involvement in various extracurricular activities, particularly a combination of sports and non-sport activities, can positively influence grades and overall GPA. Several reasons may explain why extracurricular activities have this impact. Some researchers suggested that it would

foster better relationships at school and help students avoid harmful habits (Archer, 2022), enhance intrinsic motivation, and reduce depressive behavior (Bouchard, Denault, & Guay, 2023), all of which are promoted by a sense of belonging and support from peers, teachers, and administrative staff. Consequently, district and government officials should recognize that education extends beyond classroom lessons to include a range of factors influencing students' knowledge and behavior both during and after school hours.

Every teacher is a valuable asset to the school, bringing individuality and experience that foster positive and encouraging interactions. These interactions significantly increase students' sense of belonging within the school community (Booker, 2004), which in turn leads to engagement and higher academic achievement for both students and the school. Therefore, before making budget cuts or allocating funds solely for state test preparation, it is crucial to provide funding that supports extracurricular activities and all the teachers, as they work together to create a nurturing environment (Craft, 2012). This holistic approach will help sustain a supportive educational setting that promotes overall student success.

Limitations

This study, like other studies, has limitations that may affect its rigor and reproducibility. One major limitation is the sample size, which is not large enough to represent a certain population adequately (Nottle, 2023; Evans, 2022). This small sample size can limit the generalizability of the findings and may not capture the full diversity of student experiences and outcomes. Additionally, the study relied on surveys distributed at one school, with no assurance that questions were answered accurately (Mitchell, Fahmy, Clark & Pyrooz, 2021). Self-reported data can introduce biases, as students may not

always report their experiences accurately (Nottle, 2023). Since parents were involved in signing the survey and some students filled them out at school with their friends, there is a possibility that students' responses were influenced by their peers or parents.

Moreover, it was discovered that there was very little quantitative research that studied cross-sectional relations among the studied variables. Previous studies tended to focus just on any combination of two out of these four variables, and they typically studied academic success and extracurricular activities separately, or school belonging and academic success separately, or classroom belonging and state testing success separately. This research planned to aggregate these previous studies to create an integrated picture for all four of these variables, and this aggregation proved to be an extremely difficult task.

Another limitation was that extracurricular activities were limited to those defined by Somerset Academy Brooks. Every school offers different after-school activities that can affect students' participation and engagement. This variability means that the specific activities available at Somerset Academy Brooks may not fully represent the range of extracurricular options available in other schools. Consequently, the findings about how extracurricular activities influence academic performance and a sense of belonging at school might not apply to schools with different types of extracurricular offerings. This shows that it would be a great idea to conduct further research that includes a wider variety of schools and extracurricular activities in them. By doing so, it would be more clear how different types of extracurricular activities can influence student outcomes.

Finally, generalizing the results to districts outside of ours is limited as our sample is drawn from a suburban area in San Antonio, Texas, with a predominantly Hispanic

population. Therefore, the findings can only be generalized to this particular school or schools with a similar demographic makeup. The study would have better generalizability if it included a sampling of students from different schools, areas, and demographic backgrounds (Laskos, 2019). Including a more diverse sample would provide a more comprehensive understanding of the factors influencing academic performance and school belonging across varied contexts.

It is possible to draw some future research recommendations from this study based on the findings and limitations. This sample can be diversified as well as made more representative of the population by including more schools with different extracurricular activities. Furthermore, to comprehend how educational personnel could better assist learners, other related variables such as curriculum diversities, contact time between students and instructors (including those that have shorter school days), among others would be necessary. This further research may help identify better ways through which teachers can teach their learners so that they meet their individual needs thereby improving their levels of performance in class.

Conclusion

The influence of No Child Left Behind(NCLB), Every Student Succeed Act (ESSA), and House Bill 3, combined with the economic challenges the country is facing, compels school districts to make difficult budgetary decisions (Craft, 2012). This situation places a significant burden on teachers, who are striving to enhance students' academic success. Societal norms and the government recognize the critical role that education plays in shaping children's futures (Szeil, 2013). However, they often focus on

how effective the teachers are and the involvement of families, forgetting that the whole education system works together. This system includes not just students and their families, but also teachers, school administrators, district officers, and government officials, all working together to help each child grow and succeed.

The present study focused on the interaction between extracurricular activities, sense of belonging, Algebra 1 STAAR State test scores, and GPA. This chapter discusses the findings, links them to the theoretical framework, compares them with existing research, and addresses the limitations of the study. The outcomes seek to advise educational leaders about how important educators are in students' performance through classroom participation, school involvement, and after-school programs. Through extracurricular activities, students learn important skills such as working as a team player, commitment to duty, time management, and the ability to create good relationships with classmates', teachers, coaches, parents and community members (Craft, 2012). A feeling of belonging within the classroom or school boundaries promotes constructive interactions among peers and teachers (Booker, 2004). Both the literature review and this research endorse the advocacy for extracurricular participation for various reasons particularly academic success which is key for student's future achievement.

Additional research is necessary to investigate methods in which educators could boost students' achievements through increasing their engagement with schools and extracurricular activities. District-level leaders and government officials must appreciate that it is essential to set aside funds for students' educational needs that are inside and outside of the classroom. This will allow teachers to reach out to more kids in after-school programs and other activities outside the classroom, thus fostering a collaborative

teaching environment. In this manner, our society can raise young people who are seeking for knowledge; who are intelligent academically as well as socially, thereby ushering in an improved future.

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Appendix A

Student Questionnaire

Part 1: Answer questions according to the scale

1- Strongly Disagree, 2-Disagree, 3-Undecided, 4-Agree, 5-Strongly Agree

1. My school is a place where people care about one another. _____
2. I feel that I really belong in my school and classrooms._____
3. My teachers really care about me and are concerned when I am absent. _____
4. My teachers help me understand what I need to learn and how to be successful in my studies. _____
5. My school feels like a big happy family. _____
6. My classrooms feel like happy families. _____
7. I feel like I am an important part of my classrooms. _____
8. I feel like I am an important part of my school. _____
9. My teachers encourage me to join clubs and activities in the school and community. _____
10. My teachers encourage me to develop my interests and talents. _____
11. Our school has a large number of clubs and activities that I can participate in. _____
12. My school encourages me to explore all sorts of career opportunities for after I finish school._____
13. I feel like I have a lot of choices in what and how I learn. _____
14. I feel like everyone at my school encourages me to stay in school, graduate, and go on to college
    or training. _____
15. I feel supported and respected in my school and classrooms. _____
16. What is your gender(Female, Male)?
17. What is your class level(Freshman, Sophomore, Junior, Senior)._____

Part 2:

18. Number of clubs you are actively involved in _____
    1. 0 clubs
    2. 1 club
    3. 2 clubs
    4. 3 clubs
    5. 4 and above clubs
19. How many hours per week on average do you spend in extracurricular activities?
    1. 1 or less hours per week
    2. 2-3 hours per week
    3. 4-5 hours per week
    4. 6-7 hours per week
    5. 8 or more hours per week

20. Write all the music programs, sports, and clubs that you participating during this school year._____
_____

21.Does participation in Extracurricular activities benefit your academic performance?

a. Strongly disagree
b. Disagree
c. Undecided

d. Agree
e. Strongly agree

22. Does participation in Extracurricular activities help you adjust to a daily routine?
a. Strongly disagree
b. Disagree
c. Undecided
d. Agree
e. Strongly agree

23. Participation in extracurricular activities promotes a better work ethic.
a. Strongly disagree
b. Disagree
c. Undecided
d. Agree
e. Strongly agree

24. Do you feel a stronger sense of pride in your school because of your participation in extracurricular activities?
a. Strongly disagree
b. Disagree
c. Undecided
d. Agree
e. Strongly agree

25. During 23-24 school year did you or will you take Algebra 1 STAAR test?
a. Yes
b. No

26. What is your school GPA?_____

Appendix B

Appendix A contains proof of IRB approval for this study.

CERTIFICATE

OF COMPLETION

PHRP Online Training, Inc. certifies that

Veronika Rosin

has successfully completed the web-based course "Protecting Human Research Participants Online Training."

Date Completed: **2023-08-17** Certification Number: **2991226**

PHRP
Protecting Human
Research Participants
Online Training

Shawnee State University

Study # 2024-2

Expedited Review Application

Based on the "Type of Review Flow Chart", I believe that my research project only requires an Expedited Review. ***Yes*** x ***No***

Title of Research Project:
Examining The Relationship between Extracurricular Activities, school belonging, classroom Inclusiveness, and Academic Success in Somerset Academy Brooks School.

Name of Principal Investigator	Email Address	Phone Number
Douglas Darbro	ddarbro@shawnee.edu	7403513441

Department(s)/Division/Agency: Mathematics

Name(s) of Co-Investigators:	Email address:	Faculty	Student	Other
Veronika Rosin	rosinv@mymail.shawnee.edu	☐	☒	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐

*Please place an asterisk by the investigator name(s) whose Training certificate(s) is/are already on file with the IRB, if the certificate is less than 3 years old.

1. Describe the key demographics (age, SES, ethnicity, geographic locations, gender, etc.) of the sample that you wish to obtain.
The data will be collected at Somerset Academy Brooks(San Antonio, TX). This school is Title 1 school with a large majority of Hispanic 89% of the population. I will use both genders Males and Females.

1a. What is the greatest number of participants that will be recruited? 300

1b. How will participants be recruited?
Teachers will give out surveys to all High school students. Students have to sign assent form and parents need to sign consent form in order to participate in the study.Students have a chance not to participate in the study at any tim

1c. Check the type of populations listed below that will be included in the study.

x Children (under the age of 18)
_____ Prisoners
_____ Participants with diminished cognitive ability (unable to provide consent)
_____ Pregnant women and/or fetuses
_____ No vulnerable populations will be included

2. Will participants be remunerated for their participation? Yes x No

2a. If so, how will participants be remunerated? Please indicate the type of remuneration and the amount. For instance, the participants will be given a $10 Amazon Gift Card for participation or the participants will receive 3% of their final grade in extra credit in their Introduction course.

Students will be entered in the raffle given with their parents' permission. On April 2nd, 2024, the principal and/or assistant principal will draw the names of five students from a randomized selection. Each student drawn will receive a $20 Walmart gift card. The selected students will be contacted during the first period of the following day.

2b. If participants do not complete the study, will partial or full remuneration be given? Please describe how that will be determined

No

3. What direct benefits (other than remuneration) exist for the participants who participate?

None

4. What direct risks could the participants potentially face? Check all that apply.

_____ Risk of breach of confidentiality or privacy

_____ Risk of coercion by researcher(s)

_____ Risk of psychological harm

_____ Risk of physical harm

__x__ Other potential risk: discomfort answering questions

4a. Please describe the specific risk(s).

It is important to note that participation in this study is optional. Choosing to abstain from participation will not result in any negative repercussions. Additionally, the student may withdraw from the study at any time.

4b. What measures will be taken to limit or minimize the risks?

The provisions to provide exclusivity of access to the information regarding participants will be upheld with the controls of authorization to view, record, and/or alter the study's input.

5. What are the expected benefits of the research to the scientific community or the common good?

It will show the relationship between Extracurricular activities, school/classroom belonging and academic success. Since there is limited research available that shows intertwined participations in school clubs and extracurricular activities, this research will expand on previous findings to test how academic success is influenced by multiple variables such as extracurricular activities, school belonging. It is important to see if involvement in extracurriculars, along with school support, will increase a student's chance of receiving better grades in their academic career.

6. Does the methodology require that participants be deceived about any aspect of the study?

Yes No X

6a. If so, please justify the use of deception and describe the debriefing procedures that will be used (Please attach the debriefing form and/or a script of the debriefing information).

NA

7. How will the participants be informed of the risks and benefits of the study?

The students will be provided information regarding the risks on the consent/assent form provided to them. Additionally, the instructor will provide verbal notice to each of the students regarding their reward/risk of participation.

7a. How will consent be obtained from participants (or their legal guardian)?

The consent of the students will be provided via the consent and assent form that will be both distributed and collected before their participation begins. Additionally, notice will be provided to the students verbally to permit their consent.

7b. Will participants be involved who cannot give legal consent? Yes No

7c. If so, how will assent be obtained from the participants?

The assent will be obtained through both the forms provided (to the participants and their parents) as well as the verbal notification of the study.

SSU IRB Approved DS ER 1/22/2024 | 4:1

Shawnee State University

Study # 2024-2

In submitting this form and the corresponding documents, I acknowledge that I have completed Human Research Participants training and that I understand and will uphold the rights of human participants. I also verify that all information contained in this form and any other corresponding documentation is correct based on my knowledge. I understand that I may not have contact with any research participants until the Shawnee State University IRB has given me their approval. I also understand that I must file an ***Amendment/Modification Form*** if my project extends beyond a year from my approval date and I must file a ***Final Study Form*** with all consent forms once the study is complete.

DocuSigned by: Douglas Darbro 1DFACF6D0794406...
Signature of Principal Investigator 1

DocuSigned by: Rosin Vernon 9F3728AA28B74C5...
Signature of Co-Investigator 2

Signature of Co-Investigator 3

Signature of Co-Investigator 4

Signature of Co-Investigator 5

Signature of Co-Investigator 6

Date of Submission: 11/22/2023 | 9:26 PM EST

Please compile attachments into one document for each category. If any forms below are not applicable, please attach reasons why.

Human Research Training Certificates:

Data Collection Questions and Forms:

Research Summary:

Consent Forms:

Assent Forms:

Advertisements:

Revisions Requested Yes X No IRB Chair Signature

Date sent for revision (if applicable): 12/23

Please attach revisions requested with changes clearly marked

Changes marked

see long email chain. attach document from 1-18-24

Final copy

SSU IRB Approved BR 1/22/2024 | 4:14

Assent Form To Participate In Research

_____ Study # 2024-2

Agreement: I, _____, (Student), agree to participate in this study research project per the defined terms and procedures as proscribed below.

Study: The study will consist of a questionnaire survey that will take no longer than fifteen minutes to complete. It is important to note that participation in this study is optional, so choosing to abstain from participation will not result in any negative repercussions. Additionally, the _____student will be allowed to discontinue the completion of the study at any point in its process.

Purpose: You are invited to participate in a research study conducted by Veronika Rosin, a Master's degree candidate in the Mathematics M.A. program at Shawnee State University, under the supervision of Dr. Douglas Darbro of the Shawnee State University Math Department. Data from the questionnaire will be compared to participants' academic data. The purpose of this study is to analyze variables that may be related to High School academic success. These findings can be used to potentially help school personnel better understand and support the needs of High school students.

Privacy: Data from this study will be put into an anonymous format and will only be used for the study.

Risks: Participants may experience discomfort while answering questions for this study.

Raffle: As a contingency regarding the study, your name will be entered in the raffle given with your parental consent. On April 2nd, 2024, the principal and/or assistant principal will draw the names of five students from a randomized selection. Each student drawn will receive a $20 Walmart gift card. The selected students will be contacted during the first period of the following day. If you would like to participate in this optional raffle, please indicate your intent by providing your signature below. It is important to note that participation in this study is optional. Choosing to abstain from participation will not result in any negative repercussions. Additionally, the student may withdraw from the study at any time.

Questions/Concerns: If you have any questions concerning the study, you are invited to contact the lead researcher via email at veronika.rosin@somersetacademytx.org. Also, if you have questions about research participant rights, then you can contact the Associate Provost at Shawnee State University at 740-351-3299.

_____ _____ _____

Student's Signature Student's Name Date

I,_____will be entered in the raffle to win $20 Walmart gift card.

Print student's name

_____

Student Signature

Formulario de consentimiento para participar en la investigación

Acuerdo: Yo, _____ (Estudiante), acepto participo en este proyecto de investigación de studio según los términos/procedimientos definidos como se prescribe a continuación.

Estudio: El estudio consistirá en una encuesta que no tardará más de quince minutos en completarse. Los datos del cuestionario se compararán con los datos académicos de los participantes.Es importante señalar que la participación en este estudio es opcional, por lo que optar por abstenerse de participar no tendrá repercusiones negativas. Además, al estudiante
se le permitirá prescindir la realización de la estudio en cualquier momento de su proceso.

Propósito: Está invitado a participar en un estudio de investigación realizado por Veronika Rosin, candidata a una maestría en el programa de Maestría en Matemáticas de Shawnee State University, bajo la supervisión del Dr. Douglas Darbro del Departamento de Matemáticas de Shawnee State University. El propósito de este estudio es analizar variables que puedan estar relacionadas con el éxito académico en la Escuela Secundaria. Estos hallazgos se pueden utilizar para ayudar potencialmente al personal de la escuela a comprender y apoyar mejor las necesidades de los estudiantes de secundaria.

Privacidad: Los datos de este estudio se colocarán en formato anónimo y solo se utilizarán para el estudio.

Riesgos: los participantes pueden sentir molestias al responder preguntas para este estudio.

Rifa: Como contingencia con respecto al estudio, su nombre se ingresará en el sorteo con el consentimiento de sus padres. El 2 de abril de 2024, el director y/o el subdirector sacarán los nombres de cinco estudiantes de una selección aleatoria. Cada estudiante seleccionado recibirá una tarjeta de regalo de Walmart de $20. Si desea participar en este sorteo opcional, indique su intención proporcionando su firma a continuación.

Es importante tener en cuenta que la participación en esta encuesta es opcional. La decisión de abstenerse de participar no tendrá ninguna repercusión negativa. Además, el estudiante puede retirarse de la estudio en cualquier momento.

Preguntas/Inquietudes: Si tiene alguna pregunta sobre el estudio, lo invitamos a comunicarse con el investigador principal por correo electrónico a veronika.rosin@somersetacademytx.org. Además, si tiene preguntas sobre los derechos de los participantes en la investigación, puede comunicarse con el Provost asociado de la Universidad Estatal de Shawnee al 740-351-3299.

_____	_____	_____
Firma del estudiante	Nombre del estudiante	Fecha

Yo, _____puedo participar en el sorteo para ganar una tarjeta de regalo de Walmart de $20.

_____
Firma del alumno

SSU IRB Approved ER 1/22/2024 | 8:14

CONSENT TO PARTICIPATE IN RESEARCH

_____ Study # 2024-2

Agreement: I, _____(Parent/Guardian), grant permission for my child, _____ (student), to participate in this study research project per the defined terms/procedures as prescribed below.
Study: The study, in question, as relating to the student, will consist of a questionnaire survey that will take no longer than fifteen minutes to complete. It is important to note that participation in this study is optional, so choosing to abstain from participation will not result in any negative repercussions. Additionally, the student will be allowed to discontinue participation in this research at any point.

Purpose: You are invited to participate in a research study conducted by Veronika Rosin, a Master's degree candidate in the Mathematics M.A. program at Shawnee State University, under the supervision of Dr. Douglas Darbro of the Shawnee State University Math Department. Data from the questionnaire will be compared to participants' academic data. The purpose of this study is to analyze variables that may be related to High School academic success. These findings can be used to potentially help school personnel better understand and support the needs of High school students.

Privacy: Data from this study will be put into an anonymous format and will only be used for this study.

Risks: Participants may experience discomfort while answering questions for this study.

Raffle: Your child will be entered in a raffle with your permission. On April 2nd, 2024, the principal and/or assistant principal will draw the names of five students from a randomized selection. Each student drawn will receive a $20 Walmart gift card. The selected students will be contacted during the first period of the following day. In the case that you would like your child to participate in this optional raffle, please indicate your intent by providing your signature below.
It is important to note that participation in this survey is optional. Choosing to abstain from participation will not result in any negative repercussions. Additionally, the student may withdraw from the study at any time.

Questions/Concerns: If you have any questions concerning the study, you are invited to contact the lead researcher via email at veronika.rosin@somersetacademytx.org. Also, if you have questions about research participant rights then you can contact the Associate Provost at Shawnee State University at (74) 351 – 3299. By signing this portion of the document, you (the parent/guardian) agree to the terms/conditions provided above.

_____
Print Child's Name

_____ _____ _____
Parent/Guardian's Signature Print Parent/Guardian's Name Date

My child's name_____can be entered in the raffle to win $20 Walmart gift card.

Parent signature_____

CONSENTIMIENTO PARA PARTICIPAR EN LA INVESTIGACIÓN

Acuerdo: Yo, _____(Padre/Tutor), otorgo permiso para que mi hijo, _____ (estudiante), participe en este proyecto de investigación de studio según los términos/procedimientos definidos como se prescribe a continuación.

Estudio: El estudio consistirá en una encuesta que no tardará más de quince minutos en completarse. Los datos del cuestionario se compararán con los datos académicos de los participantes.Es importante señalar que la participación en este estudio es opcional, por lo que optar por abstenerse de participar no tendrá repercusiones negativas. Además, al estudiante _se le permitirá prescindir la realización de la estudio en cualquier momento de su proceso.

Propósito: Se le invita a participar en un estudio de investigación dirigido por Veronika Rosin, candidata a maestría en el programa de maestría en Matemáticas de la Universidad Estatal de Shawnee, bajo la supervisión del Dr. Douglas Darbro del Departamento de Matemáticas de la Universidad Estatal de Shawnee. El propósito de este estudio es analizar las variables que pueden estar relacionadas con el éxito académico en la Escuela Secundaria. Estos hallazgos se pueden utilizar para ayudar potencialmente al personal de la escuela a comprender y apoyar mejor las necesidades de los estudiantes de secundaria.
Privacidad: Los datos de este estudio se colocarán en formato anónimo y solo se utilizarán para el estudio.

Riesgos: los participantes pueden sentir molestias al responder preguntas para este estudio.

Rifa: Con su permiso, su hijo podra participar en el sorteo que se llevara a cabo. El 2 de abril de 2024, el director y/o el subdirector sacarán los nombres de cinco estudiantes de una selección aleatoria. Cada estudiante seleccionado recibirá una tarjeta de regalo de Walmart de $20. Los estudiantes seleccionados serán contactados durante el primer periodo del día siguiente. En el caso de que desee que su hijo participe en esta rifa opcional, indique su intención proporcionando su firma a continuación.

Es importante tener en cuenta que la participación en esta encuesta es opcional. La decisión de abstenerse de participar no tendrá ninguna repercusión negativa. Además, el estudiante puede retirarse de la encuesta en cualquier momento.

Preguntas/inquietudes: Si tiene alguna pregunta sobre el estudio, lo invitamos a comunicarse con el investigador principal por correo electrónico a veronika.rosin@somersetacademytx.org. Además, si tiene preguntas sobre los derechos de los participantes en la investigación, puede comunicarse con el Provost Asociado de la Universidad Estatal de Shawnee al 740-351-3299. Al firmar esta parte del documento, usted (el padre/tutor) acepta los términos/condiciones proporcionados anteriormente.

_____
Escriba el nombre del niño

_____ _____ _____
Firma del padre/tutor Nombre del padre/tutor en letra de imprenta Fecha

El nombre de mi hijo_____puede ingresarse en el sorteo para ganar una tarjeta de regalo de Walmart de $20.

Firma de los padres_____

BIBLIOGRAPHY

Veronika Rosin

Candidate for the Degree of

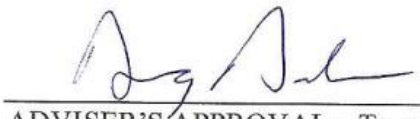
Master of Science Mathematics

Thesis: EXAMINING THE RELATIONSHIP BETWEEN EXTRACURRICULAR ACTIVITIES, SCHOOL BELONGING, CLASSROOM INCLUSIVENESS, ALGEBRA 1 STATE EXAM AND ACADEMIC SUCCESS IN SOMERSET ACADEMY BROOKS SCHOOL.

Major Field: Mathematics

Education: Bachelor of Art in Mathematics Education, Brooklyn College, May 2005

Completed the requirements for the Master of Science in Mathematics, Portsmouth, Ohio in July, 2024.



ADVISER'S APPROVAL: Type Adviser's Name Here

7/22/2024