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School Connectedness and Academic Success

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SCHOOL CONNECTEDNESS AND ACADEMIC SUCCESS

by

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ABSTRACT

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Using data collected from the Portsmouth Needs Assessment (2017) in Portsmouth, Virginia, this study focused on examining the relationship between school connectedness and academic success. The purpose of the study was to examine how aspects of school connectedness affects academic success. School connectedness was measured by examining self-report data regarding students' sense of belonging, sense of culture and ethnic acceptance, classroom participation, and extracurricular activities. Academic success was measured by students self-reported grades and how often did they think that they would use the materials that they learned in the future. The results indicated that a student's sense of belonging and sense of acceptance regardless of their ethnicity and culture, were significant in being able to predict the likelihood that the student would use the classroom materials in the future. The study also revealed that participating in classroom activities and extracurricular activities increased the likelihood of receiving good grades. Overall, as school connectedness increases, so does a student's academic success.

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CHAPTER I

INTRODUCTION

Typically, when speaking about the well-being of children, things like physical health, mental health, and safety are examined. One measurement that is often overlooked is academic success. Academic success not only displays a sign of good brain development in children, but it is also a great determinate of future employment and income (Hjorth et. al, 2016). The Department of Education (2017) reported that in 2015, 5.9 percent of 16 to 24-year olds dropped out of high school in the United States. While that does not seem like a large percent, that percent equals about 212,400 students not receiving high school diplomas. This number does not begin to reflect the number of students who barely met the requirements to graduate. In the same year, only 69.2 percent of those that did graduate high school, enrolled in college in the fall. Attendance, as well as study skills, parental encouragement during childhood, motives to attend college, and mental health all are predictors of academic success (Norvilitis and Howard, 2012). However, this study focuses on how a student's connection with their school affects their academic success.

The United States Department of Health and Human Services (2009) defines school connectedness as, "The belief held by students that adults and peers in the school care about their learning as well as about them as individuals". The Department went on to say that school connectedness is so important to students because the more students feel connected to their school, the less likely they are to get involved in risky behaviors. These behaviors include early

sexual initiation, violence, gang involvement, alcohol, tobacco, and other drug use (United States Department of Health and Human Services, 2009).

The U.S. Department of Health and Human Services (2009) also agreed that students are more likely to engage in healthy behaviors and succeed academically when they feel connected to their school. They also reported that children who feel more connected to school are more likely to have better school attendance and perform better academically. The United States Department of Education (2016) revealed that nearly one in five high school students display chronic absenteeism (being absent for 15 or more days a school year). Amongst all of the nation's students, there is a one in seven chance a student will be chronically absent. Chronic absenteeism is a salient predictor of whether a student will drop out of school or not (Department of Education, 2016). High school students are more likely to be absent than elementary and middle school students. Having the right tools to engage students in school and make them feel connected could decrease the number of students that are chronically absent.

Implementing programs to promote school connectedness can help schools have a considerable impact on the educational outcomes of their students (Lemkin et. al, 2017). One way to get students more connected to school according to Lemkin et. al (2017) is to promote effective teaching methods and classroom management to develop a positive learning environment. Another way to increase connectedness is to create caring and trusting relationships that encourage open communication between staff, teachers, parents, and communities. An example of this may be allowing teachers to stay with the same students for consecutive years.

Improving school connectedness for those students that lag behind could create a world of difference to the students' futures. A study by Anyon, Zhang, and Hazel (2016) reported that

students of color were significantly less likely to feel connected to their school than their white peers. They found that the level of connectedness was significantly and negatively associated with the disciplinary gaps between white students and students of color. Vioght et. al (2015) blamed the racial disparities within some schools on the different school climates that students experience based on their race.

They stated that even within the same school, black and Hispanic students can experience different levels of sense of safety, connectedness, relationships with adults, and opportunities for participation than their white peers. According to the Virginia Department of Education (2017), academic success in Virginia can be measured by pass rates. Their website showed statewide student pass rates for each core subject taught in schools. Although the pass rate of all students has remained consistent within the past three school years, the website shows variation in pass rates among different ethnic groups. While Asian students maintain about a 90% average in the subjects, white students maintained about an 83% percent average. Hispanic students averaged a 75% pass rate over the course of three years. As for African American students, the pass rate is 70%. Although this study doesn't focus solely on differences amongst ethnicities, it is important to note the differences because they may be related to students of color feeling less connected to the school.

Statement of the problem

Previous research has shown that school environments that facilitate positive relations with peers, support from teachers, academic engagement, and feelings of belonging, lead to increased perceptions of school connectedness, which is associated with academic achievement (Thappa et al. 2013). There has not been an overwhelming amount of research on multiple

variables within one study examining academic success. This can be seen as a problem because schools maybe focusing on the wrong issues when trying to improve student academic success.

Purpose

The purpose of this study is to assess how each of the four elements of school connectedness (sense of school belonging, sense of cultural and ethnic acceptance, class participation, and participation in extracurricular activities) affect student's academic success. The following general research question will help guides this study: Does school connectedness have an influence on academic success? In this study, the relationship between school connectedness and academic success will be examined. School connectedness will be measured using four categories: a sense of belonging, a sense of cultural and ethnic acceptance, class participation, and participation in extracurricular activities. The first category, a sense of belonging, will be defined as how well the student feels they "fit in" and are accepted at their school by their peers and teachers. The second category, a sense of cultural and ethnic acceptance, will be examined using student's perception of how well the teachers and students within the school accept and include them based on their ethnic background. Next, the study will look at class participation. Class participation will be measured by how often students participate in classroom activities and assignments. Lastly, student's frequency of participation in extracurricular activities will be examined through a Likert Scale.

Significance of study

By examining school connectedness, the study will provide some insight on what factors mainly affect student's academic success. Although studies in the past have examined each of the four elements separately, there has been little research examining all four and the importance of each. By finding out which elements of school connectedness are most important for student's

success, stakeholders, schools, teachers, and parents will not only have a better idea of which areas to focus on to help their students, but they will have a better sense of which programs and policies they need to implement or emphasize within their school. Ideally, by implementing new policies and programs based on the results of this study, schools will see an increase in student's school connectedness, and ultimately an increase in student's academic success.

This chapter provided a brief background about school connectedness and academic performance. The purpose and importance of this study were also discussed. The following chapter provides a comprehensive review of the literature on the four elements of this study in relation to academic success. It will also provide an overview of social bond theory and how it relates to the present study.

CHAPTER II

LITERATURE REVIEW

Introduction

This chapter discusses prior research examining the different aspects of school connectedness and the effects of each on academic success. The chapter begins with addressing school belongingness. This is followed by an overview of literature discussing student's perceptions of acceptance in their school in regard to their culture and ethnicity. Next, the role of class participation will be investigated. Finally, the literature review will investigate the role that extracurricular activities play in students' academic success.

Lemkin et. al (2017) defined school connectedness as: the belief held by students that the adults and peers in their school care about their learning as well as about them as individuals. Students who feel more connected to their school are more likely to have a number of positive academic outcomes which include regular attendance, staying in school longer, and higher test scores (Lemkin et. al 2017). Students with higher senses of connection are also less likely to develop eating disorders, emotional problems, and experience suicidal thoughts. A study conducted by Thomas (2006) suggest that school connectedness tends to be greater: in smaller schools, more racially homogeneous schools, and schools with more students from relatively wealthy households.

Niehaus et. al (2012) examined the effects of school connectedness on academic outcomes across sixth-grade students from high poverty neighborhoods. Although this study is not limited to students from impoverished neighborhoods, the study is still useful in gaining some insight into how feeling disconnected from one's school is related to academic outcomes. The

researchers used the following three tools to help measure the sense of how connected students felt to their school: The National Educational Longitudinal Study, The Need Satisfaction Scale, and The Scale of Caring Adult Relationships in School. The results of the study indicated that students' perceptions of school support declined at the end of the sixth-grade year when compared to the beginning of the year. The decline was attributed to student gaining experience in their new school environment as the school year progressed. On their first day of 6th grade, it was their first day attending the school, which means students didn't know the teachers or a lot of their peers. As the school year went on and students formed friendships and relationships with teachers, students gained experience. The study was conducted at multiple middle schools, yielding different results across the different schools. Depending on the school in which they attended, girls expressed higher levels of school connectedness at the beginning of the school year and reported greater academic success and behavioral outcomes at the end of the year than their male peers (Niehaus et al. 2012). It should also be noted that Goodenow (1993) stated that girls, when compared to boys, reported that their teachers supported them more all throughout their middle school careers.

Bond et al. (2007) researched the effects of social and school connectedness in early secondary school as predictors of late teenage substance use, mental health, and academic outcomes. For the purposes of the current study, we will focus solely on the research pertaining to academic outcomes. Social connectedness and school connectedness were studied separately in this study. Social connectedness referred to the social aspect of school, such as having peer relationships. Whereas school connectedness focused on school engagement and relationships with teachers. The researchers measured social connectedness by asking the students questions such as if they had a friendship group or someone to talk to when they are angry or upset. The

study measured school connectedness by asking a series of questions regarding student's commitment to school. "Doing well in school is important to me" and "Teachers at this school are fair", are just a few examples of the types of questions asked. Academic success was measured by whether the student completed their 12th-grade year and their university entrance scores.

The results indicated that school connectedness, was lower for 10th-grade students than it was for 8th-grade students. Students who reported having lower scores of school connectedness were less likely to do well or complete school. Bond et al. (2007) also reported that students who experienced bullying in 8th grade were less likely to complete secondary school compared to students who did not experience bullying. According to this study, students with low rates of engagement and connections to teachers but good peer groups were the most at-risk for not completing school. In contrast, there was some indication that students with good school connectedness, but poor social connectedness were more likely to have academic achievement. Thus, school connection was a salient factor in predicting academic success.

As previously discussed, there are several measures of school connectedness. For the purposes of this study, I will focus on: a sense of school belonging, cultural and racial acceptance, class participation, and extracurricular activities. Some other measurements of school connectedness that were mentioned throughout the literature included: supportive relationships with adults at the school, school climate, physical environment of the school, attendance, enjoyment of school, feelings of safety, and school staff caring about students' learning. I chose not to use these measurements because of how the data was collected. The data is derived from a previous study and therefore I had to use the questions that were provided within the previous survey. It seemed most fitting to use the measurements school

belongingness, culture and ethnic acceptance, classroom participation, and extracurricular activities versus the other measurements found in previous literature. I also decided not to use scales used in previous literature because of the nature of the study. I want to be able to look at each variable separately so that I am able to see which aspects of school connectedness affect academic success the most and least significantly.

Student perceptions of belonging

The research literature presented in this section examines empirical evidence addressing the relationship between the sense of students feeling as if they belong at school and students' academic success. This section will also discuss perceptions of belonging declining as student progress within their school.

Roeser et. al (1996) found that students with higher senses of school belonging reported feeling more academically efficacious. In turn, students who felt more academically efficacious reported the highest end of the year academic achievement. The researchers also found a direct relationship between school belonging and academic achievement.

Additionally, Lam (2015) conducted research that indicated that a higher sense of school belonging is positively correlated with higher grade point averages. Likewise, a sense of rejection was correlated with lower grade point averages. Similar to Roeser et. al's (1996) finding, he found that school belongingness was linked to academic emotions, which acted as a mediator between school belongingness and academic outcomes. A sense of belonging was associated with more positive academic emotions, which therefore produced higher GPA's. While senses of rejection were associated with more negative academic emotions, thus leading to lower GPA's. Feeling more connected and accepted at school reduced the likelihood of experiencing negative emotions such as helplessness, fatigue, boredom, and depression, the lack

of which may also enhance their academic success. The study also revealed that the positive emotions associated with a heightened sense of school belonging can boost student's self-efficiency.

Likewise, Goodenow (1993) also found that school belonging was significantly related to academic outcomes when studying middle school students. This offered the suggestion that a substantial amount of academic motivation for students comes from the support of others in the school environment including peers and teachers. The sense of school belonging declines as students advance grade levels within their school (Niehaus, Rudasill, and Rakes 2012). Goodenow (1993) went on to add that not only does the sense of belonging decrease across grade levels, the effects of belonging on academic motivation decreases over time.

Examining an older population, a study conducted on high school students by Sánchez, Colón, and Esparza (2005) concurred with previous literature that a sense of school belonging is a significant predictor of academic outcomes. In this study, 'academic outcomes' was measured by academic motivation, effort, and absenteeism. Using a survey method focused on school belonging, researchers discovered that males and females did not significantly differ in regard to a sense of belonging. For male students, school belonging was a great predictor of their absenteeism. The study also revealed that a sense of belonging was positively correlated with academic effort. However, student's perception of belonging did not significantly correlate with their GPA and educational aspirations.

Findings were consistent when also examining students at a college level. Pittman and Richmond (2007) conducted a study on late-adolescent second semester students at a state university regarding school belonging and academic adjustment. When measuring academic adjustment, the researchers collected data on the student's college grades, perceived scholastic

competence, and work orientation. A large portion (76%) of the students reported feeling like they belonged when they were in high school compared to those that felt they belong in college (50%). High school and college belonging were significant predictors of academic adjustment at college. The students that reported higher senses of high school belonging showed higher levels of perceived competence as well as work orientation. Students with higher senses of college belonging displayed higher grades and possessed higher perceived competence.

School connectedness - the role of racial and ethnic acceptance

Research literature presented in this section is an overview of studies conducted which are related to student's ethnicity and how minority students experience a lower sense of belonging. This will then be used to discuss the issue of students of color academic underachievement, which may be explained by the lack of diversity within the school curriculum.

A study by (Hughes et. al, 2015) was conducted on a sample of 527 ethnically diverse and academically at-risk youth. Individual interviews were conducted with 6th, 7th, and 8th-grade students to determine students' sense of school belongingness. In regard to race, African Americans and Euro-Americans reported similar levels of school belonging at the end of the 8th-grade year. However, African American males had the highest level of school belonging out of all male students at the beginning of the 6th-grade school year, which decreased as they progressed in middle school. Euro-American students had a steady increase in sense of school belonging from the 6th-grade to the 8th-grade. Latino males had the lowest initial level of school belongingness, which remained constant across the middle school years. Consequently, African American students did perform lower than Euro-Americans in math and reading in the 8th-grade. Latino students did not differ from Euro-Americans on 8th-grade math and reading scores. For

African Americans, the low test scores could be attributed to the decline in their sense of belonging within their school environment.

Brown and Lee's (2005) findings were a little different in regards to Hispanic students test scores compared to whites. They claimed that African American and Hispanic students are typically more aware of the stigma surrounding people of their ethnic and racial background, than are whites and Asians (non-stigmatized) students (Brown and Lee, 2005). According to research conducted on college students, this stigma consciousness, or awareness of the stereotypes related to an individual, causes an effect on student's academic achievement. African American and Hispanic students reported a lower average GPA than the white and Asian students. Of the stigmatized group of students, some students were more stigma conscious than the others. The high stigma consciousness students of the stigmatized group accounted for just about the entire GPA gap between stigmatized and non-stigmatized students. Interestingly enough, the African American and Hispanic (stigmatized) students that reported lower levels of stigma consciousness did not differ from white or Asian (non-stigmatized) students in regard to GPA. However, amongst non-stigmatize students, being more or less aware of stigmas did not make a significant difference.

Owen and Massey (2011) also studied the effects of stigma on college students. They were interested in why minority students typically perform lower on exams, earn lower grades, and graduate at lower rates than one would predict. They predicted that negative stereotypes in society ultimately affect their academic performance. Owen and Massey (2011) collected their data from the National Longitudinal Study of Freshman. The key findings indicated that indeed, social stigmas can have negative effects on minority student's academic performance. The

researchers also concluded that not only do stigmas affect their academic performance but it affects minorities in the real world.

Hughes et. al (2015) found that African American students are more likely to experience disciplinary sanctions, including disciplinary placements, suspensions, and expulsion than are their Euro-American counterparts. This is not a difference that is explained by African Americans incurring more disciplinary infractions. Being disciplined harsher for infractions, despite not showing a difference in disciplinary infractions may hint at bias within the disciplinary system. This can lead to African Americans' sense of belonging to be decreased.

Recalling Voight et. al's (2015) study from earlier on the gap in school climate between white and minority students: It was previously revealed that minority students experience less favorable experiences of safety, connectedness, relationships with adults, and opportunities for participation compared to white students. However, the disparities in school climates depend on the racial makeup of the school. In schools where the racial makeup of students was white and black, black students indicated that they felt less adult-student relationships, safety, and connectedness than white students. With schools made up of mainly whites and Hispanics, Hispanics reported poorer safety and connectedness, adult-student relationships, and opportunities for meaningful participation. The gaps in connectedness, feelings of safety, adult-student relationships, and opportunities for participation varied from school to school. However, if the school gap was bigger, the academic achievement gap was bigger. If the climate gap was smaller, the achievement gap was smaller (Voight et. al, 2015).

The lack of diversity in the curriculum may be the cause of a percentage of the gap in school climate and academic achievement. Many funding agencies and educators believe that making education relatable to students' lives will increase academic engagement and learning

(Hulleman and Harackiewicz, 2009). Hulleman and Harackiewicz (2009) examined 262 high school students in a 9th-grade science class for one academic semester. They went into the experiment thinking that an increased interest in science would lead to more student interest in science-related courses and careers. Some students were asked to write about the relevance and usefulness of the course material in their everyday life while others just simply asked to write a summary of the course material. At the end of the year, students plans for science related courses and careers in the future were collected by researchers. As the researchers predicted, there was a significant negative interaction between the relevance intervention group and students' expectations for success in science interest as well as second quarter grades. Even students with lower initial success expectations received higher grades at the end of the semester when they were in the relevance intervention group. Hulleman and Harackiewicz (2009) argued that encouraging students to make connections between science course material and their lives promoted both interest and performance for students with low-success expectancies.

Although this study is not directly related to ethnicity and academic success, the study adds additional support to previous literature. Hullen and Harackiewicz (2009) revealed that giving students material that relates to their lives causes greater academic success. Santos and Collin (2016) stated that the students from their study likely received worse reading scores because of the materials that they were assigned to read. The student could not relate to these materials. Assigning students material that is catered to one ethnic group, does not benefit the entire student body because they aren't able to relate their lives and identities to the material in the assignments.

Santos and Collins (2016) investigated the effects of ethnic identity and school connectedness on academic achievement. They define school connectedness as: students'

perception of belonging to the school, feelings of safety, having close relationships with teachers, enjoyment of school, and the belief that teachers treat students fairly. The results indicated that ethnic identity and school connectedness were indeed predictors of academic achievement. It should also be noted that higher or lower school connectedness was associated with higher or lower math scores but not reading scores, while ethnic identity only moderated the relationship between school connectedness and academic achievement in reading. Santos and Collins (2016) stated that this was because of the cultural, social, and political contexts surrounding pieces of writing that youth are typically assigned to read. Researchers also discovered that having a high sense of school connectedness acted as a mediator for having low ethnic private regard in predicting reading scores amongst the students. In other words, this study suggested that even if a student had negative feelings about being an ethnic minority, having a high sense of school connectedness made up for it and it did not affect the student as much.

Class participation and academic success

Literature in this section will explore research pertaining to the effects of class participation on engagement and student academic outcomes. A study by Wang and Holcombe (2010) found that teachers that reward and praise students, stimulate their willingness to participate in classroom discussions and activities, which in turn lead to student's higher academic achievements.

A study by Ward and James (2015) investigated how students level of participation in classroom discussions had an effect on their performance in class. The researchers stated that previous research suggests that greater classroom participation leads to greater motivation and a better thought process. This in-turn leads to an increased knowledge of course content. The information on how class participation leads to increased knowledge is what makes this research

vital to the present study. Increased knowledge is an indicator of students academic success. The study itself went on to affirm the direct relationship between student participation and the learning of course content.

Taking it a step further, Christle and Schuster (2012) sought to examine whether or not the way students participated affected students grades as well as how often they stayed on-task in math class. Researchers observed a math class of fourth-grade students at an urban elementary school. Researchers implemented a card raising activity where all students would write their answers to the teacher's questions and hold it up for the teacher to see when they were instructed to do so. They compared this to the effects of the traditional hand-raising response method typically seen in classrooms.

Christle and Schuster (2012) stated that: the results of this study indicate that response cards were effective in increasing fourth-grade students' active participation, academic achievement, and on-task behavior during math instruction. They went on to say that this could be explained by students who did participate in the hand raising, were ready to be called on, but not always called on. Students who did not have their hand raised were not prepared or even willing to participate.

A very similar study was conducted on middle schoolers in a science class. Two methods were implemented, including a card response activity which engaged the entire class and a passive method where students simply sat and listened while the teacher talked about key points. Students were then tested the next day and at the end of the week, on the material they received in each method. Once again, the scores were higher in the active card raising method versus the passive listening method (Cavanaugh, Heward, and Donelson 1996).

Students that engage in academic purposeful activities, regardless of background, add value to their academic achievements according to Heng (2014). Heng (2014) found that the amount of time a student spent on course-related tasks, frequency of doing homework/tasks, and active class participation positively influenced the student achievement. This study consisted of a less invasive approach to examine the relationship between class participation, engagement, and academic achievement. This study focused on 919 first-year students in an English course. Heng collected data on student engagement via self-report surveys completed by the students. Student academic successes were retrieved from student's final grades in the English course.

While the research presented in this literature review thus far has supported the claim that more class participation positively affects student's academic success, the next section will focus on out of class activities and their effects on academic achievements.

Extracurricular activities

Studies have also examined the link between extracurricular activities and student's academic success. The effects of the different types of extracurricular activities and the different amount of activities participated in will be discussed.

Research was conducted to see if the number of extracurricular activities that students participated in affected their sense of belonging at school and their academic performance (Knifsend and Graham 2012). Extracurricular activities were not limited to sports in this study. Researchers also examined students participating in academic/leadership groups, arts, and clubs. This was looked at over the course of 11th and 12th-grade years. Eight hundred and sixty-four students were examined in total. Knifsend and Graham (2012) were also looking to not only measure the effects of extracurricular activities on academic performance and school belonging

but also the breadth of extracurricular activities to see if different activities affect student performance differently.

The results showed that there was a significant relationship found between the total number of extracurricular activities students participated in and their sense of belonging at school as well as their academic engagement. The study showed that almost a quarter of students were members of three extracurricular activities (24.4%). The sense of school belongingness showed an increase between zero, one, and two activities. However, the sense of belonging was lower for students who participated in three or four activities. Knifsend and Graham (2012) stated that degree of participation in 11th grade did not relate to grade point average in 12th-grade. Nonetheless, it was revealed that a sense of belonging in 11th-grade significantly predicted academic performance in the 12th-grade. The researchers accredited a sense of belonging as a greater predictor of 12th-grade performance than did participation in extracurricular activities.

Overall, high school students who are involved in one or more activities report more positive attitudes about school, higher aspirations for academic achievement, and better grades than their uninvolved peers (e.g., Darling et al. 2005 via Knifsend and Graham 2012).

A similar study researched whether the timing of participation in extracurricular activities was significantly related to academic achievements instead of the amount of participation. Im et. al (2016) conducted a longitudinal study determining the effects of student participation in extracurricular activities in 7th and 8th-grade on 9th-grade academic efforts and achievements. Achievement was determined by grades, completing high school, and enrollment in post-secondary school. Four hundred and eighty-three students were selected when they were in 1st-grade to participate in this study.

Boys and girls did differ in which activities they participated in; however, they did not differ in whether they were involved in extracurricular activities or not. Im et. al (2016) stated that in performance arts/clubs, for teacher-rated classroom engagement, boys were only affected when they stopped participation and not girls. Once African American boys discontinued with extracurricular activities, their classroom engagement declined. Academically, all boys' letter grades were lower when they waited to participate in extracurricular activities (Im et. al 2016).

For all groups examined, continuous participation in sports activities did have a significant positive effect on 9th grade academic valuing of education and competence beliefs. While delaying of sports participation only has an effect on valuing one's education in the 9th grade. Positive significance was found between students that reported continuous participation in performing arts/clubs and competence belief, teacher-rated classroom engagement, and teacher-awarded letter grades. No significant difference was found between those students and students with delayed participation and academic outcomes (Im et. al, 2016).

Academic success

York, Gibson, and Ranklin (2015) conducted an analytical literature review to help establish a definition for academic success and how it can be best measured. The authors used Astin's Inputs-Environments-Outcomes (I-E-O) model as a framework for their study. According to Astin's IEO: college outcomes are viewed as functions of three sets of elements: inputs, the demographic characteristics, family backgrounds and academic and social experiences that students bring to college; environment, the full range of people, programs, policies, cultures, and experiences that students encounter in college, whether on or off campus; and outcomes, students' characteristics, knowledge, skills, attitudes, values, beliefs, and behaviors as they exist after college (pg.2). They then formed their own model using this

framework and knowledge, compiling definitions and measurements that were used to operationalize academic success from other literature. Travis et. al (2015) stated that academic success would be defined as, "inclusive of academic achievement, attainment of learning objectives, acquisition of desired skills and competencies, satisfaction, persistence, and post-college performance." In the current study, grades and the level of importance the learning material is for later in life are being used to measure academic success. Grades fall under the academic achievement category of Travis et. al's (2015) review, while the importance of the material can be categorized under the Hope Scale model via the acquisition of desired skills and competencies component of the model.

Critique of the literature

Though the literature presented in this chapter was very helpful to the present study, there were limitations within several of the studies. Firstly, the lack of racial diversity in several of the studies makes it hard to generalize the results to students of all ethnicities. As previously stated, the sense of belonging in one's school does affect their academic outcomes. Being in a school where one identifies with the minority may hinder a student's sense of belonging and thus hinder their grades

Second, all the studies I examined in my literature review looked at each of the factors impacting school connectedness separately. There were few studies that examined one or two factors but never all four factors together. It is important to examine all of these variables together to see if they all have the same effect on students. It would also help to examine all of these variables together to help narrow in on which factor is actually more predictive and to increase the validity of the results.

Lastly, several of the studies seem to focus on reading and math subjects when measuring student's academic success. This data can be misleading because it only focuses on two subjects. For example, a student may be a D math student but an A history student. That doesn't mean that they have less overall academic success, it means that the student is not a strong math student but prospers in different areas. Accounting for grades from all school subjects and coming up with an average would be much more beneficial than selecting just one or two subjects to derive data from.

Theoretical perspective

This section will provide a brief overview of the sociological theoretical framework applied to the present study. The theory seeks to give a possible explanation as to why and or how a sense of school belonging, the acceptance of culture and ethnicity, class participation, and extracurricular activities could affect academic achievements.

Social Bond Theory

Social Bond Theory was founded by Travis Hirschi (1969). He argued that social bonds, or the lack thereof, are what causes an individual to live conventional lives or resort to deviant activity. The presence of bonds acts as a restraint mechanism to individuals because they are meaningful and the consequences of losing these bonds hold a greater weight than the benefits associated with deviance. The bonds were formed through interactions in social institutions such as school, family, religion, and work (Peguero, Ovink, and Li, 2015). There are four bonds that Hirschi suggested were influential to one's behaviors: attachment, commitment, involvement, and belief. Attachment is defined as emotional and social relationship that an individual has with others that manifest normative behavior. While commitment is seen as an investment of self, energy, and time in an activity that poses consequences if there is a deviation from the activity.

Involvement is simply putting time towards an activity so that one does not leave time for deviance. Lastly, belief is seen as a value system in which an individual believes in and hold some standards for behavior and actions (Hirschi 1969 and Wehlage et. al 1989 as cited in Peguero et. al 2015).

We can apply all four of the themes of social bond theory to the present study. Each of the themes can be applied to one or more of the independent variables being researched. School belonging acts as the element of attachment. Students who come to school and feel as if they belong, according to this theory, will receive better grades. Students having those social and emotional relationships within their school, with their peers, or with their teachers will cause a student to have a sense of belonging. This supports the previous literature that examined the relationship between sense of belonging and academic achievement. When applying the social bond theory, the students that possessed bonds related to belonging, ethnicity, class participation, and ethnic identity followed the path of conventional academic success. Students with the absence of these bonds demonstrated lower academic success.

Extra-curricular activities are a form of commitment. To be involved in these activities takes some sort of commitment from the student to their team or club. Under Hirschi's theory, going astray from that commitment has consequences that outweigh the benefits of being deviant. In this study, academic success, rather than deviance is examined. In many extracurricular activities, certain grades are required of participants in order to continue participation in the activity. Going astray from a commitment such as basketball, receiving bad grades, and getting kicked off the team may cause an individual's team to lose, posing big consequences. This acts as motivation for the students to have better grades and fulfill their

commitment to their team. It's really that commitment to extracurricular activities that make students feel more connected. Feeling more connected is related to academic success.

Class participation falls under the involvement element of social bond theory. Students putting time and energy into their class work and activities have less time to lose focus or be off-task during instruction, leading to them not getting or retaining vital information presented. As seen in previous studies, being involved during class is associated with better academic success when compared to those who were not participating.

Belief can be associated with acceptance of students cultural and ethnic identity. Accepting one's ethnic identity within the school can allow the student to fully embrace their belief system. If their ethnic group holds the individual to a high standard of academic expectation, embracing this identity will reap benefits for the student. The evidence was presented earlier in this chapter that students who felt that they were accepted at the school regarding their race, displayed better academic achievement than the students who did not. This may be due to the student not wanting to disappoint themselves or their belief system by participating in deviant behaviors (receiving bad grades). Hirschi's theory is the chosen theory for this study because I will be examining how the presence of these variables have an influence on academic success individually and as a unit. Whereas the lack of one or more of these elements may contribute to a student's poor academic achievement.

Summary

This literature review sought to examine previous research to support the grounds of my research question and expand the knowledge to help shape the current study. First, we took a look at the effects that school connectedness has on academic success. Niehaus, Bond, and Hughes all researched and successfully provided data that helped show a significantly positive

correlation between the two variables. Through review, it was revealed that girls initially report a higher sense of belonging in the beginning of the year. It should also be noted that as the school year went on, both boys and girls showed a decline in school connectedness. Similarly, Bond (2007) also discovered that as students progressed within their school, even in different grades, the sense of school connectedness decreased. The greatest academic risk was found within students with low school connectedness but high social connectedness. Another study revealed that in addition to Rudisill's (2012) findings of gender differences and school connectedness, there was also some racial differences (Hughes 2015). African American boys had the highest level of initial sense of school belonging, but once the year went on, Euro-American boys ranked the highest.

Ethnic and cultural identities matter when accounting for school engagement. Students knowing that their ethnicity is accepted amongst their school and peers, creates for a greater sense of connection with their school, allowing them to be themselves and focus on their academics. Hulleman & Harackiewicz (2009) argued that encouraging students to make connections between course material and their lives promoted both interest and performance for students with low-success expectancies. Linking course material with their personal lives and identities, caused a significant change in academic success. Research also showed that stigmatized students didn't fare as well as their non-stigmatized counterparts.

Literature was examined for the effect of class participation on academic success and the results were predictable. Heng (2014) said that the amount of time spent on course-related tasks, frequency of doing homework/tasks, and active class participation positively influenced the student's achievements. Other research went a step further and examined if passive participation methods were as effective as doing an interactive response method where the whole class has to

participate. The interactive methods were effective in increasing fourth-grade students' active participation, academic achievement, and on-task behavior during math instruction.

Additionally, the role that extracurricular activities played on academic outcomes was reviewed. Knifsend and Graham (2012) revealed that it was optimal for student's academic success to participate in two extracurricular activities on average. They also pointed out that the type of activity did not make a significant difference in academic outcomes. A similar study focusing on how long students participate in extracurriculars showed that continued participation in sports had a significantly positive effect on 9th-grade academic competence beliefs and valuing of education (Im et. al 2016). Whereas delayed sports participation contributed to the devaluing of education in the 9th-grade.

All of these studies contributed knowledge to the field and to my research. However, the studies were not perfect and did come with some limitations. A lot of the samples collected within the studies were not ethnically diverse enough, in my opinion, to make a generalization to all students. Each sample should be representative of the population in the school or state. The second limitation was the fact that each of the studies examined each of my independent variables separately. The literature also displayed a lack of diversity when accounting for academic achievements. Many studies only focused on math and reading grades. This does not seem like an accurate representation of student academic achievements.

Lastly, the Social Bond Theory was reviewed to be applied to the present study. There are four key elements to social bond theory: attachment, commitment, involvement, and beliefs. The role of these social bonds is said to hold individuals, in this case students, to certain normative expectations (Peguero et. al 2015). The expectation regarding the present study is academic success. The absence of these bonds may lead a student to partake in deviant behaviors

such as receiving poor grades. The literature navigates us towards what we need to examine further while showing errors that were made along the way. The literature in this chapter also provides a great framework for the present study to examine the question: To what extent does school connectedness affect student's academic success?

CHAPTER III

METHODOLOGY

This chapter provides an examination of the research methodology that guided the present study. The chapter begins with a discussion of the research design, then moves into an introduction of the data source. Next, the variables of the study are discussed, followed by the research questions and hypothesis. The chapter concludes with a discussion of the data analysis used.

Research design

This study is a cross-sectional research design which explores the relationship between school connectedness and student academic success. The sample consisted of 264 students from three high schools in Portsmouth, Virginia. Almost half (50.6%) of the students surveyed attended Churchland High school. Woodrow Wilson High School represented 30 percent of the sample while I.C Norcom High School represented 19.4 percent of the sample. Students varied between the 9th, 10th, 11th, and 12th grade (22.0%, 30.3%, 27.3% and 20.5%, respectively). Most of the respondents (65.2%) identified as females. Only 9.9 percent of the students revealed that they were of Hispanic or Latino origin. Almost half (43.0%) of students identified as African American, followed by 35 percent of students identifying as white. Nearly 14 percent of students identified as having mixed origins. Under 10 percent stated that they were of Asian/Pacific Islander, Native American, or other origin (0.8%, 3.0%, 4.2%, respectively). It should also be noted that most of the students surveyed either lived with both parents (42.4%) or their mother only (24.6%).

Data source

The data for this research is taken from a larger study designed to assess the needs of the City of Portsmouth. The city was seeking to understand the crime and violence rates within Portsmouth when they reached out to the Old Dominion University (ODU) research team. The study took place in 2016 and 2017 and was collected through collaboration from Dr. Randy Gainey, Dr. Melvina Sumter, Dr. Tancy Vandecar-Burdin, Dr. Ruth Triplett, Frank Wood, and Wendi Wilson-John as well as assistance from Steven Parker and graduate student Keyondra Wilson. The research team began conducting the school portion of the Portsmouth Needs Assessment survey by sending out an email invitation to over 3,900 high school students. Researchers informed the potential participants that there would be a chance to win one of ten $25 gift cards as an incentive to complete the survey.

Data was collected by the research team which included the basic demographic makeup of Portsmouth High Schools in Fall 2015. Separate data collected by Dr. Vandecar-Burden for the Portsmouth Needs Assessment survey showed that there were roughly 3,942 students enrolled in the three high schools across Portsmouth. The racial makeup of Churchland High School was comprised of 66 percent African American, 29 percent white, and 5 percent mixed and other races. Woodrow Wilson had a similar racial makeup with 62 percent African Americans, 32 percent whites, and 6 percent other and mixed-race students. I.C Norcom had a larger African American student population (93%) than the previous schools, and a much smaller white population (5%). The mixed and other races made up a mere 2 percent of I.C. Norcom's population. Gender differences were minimal. Churchland had an even 50/50 split of male and

females. Woodrow Wilson was comprised of 51 percent males and 49 percent females and I.C. Norcom was comprised of 52 percent males and 48 percent females.

Variables in the study

Dependent Variable

The dependent variable for this study is academic success based on two self-reported items. Using an ordinal level of measurement, the dependent variable is operationalized by utilizing respondents responses to the questions, "How important do you think the things you are learning in school are going to be for you later in life?" and "What were your grades like last year?" Response categories were: 1= Very important 2= Quite important 3= Fairly important 4= Slightly important 5=Not at all important and 0=Mostly C's D's and F's 1=Mostly B's and 2=Mostly A's (respectively).

Independent Variables

The independent variable, school connectedness, was composed using the four components previously discussed: sense of school belonging, sense of ethnic and cultural acceptance, class participation, and participation in extracurricular activities.

The student's sense of school belonging was measured at the ordinal level using the question, "I feel like I belong at this school". The sense that students were accepted, in regard to their ethnicity was to be measured by the questions, "Teachers and staff at this school emphasize showing respect for all students' cultural beliefs and practices" and "I feel accepted at this school". Class participation was measured by the question, "I have many chances to be a part of class discussions or activities". Lastly, participation in extracurricular activities was measured by the question, "I regularly participate in extracurricular activities offered through this school, such as social clubs, or organizations, musical groups, sports teams, student government, or other

extracurricular activities" All of the measures utilized an ordinal response scale where 1=Never 2 =Almost Always 3=Sometimes 4=Often and 5 =Always

The relationship between these measures and academic success are first examined independently and in tandem. However, because they tend to be highly intercorrelated I also created a scale measuring total school connectedness. The Cronbach's alpha for the scale was .76** indicating strong inter-item correlations that indicates a reliable scale (Cronbach, 1951).

Control Variables

The control variables in this study are race, living situation, and gender. Race is the race or ethnicity that the respondent most closely identifies with 1=white 2 =African American 3=other. This is operationalized by the question, "What is your race/ethnicity?". The variable 'living situation' inquired about who the student lived with was operationalized by the question, "Do you live with…", where the respondents were given a list of options and asked to choose one. Because there were many potential categorical responses with very few respondents identifying with that situation (e.g., living with a grandparent) the variable was recoded to indicate 1=Both Parents 0=Other. The final control variable was gender and was categorized as either male (coded as 0) or female (coded as 1). These variables were chosen because they are the most commonly used in previous studies that I have reviewed. To establish a true relationship between school connectedness and academic success, it seemed necessary to control for the things that might influence or skew the data.

Previously discussed literature indicated that black students were less likely to experience adult-student relationships than their white counterparts. While Hispanic students reported less connectedness and opportunities for participation than black and white students (Voight et. al,

2015). Black students also reported having lower test scores than white students, which was attributed to their lower levels of school connectedness (Hughes et. al, 2015).

Another factor that influenced students school connectedness was their household. (Thomas, 2006). Although this was in regard to the wealth of the household, it is still relevant to the study. Typically, houses with more than one parent have a larger household income. Girls are more likely to express a higher level of school connectedness when compared to males (Niehaus et al. 2012). Female students also felt that their teachers supported them more in comparison to their male counterparts (Goodenow, 1993).

The wording for each question and the response categories are provided in (TABLE 1).

TABLE 1. Variables in the Study

DEPENDENT VARIABLES	OPERALIZATION	CODING
ACADEMIC SUCCESS		
Use_future	How important do you think the things you are learning in school are going to be for you later in life?	1 = Very important 2 = Quite important 3 = Fairly important 4 = Slightly important 5 = Not at all important
Good Grades	What were your grades like last year?	0 = Mostly C's, D's, and F's 1 = Mostly B's 2 = Mostly A's
INDEPENDENT VARIABLES		
ATTACHMENT *School Belongining*	I feel like I belong at this school.	1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree
BELIEF *Culutral and Ethnic Acceptance*	(I) Teachers and Staff at this school emphasize showing respect for all students' cultural beliefs and practices.	1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree
	(II) I feel accepted at this school.	1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree
INVOLVEMENT *Class participation*	I have many chances to be a part of class discussions or activities.	1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree
COMMITMENT *Exrtracurricular activities*	I regularly participate in extracurricular activities through this school, such as social clubs or organizations, musical groups, sports teams, students government, or other extracurricular activities.	1 = Never 2 = Seldom 3 = Sometimes 4 = Often 5 = Almost Always

Research Questions:

Based on the review of the literature, this thesis investigates the relationship between school connectedness and academic success. The main research question examined in this study is: Does school connectedness have an influence on academic success? The following sub-research questions and hypotheses will be examined in this study:

1) Is student's sense of belonging positively associated with good grades and a positive perception of future use of class material?

   H1A: Students who report stronger agreement with perception of belonging to their school will report better grades compared to students report weaker agreement with perception of belonging to school.

   H1B: Students who report stronger agreement with perception of belonging to their school will report stronger agreement with the future use of class material compared to students who report weaker agreement with perception of belonging to school.

2) Is student's perception of teacher and staff respect for student's cultural beliefs positively associated with good grades and a positive perception of future use of class material?

   H2A: Students who report stronger agreement with teacher support and emphasis on respect will report better grades compared to students to students who report weaker agreement with teacher and staff respect for student's cultural beliefs.

   H2B: Students who report stronger agreement with teacher support and emphasis on respect will report stronger agreement of using the classroom material in the future.

3) Is student's sense of acceptance positively associated with good grades and perceptions of future use of class materials?

H3A: Students who report feeling accepted more often will report better grades compared to students who report feeling accepted less often.

H3B: Students who report feeling accepted more often will report stronger agreement with using the classroom material in the future.

4) Is student's level of class participation positively associated with good grades and perceptions of future use of class materials?

H4A: Students who report having more chances to participate will be more likely to report better grades.

H4B: Students who report having more chances to participate will be more likely to report using the classroom material in the future.

5) Is student involvement in extracurricular activities positively associated with good grades and perception of future use of class materials?

H5A: Students who reported higher levels of participation in extracurricular activities are more likely to report good grades compared to students that reported lower levels of participation.

H5B: Students who reported higher levels of participation in extracurricular activities are more likely to report using the classroom material in the future.

Because the individual indicators of school connectedness are likely to be relatively highly correlated and may form a reliable scale we investigate this possibility and calculate a composite scale of school connectedness. I will then examine the bivariate effect of a composite measure of school connectedness at the bivariate level and the multivariate level controlling for several key demographic variables noted in the literature. Specifically, I hypothesis that:

H6: A global measure of school connectedness is positively associated with and perceived future use of class materials and self-reported grades,

H7: A global measure of school connectedness is positively associated with and perceived future use of class materials and self-reported grades,

and this relationship holds controlling for race, gender, and living situation.

Data analysis

First, descriptive statistics were calculated including frequencies, means, standard deviations and minimum and maximum values for the variables previously discussed. A table describing these statistics is provided below.

Second, bivariate analyses were conducted (crosstabs with a test of statistical significance and measures of association) between the independent variables and the dependent variables. This allowed for a baseline comparison, showing the strongest correlations prior to multivariate analyses. Third, a multivariate analysis allowed me to determine which of the school connectedness components had the strongest effects on academic success. An ordinal logistic regression model was used to estimate and assess the strength of these relationships and if they were significant before and after introducing the control variables.

This chapter discussed the research design, the data source, the variables within the study, the research questions, and the data analysis. The following chapter will present the results of the study.

CHAPTER IV

RESULTS

In this chapter, the results of the data analysis are presented. The data for this study was

derived from the Portsmouth Needs Assessment survey, which was conducted in Portsmouth,

Virginia (Gainey et. al 2017). Table 2 shows the sample including measures of academic

success, school connectedness and demographic characteristics.

Table 2 shows the descriptive statistics of each of independent, dependent, and control

variables. As revealed in the previous chapter, there were 264 participants in the original study (a

response rate of about 6.7%). Data show that there were some questions were missing and

therefore had less than 264 responses. This table displays the minimum and maximum that each

respondent was able to answer. Respondents had the possibility of respondent scoring a 1-5 on

the independent variables answer choices. All of the averages were between 3.40 and 3.96, with

a standard deviation of about 1, which suggested relatively high school connectedness among the

respondents. Some of the variables such as good grades, race, and the students living situation

had to be recoded in order to create better variation within the data. The choices for grades were

originally on a scale from Mostly A's to Mostly F's, which was then recoded to 'Mostly A's

(45.5%), Mostly B's' (42.4%), and 'Mostly C's, D's, and F's' (12.1%). There were originally six

choices for race: White, Black, Asian, American Indian, Hispanic and Other. To create a larger

quantity of responses and get a more accurate analysis, race was recoded to white (34.8%), black

(42.8%), and other (22%). Lastly, there were also six living situations from which the students

could choose including: both parents, mother only, father only, mother and step-father, father

and step-mother, grandparent, and other. The variable was recoded to indicate whether the

students lived with both parents (57.6%) or in some other setting (42%). After recoding, there

was enough information in the frequencies to move forward and run crosstabs on the data and

examine levels of associations between the variable

TABLE 2 – DESCRIPTIVE STATISTICS

Variable	N	Mean	SD	Min	Max
School Belonging	263	3.41	1.1	1.00	5.00
Teacher's Support	262	3.48	1.04	1.00	5.00
Acceptance	254	3.53	1.16	1.00	5.00
Class Participation	253	3.94	1.03	1.00	5.00
Extracurricular Activities	252	3.42	1.45	1.00	5.00
Use_future	264	3.42	1.28	1.00	5.00
Good_grades	264	1.3	.68	.00	2.00
Race3 - White	92	.35	.48	.00	1.00
- Black	113	.43	.50	.00	1.00
- Other	58	.22	.41	.00	1.00
Who do you live with?					
- Both Parents	152	.42	.50	.00	1.00
- Other	112	.58	.50	.00	1.00
Female	172	.65	.48	.00	1.00

Table 3. displays the bivariate associations between each of the independent and control

variables had with the dependent variables. There were some statistical associations presented in

the table, mostly positive, indicating that the independent variables are related to the dependent

variables. Specifically, females are less likely to report that they would use the materials in the

future. The race of the student was also to predict the perception that they would use school material in the future. Specifically, African Americans were most likely to have this perception. In addition, students who live in an "other" living arrangement are more likely to receive mostly C's, D's, and F's.

The results from the bivariate analyses showed a mix of support and non-support for my hypothesis. School belonging was not found to be highly associated with good grades (Gamma =.142, p<†). It had a weak association with the perception of using the material in the future (Gamma .142) and it was not statistically significant. When examining H2B and whether or not students would use the materials learned in class in the future, teacher's support showed the strongest association with a Gamma of .405 (p<.**). There was a weak association and no significance when examining teachers support and good grades, unsupportive of H2A. The low correlation between feeling accepted and good grades (Gamma=.367, p<.**) and the perception of using the material in the future (Gamma=.164, p<.†) did not support H3A or H3B. While class participation had the highest association with receiving good grades (Gamma = .315, p<.*), it was still not enough to support H4A. The weak association between class participation and using the material in the future (Gamma=.343, p<.**) also did not support H4B. Unsupportive of H5Aand H5B, extra-curricular activities showed weak association with good grades (Gamma=.287, p<.**) and perceptions of using the class material in the future (Gamma=.135, p<.*).

Although the Gamma's of the independent variables were not more than .5, there was significance in the relationships between some of the variables. All of the independent variables had a significant association with perceptions of using school materials in the future. There was also significant relationship found between students feeling accepted, classroom participation,

extracurricular activities and self-reported good grades. None of the control variables showed a significant association with using the materials in the future. Students' living situation was the only variable to have appeared significantly significant (p<.*) in regard to good grades.

Table 3. CROSSTABS AND CORRELATIONS (Gamma and Cramer's V as appropriate)

Variable	Use_Future	Good_Grades
School Belonging	.377**	.142
Teachers Support	.405**	.155
Acceptance	.367**	.160†
Class Participation	.343**	.315*
Extracurricular activities	.135*	.287**
Race3	.073	.117
Who do you live with?	.112	.103*
Female	.159	.066

† p < .10

* p < .05

** p < .01

Reliability analysis of the five indicators of school connectedness showed a Cronbach's Alpha of .761. Indicating that the relationships between the independent variables may be highly correlated to one another. Correlations and ordinal logistics were conducted where each of the independent variables were ran independently to see if the relationships were still significant.

Table 4 shows the bivariate relationships between the independent variables, which were ran independently, control variables and the two dependent measures of school connectedness

(Gamma for two ordinal variables and Cramer's V for ordinal with dichotomous variables). Each of the associations remained below a .5. Affirming H1B and H2B, Table 4. also shows that when looking at the variables independently, only teacher support and school belonging remained significant when examining the use of school material in the future, whereas each of the independent variables were significant in Table 3. Class participation was the only independent variable to remain as a significant predictor of good grades between the two tables, affirming H4A and H5A.

Table 4. ORDINAL LOGISTIC REGRESSION: use of material in the future and good grades

Variable	Without Control Variables		With Control Variables	
	Use_Future	Good_Grades	Use_Future	Good_Grades
School Belonging	.346*	.106	.346†	.106
Teachers Support	.364**	.102**	.364*	.102
Acceptance	.336	.132	.336	.132
Class Participation	.276	.233*	.276	.232*
Extracurricular activities	.143	.217*	.143	.217†

† p < .10
* p < .05
** p < .01

Table 5. shows that before controlling for race, gender, and the respondents living situation, each of the independent variables were positively correlated with the dependent variables. School belonging (H1A) and teacher's support (H2A) showed a strong significant relationship with students using the material in the future while the others did not. Class participation (H4B) and extracurricular activities (H5B) were statistically significant when examining good grades, while the others were not. There was a slight decrease in the correlations between school belonging and using the material in the future, as well as a decrease between extracurricular activities and good grades. However, all of the variables that were originally statistically significant remained that way when controlling for gender, race, and the students' living situation.

Logistic regression was conducted (Table 5.) on each of the independent variables along with the control variables to determine the likelihood of the dependent variables occurring. 'Odds ratio's' were derived from using the estimates from the logistic regressions. The results indicated that a unit increase in school belonging was associated with a 28% increase in the odds of using the materials in the future. Additionally, a unit increase in teacher's support was associated with a 51% increase in the odds of using the material in the future. A unit increase in class participation increased the odds of getting good grades by 41%. Lastly, it was revealed that a unit increase in extracurricular activities increased the odds of getting good grades by 20%.

Table 5. LOGISTIC REGRESSION – ODDS RATIO

	Use_Future		Good_Grades	
Variable	estimate	odds ratio	estimate	odd ratio
School belonging	0.245	1.28*	-0.039	0.96
teacher support	0.41	1.51**	0.105	1.11
acceptance	0.207	1.23	-0.019	0.98
class participation	0.198	1.22	0.343	1.41**
extracurricular	-0.032	0.97	0.184	1.20*

*p < .10
** p < .05

Based on the previous findings from the bivariate analysis, it seemed appropriate to create a scale variable to measure the level of overall school connectedness in a logistic regression model. The scale was created by using the independent variable's means, which ranged from 1 to 5, with 25 being the highest level of school connectedness if students answered with a "5" on all of the questions. The new scale variable "SCH_CONNECT" was then ran in a logistic regression model against the two dependent variables and the control variables (Table 6). The regression model showed the relationship between overall school connectedness and academic achievement was statistically significant, supporting hypothesis number 6. The

relationship had a p < .01 significance for both using the material in the future and receiving good grades, even when controlling for race, gender, and living situation, in support of hypothesis seven. As the level of school connectedness increases, according to this logistic regression, the level of academic achievement would increase as well and the demographics did not make a difference.

Table 6. LOGISTIC REGRESSION WITH SCALE VARIABLE

	Without Control Variables		With Control Variables	
Variable	Use_Future	Good_Grades	Use_Future	Good_Grades
SCH_CONNECT	.192***	.111***	0.385***	0.229***
Female	-	-	-0.137	0.043
Black	-	-	0.035	-0.016
Living with Both Parents	-	-	0.019	-0.126

Assumptions of ordinal regression, none of the parallel lines were significant
*** p < .01

Future Research

Portsmouth, Virginia is an under-resourced school district. While the needs of students in these types of school districts are abundant, research that systematically examines these needs tends to be limited. Future research should not only examine the levels of connectedness and academic success students feel they have, but also include questions about what students feel they need to feel more connected to school and bolster academic success.

In addition, while this study examined these issues from the student's perspective, it is also important to consider how faculty and administrators contribute to perceptions of connectedness and academic success. Future research should take these populations into consideration as well.

Discussion

Social bond theory promotes the idea that a sense of connection to a community is an important aspect of social life. When members of society have significant bonds, they are less

likely to engage in deviant behavior and more likely to engage in positive behaviors. The notion social bonds has been extended to the issue of academic success and achievement. In general, the literature covered in this thesis is an extension of social bond theory through the idea of school connectedness.   School connectedness refers to the extent to which students feel others in the school environment care about them and the extent to which they feel they belong in the school environment. As indicated by the literature and this research, several factors can influence a sense of school connectedness. Moreover, as indicated by the literature, the concept of school connectedness is associated with academic success and achievement. The findings in this study are aligned with the literature that examined the concept of school connectedness and academic success. While the sample in this study was relatively small, several key findings from this study reflect significant findings in previous research.

How students feel about the importance of what they are learning can have a significant impact on their engagement with the material and consequently academic achievement and success. The extent to which students find the material important and perceive they will use the material in the future is associated with school connectedness. Thus, students who feel more connected, are more likely to say they will use the material in the future. This coincides with the findings in this study. Students with higher perceptions of belonging, had a higher perception of using classroom materials in the future (H1B).

In a study conducted by Pittman and Richmond (2007) the researchers found that students who felt they belong in high school, ultimately did better academically in college. I propose that a sense of belonging may be associated with academic success because students who feel connected may not only feel the material being learned will be important to them in the future, but because they view it as important, they will be more engaged in the learning process.

In addition, this study affirmed literature that has examined the relationship between having a diverse curriculum that related to student's lives and using the course material in their everyday life (Hulleman and Harackiewicz, 2009). In the present study, this was operationalized as teachers emphasize showing respect for students in regard to their race and ethnicity (H2B). Thus, students who feel the material is relevant to them and their lived experiences may be more engaged in the classroom. The idea of improving student engagement with material, based on the previous literature and this study indicates that engagement must extend beyond methods and include material sparks the interests of students that may be tied to their race, ethnicity, gender, and class.

The relationship between class participation and academic success has been examined in previous studies (Christle and Schuster (2012; Cavanaugh et. al 1996) and was confirmed in this study. The present study found a positive relationship between classroom participation and receiving good grades. If classroom participation is essential to academic success, one of the issues that needs to be addressed in public education is how the engagement of students in the classroom can be increased.

Moreover, the present study agreed confirmed the findings of previous studies that examined the relationship between extracurricular activites and academic success (Darling et al. 2005 via Knifsend and Graham 2012). As student's participation increased, so did the likelihood of the student receiving good grades.

In general, the relationship between school connectedness and some measures of academic success were demonstrated in this study. As discussed above, these results were aligned with other studies that have examined the relationship between these two concepts. It is significant to note that this relationship held true to a population in a school district that is both

under-resourced and minority. Thus, school connectedness and academic success seems to be a universal relationship across populations. However, when working with under-resourced school districts, one of the challenges is how to implement the necessary programs and changes that are necessary to improve school connectedness given limited resources.

Conclusion

In accordance with the literature, the present study suggests that students overall school connectedness does affect academic success. There were also correlations found between the control variables and the dependent variables. Females reported to be less likely to use classroom materials in the future than males. African Americans were most likely to have this perception. In addition, students who live in an "other" living arrangement are more likely to receive mostly C's, D's, and F's.

Since the independent variables were very highly correlated with a Cronbach Alpha of .761, each of the independent variables were run independently. This analysis suggested that when a sense of belonging and teacher support was increased, even when controlling for race, gender, and living situations, the likelihood of students using the material in the future increased, supporting H1B and H2B. My third hypotheses, H3A and H3B, that an increase of feeling accepted at school would increase student's perception of using the material in the future and receiving good grades was not supported. In support of H4A and H5A, it was found that: as classroom participation and extracurricular activities increased, so did self-reported good grades, even when implementing the control variables. Logistic regressions also showed that a unit increase in each of these variables was associated with a 20-40% increase in the likelihood of the respective dependent variables.

I also examined the overall effects of the independent variables in the form of a scale variable. A logistic regression to determine the extent of the relationship between the new scale variable and the dependent variables. In support of H6, the relationship between the new scale variable and self-reported good grades and perceptions of using the material in the future was found to be statistically significant. Even when implementing the control variables (H7), school connectedness remained statistically significant at the $p < .01$ level, in favor of hypothesis seven. Suggesting that as students score higher on the school connectedness scale, the higher their academic achievements. Which is in line with the literature previously mentioned.

Limitations

There were several limitations in this study that resulted from using an existing data source. First, using secondary didn't allow for creating more specific questions that could measure the component of school connectedness. In addition, single items had to be used to measure the concept of school connectedness, rather than use a scale.

The sample size was also very small with only 264 participants. Another limitation stemmed from it being secondary data is that it was self-report data that I was using. Participants could have been dishonest about their grades or even some of their feelings about the school connectedness questions. There was also little variation within this data set, so I had to manipulate the data to get more variation. For examples, combining the dependent variable 'good grades' into three categories (A, B, C D and F) instead of the original five categories (A, B, C, D, F). The latter three grades appeared very seldom in the survey responses.

Policy Recommendations

Based on the literature, previous research and some of the findings presented in this research, it is clear that fostering a sense of belonging for students can promote positive

outcomes. In doing so, schools must focus on improving those factors that are known to enhance school connectedness. Doing so would require public school stakeholders advocating for classroom materials that have a connection to students' identity, implementing training that enhances the level of respect teachers demonstrate when working with students, increasing the level of classroom participation for students, and investing in additional and a wider range of extracurricular activities for students.

Some of these improvements may pose a challenge to a school district like Portsmouth that is under-resourced. However, the local school board can exercise some control over these issues.

First, while the Virginia Department of Education largely dictates the types and sources of material used in the classroom, school boards have some latitude in selecting material. Materials should be selected that best reflect the interests of students in a district. In addition, school administrators can encourage the use and exposure to supplementary materials and experiences to enhance student interests. Some of this enhancement can be accomplished through establishing elective hours that allow students to engage in community organizations and experiences that are of interest to them.

School boards also have the ability to expand the types of extracurricular activities offered to students. While athletics may be a viable outlet for some students, others may have interests outside of athletics. School boards should be creative in providing students with non-traditional activities that cater to their interests. Perhaps gauging what students are actually interested in would provide school boards with some viable ideas for additional activities. With respect to fostering respect and enhancing classroom participation for students, school boards can offer training to some teachers who would serve as trainers to their peers. Doing so is

not only cost effective but provides the trained teachers to adapt the knowledge and techniques

they learned to their population of students and teachers.

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