

ABSTRACT

Title of Dissertation: A REVIEW OF A HIGH SCHOOL
TRANSITION MENTOR PROGRAM FOR
NINTH-GRADE STUDENTS AND ITS
IMPACT ON SCHOOL CONNECTEDNESS
AND GRADUATION

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Local, state and national data show that graduation rates for African Americans lag behind White students. This problem has existed for decades, and African American students may not have the proper support to succeed. Further, research has shown that bonding or school connectedness can lead to better graduation outcomes. One approach that may help to alleviate this problem is to provide a transition mentor program for ninth graders to encourage school connection and bonding.

This study aimed to examine an existing transition mentor program in one high school to determine how it promotes school connectedness. Specifically, this study's intention was to review key indicators of school bonding shown to influence the retention of African American high school students. The five areas are school involvement, academic motivation, school attachment, teacher support, and peer relations.

The study was informed by the research of Chung-do et al. (2015) that measured five factors of school bonding and was conducted in collaboration with the high school administration and program lead teacher. The survey was administered by school staff to 367 ninth-grade students, and results were obtained from 88% of the students. Analyses of survey results suggested that the transition mentor program was viewed positively by the students, specifically in areas of peer relations and teacher support. Further, the survey has the potential, with further exploration, to provide a useful tool for evaluating and monitoring the transition mentoring program in the current and future high school settings.

A REVIEW OF A HIGH SCHOOL TRANSITION MENTOR PROGRAM FOR
NINTH-GRADE STUDENTS AND ITS IMPACT ON SCHOOL
CONNECTEDNESS AND GRADUATION

by

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Dedication

I would like first to thank my Lord and Savior, Jesus Christ. Without him, nothing is possible.

Acknowledgments

I want to thank my parents, Earl and Ellen, for their unwavering support and encouragement for me to pursue my education. I am grateful that you both have set an excellent example for our family.

To my father-in-law, thank you for your support and encouragement throughout this journey. Moreover, although my mother-in-law is no longer with us, our conversations about higher education and its impact on one's life will be something I cherish most.

Next, I would like to thank my extended family for all the reassurance and encouragement. Understanding my priorities and assisting with my children and wife while I was in class or writing, I cannot thank you enough.

To my family. First, to my children, Natalie, Lincoln, and Gracie. May you continuously pursue your dreams and know that nothing is impossible without commitment, discipline, hard work, perseverance, and faith.

Cristin, I am so grateful for your support while I pursued a dream I had since I was a teenager. Thank you for always listening, encouraging, motivating, and providing for me on this journey. You are a true blessing, and I would not have been able to do this without you.

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Section I: A Review of a High School Transition Mentor Program for Ninth-Grade Students and Its Impact on School Connectedness and Graduation

Graduating from high school with the preparation needed for postsecondary success is the culmination of the work of K-12 educators and students. Additionally, earning a high school diploma is considered one of the most critical factors associated with social and economic success (National Research Council, 2011). Not completing high school has a detrimental impact on an individual. According to the Center for Child and Family Policy (2008), dropouts “not only earn less and, therefore, pay fewer taxes, but they also consume more public services, have fewer stable families, commit more crime and live shorter lives” (p. 18). Researchers (i.e., Bowers, 2017; Burrus & Roberts, 2012; Campbell, 2015; Orfield, 2014) and others have noted long-term consequences of not graduating, including a greater likelihood of becoming involved with the criminal justice system, living below the poverty line and less likely to obtain long-term employment that pays a decent living wage. Additionally, dropouts have increased issues with mental health, such as anxiety, depression, and self-esteem (Liem et al., 2001).

Given the significant negative consequences of dropping out of high school before graduation, initiatives that promote school completion have long been investigated. Although many factors contribute to a student leaving school before graduation, including family and community factors, some are within a school’s control. The National Dropout Prevention Center (n.d.) cited a systemic approach using a continuous process of evaluating goals and objectives related to school policies, practices, and organizational structure as they impact different groups of learners. Further, creating safe learning environments where daily experiences at all grade levels enhance positive social attitudes and practical interpersonal skills in all students are also foundational strategies that schools can use to create a welcoming experience. Schools also have

opportunities to promote family engagement, offer early childhood education, sponsor service-learning, provide mentoring/tutoring, leverage technology, and provide individualized instruction (National Dropout Prevention Center, n.d.). These supports and initiatives are particularly important for African American and Hispanic/Latino students, who are at a greater risk of not graduating than White students (Stanard, 2003).

As educators aim to prepare every student to graduate, exploring the supports and factors that promote successful high school completion for all students is imperative. One factor from the research is how strongly a student feels engaged, bonded, or connected to the school. A growing body of research demonstrates the critical role of school bonding or connectedness in mitigating the risk of dropping out. According to McNeely et al. (2002), when adolescents feel cared for by people at their school and feel like a part of their school, they are less likely to use substances, engage in violence, or initiate sexual activity at an early age. Students who feel connected to the school in this way also report higher levels of emotional well-being. Roeser, et al. (2000) noted that adolescents spend more time in school than in any other context, and Resnick, et al. (1997) noted that even decades ago, there was substantial research that suggested feeling connected to one's school during adolescence promotes concurrent and long-term positive youth development. However, according to Klem and Connell (2004), by high school, as many as 40-60% of all youth in urban, suburban, and rural schools report being disconnected from school. Karcher, et al. (2008) state that school connectedness is generally developed through positive interactions with teachers and peers in the school environment and has an essential role in youth adjustment. Other research indicates that low levels of school connectedness contribute to increased externalizing problems (Loukas et al., 2016), depressive symptoms, and low self-esteem (Way et al., 2007).

One issue among the studies is that the literature does not specifically define school bonding or connectedness, and few journal articles describe these constructs (Jimerson et al., 2003). Instead, the literature provides lists of items or measures that are seen as being associated with school bonding, and many are closely related to definitions of student engagement. Most research studies do not distinguish between school engagement, bonding, connection, student motivation, involvement, or other associated terms. For instance, school connectedness has been referred to as an academic environment in which students believe that adults in the school care about their learning and them as individuals (Blum, 2005; Gallup, 2019). Kearsley and Schneiderman (1998) defined student engagement as all activities involving active cognitive processes such as creating, problem-solving, reasoning, decision-making, and evaluation. Other early articles suggested that school bonding reflects the degree of a student's closeness or attachment to teachers and commitment to conventional school goals (Eggert et al., 1994). Still other researchers included the achievement of good grades as an indicator of school bonding (e.g., Cernkovich & Giordano, 1992), but others ignored grades and focused only on student's feelings of commitment or attachment (e.g., Chung et al., 2002; Murray & Greenberg, 2001).

Chung-Do et al. (2015) reviewed several studies of school bonding and identified considerable inconsistency in the concepts and measures of school connectedness across studies. They found that many measures did not capture the multifaceted dimensions of the school connectedness construct. Therefore, after the literature review, Chung-Do et al. compiled items to form a school connectedness scale. The researchers categorized the various items into three broad categories of school connectedness: behavioral, cognitive, and affective. The scale will be described in greater detail later in this dissertation and form the basis of this investigation's model.

Creating Connections to School

A robust body of research has explored what program initiatives or other school factors appear to increase student connection to the school. Anderson et al. (2019) identified school transitions during adolescence, specifically the transition from middle to high school, as a high-risk phase for students to disengage from school and one of the riskiest phases for school failure. This school transition is characterized by significant social, emotional, and behavioral changes (Longobardi et al., 2016). Supporting students through the transition from eighth grade into the first year of high school has been a major initiative over the past several decades. Since the 1990s, mentoring has become popular as an intervention strategy to support the transition from middle to high school and has been specifically focused on at-risk youth (Rhodes et al., 1992; Wheeler et al., 2010).

School-based mentoring programs can promote school connectedness as their primary goal (Herrera et al., 2000). These mentoring programs can promote good school relationships among teachers and students and peer-to-peer. (Karcher, 2014; Voight & Nation, 2016). Not all mentoring programs explicitly encourage the development of school connectedness, but they can potentially improve students' social relationships. For example, school-based programs that support mentees with schoolwork may also support activities that promote interactions between mentees or other classmates in the school setting (Curran & Wexler, 2017). Moreover, Schwartz et al. (2012) found that such mentoring can increase mentees' self-esteem as mentees might also perceive themselves as more capable academically because of the social approval and support experienced in the relationship with their mentors (Wheeler et al., 2010).

The Mentoring Program at Western High School

Western High School (WHS) is one of 12 high schools in the Ocean County School District (OCSD), a system of over 57,000 students in a mid-Atlantic state. In the Fall of 2021, WHS had over 350 students enrolled in Grade 9. The high school began a mentoring program in 2017-18, intending to help incoming students transition to the ninth grade by providing them with the opportunity to connect, build a welcoming school community, and provide skills and strategies for success as ninth graders embark on their high school experience.

In the fall of 2017-18, WHS became a magnet-style school where students from its non-traditional feeder middle schools were afforded the option to attend. This change allowed students to relocate to WHS as part of an academic program offering a dual enrollment option, allowing students to receive dual high school and community college credits for courses taken in 10th-12th grade (District, 2018). Integrating the influx of students who were not a part of the traditional feeder pattern of middle schools for WHS became a concern for WHS administration and staff. The staff's primary concern was how the "home" students or those whose residential school was WHS were heard talking about the differences among the "new" students. These differences included comments about the perceived lower academic ability and differences in social engagement.

Accepting the new students into the school, celebrating differences and commonalities between the two student populations, and teaching "home" students how to interact with and accept students coming from middle schools from all over the district caused WHS staff to consider ways to transition the new students into the existing school culture. Evidence suggests that the transition to high school disrupts students' social networks. Some students spend the early part of the ninth-grade year figuring out where they fit socially, which interferes with

academic success (Barone et al., 1991). Williamston (2010) stated that the most successful schools view the transition between the middle grades and high school as a process, not an event. Schools should involve teachers, students, and families in continuous planning to support transitioning ninth-grade students' academic and social success in high school and beyond.

To increase students' success, schools and communities have begun to develop school-based mentoring programs to foster positive outcomes for children and adolescents (Gordon et al., 2013). A mentor is an adult who nurtures, supports, and cares for students individually or in small groups (Rhodes et al., 2002). In teacher/student mentor programs, the adult can support individual students by meeting with them to talk about social, personal, and academic issues; working with the parents to enhance their support for their children's schooling; and advocating for the students in the school (Ayalon, 2011).

The newly developed transition mentoring program at WHS included a cross-aged student mentor program and teacher mentors who were to assist in transitioning students from middle to high school. This included, but was not limited to, strategies for getting involved in school activities, studying for mid-terms and final exams, and understanding the school's physical layout.

The mentoring transition program has continued since the 2017-18 school year, including virtually during the 2019-20 and 2020-21 school years, when in-person instruction was not permitted. However, the program has never been formally evaluated to determine whether it has impacted the connectedness of incoming ninth graders at WHS. Therefore, this investigation focused on determining, from students' perspectives, to what extent the program has influenced the three broad categories of school connectedness as defined by Chung-Do et al. (2015): behavioral, cognitive, and affective.

Summary

The importance of supporting students through the high school experience to graduation cannot be understated. Given the consequences of leaving school without a diploma, schools and school systems need to explore evidence-based programs and supports that can increase a student's likelihood of graduating. One such factor is the extent to which the student feels connected to the school, its teachers, and other students. This study investigated one transition mentoring program developed at a high school in a large suburban district to determine if that program impacted three critical areas of school bonding.

In the following sections, I will first briefly present the high school graduation data that indicate the persistent gaps in graduation rates, specifically among African American and White students, followed by a discussion of the consequences of not receiving a diploma. I will then present a Causal Systems Analysis (CSA) that will briefly review the literature related to several factors that have been shown to impact graduation. My Theory of Improvement will follow this, specifically related to keeping students engaged and connected to school and preventing dropouts.

Scope of the Problem of Low Graduation Rates

Ensuring that students graduate is the ultimate metric for school and student success. According to the National Center for Education Statistics (NCES, 2021), in the 2018-19 school year, the average adjusted cohort graduation rate (ACGR) for public high school students in the United States was 86%, the highest it has been since the ACGR was first measured in 2010–11. The ACGR measures the percentage of ninth-grade students who complete high school in four years with a regular high school diploma. Moreover, the average ACGR differed by student subgroup: Asian/Pacific Islander students had the highest ACGR (93%), followed by White

(89%), Hispanic (82%), African American (80%), and American Indian/Alaska Native (74%) students. In one state, African American students had an ACGR of 84% in 2018-19, which was just below the U.S. national average; however, they still lagged nine percentage points behind White students in the state (National Center for Educational Statistics, 2021). Atwell et al. (2019) noted that despite the national graduation rate reaching an all-time high of 86% in 2018-19, the gaps between student groups remained, and the challenge to close those gaps continues. The implications for some students leaving high school are bleak. School systems need to examine and address why student groups have disproportionate rates of on-time high school graduation.

State Graduation Data

In 2019 approximately 64,000 students were enrolled in the state's public schools (State Report Card, 2020). Data provided by the State Department of Education (SDE) show that in 2019 the state had an average graduation rate of almost 87%, slightly above the national average (State Report Card, 2020). African American students had a graduation rate of 84% in 2019, about three percentage points below the state average (see Table 1). White students graduated at a rate of almost 93%. While the graduation rates have increased by two percentage points for African Americans over the past five years, the gap between African Americans and Whites persisted at approximately 8.5 percentage points, only slightly lower than the gap at the national level.

Table 1*State Four-Year Adjusted Cohort Graduation Rate Trend: 2015-2019*

Year	All students	African American students	White students
	%	%	%
2015	86.98	82.29	92.03
2016	87.61	84.06	92.41
2017	87.67	85.44	92.66
2018	87.12	84.76	93.16
2019	86.86	84.31	93.35

Local District Graduation Data

The SDE reports data for each of its 24 school systems. The ACGR trend of the local school system (LSS), which is the site of this investigation, is published on the SDE (2020) Report Card and displayed in Table 2. The table presents the system's average graduation rate from 2015 to 2019 and the averages for the African American and White student groups. Over these five years, the LSS's average graduation rate has remained slightly above 90%. The average ACGR for White students exceeded 95% each year. African American students' five-year average ACGR (89.12%) was 3.6 percentage points below the LSS average, while White students' five-year average ACGR ($\geq 95\%$) remained approximately 2.3 percentage points above the LSS average. The gap between African American and White students has averaged roughly 5.8 percentage points in these five years.

Table 2*Local School District Four-Year Adjusted Cohort Graduation Rate Trend: 2015-2019*

Year	All students	African American	White
	%	%	%
2015	93.47	87.94	≥ 95.00
2016	93.21	90.31	≥ 95.00
2017	92.28	89.95	≥ 95.00
2018	91.95	88.66	≥ 95.00
2019	92.78	88.74	≥ 95.00

The gap in graduation rates between African American and White students shown in the above data demonstrates there is still work to be done to close the gap between student groups. Closing the gap in graduation rates is imperative, specifically for African American students, as well as for other high-risk student groups.

Consequences of Not Receiving a High School Diploma

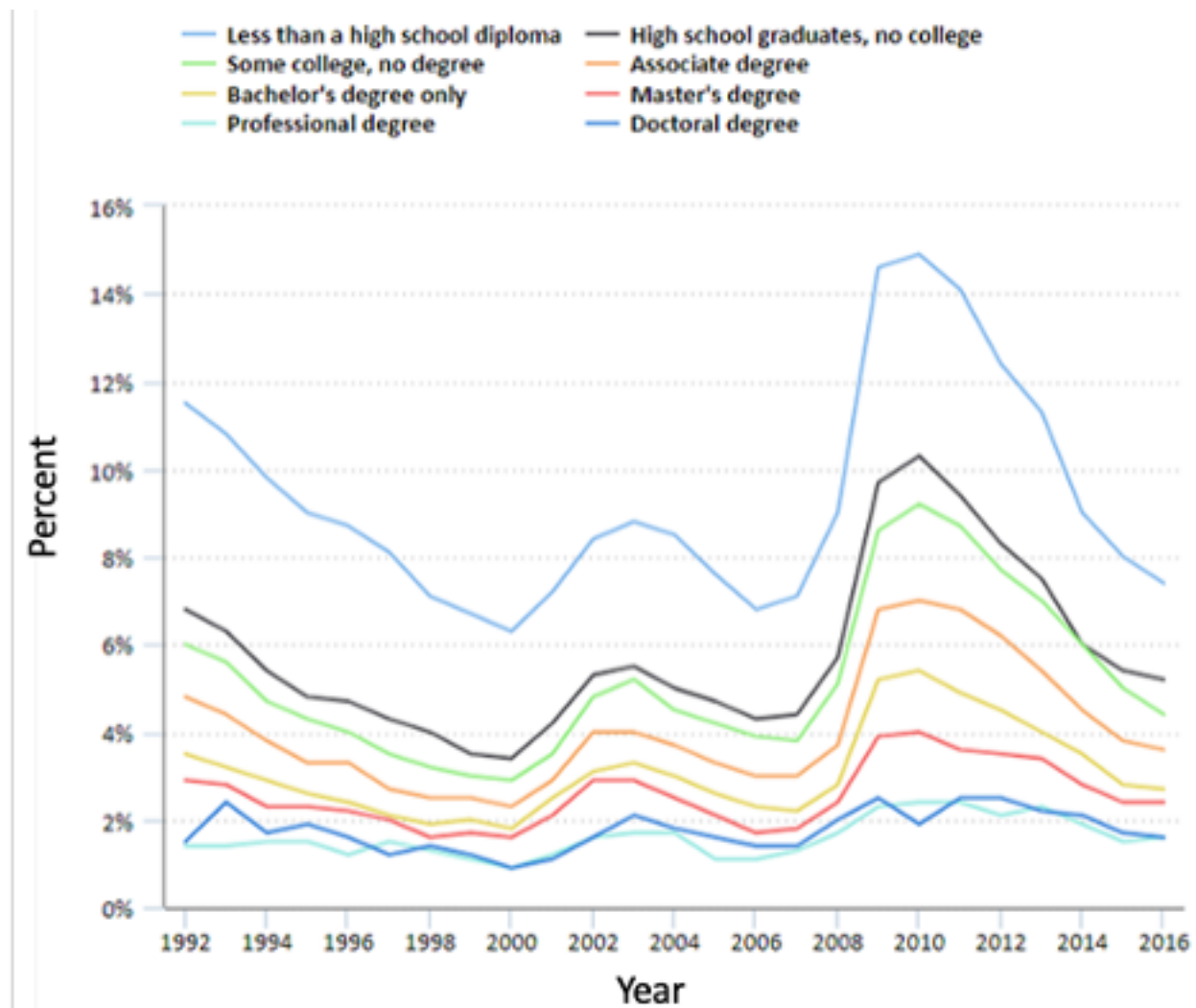
A great deal of research examined the negative consequences of not receiving a high school diploma. Among the most damaging consequences to individuals and society are employment opportunities and lifetime income among non-graduates.

Employment and Income Inadequacy. The implications for the jobs available to non-high school graduates are substantial. The labor market problems of high school dropouts have long been documented. For example, King (1978) found higher unemployment rates, lower earnings, and a less favorable occupational distribution for high school dropouts than high school

graduates. Sum et al. (2009) concluded that high school dropouts are less likely to be active labor force participants and experience considerably higher unemployment rates when they seek work compared to their better-educated peers. Figure 1 presents the unemployment rates by educational attainment from 1992 to 2016 from the U.S. Labor and Statistics.

Figure 1

Unemployment Rates by Educational Attainment, 25 Years and Older, 1992-2016



Note. From *Unemployment Rates by Educational Attainment, 25 Years and Older, 1992-2016*, by U.S. Bureau of Labor Statistics, 2022, Graphics for Economic News Releases (<https://www.bls.gov/charts/employment-situation/unemployment-rates-for-persons-25-years-and-older-by-educational-attainment.htm>). Copyright 2022 by U.S. Bureau of Labor Statistics. Reprinted with permission.

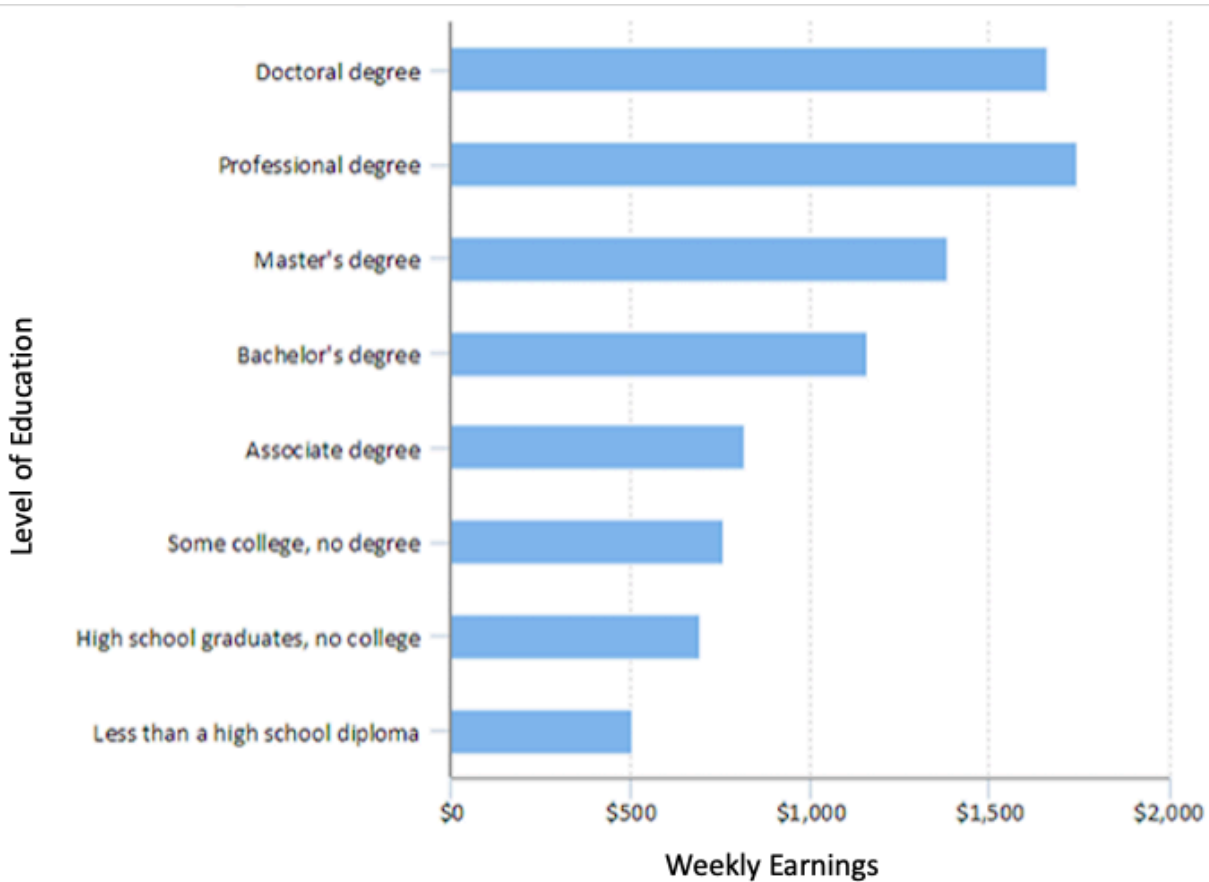
According to Brundage (2017), higher educational attainment levels have historically correlated with lower unemployment rates. In 2016, the unemployment rate was highest for people with less than a high school diploma, at 7.4%. This was almost one and a half times higher than high school graduates with no college experience (5.2%) and nearly three times higher than those with a bachelor's degree (2.7%). Additionally, Brundage reported that weekly earnings rise with educational attainment (Figure 2). Again, compared to higher educational attainment levels, those with less than a high school diploma had the lowest median weekly earnings at \$504 in 2016. Median weekly earnings were highest for people with at least a bachelor's degree, \$1,380 for those with a master's degree, \$1,745 for those with a professional degree, and \$1,664 for those with a doctoral degree.

Fernandes-Alcantara (2015) reported that the transition from education to work is a core activity in the transition from childhood to adulthood. Young adults detached from these activities may have difficulty building a work history that negatively contributes to future employability and wages. The National Center for Educational Statistics (2021) reported that in 2019, the percentage of 20- to 24-year-olds who were neither in school nor working was higher for those who had not completed high school (39%) than for those who had completed high school (12%). These differences by high school completion status were observed for males and females and all racial/ethnic groups. However, the gap was narrower for males (24 percentage points) than for females (31 percentage points). In addition, this gap by high school completion status was narrower for those who were Hispanic (19 percentage points) than for those who were Asian (28 percentage points), White (30 percentage points), African American (31 percentage points), and of two or more races (34 percentage points).

Campbell (2015) found that high school dropouts likely face an elevated risk of socioeconomic disadvantages. Campbell proposed that to understand the socioeconomic disadvantage of being a high school dropout, researchers need to look beyond labor market outcomes at the individual level. Researchers should consider how dropping out leads to an accumulation of disadvantages. For example, because of assortative marriage and homogamy, high school dropouts are more likely to marry other high school dropouts (Schwartz & Mare, 2005), which means that labor market penalties are compounded. Similarly, high school dropouts have more children than graduates (Morgan & Rackin, 2010). They have higher fertility rates at earlier ages (Rindfuss et al., 1996), which may mean that limited resources must be stretched further, and work-family conflicts may be more likely earlier in these individuals' careers if they find employment.

Figure 2

Median Weekly Earnings by Educational Attainment, 25 Years and Older, 2016 Annual Averages

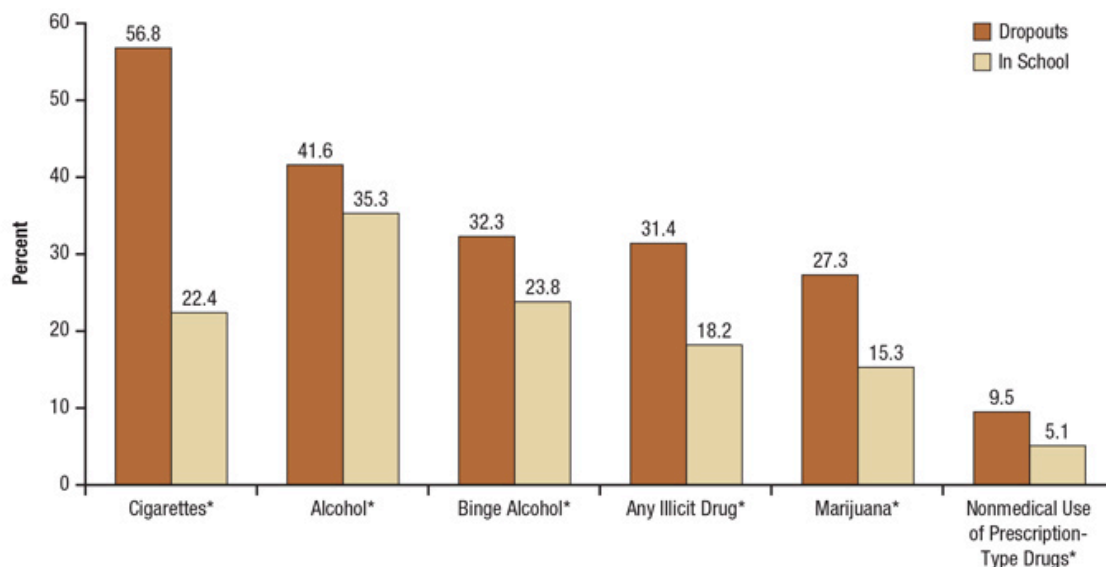


Note. From *Median Weekly Earnings by Educational Attainment, 25 Years and Older, 2016 Annual Averages*, by U.S. Bureau of Labor Statistics, 2022, Graphics for Economic News Releases (<https://www.bls.gov/charts/usual-weekly-earnings/usual-weekly-earnings-over-time-by-education.htm>). Copyright 2022 by U.S. Bureau of Labor Statistics. Reprinted with permission.

Substance Abuse. The Substance Abuse and Mental Health Services Administration (SAMHSA) is the U.S. Department of Health and Human Services agency that leads public health efforts to advance the nation's behavioral health. SAMHSA's (n.d.) mission is to reduce the impact of substance abuse and mental illness on America's communities. Using 2002 to 2010 results from the National Survey on Drug Use and Health (NSDUH), SAMHSA (2013) found that high school dropouts are more likely than those who receive their diploma to abuse many addictive substances (see Figure 3). According to the NSDUH results, 12th graders who had dropped out of school were more likely than their peers who were still in school to engage in cigarette use, alcohol use, binge alcohol use, marijuana use, nonmedical use of psychotherapeutic drugs, and use of any illicit drugs (Substance Abuse and Mental Health Services Administration, 2013). Townsend et al.'s (2007) research also provided evidence that high school dropouts typically have higher substance use rates than high school graduates.

Figure 3

Past Month Substance Use Among 12th Grade Aged Youths by Dropout Status: 2002 to 2010



Note. From *Substance Use among 12th Grade Aged Youths by Dropout Status*, by Substance Abuse and Mental Health Services Administration Center for Behavioral Health Statistics and Quality, 2013, The NSDUH Report

(<https://www.samhsa.gov/data/sites/default/files/NSDUH036/NSDUH036/SR036SubstanceUseDropouts.htm>). Copyright 2013 by Substance Abuse and Mental Health Services Administration Center for Behavioral Health Statistics and Quality. Reprinted with permission.

Additional data from the NSDUH survey indicated that high school dropouts used marijuana at nearly twice the rate of those still in high school. The proportion of high school students reporting using marijuana was just over 15% compared to 27% of dropouts. Further, about 31% of dropouts reported that they were currently using illicit substances compared to about 18% of those still in school (High School Dropout Rates Linked to Substance Abuse, 2013).

Incarceration. Lower educational attainment is associated with increased arrest and incarceration rates, particularly among males. In 1997, approximately 41% of inmates in state and federal prisons and local jails and 31% of probationers had not completed high school or its equivalent. In comparison, 18% of the general population age 18 or older had not finished the 12th grade (Harlow, 2003). The Coalition for Juvenile Justice (2001) found that dropouts were three and a half times more likely than high school graduates to be arrested. Bridgeland et al. (2006) found that high school dropouts were more than eight times as likely than graduates to be in jail or prison. Sum et al. (2009) reported that 16 to 24-year-old high school dropouts were 63 times more likely to be incarcerated than those with a bachelor's degree or higher. Additionally, young male dropouts in every racial/ethnic group were overwhelmingly more likely to be incarcerated than their peers who graduated from a four-year college or university. For all young males, high school dropouts were 47 times more likely to be incarcerated than their similar-aged peers who held a four-year college degree (Sum et al., 2009).

As evidenced in the extant literature, the consequences of not graduating from high school are severe. As DeBaun and Roe (2013) stated, no matter how the numbers are calculated, the message remains the same: Individuals with lower levels of education are more likely to commit crimes and be jailed than their more educated peers. Further, high school graduation can lead to a better life and economic benefits.

In summary, significant benefits of obtaining a high school diploma exist. In addition to better employment opportunities, high school completion is the gateway into postsecondary education, which offers additional benefits (Freudenberg & Ruglis, 2007). Better economic status and stability can lead to better physical and mental health. Therefore, increasing the

number of students who graduate from high school would open opportunities for significant benefits for individuals, communities, states, and the nation (DeBaun & Roc, 2013).

As noted earlier in this section, several factors are related to dropping out of school and not receiving a high school diploma. In the following sections, I present an overview of some factors that promote or impede students' high school graduation.

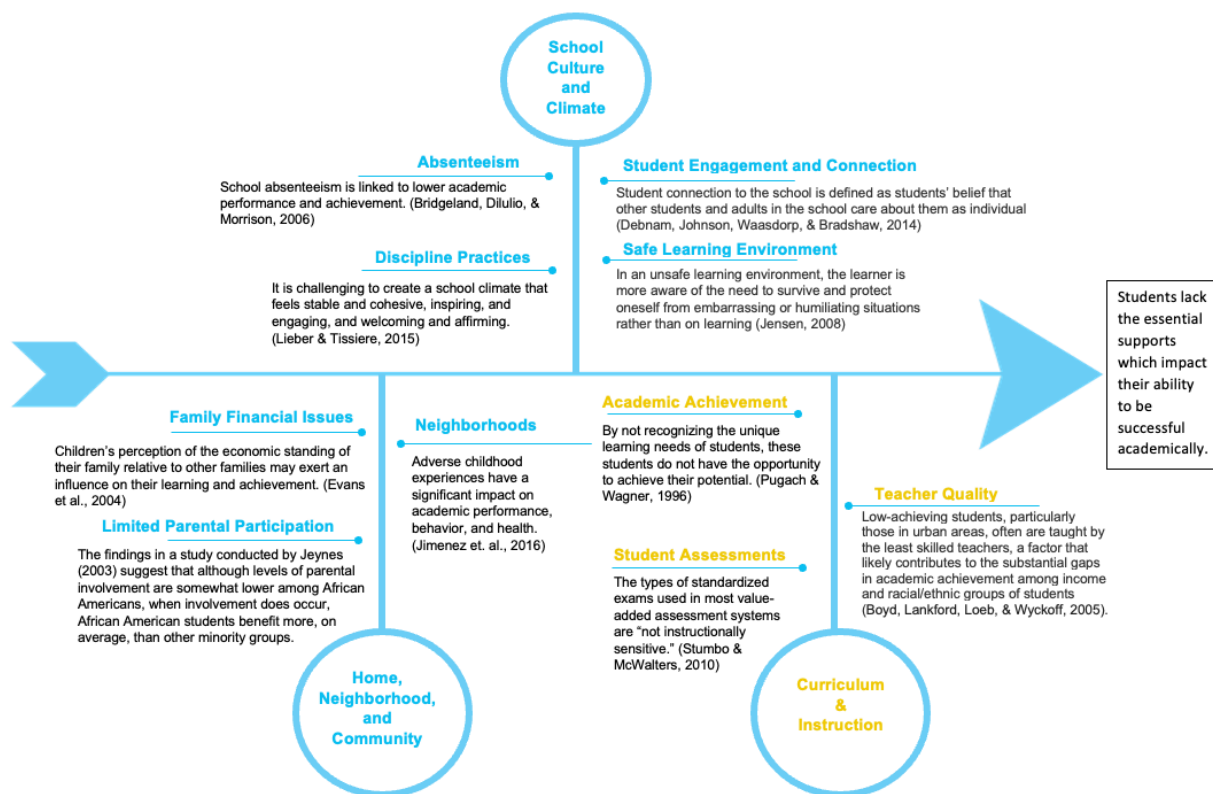
Causal System Analysis

Given my experience as a high school educator, I have chosen to review research on which school and student factors related to school connectedness may impact graduation. The current review of the literature is not exhaustive. For example, students' high school grade point averages (GPAs), standardized test scores, gender, and race have been demonstrated to have the most significant correlations with staying in school and graduating on time (Mattson, 2007). These factors have been shown to be influenced by both out-of-school and school-based conditions, such as family, community, and school culture.

Therefore, I first grouped my research into out-of-school and school-based factors. I categorized the school-based factors into two primary focus areas: academic and school environment. Next, I developed three major causal factors: Home, Neighborhood, and Community; Curriculum and Instruction; and School Culture and Climate. Figure 4 illustrates my causal analysis using a fishbone diagram. Each factor is described in greater detail following the figure.

Figure 4

Causal System Analysis Diagram



Home, Neighborhood, and Community

Epstein (1995) presented a vision of a successful partnership among schools, families, and communities in which the three jointly and separately conduct practices that influence children's learning and development. This section focuses on elements of a student's family and home life, including neighborhood and community, which affect their school experiences and pathway toward graduation. Students' families, socioeconomic status, and communities influence many aspects of their school careers, including academic achievement and graduation. These factors will be summarized in the following section. Note that while these factors

contribute to students' success, they are not within schools' control and should not be used by schools to excuse graduation gaps.

Limited Parental Participation. The prevailing perception among educational researchers is that successful schools establish practices that foster greater communication with parents, encourage parents to assist children at home with their schoolwork and planning, and recruit parents to work as volunteers or participate in school governance (Sui-Chu & Willms, 1996). Federal and state policies in U.S. public schools have elevated parental involvement in schools to a national priority, partly due to many failing schools and the increased achievement gap between White students and African Americans as well as students of other racial/ethnic minorities (Lewis et al., 2008).

Research suggests that academic success norms and parental involvement levels vary among ethnic groups (Coleman, 1987). The study of African American students has been ongoing in public education, with a new focus recently on the parents of African American students because of the ever-widening achievement gap (Howard, 2015). Parental involvement has been stressed for many reasons, from better student performance to improved behavior, lower absenteeism, and positive attitudes toward school (Hayes, 2011). Parents play a vital role in their children's academic success. Jeynes (2003) suggested that, although parental involvement levels are somewhat lower among African Americans than other racial/ethnic groups when involvement does occur, African American students benefit more, on average, than other minority groups.

Family Financial Issues. Research suggests that family income strongly predicts children's achievement (Duncan & Brooks-Gunn, 1997). The effects, however, appear to be nonlinear, with increments in family income at the lower end of the distribution mattering much

more for better student outcomes than those at the higher end. Also, poverty appears to be more detrimental to young children's achievement than older children's (Duncan & Brooks-Gunn, 1997).

Children's perception of their family's economic standing relative to other families may influence their learning and achievement (Evans et al., 2004). In this case, as income inequality increases, students whose families have few resources may feel more deprived and discouraged about their ability to succeed in school. Lower self-perceived academic ability may lead to students putting less effort into their schoolwork (Evans et al., 2004; Mayer, 2001), causing their achievement to decline. If so, increasing inequality in socioeconomic status would lead to lower test scores for children at the lower end of the income distribution and perpetuate performance gaps between more and less advantaged groups. However, because young children may not engage in these social comparison processes as much as older children, this process may be muted (Magnuson & Waldfogel, 2008).

Destin (2017) stated that one contributing factor to gaps in academic achievement may be that some students perceive long-term educational goals, such as college, as financially out of reach, making schoolwork meaningless even several years before college. However, information that leads students to perceive that the financial path to college is *open* for them (i.e., need-based financial aid) can increase school motivation (Destin, 2017).

Dennis (2021) also noted that alternative educational providers have emerged from the shadows in a post-COVID-19 world and are responding to students' demands for flexible and affordable higher education courses and certificates.

Neighborhoods. African American and Hispanic students are more likely to live in neighborhoods with concentrated poverty and disproportionately more likely to have adverse

childhood experiences than their peers (Bethell et al., 2017). Regardless of where these experiences occur, they seep into the schoolhouse. Adverse childhood experiences negatively affect academic performance, behavior, and health (Jimenez et al., 2016).

Massey (2001) reported that neighborhood violence is another factor that may affect the amount of time youths spend on homework. Witnessing frequent acts of violence may lead to post-traumatic stress disorder or biological responses to stress that can interfere with learning (Massey, 2017).

Neighborhoods differ in their resources and resource brokers. For example, one district may have an after-school program that provides homework help, but another may not. One neighborhood may be near a community center that provides a safe, supervised space for teens to hang out, but another may not. We are only beginning to understand which resources are abundant in different neighborhoods (Small, 2006, 2009; Small & McDermott, 2006; Small & Stark, 2005). For example, Small and McDermott found that, on average, poor neighborhoods have slightly more commercial establishments such as pharmacies, grocery stores, and child-care centers than more affluent neighborhoods.

Curriculum and Instruction

Schools influence graduation rates in many ways, regardless of what students bring from their home or neighborhood experiences. One major factor is the way that schools promote academic achievement. Considering the pressure to produce strong academic results, schools often prioritize classroom opportunities, primarily focusing on educational content (Koretz, 2008). However, based on multiple reports concerning the low overall proficiency of U.S. students based on international comparisons and the significant achievement gaps among groups of U.S. students (Darling-Hammond, 2010), more schools should be pursuing fundamental

changes. Alternative teaching methods should not supplant academic learning; however, additional factors may influence and contribute to a student's journey toward graduation. These factors include the impacts of academic achievement, student assessments, and teaching strategies.

Academic Achievement. Children have diverse learning styles, learn at different rates, have varying socioeconomic backgrounds, and have various intellectual strengths. A wealth of research has pointed to the effectiveness of individualized instruction as especially effective in working with at-risk students (Hamby, 1989; Pugach & Warger, 1996). Dropout statistics show that numerous so-called "normal" students fail because they are not treated as individuals (Stainback & Stainback, 1992). By not recognizing students' unique learning needs, these students do not have the support they need to achieve their potential.

A substantial gap between the educational achievement of White and African American students exists in our nation (Barton & Coley, 2010). In the 2019 National Assessment of Educational Progress (NAEP) results, the gap between African American fourth graders and their White counterparts in reading scores was 26 points. In eighth-grade mathematics, the gap was more than 30 points (Education Commission of the States, 2019). In twelfth grade reading and mathematics, the difference was 31 points.

Ways to close the educational achievement gap via policies and funding have been debated for over half a century. Much research has been conducted on the correlation between educational achievement, ethnicity, economic status, targeted interventions, professional development, and academic resilience. Paschall et al. (2018) examined how the interaction between race/ethnicity and poverty status affected student math and reading achievement. These 1986 to 2005 twenty-year analyses suggested that the differences in achievement between poor

White students and their poor Black and Hispanic peers widened. In contrast, the gap between non-poor Whites and Hispanics narrowed. Battle and Lewis (2002) used a nationally representative sample from the National Educational Longitudinal Study (NELS). They examined the longitudinal effects of race and socioeconomic status on 12th-grade educational achievement and achievement two years after high school. For 12th-grade outcomes, Battle and Lewis determined that African American students did not perform as well as their White counterparts, and socioeconomic status was more than three times more important than race in predicting outcomes.

In the early 1960s, educators and policymakers in the United States realized that the public wanted more knowledge about education and its effectiveness (Schindler, 1964). This concern resulted in the creation of the National Assessment of Educational Progress (NAEP), which was first administered in 1969 and is the largest continuing nationally representative assessment of what our nation's students know and can do in various subjects. The first tests administered were citizenship, science, and writing for nine, 13, and 17-year-olds (National Center for Education Statistics, 2021). Since then, subjects such as mathematics, reading, science, and writing and standard administration practices have been included to provide a standard measure of student achievement (National Center for Education Statistics, n.d.).

Commonly referred to as the "Nation's Report Card," NAEP testing has become the most prominent appraisal of U.S. students' knowledge and skills. It remains the only nationally representative and continuing assessment of U.S. students' achievement levels and progress. The NCES conducts secondary analyses of NAEP results. These studies focus on data disaggregated by student demographics, including different racial/ethnic groups, ages, grades, and various schools and geographic regions (National Center for Education Statistics, n.d.).

Under the No Child Left Behind (NCLB) Act of 2001 and Every Student Succeeds Act (ESSA) of 2015, Congress has required all states to participate in the NAEP reading and mathematics assessments for students in the fourth and eighth grades every two years as a condition for receiving federal aid. No sanctions or rewards are tied to NAEP results. State participation in NAEP assessments for all other subjects and grades is voluntary (National Center for Education Statistics, n.d.).

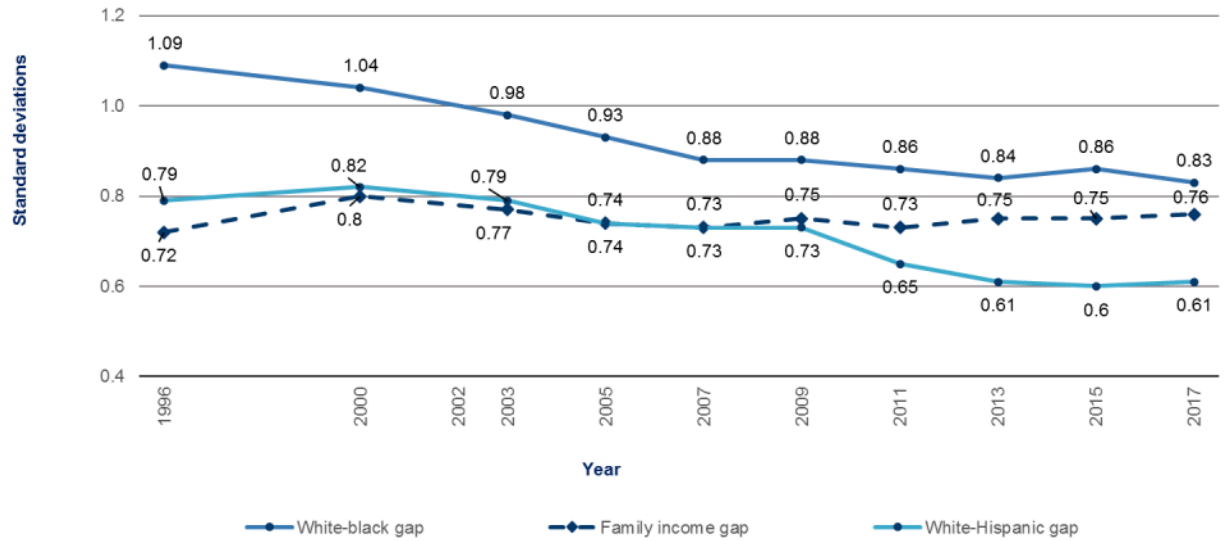
NAEP scores can provide insight into the gaps between specific groups of students earlier in students' careers to inform educators how they could support on-time graduation.¹² Figures 5 and 6 provide data on the eighth grade NAEP reading and math assessment scores over the past 20 years for three groups of students: White, African American, and economically disadvantaged. Examining these data, the gap between Whites and African Americans remains wide over time. The gap between student groups in eighth grade reading scores has remained consistent over the 20 years, whereas the gap between student groups in eighth-grade math scores has marginally narrowed since 1996.

¹ The most recent NAEP data (2022) shows significant losses due in part to the COVID-19 school closures. U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2022 Reading Assessment. (<https://www.nationsreportcard.gov/highlights/reading/2022/>).

² The most recent NAEP data (2022) shows significant losses due in part to the COVID-19 school closures. U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2022 Mathematics Assessment. (<https://www.nationsreportcard.gov/highlights/mathematics/2022/>).

Figure 5

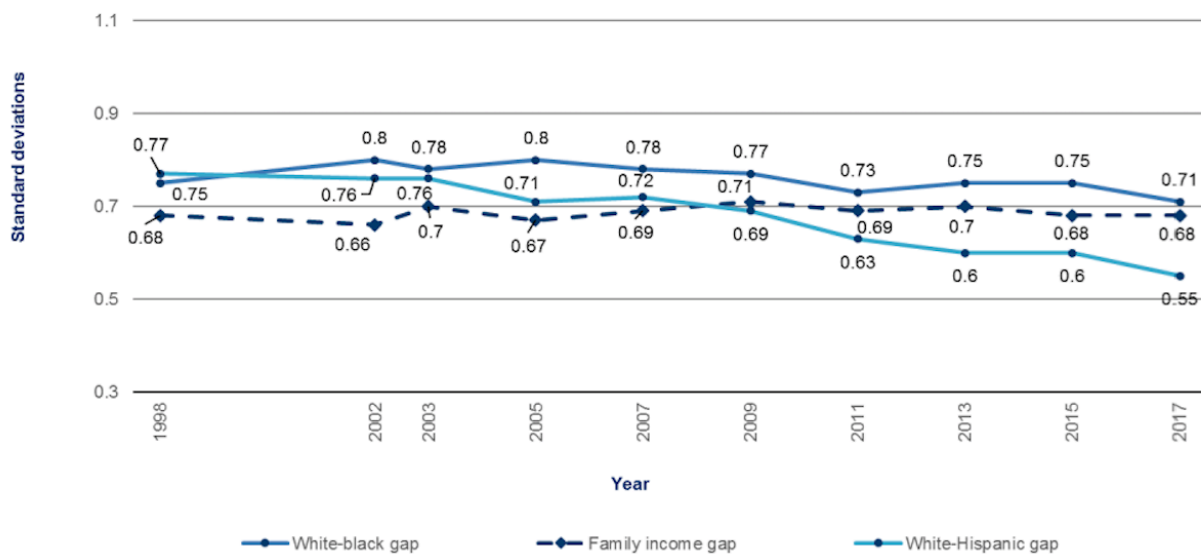
NAEP Grade 8 Math Test Score Gaps



Note. From 2018 *Brown Center Report on American Education: Trends in NAEP math, reading, and civics scores*, by M. Hansen, 2018 (<https://www.brookings.edu/research/2018-brown-center-report-on-american-education-trends-in-naep-math-reading-and-civics-scores/>). Copyright 2018 by Brookings. Reprinted with permission.

Figure 6

NAEP Grade 8 Reading Test Score Gaps



Note. From 2018 Brown Center Report on American Education: Trends in NAEP Math, Reading, and Civics Scores, by M. Hansen, 2018, (<https://www.brookings.edu/research/2018-brown-center-report-on-american-education-trends-in-naep-math-reading-and-civics-scores/>). Copyright 2018 by Brookings. Reprinted with permission.

Hansen et al. (2018) reviewed the NAEP data and concluded that, while the White-African American achievement gap in math had narrowed over time, it remains wide (see Figure 5). More specifically, Hansen et al. stated:

The gap was more significant than a full standard deviation as recently as 2000, but a steady narrowing during the first half of the NCLB era cut into that difference. It currently stands at 0.83 SD, with little movement over the last decade. (p. 7)

In more practical terms, the median NAEP math score for eighth-grade African American students in 2017 was 260, which fell between the 10th and 25th percentile for White students' scores.

Hansen et al. (2018) also reviewed the White-African American score gap in eighth grade NAEP reading (see Figure 6). He and his colleagues observed that the reading scores had been more consistent over the last two decades for both student groups. The gap wavered 0.7 and 0.8 of a standard deviation; in 2017, it was 0.7. However, as in the math scores, the median NAEP reading score for African American students fell between the 10th and 25th percentile of White students' scores.

Student Assessments. Stumbo and McWalters (2010) cited testing experts such as W. James Popham and Commission on Instructionally Supportive Assessment members, arguing that standardized exams used in most value-added assessment systems are not instructional sensitive. Popham (2007) defined instructional sensitivity as "the degree to which students' performances on a test accurately reflect the quality of instruction specifically provided to promote students' mastery of what is being assessed" (p. 146).

Unfortunately, too many standardized exams do not demonstrate whether a teacher's instruction affects students' performance. Educators who feel this way will likely challenge using summative statewide standardized exams in high-stakes evaluations (Stumbo & McWalters, 2010).

Teacher Quality. Low-achieving students, particularly those in urban areas, often are taught by the least skilled teachers. This factor contributes to the substantial achievement gaps among students from different income and racial/ethnic groups (Boyd et al., 2005). Long-standing research supports a teacher's quality as the most critical predictor of student success

(Darling-Hammond, 1998). A Tennessee study (Haycock, 1998) discovered that low-achieving students increased their achievement level by 53% when a highly effective teacher was taught. McQueen (1999) found that four out of five teachers in their study said they were not prepared to teach in today's schools. Almost one-third were teaching outside their subject area. Per Schargel and Smink (2001):

In 1998, the U.S. Department of Education found that fewer than 75% of America's teachers could be considered fully qualified (that is, have studied child development, learning, and teaching methods; hold a degree in their subject areas; and have passed state licensing requirements. (p. 143)

The National Board for Professional Teaching Standards (NBPTS, 1999) identified five characteristics of high-quality teachers:

- Teachers are committed to students and their learning.
- Teachers know the subjects they teach and how to teach those subjects to students.
- Teachers are responsible for managing and monitoring student learning.
- Teachers think systematically about their practice and learn from experience.
- Teachers are members of learning communities.

Many avenues that prepare teachers result in varying levels of teacher effectiveness; however, professional development can bridge gaps for some classroom teachers. Wenglinsky (2000) found that certain types of professional development may impact student achievement. Wenglinsky found that students whose teachers received professional development working with different student populations were 107% of a grade level ahead of their math peers whose teachers lacked such training. Students whose teachers received professional development in higher-order thinking skills were 40% of a grade level ahead of students whose teachers lacked

such training in mathematics. Students whose teachers received professional development in laboratory skills were 44% of a grade level ahead of those whose teachers lacked such training in science.

Sidelinger and Booth-Butterfield (2010) asserted that instructors must foster a supportive and connected learning environment for students to succeed academically. In addition, Reyes et al. (2012) stated that connectedness feelings can be essential factors in creating and maintaining supportive peer and adult relationships. These supportive relationships are critical for students' academic success in the classroom.

School Climate and Culture

School climate and culture encompass many factors, such as safety, discipline policies, student/school engagement and connectedness, and community involvement. School climate describes the quality and character of school life and the experiences of students, teachers, and other staff within a physical school or online learning environment. A positive and healthy school climate enables learning by providing students with healthy adult-student relationships, rigorous expectations for learning, and conditions of mental and emotional safety and belonging among students and staff—all of which are essential to student success (Aspen Institute, 2021, p. 2). Given the emphasis on academic achievement during the past few decades, Watson (2001) warned that student achievement could suffer if the school culture is not hospitable to learning. Voight and Hanson (2017) reported that schools with a more positive student-reported school climate had higher academic performance in English language arts and math.

The importance of school climate and culture in supporting academic achievement has long been established. For instance, Freiberg and Stein (1999) described the school climate as the school's heart, soul, and essence that draws teachers and students to love the school and want to

be a part of it. The following section briefly overviews some of the more researched aspects of a positive school climate.

Safe Learning Environments. The violence within schools impedes the educational process for all students, and the collateral damage has long-lasting consequences for victims (Aspen Institute, 2021; Finkelhor, 2008). It is crucial to create a school climate that does not tolerate bullying, intimidation, or terrorism. According to the National Dropout Prevention Center (n.d.), a safe learning environment is focused on academic achievement, maintaining high standards, fostering positive relationships between staff and students, and encouraging parental and community involvement. Students must learn practical interpersonal skills to cope in group situations (Hamby, 1999). Students who are afraid often stay away from school. Schargel and Smink (2001) also noted that it is vital for students to learn to de-escalate, manage, and resolve conflict. Anti-bullying and anti-aggression programs have reduced school misbehavior, vandalism, and general delinquency. (Fox et al., 2003).

Reckmeyer (2019) reported that focusing on teacher engagement for better academic outcomes is the key to student engagement and hope. Reckmeyer stated that principals could better partner with teachers to enhance a culture of engagement by providing teachers with the opportunity to voice their opinions on different areas that affect their engagement. Together, they can create a more conducive environment for teacher productivity, fostering the best classroom environment for student engagement, hope, and learning.

Additionally, Clapper (2010) noted that to optimize interactions between educators and learners, all learners must feel that they can safely take learning risks that are part of exploration and constructivism. In an unsafe learning environment, the learner is more aware of the need to survive and protect oneself from embarrassing or humiliating situations than the need to learn

(Jensen, 2008; MacLean, 1990). Unfortunately, learners often see themselves as being judged as intelligent or not. (Dweck, 2008).

Discipline Practices. Lieber and Tissiere (2015) stated that if a school's discipline system is dysfunctional, it is challenging to harness the goodwill of staff, students, and families to create a school climate that feels stable and cohesive, inspiring, engaging, welcoming, and affirming. Furthermore, a school's discipline practices, specifically suspensions, impact graduation. Many studies have demonstrated the adverse effects of school suspensions on academic performance and graduation. In a 2009-10 study of Florida students, Balfanz et al. (2014) found that 39% of African American students were suspended one or more times compared to 22% of White students. With each increasing suspension in ninth grade, the odds of a student dropping out of high school increased. Conversely, Balfanz et al. found that the chance of graduating decreased, as did enrollment and persistence in postsecondary schooling. Hwang (2018, as cited in McCarther, 2020, p. 2) conducted a study to examine the correlation between suspensions and academic achievement scores and concluded that students with multiple suspensions produced lower academic achievement in English language arts and mathematics than students with zero to one suspension.

In *Building A Grad Nation: Annual Update 2020* by Atwell et al. (2020) summarized the inequity in student discipline in U.S. schools:

Across the board, every metric of student discipline indicates a system that unduly targets and impacts African American students. Data from the 2015–16 Civil Rights Data Collection show that while African American students made up just 15.4 percent of student enrollment, they accounted for over 36 percent of school arrests. They also are involved in a disproportionate percentage of instances where physical restraint is used

and are over-represented in the percentage of students expelled due to zero-tolerance policies. These disciplinary actions result in African American students accounting for nearly 45 percent of all school days missed due to expulsion. (U.S. Department of Education, 2018, p. 2)

Furthermore, a review of removal rate data in this state from 2017-18 showed that African American students and students with disabilities were removed from the school setting at more than twice the rate of their peers, 7.6% for African American students compared to 2.6% for non-African American students (Lacoe & Manley, 2019).

Camacho and Krezmien (2018) examined state data on school suspension, and results indicated that the individual-level variables of race and disability status were associated with an increased risk of suspension. They also found multiple school-level factors were also found to be associated with an increased risk of suspension, including school enrollment, attendance, mobility, the percentage of highly qualified teachers, the percentage of students receiving Free and Reduced Meals (FARMs), the percentage of students receiving special education services, the school's Title I status, the student-to-teacher ratio, English language arts state exam scores, and the percent of White students in the school.

In addition to the extensive literature exploring the African American-White achievement gap, the disproportionality in student discipline has been examined as it relates to academics and educational outcomes (Gregory et al., 2010; Gregory et al., 2017; Hwang, 2018; Kinsler, 2013). Racial disparities in school discipline policies and practices have also contributed to the achievement gaps between White and African American students (Kinsler, 2013; Noltemeyer et al., 2015).

Absenteeism. School attendance is essential in developing foundational competencies in children and adolescents, mainly academic, social, work-related, and civic skills (Skedgell & Kearney, 2018). Conversely, school absenteeism is linked to lower academic performance and achievement, lower reading and mathematics test scores, fewer literacy skills, grade retention, social isolation, internalizing and externalizing behavior disorders, involvement with the juvenile justice system, and dropping out (Bridgeland et al., 2014).

Roderick (1993) found that low-achieving students who displayed a significant rise in absenteeism at the start of the middle grades—a 10-day or more increase in absenteeism over the number of days they were absent in elementary school—were much more likely than other low-achieving students never to graduate. Balfanz et al. (2007) examined attendance in elementary and middle schools in one extensive urban school system. They found that the percentage of students who missed more than a month of school each year jumped from 15% in the elementary grades to 55% in the middle grades.

Students who drop out of school before graduation are also at greater risk in adulthood for psychiatric, occupational, and marital problems and economic deprivation (Christenson & Thurlow, 2004; Rocque et al., 2017). Problematic absenteeism or truancy has no consensus definition, though Maynard et al. (2017) utilized a criterion of one skipped day in the past 30 days to identify a prevalence rate of 10–11% of students who were truant in the United States. Problematic absenteeism and school dropout have also been identified as rampant worldwide phenomena with substantial and varying prevalence rates (UNESCO, 2012). As students advance in their schooling, supporting school attendance becomes increasingly essential to ensure their journey to graduation.

Student Engagement, Bonding, and Connection. As noted earlier, students' connection to a school, bonding, or engagement is a complex construct and hard to define, let alone quantify. The specific definitions and indicators of school engagement, bonding, and connection vary across studies. However, a strong body of research points to the importance of considering the personal and social aspects of the school in addition to academic or behavioral support and a student's feelings of belonging. Students' sense of school belonging is the extent to which students feel personally accepted, respected, included, and supported by others in the school context (Goodenow, 1993). The need for belonging increases as students reach the sensitive adolescent stage (Miller & Desberg, 2009). Students who have a sense of belonging at school are better able to retain emotional stability, enjoy their educational experiences, cultivate good learning attitudes, and form bonds with others who have similar stable and upbeat outlooks. They are happier and more satisfied; subsequently, their academic achievement and motivation might increase (Fong Lam et al., 2015). Alternatively, students may experience feelings of rejection, unsupported, helplessness, and exhaustion if they do not establish a sense of belonging. Their level of acquaintance with teachers and peers can decrease, which may lead them to develop low personal agency, contributing to a decline in student engagement and academic achievement (Fong Lam et al., 2015).

Martin and Dowson (2009) stated that youth who strongly connect to their schools tend to have higher academic achievement and lower rates of substance abuse. Jennings (2003) found that supportive relationships in school were positively related to higher grade point averages. Catalano (1999) reported that those who lack a strong sense of school connectedness, defined as an attachment, characterized by close affective relationships with those at school and commitment, characterized by investment in school and doing well in school, often experience

academic problems, which are considered a gateway to delinquency and risky behaviors and Mahoney, et al. (2003) found that students participating in extracurricular activities are less likely to drop out of school and engage in criminal behaviors. Chung-Do et al. (2015) found that involvement in school activities that are meaningful, relevant, and interesting to students can enhance motivation for learning and identification with the school, which support the development and attainment of educational goals. Further, youth with caring relationships with others in the school, such as their teachers and peers, are more likely to identify with the school and actively engage in their learning experience.

Schlechty (2011) stated that when students are engaged, they relate to school tasks differently than when they are ritually compliant. Schlechty also proposed that when students are engaged, they find value in the work that they are doing and value the result. Debnam et al. (2014) defined student connection to the school as students' belief that other students and adults care about them as individuals. Joselowsky (2007) noted that traditionally, engaged students were defined as students in school government positions, involved in school clubs, or participating in other school activities. However, these students tended to be (and very often the same across activities) those with good grades, regular attendance, and few discipline problems.

A recurring theme in almost all descriptions of school bonding, engagement, and the connection is "attachment," specifically, attachment to school, teachers, or classrooms (Cernkovich & Giordano, 1992; Chung et al., 2002; Eggert et al., 1994; Murray & Greenberg, 2001). The degree of student attachment is typically measured in terms of a student's feelings about the school, teachers, or classroom environment. Students who look forward to school and how much they can trust their teachers are essential in operationalizing this construct (e.g., Battin-Pearson et al., 2000; Chung et al., 2002; Murray & Greenberg, 2001).

Commitment is another term frequently found in the literature that addresses school bonding, engagement, and connection. Firestone and Rosenblum (1998) identified two dimensions of school commitment from interviews with urban high school students. The dimensions are commitment to “learning” and commitment to “the place.” For example, commitment to learning was described as “taking school seriously,” and commitment to a place was described as “participating in extracurricular activities” (p. 10). While students talked less about school as a “place”, interviews strongly suggest that school “is where students can come to be with their friends or where they find activities other than educational ones to keep them occupied” (p. 10). Measuring commitment to school includes asking students if they do extra work for class or continue to work until their assignments are complete (Chung et al., 2002). Other measurements include items that ask about a student’s future aspirations and the reasons for wanting to succeed in school (Urdan, 1997).

School engagement is a multifaceted construct that includes affective, behavioral, and cognitive dimensions. Kearsley and Shneiderman (1998) defined student engagement as all activities involving active cognitive processes such as creating, problem-solving, reasoning, decision-making, and evaluation. Also, students should be intrinsically motivated to learn. Kearsley and Shneiderman state that student engagement comes from having a learning environment and activities that include collaborative teams working on ambitious projects. Jimerson et al. (2003) defined school engagement in terms of student behavior in five contexts: (a) academic performance, (b) classroom behavior, (c) extracurricular involvement, (d) interpersonal relationships, and (e) school community.

Chung-Do, et al. (2015) conducted a comprehensive review of many measures of school connectedness and concluded that none captured the multifaceted dimensions of the school-

connected construct. He and his colleagues created a new scale, the *Comprehensive School Connectedness Scale*, compiled from items in the various scales they had reviewed. They then researched the psychometric properties of their new scale and identified three main components of school connectedness; behavioral, cognitive, and affective, and a subscale of five key factors: school involvement, academic motivation, school attachment, teacher support, and peer relations. These five key factors were used to define the information that was to be collected to evaluate the WHS transition mentor program.

In sum, curriculum and instruction, school culture and climate, and home and neighborhood environment are crucial in students' educational experiences. These factors can influence a student's academic experiences and trajectory through school. The three factors must be considered in fostering positive academic experiences in a safe learning environment that promotes student engagement to support students staying in school and on track toward graduation.

I describe my improvement theory to ensure that all students graduate in the next section. I focus on the primary causal factor of improving school culture and climate, specifically the essential areas of school engagement, connection, and bonding.

Theory of Improvement

My improvement initiative focused on increasing students' bonding, engagement, and connectedness to school to support student graduation. Specifically, I investigated the existing mentoring program at WHS to determine its impact on behavioral, cognitive, and affective categories of school connection as defined by Chung-Do, et al. (2015) as five key factors: school involvement, academic motivation, school attachment, teacher support, and peer relations.

Aim Statement

My improvement initiative is the transition mentoring program, as implemented at WHS. It was investigated to determine if it was associated with positive indicators of the five key factors of school connectedness noted above and the potential for the program to contribute to the long-term aim to increase the graduation rate specifically for African American students **to** close the gap with White students.

Figure 7 is a schematic representation of my theory of improvement. Based on the research related to causal factors, I identified three primary drivers related to student graduation: home, neighborhood, and community, curriculum and instruction, and school climate and culture. I have chosen to focus on improving school climate and culture, specifically through the secondary driver of improving student bonding, engagement, and connection to the school.

Figure 7

Driver Diagram

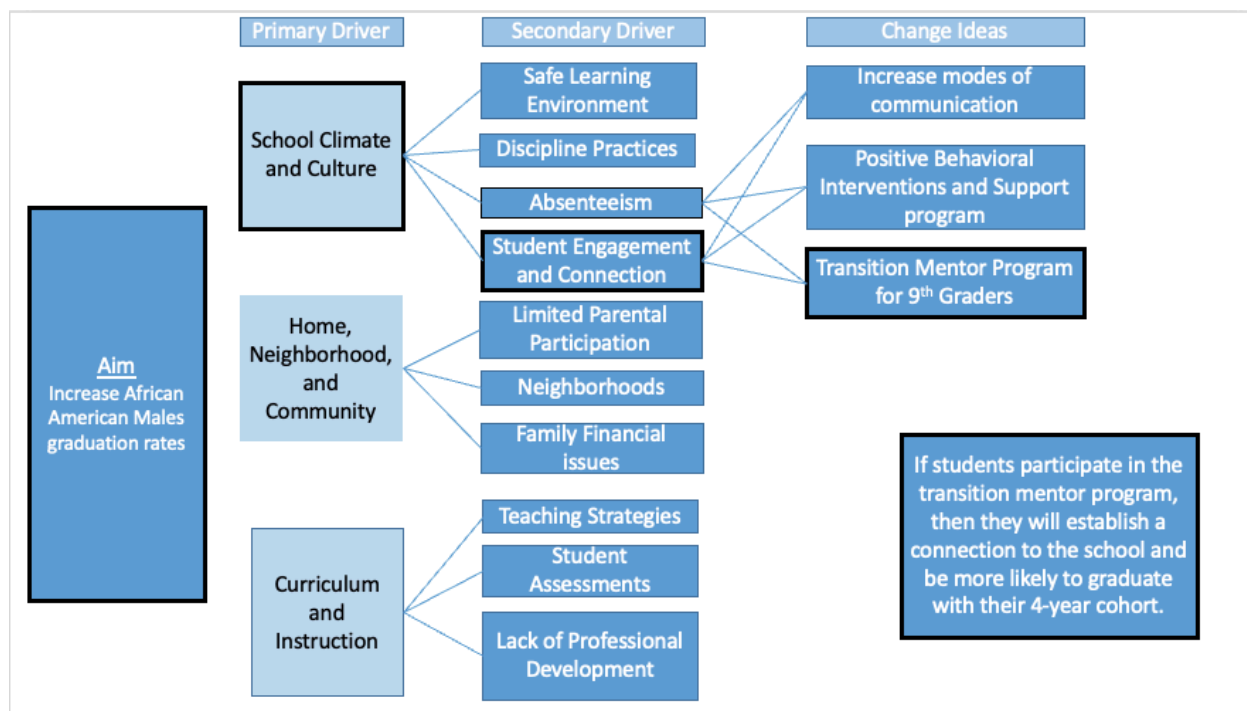
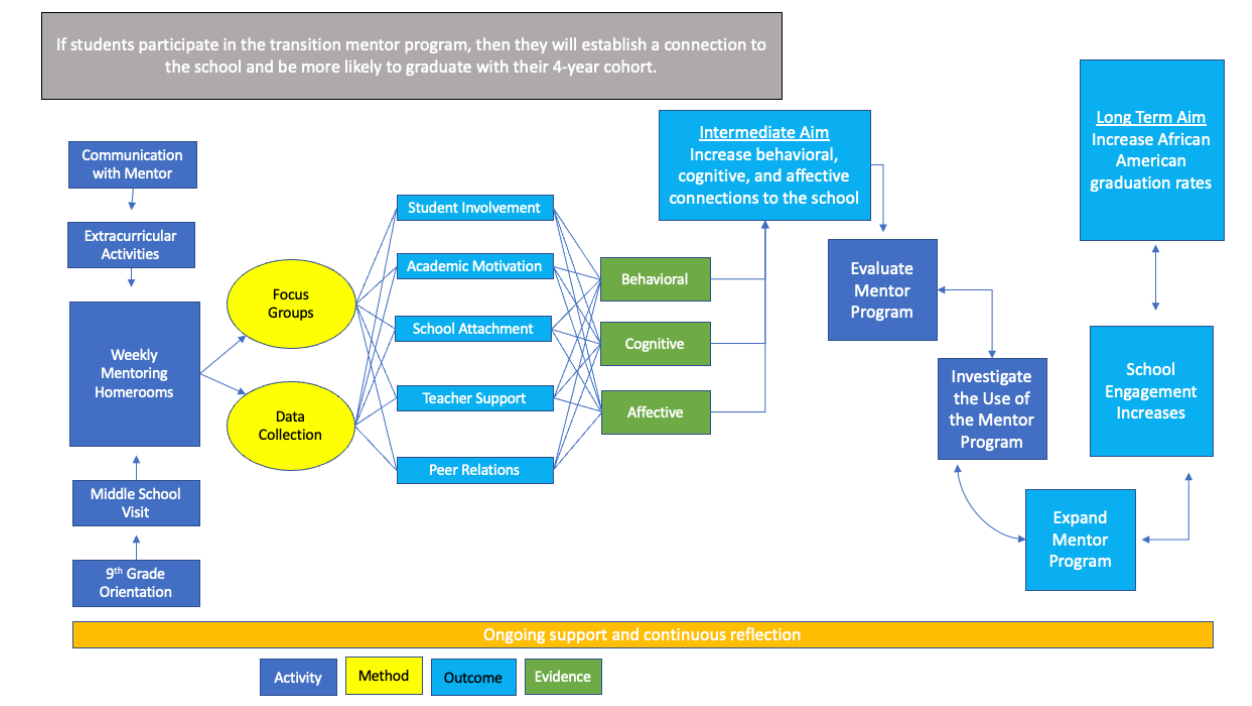


Figure 8 below represents the specific improvement focus on increasing school connection, engagement, and bonding as a means to increase African American students' graduation through an outcome chain. However, Figure 8 has intermediate aims that are based on Chung-Do, et al. (2015) conceptualization. The intermediate aims include increasing the behavioral, cognitive, and affective aspects of students' school experience. The data collection focused on the Chung-Do et al. (2015) scale's five key components: student involvement, academic motivation, school attachment, teacher support, and peer relations. My theory of improvement will test whether the transition mentor program can contribute to increasing school connectedness in the five key component areas.

Figure 8

Outcome Chain



Support for the Change Initiative

As briefly noted in the Introduction, mentoring or advisory programs were initiated in the 1960s and became more widespread among secondary schools (Bogen, 2007). Some studies indicated that mentoring programs, many of which used community volunteers, can positively impact at-risk youth and minority students by improving grades, enhancing peer relationships, reducing drug and alcohol use, reducing dropout and truancy, discouraging teen pregnancy, reducing school violence, and strengthening parent-child relationships (Dappen & Isernhagen, 2005). As mentioned above, Rhodes et al. (2002) define a mentor as an adult who nurtures, supports, and cares for individual or small groups of students.

Wimberly (2002) used data from the National Educational Longitudinal Study (NELS) to analyze critical issues affecting the preparation and diversity of the postsecondary education applicant pool. He found that African American students were less likely to form meaningful relationships with high school teachers than their White peers. Those who had close relationships with teachers had higher educational expectations and postsecondary participation. Based on these findings and other research by Watt et al. (2004), a recommendation was to implement school-based mentoring programs beginning at the middle school level to foster bonding between teachers and all students, particularly for African American students.

Mentoring can ease the transition from middle to high school. Garriott (2007) noted that starting mentoring in middle school is essential to prevent students from dropping out of school when they enroll in high school. Garriott argued that students with academic or behavioral problems in middle school do not grow out of these tendencies once they get to high school. As early as sixth grade, four factors point to those at high risk of falling off the graduation track: poor attendance, poor behavior, a failing grade in math, or a failing grade in English. Compared to students with none of these factors, students with only one of these “big four” indicators had less than a 30 percent chance of graduating on time or even attending one extra year of high school.

Hertzog and Morgan (1996) found that high schools with minimal or no transition programs (two or fewer transition practices for rising ninth-grade students at the middle and high school levels) reported a retention rate in Grade 9 as high as 40%. They also found a relationship between higher degrees of implementation of transition program practices and lower rates of student retention and dropout for both male and female students. Akos and Galassi (2004) found that as students shift settings from middle to high school, transition programs can provide an

excellent opportunity for students to connect to the school and close the information gap about academic, social, and organizational similarities between their middle school and those offered at the high school.

Balfanz et al. (2007) studied the identification, prevention of dropouts, and intervention of sixth graders. Like most other districts in the United States, the School District of Philadelphia defines Grade 6 as the official start of the middle school grades. Thus, entry into the sixth grade corresponds with a school transition for most students (e.g., 55% of the sixth graders in 1998 in Philadelphia had attended a different school as fifth graders in 1997). Further, regardless of the grade span of the school they attended, in many districts, sixth graders must adapt to a host of changes that begin in the middle school grades, such as more departmentalized staffing, larger class sizes, different assessment and grading practices, and more challenging and complex instructional programs (Epstein & Mac Iver, 1990).

In high-poverty communities, students may experience various factors that lead to disengagement from their education. Research documents how children in high-poverty communities face more significant risks and temptations and are frequently drafted into roles that interfere with school and engagement (e.g., as their families recruit them to be caregivers, by drug gangs to be cheap labor, or by peers to be colleagues on out-of-school adventures; Balfanz et al., 2007). Balfanz and colleagues became convinced that becoming an adolescent, moving into new organizations of schools with more complex academic and social demands, and living in a high-poverty area create unique conditions that can push students off the path to high school graduation regardless of their prior schooling experience. They argued that these conditions require proactive and preventative middle school interventions.

Mentoring is not always between a teacher and a student. Johnson et al. (2013) investigated the impact of a transition-to-high school program, the Peer Group Connection (PGC) program, on the graduation rate at one low-income, Mid-Atlantic high school. The program utilized 12th-grade student peer leaders to create a supportive environment for incoming ninth-grade students. A randomized control trial demonstrated that male students who participated in the program during Grade 9 were significantly more likely to graduate from high school within four years than male students in the control group (81% vs. 63%). Findings suggested that peers can effectively deliver a school-based, social-emotional learning intervention and that it is possible to intervene in Grade 9 to influence the probability of high school graduation.

Rinka et al. (2015) surveyed administrators in 23 North Carolina high schools that had markedly improved their graduation rates over five years to identify what administrators reported as working to reduce dropout rates in their schools. The results suggested that three interventions were central to preventing dropping out: academic support, school/classroom climate, and supporting the transition from middle to high school.

The Transition/Mentoring Program at WHS

As the Introduction discussed, WHS initiated a transition mentoring program in 2017-18. The purpose was to integrate and ensure that new ninth graders from various OCSD middle schools would feel accepted and connected to the school. The program relied on upper-grade student mentors. For decades, scholars have pointed to peer relationships as one of the most critical features of adolescence (Brown & Larson, 2009). Student mentors can contribute to a positive student experience for ninth graders as upperclassmen. Student mentors make up a support system and resource for ninth graders at WHS. Being paired with a student mentor and a

small group of ninth graders provides familiar faces to rising ninth graders. Student mentors were responsible for four to five ninth-grade students. The ninth-grade students were from various middle school feeder schools. These peers became the school's social support network for students. A teacher oversees three to four student mentors. The mentor groupings would be formed during the Ninth Grade Orientation Day before the beginning of school.

The main issue for the WHS transition mentoring program before the pandemic was scheduling mentors and mentees to the same daily lunch shift. The program's original iteration was to set students up in lunchtime groupings and operate solely out of the lunchtime experience. This schedule would ensure that all students could sit with each other at lunch. However, this scheduling structure was unsuccessful. Conversations with teachers, students, and administrators determined that the best time for the mentors and mentees to interact would be during the monthly homeroom period.

The following school year, the mentor program was scheduled to meet twice during the first semester during scheduled homeroom times. Unfortunately, only meeting twice in the semester resulted in less interaction between mentors and mentees; however, this was a compromise because the homeroom periods were consistent and allowed all ninth graders to participate. The first schoolwide homeroom was at the beginning of the year, so any student who missed orientation could find their mentor and mentee grouping. The purpose of the first homeroom to occur at the beginning of the year was to allow mentors to share how to join school clubs and activities, demonstrate how to use the school district's Learning Management System (LMS), and provide tips and tricks to succeed in high school. The second schoolwide homeroom was scheduled before midterms for mentors to help explain what midterms were, how grades were calculated, how to prepare for midterms, and to answer any questions mentees had about

midterms. Due to the limited face-to-face meetings, an emphasis was placed on leveraging technology to facilitate interactions between mentors and mentees. The mentors and mentees set up group chats to text and message one another using the school district's LMS. The Mentor Teacher's role was to facilitate these two homeroom meetings and build relationships with the ninth graders in their homeroom. The Mentor Teacher was there to support the ninth graders in their homeroom where no grades were given, and students could ask questions freely, get to know one another, and have a welcoming space outside their academic schedule.

The Mentoring Program During COVID-19 and School Closures. The COVID-19 pandemic in 2020 pushed education into a space no one had ever seen or experienced. Due to the circumstances, WHS staff had to re-think their practices as educators and school leaders. The biggest challenge for the WHS mentor program was the shift to a virtual orientation for ninth graders. The orientation was supposed to be the first face-to-face meeting between the mentor and mentee. It was supposed to allow for creating a personal connection in the budding mentor-mentee relationship. Staff members were unsure of this introductory virtual connection's reliability because of various unknowns, including students logging on, completing the pre-meeting orientation video, keeping their cameras on, and internet stability. These virtual challenges created a more complex implementation of the mentor program orientation. However, an advantage for WHS staff, the transition mentor program had already started leveraging the LMS via group and direct messaging during the prior school year. The addition of video chatting and regular meetings were also made available to the WHS community. This gave mentors and mentees opportunities to connect at different times throughout the school day, school week, and school year. However, the depth of the mentor-mentee relationship was difficult to measure,

leaving mentors and teacher leaders uncertain of the mentor program's impact on the ninth graders.

The Mentoring Program After School Re-Opening. WHS staff emphasized the mentor transition program as the school system transitioned fully into the building and in-person learning in the fall of 2021-22. (See Appendix A for a description of the program). This would be the first time all ninth graders would be together on campus, and some of these students had not been in a school building for over a year. A renewed commitment from the newly appointed principal and the administrative team allowed the transition mentor program to be reinstituted face-to-face during homeroom. Additionally, homeroom was to meet each week, which was a change from the pre-pandemic schedule of monthly meetings. The Transition Mentor Program Lead Teacher and WHS administration recruited teacher mentors through personal conversations and through a formal presentation to teachers at a staff meeting.

The mentor teacher, student mentor, and ninth-grader mentees were mostly matched randomly except in a few instances. In some cases, teachers were specifically recruited to meet the needs of incoming students. For example, if students had indicated they hoped teachers would use their chosen pronoun but did not want their parents to know, the Gay-Straight Alliance (GSA) Club teacher sponsor was matched with non-binary mentors and all non-binary freshmen to ensure a safe and welcoming environment. In another example, the Black Leadership Union (BLU) teacher sponsors were recruited and matched with a student mentor and member of the Alpha Achiever Program. This program develops African American males to promote academic excellence, leadership, and community service. African American male students whom the middle school counselors might have identified as students who would benefit from this mentorship were paired accordingly. Yet, another example of intentional

matching was when a student born in another country was concerned about their cultural and linguistic transition. This student was matched with a mentor born in the same country who had moved to the United States during elementary school.

The Lead Mentor Teacher and student mentors met before the school year to plan for the program's beginning-of-the-year launch. Mentors were required to attend two training sessions before being placed with mentees. In the first session, mentors were asked to meet virtually with teacher leaders to discuss and plan the ninth-grade orientation. The day before the orientation, the second training session was designed for student mentors to check in on last-minute issues or questions and walk through the orientation program that would be implemented the following day. This preparation was essential because it would be the first time all ninth graders would be on campus together for the first time in their high school career and the first opportunity for the mentor program to begin its work.

The mentor program had scheduled monthly meetings during the dedicated homeroom schedule. Before the pandemic, the mentor program targeted only incoming ninth-grade students. As a result of the prior school year's hybrid learning format, WHS staff determined a need to expand the program to include all tenth and some eleventh graders. A scaled-down version of the ninth-grade mentor transition program was created for those students.

Purpose of the Investigation

As noted in the Introduction, there has yet to be any evaluation or study of the WHS transition mentor program at WHS. In fact, while WHS administration and staff are committed to the program and believe it is successful, what defines success has not been clear or formalized. For instance, whether the program is expected to impact academic achievement, attendance, or other indicators of student engagement, bonding or connection has never been discussed nor

evaluated. Therefore, it is important to begin to define and collect information relative to the program's efficacy, including areas that might be improved or strengthened. The purpose of this investigation was to develop, in collaboration with WHS staff, a set of indicators of an effective transition mentor program and to collect evidence about those indicators to inform the future implementation of the program.

A particular focus of the examination of the transition mentor program is the extent to which ninth-grade students mentees who participate in the program feel it has added value to their ninth-grade experience by increasing their school involvement (measured as participation in extracurricular activities), academic motivation, school attachment (measured as attendance), their peer relations and support from teachers. These factors can contribute to students forming a solid connection with the school and lead them to graduate with their four-year cohort. Findings from this study provide a baseline of the WHS mentor transition program's impact based on student perceptions and suggest areas of future improvements in the mentoring program. Furthermore, the results suggest a framework for further evaluations of the program and possibilities for expansion formats to other high schools in OCSD.

Section II: Study Design

This study examines the existing transition mentor program at Western High School that is intended to connect incoming ninth graders to their new school environment. My improvement initiative focuses on increasing school connectedness to improve school climate and culture. It explores the impact of the existing mentoring program to determine its impact on indicators of five key factors of school bonding. As discussed in Section I, connecting, engaging, or bonding with school supports students in several important areas, such as providing academic support and developing peer-to-peer and teacher-student relationships, all of which are critical to successful school completion. Connecting students to the school immediately as they enter ninth grade can set them on a positive pathway toward graduation.

Evaluation is one of the essential tools for determining the quality of any educational program, which can lead to the reformation, revision, or termination of programs (Toosi et al., 2021). The transition mentor program at WHS has never been evaluated, nor has there ever been a list of clearly defined indicators of program success. Consequently, the Principal of WHS and the Transition Mentor Program Lead Teacher had been attempting to collect more information from ninth graders about their experiences and perspectives on the program. However, they recognized the need to collect other information about the possible impacts of the program that could be used to monitor and potentially improve the program. As a result, the researcher, a staff member on leave from WHS, the Transition Mentor Program Lead Teacher, and the Principal, collaborated on designing the study and developing the survey.

The study was designed as a first attempt at specifying the goals of and gathering information about the program through a survey of ninth-grade students and examining existing student data such as course grades, extracurricular participation, and attendance. As discussed in

Section 1, the overall premise was that the transition mentor program would be an effective change initiative that would increase a student's sense of school connectedness or bonding, which would then influence the primary driver of school culture and climate. This would ultimately give students the proper support they need to graduate.

Research Question

One research question guided this study:

How do ninth-grade students report their level of school bonding as defined by the five key factors and the extent to which the transition mentor program supports the five key factors associated with school connectedness?

Research Design

The study was descriptive. Initially, the researcher explored the possibility of using several sources of data that would be indicators of the five factors of school connectedness or bonding among ninth graders as specified by Chung-Do, et al. (2015): attendance, academic achievement as measured by students' marking period grades, and extracurricular participation as provided by the school athletics and activity manager. The multiple indicators would have provided more evidence regarding the efficacy of the transition mentor program. In addition, the original intent was to also compare the indicators and survey results by gender and student group (American Indian/AK Native, Asian, Black/African American, Hispanic/Latino, Two or More Races, and White). According to Burke (2000), outcomes for specific groups that may interest the researcher should be identified before a study is conducted. He adds that the researcher must examine the data of at least two groups to see if s/he can offer a reasonable explanation (i.e., what "caused") of the existing differences between the two groups. Other characteristics, such as socioeconomic status as measured by receiving Free and Reduced Meals, may be a factor that

influences school connection and bonding; however, due to privacy reasons and protection of students, this information is not available.

However, during discussions with the Ocean County School District (OCSD) staff as part of the system's research approval process, the administration did not approve comparisons by student group. Further, due to privacy concerns, OCSD staff would not permit the use of student record data, even deidentified, including grades, attendance, and extracurricular participation.

Therefore, all data used to address the research question came from a web-based anonymous survey of 9th-grade students administered by WHS staff and designed to collect students' perceptions and feelings about the transition mentor program. While the survey contained two questions about student gender and demographic information, the survey responses were collected by WHS staff, who provided the researcher with a data file without any gender or demographic information.

Participants and Study Site

The study was conducted in one high school in OCSD, a suburban school system between two major metropolitan cities in a mid-Atlantic state. As discussed in Section I, Western High School is one of twelve high schools in the system, and in 2021-22, the school year had 1,514 students enrolled in grades 9-12. The gender distribution for Western High School was close to balanced, with 51.25% males, 48.55% females, and 0.2% non-binary. The racial and ethnic student groups were as follows: 40.55% White, 10.63% Black/African American, 5.81% Hispanic/Latino, 37.45% Asian, and 5.42% Two or More Races.

As described in Section 1, WHS created a cross-age peer mentoring program to ease the transition from middle to high school for its incoming 9th graders. Freshmen are placed into small groups of 5 led by a mentor and overseen by a staff member who provides individual and

group support. These small groups of one mentor and five freshmen are combined into larger groups of four mentors and 20 freshmen to allow for more significant learning and bonding during the “Program” sessions. The “Program” Time sessions are built into the weekly bell schedule, where students meet for 30-minute periods and cover topics you traditionally find in a homeroom or advisory setting. These topics include but are not exclusive to, schoolwide announcements, policy reviews, organizational skills review/training, etc.

The target participants were all 367 ninth-grade students enrolled in the 2021-22 school year. The gender distribution for the ninth grade was close to balanced, with 54% males, 45% females, and 1% non-binary. The ninth graders' student racial and ethnic subgroups were as follows: 36.8% White, 12.8% Black/African American, 5.9% Hispanic/Latino, 40.3% Asian, and 4.1% Two or More Races. Free and reduced meals students make up only 3.8% of ninth-grade students.

Methods

The researcher collaborated with the WHS Principal and the Transition Mentor Lead Teacher in designing the evaluation, including creating the student survey. However, all survey administration was determined and conducted by WHS staff. A formal email explaining the research and methods and seeking permission to analyze the data for the study was sent to the WHS principal prior to any data collection (Appendix C).

Survey Development

The Transition Mentor Program Lead Teacher and researcher, with input from the Principal, created an anonymous online survey using Google Forms. The researcher conducted a literature review to develop the survey to identify similar studies and gather possible items. In addition, the Transition Mentor Program Lead Teacher and researcher obtained verbal feedback

from the teachers who were mentors and part of the program in prior years. These WHS staff members provided informal insights into items and topics they thought were essential and should be covered in the survey.

As noted earlier, the research of Chung-Do et al. (2015), resulting in the development of the Factors in School Connectedness Scale, was fundamental to the design of this study and the survey. In addition, Nasir et al. (2011) developed an eighteen-question survey to examine school connections among students in an urban high school in a large Northern California city. Nasir et al. conceptualized school connections into two broad categories: interpersonal and institutional. Interpersonal connection characterizes students' relationships with teachers and other adults in the school setting. Institutional connections describe students' attitudes and behaviors related to their student role. The Lead Mentor Teacher, Principal, and researcher examined both the Nasir et al. (2011) survey and the Chung-Do, et al. (2015) *Factors of School Connectedness Scale* to identify items aligned with the five major factors of school connectedness. Some of the questions from the Nasir survey overlapped or were similar in intent to those in the *Factors of School Connectedness Scale*, so specific survey questions were selected or adapted to that refer to the mentoring program's features and address specific areas of interest to the mentor program team. In addition, items were also selected that were considered to be appropriate to ask the ninth-grade students.

The final survey, *The Student Connection Survey Scale*, contains 17 questions (see Appendix B). Figure 9 displays each question and the source. Two questions (Q#4 and Q#5) were similar and adapted from both the Chung-Do et al. (2015) and the Nasir et al. (2011) surveys. Eleven other questions (Q#1, 2, 3, 6, 7, 9-16) were adapted from the Chung-Do et al. (2015) study, and two (Q#8 and Q#14) were reworded and adapted from the Nasir et al. (2011)

survey. Two questions (Q#15 and Q#17) were created by the researcher and the Lead Mentor Teacher to obtain specific information about the program, such as willingness to participate in the program as a student member in the future and which parts of the program should be kept in the future. Two additional questions, Question 5, and Question 7, each asked a separate sub-question. (For example, Q.5 asked the following three questions: “How comfortable do you feel talking with your (Homeroom teacher)? “Do you interact with them during the Program lesson? Have you ever sought out this teacher for advice, information, or help?” Responses to each of the three separate questions were analyzed. Additionally, the final two questions at the end of the survey asked about gender and demographic information. (However, the responses to these questions were not made available to the researcher due to restrictions from the OCSD administration.) Fifteen of the 17 items (Q#1-3 and Q#4-16) were measured with a 5-point Likert scale with (1) strongly disagree and (5) strongly agree. Two questions (Q#4 and Q#17) asked respondents to check all responses that applied to them.

Figure 9

Student Connection Survey Scale

Category	Questions	Author
Academic Motivation	Q1	Chung-Do et al. (2015). Developing a comprehensive school connectedness scale for program evaluation
Extracurricular Activities	Q2	Chung-Do et al. (2015). Developing a comprehensive school connectedness scale for program evaluation
Extracurricular Activities	Q4_1	Chung-Do et al. (2015). Developing a comprehensive school connectedness scale for program evaluation
		Nasir et al. (2011). School connectedness for students in low-income urban high schools
Extracurricular Activities	Q4_2	Chung-Do et al. (2015). Developing a comprehensive school connectedness scale for program evaluation
		Nasir et al. (2011). School connectedness for students in low-income urban high schools
Extracurricular Activities	Q4_3	Chung-Do et al. (2015). Developing a comprehensive school connectedness scale for program evaluation
		Nasir et al. (2011). School connectedness for students in low-income urban high schools
Extracurricular Activities	Q4_4	Chung-Do et al. (2015). Developing a comprehensive school connectedness scale for program evaluation
		Nasir et al. (2011). School connectedness for students in low-income urban high schools
School Attachment	Q3	Chung-Do et al. (2015). Developing a comprehensive school connectedness scale for program evaluation
School Attachment	Q15	Created by the school team
School Attachment	Q16	Chung-Do et al. (2015). Developing a comprehensive school connectedness scale for program evaluation
School Attachment	Q17	Created by the school team
Teacher Support	Q5	Chung-Do et al. (2015). Developing a comprehensive school connectedness scale for program evaluation
		Nasir et al. (2011). School connectedness for students in low-income urban high schools
Teacher Support	Q6	Chung-Do et al. (2015). Developing a comprehensive school connectedness scale for program evaluation
Teacher Support	Q7	Chung-Do et al. (2015). Developing a comprehensive school connectedness scale for program evaluation
Teacher Support	Q8	Nasir et al. (2011). School connectedness for students in low-income urban high schools
Peer Support	Q9	Chung-Do et al. (2015). Developing a comprehensive school connectedness scale for program evaluation
Peer Support	Q10	Chung-Do et al. (2015). Developing a comprehensive school connectedness scale for program evaluation
Peer Support	Q11	Chung-Do et al. (2015). Developing a comprehensive school connectedness scale for program evaluation
Peer Support	Q12	Chung-Do et al. (2015). Developing a comprehensive school connectedness scale for program evaluation
Peer Support	Q13	Chung-Do et al. (2015). Developing a comprehensive school connectedness scale for program evaluation
Peer Support	Q14	Nasir et al. (2011). School connectedness for students in low-income urban high schools

Procedures

The survey administration began following the approval of the study by the University of Maryland's IRB and the OCSD Office of Research Administration. As noted earlier, the Principal and the Lead Mentor Teacher oversaw the survey's administration. The Lead Mentor Teacher and Principal decided that the survey should be administered during a specific scheduled

course. Since every ninth-grade student in the school was enrolled in English, this was the best course to ensure that all ninth-grade students would complete the survey. The Lead Teacher then coordinated with the ninth-grade English teachers to administer the survey. The ninth-grade English teachers administered the anonymous survey over one week during the beginning of the fourth quarter of the 2021-2022 school year. Any ninth-grade student attending his/her English class during that one week would have had an opportunity to take the survey on their school-issued Chromebook.

Procedures for Analysis. The results from the survey were requested by the researcher from the Principal, with all individual identifying information redacted. The de-identified survey results were compiled using Google Sheets, exported into Excel, and transferred to the researcher. Using Excel functions, response frequencies by item were computed and converted to percentages. Percentages for any Likert scale point (1-5) were computed based on the number of responses to the specific item.

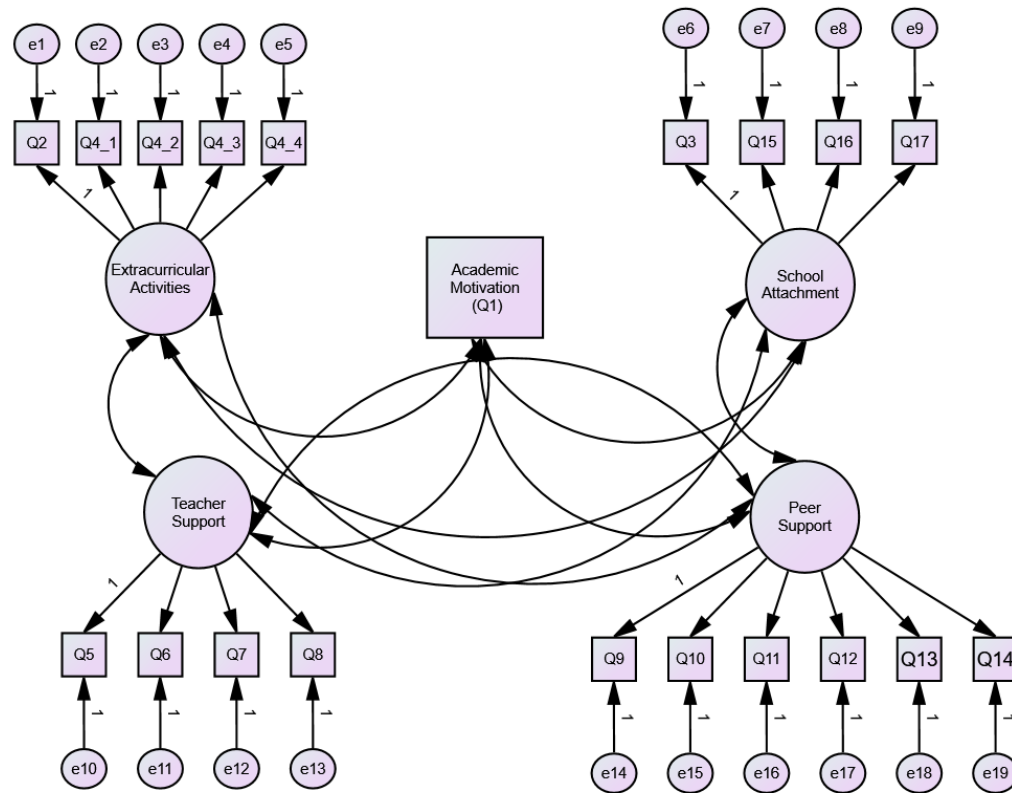
Confirmatory Factor Analysis. Following the descriptive analysis, a Confirmatory Factor Analysis (CFA) was conducted to determine what, if any, survey items were measuring one of the five critical factors of school connectedness: school involvement (extracurricular activities), academic motivation, school attachment (attendance), teacher support, and peer relations. The overall rationale for the survey was to strengthen the research surrounding the impact of the mentor program. Using the survey as a part of the broader investigation involving student data, such as grades, attendance, and extracurricular participation, was intended to collect and analyze both specific survey items and related data that could be examined within each of the five key components of school connectedness identified by Chung-Do et al. (2015). However, without access to the student data, the investigation turned to determining if students'

reports of positive impacts of the mentor program on specific indicators might possibly suggest that the program was positively associated with one or more of the five factors of school bonding. The CFA was conducted using AMOS 27.0 for Windows. Despite the small number of items on the survey, I decided to conduct the CFA to explore whether the survey might measure the five factors and could have future potential as a tool for monitoring the impacts of the mentor program. The CFA is a statistical method that is intended to “confirm” the extent to which “observed data,” such as survey item responses or other indicators, are measuring specific constructs or factors. The method requires that a conceptual model be specified which indicates the factors and suggests or hypothesizes the relationships among the factors. Specific observed data that are assumed to be aligned with or “fit” the constructs are also specified in the model. Defining the model, in collaboration with WHS staff, was an important step in the process of survey development because it helped staff identify key goals or areas intended to be impacted by the mentor program.

Figure 10 below presents the conceptual model, also called the Path Model, that guided the CFA and selection of survey items. The model assumed that specific survey questions or items within a specific factor (e.g., extracurricular activities) would be more strongly correlated than items aligned with another factor (e.g., school attachment). The model also illustrated the relationships among the five factors suggesting that four factors (extracurricular activities, school attachment, peer support, and teacher support) would contribute to or strongly relate to academic motivation, the fifth factor. This model supports my Driver Diagram described in Section 1, which presumes that changes in school connectedness will interact with academic achievement and lead to a greater probability of a student graduating.

Figure 10

Path model for CFA



The CFA examined whether the proposed model was consistent with the actual item-by-item data. Finding the best or absolute fit is to determine how well the actual data from the survey fit the model (McDonald & Ho, 2002). Experts on statistical analyses (Bandalos & Finney, 2018; Huck, 2012) agree that fit should be assessed by applying many criteria. So, multiple statistical tests were used to determine the model fit. These included the chi-square goodness-of-fit test (χ^2), the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), and the Root Mean Square Error of Approximation (RMSEA) (Hancock et al., 2018). A non-significant chi-square statistic (e.g., $\geq .05$) identifies an acceptable fit (Kline, 2016), and values

greater than .90 for the CFI and TLI identify a good fit (Hooper et al., 2008). Values lower than .08 for the RMSEA correspond to a reasonable fit, and RMSEA values lower than .05 indicate a good fit (Hu & Bentler, 1999).

Additionally, the direct relationships between the factors and the individual observed responses (pattern coefficients) were reported in a standardized form. A standardized coefficient reflects the weight or strength of the impact of one variable on the dependent or outcome variable. If an observed response on one item shows that it is an indicator of only one factor, the standardized coefficient can be squared to represent the item's variables on the factor. Given that the items were chosen explicitly to represent five key factors, it was hoped that the variance explained would be high or at least .50. The coefficients reflect the weight or extent of loading of items on factors.

Institutional Review Board

Before conducting research, the researcher obtained research approval from the local school district and the University of Maryland Institutional Review Board.

Protection of Human Subjects

The following steps were taken to protect human subjects in this study. First, participation in this study was voluntary and anonymous. The researcher did not and will not have any interaction with students related to their participation in this study or staff that were involved in administering the survey. No participants were deceived and no student identifying information was included in the data files used by the researcher during the analysis. When analyzing the survey data, the researcher followed procedures related to data privacy and data security and maintenance set by the district and the University of Maryland. The data files have been maintained in a secure location on a password-protected computer and have not been shared

with anyone. All data files and other materials will be destroyed one year after the study's conclusion.

Section III: Results and Conclusions

This section presents the results and conclusions based on the survey of ninth-grade students. It discusses the implications for the transition mentor program, future improvements, and potential expansion for the Ocean County School District.

Results

First, results from the student responses to the survey items are discussed. The responses have been grouped into five different tables corresponding to each of the five factors of school connectedness. Next, results from the CFA are presented and compared to the conceptual model described in Section 2. Figure 11 presents the standardized regression weights by question for each of the factors. Academic motivation had only one question; therefore, it was not listed in the figure. Figure 12 presents the extent to which the results aligned with the conceptual model (Figure 10 in Section 2). Figure 13 displays the results from the CFA Fit Statistics Indices.

Survey Results

Based on the published enrollment figures for Western High School, an estimated 367 ninth-grade students were allowed to participate in the anonymous web-based survey. A total of 321 students started and/or completed the survey making a return rate of approximately 88%. The survey contained 17 items that covered the five major components of school connectedness: school involvement (extracurricular activities) (Q2 & Q4), academic motivation (Q1), school attachment (attendance) (Q3, Q15, Q16, & Q17), teacher support (Q5, Q6, Q7, & Q8) and peer relations (Q9, Q10, Q11, Q12, Q13, & Q14). The following tables present the frequencies of the responses by each item. (Note: the name of the mentor program has been removed from the tables for confidentiality.)

Table 3*Responses Related to Extracurricular Activities: Q2*

Question/ Item	Strongly Agree	Agree	Sometimes	Disagree	Strongly Disagree
	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>
The “program” inspired me to join extracurricular activities (N= 319)	16 (5.02)	55 (17.24)	88 (27.59)	84 (26.33)	76 (23.82)

In response to Question #2, displayed in Table 3, surrounding extracurricular activities, 160 (51%) of the respondents indicated that the mentor program did not inspire them to participate in or become a member of extracurricular activities. Conversely, 71 (23%) respondents agreed or strongly agreed that the mentor program inspired them to participate in extracurricular activities.

Table 4*Responses Related to Attendance at School Events or Activities: Q4*

Question/ Item	Orientation	Lessons	Messages from Mentor	Friends met during Program	Nothing Inspired Me	I have not attended anything
	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>
Inspired me to attend school activity (N=315)	74 (23.49)	66 (20.95)	37 (11.75)	74 (23.49)	149 (47.3)	54 (17.14)

The responses to Question #4, displayed in Table 4, asked if the program inspired students to attend at least one school event or activity. Of the 315 respondents, 54 (17%) replied

that they did not attend any events, while 261 (82.86%) students responded that they had attended at least one school event or activity. When asked what inspired them to attend, 74 respondents (23.49%) replied, “friends they met during the Mentor Program and the Orientation,” respectively. “Program” Lessons also had an impact, as 66 respondents (25%) reported that these inspired them to attend an event or activity after school.

Table 5

Responses related to Academic Motivation: Q1

Question/ Item	Strongly Agree	Agree	Sometimes	Disagree	Strongly Disagree
	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>
Impacted my development (N=319)	12 (3.76)	36 (11.29)	99 (31.03)	92 (28.84)	80 (25.08)

Table 5 presents the results of responses to whether the mentor program had improved the student's academic performance by teaching organizational skills, test-taking strategies, and time management tips. In response to Question 1, whether the mentor program impacted their development, 172 (54%) of the 319 students disagreed or strongly disagreed. 99 (31%) of the respondents indicated that the mentor program *Sometimes* impacted their development, and 48 (15%) agreed or strongly agreed that the mentor program had impacted their development.

Table 6*Responses related to School Attachment: Q3, Q15, Q16, Q17*

Question/ Item	Strongly Agree	Agree	Sometimes	Disagree	Strongly Disagree
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
My mentor and/or group contributed to making me feel comfortable within the school. (N=319)	35 (10.97)	87 (27.27)	106 (33.23)	58 (18.18)	33 (10.34)
The mentoring program helped to ease my anxieties as I started the school year. (N=318)	13 (4.09)	47 (14.78)	92 (28.93)	83 (26.10)	83 (26.10)
I want to be a mentor in 11th and/or 12th grade. (N=317)	22 (6.94)	52 (16.4)	63 (19.87)	48 (15.14)	132 (41.64)
The mentoring program is an important part of the transition to high school. (N=315)	22 (6.98)	57 (18.1)	77 (24.44)	82 (26.03)	77 (24.44)
Total	23 (7.25)	60.75 (19.15)	84.5 (26.64)	67.75 (21.36)	81.25 (25.61)

Four survey items attempted to capture students' perceptions regarding the impact of the mentor program on school attachment (see Table 6). In response to Question 3, what extent has your mentor or group contributed to making you feel comfortable within the school? 122 out of the 319 respondents (38.24%) agreed or strongly agreed that their mentor or group contributed to helping them feel comfortable within the school. An additional 106 respondents indicated that their mentor or group sometimes contributed to helping them feel comfortable within the school. Thus, 228 (71.47%) of all respondents indicated that the mentor program impacted their comfort level with school.

In response to Question 15, did the mentoring program help to ease the students' anxieties as they began the school year? One hundred fifty-two respondents (47.8%) reported that the mentor program had some level of impact on reducing their anxieties. Question 16 was intended to determine the level of interest of respondents in becoming a part of the mentor program when they reach their junior and senior years. Of the 315 respondents, 137 (43%) indicated they might be interested in becoming a mentor in their junior or senior year. For the last question (Q17) within the school attachment items, 156 out of 315 respondents (49.52%) indicated that the mentoring program is an integral part of the transition to high school.

Table 7 displays the responses to four items regarding teacher support.

Table 7

Responses related to Teacher Support: Q5, Q6, Q7, Q8

Question/ Item	Strongly Agree	Agree	Sometimes	Disagree	Strongly Disagree
	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>
I felt comfortable talking with my Homeroom Teacher. (N=317)	49 (15.46)	65 (20.50)	95 (29.97)	57 (17.98)	51 (16.09)
I interacted with my Homeroom Teacher during the “Program” lessons. (N=316)	24 (7.59)	31 (9.81)	60 (18.99)	90 (28.48)	111 (35.13)
I sought this homeroom teacher out for advice, information, and/or help. (N=319)	12 (3.76)	15 (4.7)	51 (15.99)	86 (26.96)	155 (48.59)
I feel that my homeroom teacher cares about me as a person (N=318)	48 (15.09)	80 (25.16)	96 (30.19)	51 (16.04)	43 (13.52)

Question 5 asked students how comfortable they felt talking with their homeroom teachers. Of the 317 responses, 209 (65.93%) indicated feeling comfortable talking with their homeroom teacher. Additionally, Question 6 asked whether students interacted with their homeroom teacher during the “Program” time (as this is when the program is implemented). A total of 115 out of 316 (36.39%) indicated that they did interact with their homeroom teacher during the Program lessons. Question 7 asked whether students sought their Program teacher for advice, information, and/or help, and 78 (24.45%) of the 319 respondents indicated they had. Finally, for Question 8, 224 (70.44%) students reported that their Program teacher cared about them.

Table 8 reviewed the six questions about the mentor program and peer relations.

Table 8*Responses related to Peer Relations: Q9, Q10, Q11, Q12, Q13, Q14*

Question/ Item	Strongly Agree	Agree	Sometimes	Disagree	Strongly Disagree
	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>
I feel comfortable talking to my mentor. (N=318)	55 (17.3)	99 (31.13)	78 (24.53)	48 (15.09)	38 (11.95)
I feel comfortable reaching out to my mentor when I have general questions. (N=319)	49 (15.36)	87 (27.27)	90 (28.21)	47 (14.73)	46 (14.42)
I feel comfortable reaching out to my mentor when I have personal problems. (N=318)	22 (6.92)	25 (7.86)	70 (22.01)	72 (22.64)	129 (40.57)
I feel that my mentor cares about me as a person. (N=318)	46 (14.47)	81 (25.47)	98 (30.82)	55 (17.30)	38 (11.95)
I feel close to my mentor (group of 5) and/or homeroom (group of 20) group. (N=316)	10 (3.16)	35 (11.08)	71 (22.47)	85 (26.9)	115 (36.39)
I established relationships with my mentor group and homeroom group. (N=318)	15 (4.72)	36 (11.32)	71 (22.23)	79 (24.84)	117 (36.79)

Question 9 asked about students' comfort level talking with a mentor, and 232 of 318 (72.96%) reported feeling comfortable. Responses to Question 10 indicated that 226 (70.85%) students felt comfortable reaching out to their mentor for general questions. Question 11 asked about the student's comfort level in reaching out to their mentor when they had a personal problem, and 117 (36.79%) replied that they agreed or sometimes were comfortable reaching out to their

mentor if they had a personal problem. When asked if their mentor cares about them (Question 12), 225 (71.88%) responded either strongly agree, agree, or sometimes and 127 (39.9% agreed or strongly agreed. Of the 316 respondents to Question 13 regarding if they felt close to their mentor group, 116 (36.71%) responded strongly agree, agree, or sometimes but only 45 (14.2%) strongly agreed or agreed. Lastly, in Question 14, 122 out of 318 (38.36%) of the students 14 felt they had established or sometimes established relationships with their mentor group. However, only 51 (15.1%) strongly agreed or agreed.

Confirmatory Factor Analysis

As discussed in Section 2, the intent of conducting a CFA was to explore the relationships among individual item responses that were hypothesized to relate to or be an indicator of the five factors. The intent was to determine the extent to which specific items were measuring the specific construct or factor. To successfully run the CFA in AMOS, you must ensure no missing data for the variables of interest. Participants that did not respond to questions were removed for that question only. This resulted in a different number of responses for each of the questions. The other adjustment made was changing Q4 to dichotomous variables. This survey question was a "check all that apply" type of response, which cannot be used in a CFA, so it was re-coded into five separate variables (Q4_1, Q4_2, Q4_3, Q4_4, Q4_5). Q4_1 is the response for "orientation." If the participant indicated orientation, they received a "1," and if they did not, they received a "0". Likewise, the same process was used for "Program" lessons (Q4_2), Messages from Mentor (Q4_3), and Friends you met during the program (Q4_4).

The results of the CFA are displayed in Figures 11 and 12, which show the standardized coefficients or weights for each item within a factor and the extent to which the results confirmed or aligned with the conceptual model described in Section 2. When reviewing these results, the

correlation is always between -1 and 1 and its scale is independent of the scale of the variable themselves. Thus, questions with lower standardized regression coefficients show that the specific question did not contribute to or load on its factor.

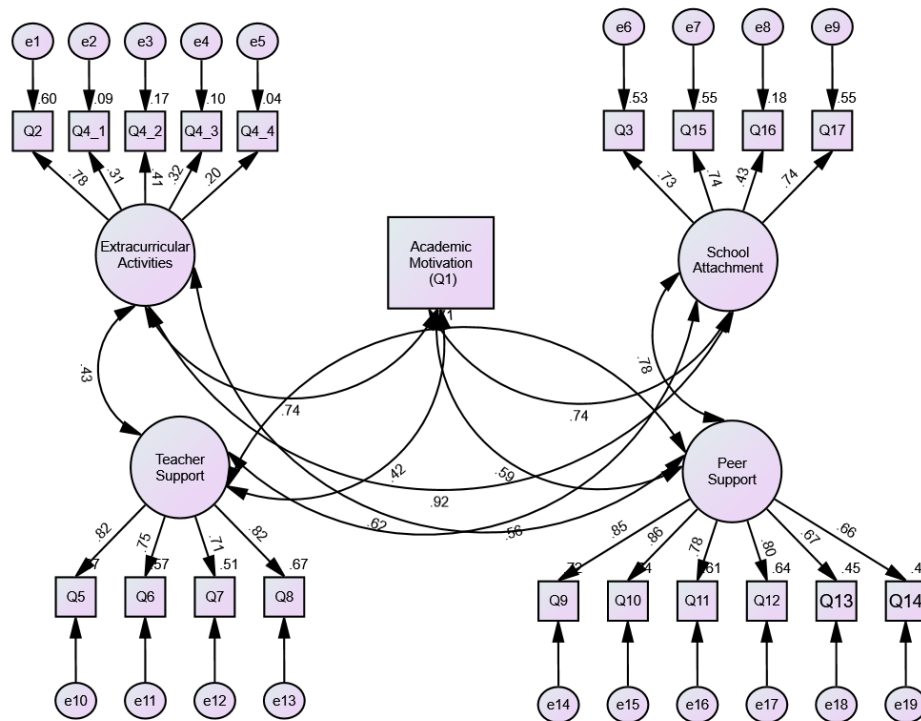
Figure 11

Standardized Regression Weights

	Standardized Regression Weights
Q2 <--- Extracurricular Activities	.775
Q4_1 <--- Extracurricular Activities	.306
Q4_2 <--- Extracurricular Activities	.412
Q4_3 <--- Extracurricular Activities	.320
Q4_4 <--- Extracurricular Activities	.199
Q3 <--- School Attachment	.725
Q15 <--- School Attachment	.740
Q16 <--- School Attachment	.429
Q17 <--- School Attachment	.745
Q5 <--- Teacher Support	.818
Q6 <--- Teacher Support	.752
Q7 <--- Teacher Support	.711
Q8 <--- Teacher Support	.820
Q9 <--- Peer Support	.850
Q10 <--- Peer Support	.859
Q11 <--- Peer Support	.779
Q12 <--- Peer Support	.801
Q13 <--- Peer Support	.667
Q14 <--- Peer Support	.657

Figure 12

Path Model For CFA With Standardized Estimates



Finally, Section 2 described the fit statistics for the CFA that were examined. As described in Section 2, a non-significant chi-square statistic (e.g., $\geq .05$) indicates an acceptable fit (Kline, 2016). Other fit indices were the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), and the Root Mean Square Error of Approximation (RMSEA) (Hancock et al., 2018). Values larger than .90 for the CFI and TLI identify a good fit, and values lower than .08 for the RMSEA represent a reasonable fit (Hooper et al., 2008).

Figure 13 presents the fit statistics. These statistics show whether the survey or model was appropriate (or a good fit) for collecting the responses about the transition mentor program. The chi-square test for model fit was statistically significant, $\chi^2(161) = 695.60, p < .001$,

indicating that the items did not show strong relationships fit the model. The CFI and TLI were .84 and .81, slightly below the benchmark for a good fit. Also, the RMSEA had a value of .10, which was also slightly above the benchmark of .08. The CFI, TLI, and RMSEA statistics indicate a reasonable fit for the model. Determining fit is a process that ensures your data (e.g., response means) has the parameters suited to validate the model accurately. This means the relationships between the critical factor areas were only reasonably close to the observed responses from the survey. Ideally, the objective would be to have the relationships display higher standardized regression outputs creating a good-fit or best-fit regression model.

Figure 13

CFA Fit Statistics

χ^2	<i>df</i>	<i>p</i>	<i>CFI</i>	<i>TLI</i>	<i>RMSEA</i>
695.60	161	<.001	.84	.81	.10

Summary of Results

The research question in this study asked, “How do ninth-grade students report their level of school bonding and the factors, including the transition mentor program, that supports school bonding?” The researcher employed an anonymous survey to collect information from all ninth-grade students in WHS regarding the mentor program. The 17-item survey was developed to obtain ninth-grade students’ perceptions of the extent to which the mentor program positively affected specific indicators of school bonding or connectedness: school involvement, academic motivation, school attachment, teacher support, and peer relations. Based on the responses of 315 students representing 88% of the total ninth-grade population, about half (50.95%) sometimes agree, agree, or strongly agree that the mentor program positively impacted one or more indicators of school bonding. The highest reported impacts were reported for items asking about

the relationships between students and their peers, mentors, and their teacher mentors. Specifically, within the peer relations factor, Q9 asked if students feel comfortable talking to their peer mentor; almost three-quarters (72.96%) responded that they sometimes agree, agree, or strongly agree, and to Q5, I feel comfortable talking with my homeroom teacher; 65.93% responded that they sometimes agree, agree, or strongly agree. In addition, to the Q8, I feel my homeroom teacher cares about me; 70.44% of the student responded that they sometimes agree, agree, or strongly agree, and 70.7% of the students responded sometimes agree, agree, or strongly agree to Q12 that asked if they feel their peer mentor cares about them as a person. Items related to school attachment also showed positive results; Q3 asked students if their mentor and/or group contributed to making them feel comfortable within the school, and 71.47% responded that they sometimes agree, agree, or strongly agree. While this is encouraging, responses to Q16, which was also considered an indicator of school attachment and asked students if they wanted to be a mentor in 11th and/or 12th grade, showed that only 43.14% of the students sometimes agree, agree, or strongly agree.

One of the survey questions (Q7) that received the most negative (disagree or strongly disagree) ratings asked if the student felt comfortable reaching out to their mentor teacher when they have a personal problem. Q7 asked if students sought their homeroom teacher out for advice, information, and/or help, and 24.45% responded and reported they sometimes agree, agree, or strongly agree. Another question that had disappointing results (Q4) asked what inspired students to attend school events or activities, and 47.3% of respondents reported that nothing inspired them.

Results of the CFA

A generous interpretation of the results of the CFA is that some of the survey items loaded on some of the factors. For example, there is some support for the conclusion that the three items (Q3, Q15, and Q17) measured an aspect of school attachment. However, there is still unexplained variance within this factor. The Extracurricular Activities Factor items were the weakest among the four factors. In contrast, Peer Relations items showed the strongest weights suggesting that these survey items were potentially measuring a construct. Peer Relations was also positive in the general survey as well.

In general, the overall CFA did not confirm the model intended. However, the survey was never intended to be the sole data source, and the limited number of items and the adaptations made by WHS staff were recognized as limitations. There were only 17 items that comprised the entire survey, which is a very limited number of items overall to represent five factors. Furthermore, the Academic Motivation factor, originally intended to include student data, was represented by only one item (Q1). However, the conceptual model itself proved valuable in defining key expectations for the transition mentor program and a first step in identifying indicators of those constructs. It is certainly possible to refine the survey through an Exploratory Factor Analysis. However, first, the results of the descriptive analysis should inform which items might not capture what was intended or perhaps which items might be developed to better represent some of the constructs.

Conclusions and Implications

My improvement initiative focused on increasing school connectedness through a transition mentor program for ninth-grade students. Evaluating whether the program was making an impact on school connectedness was the purpose of this study. This study has several

implications for Western High School and OCSD and may provide the foundation for exploring how the mentor program can be improved and sustained. The five components of school connectedness are ways to conceptualize school bonding and should remain the cornerstone of the evaluation of the transition mentor program. However, further analysis of the survey is necessary to make a stronger tool and a more valid measure for program evaluation.

Next Steps for Western High School and OCSD

Western High School and the school system should continue to support implementing a transition mentor program. However, the staff should continue to collect additional data: they need to look at results by race/ethnicity and gender. They need input from all those involved in the mentoring program. This was just a first step; getting peer and teacher mentors would prove valuable. Approximately 50% of the respondents suggest this program had a somewhat positive experience and has proven worthwhile.

If the transition mentor program continues to gather data and use the data to support growing the five key component areas of school connectedness. Additionally, if the survey continues to be administered, responses from each year can help identify key component areas that are strong and other areas that may need more development and attention.

The transition mentor program could then continue to supplement the relationships built during a typical day. These relationships could blossom a strong school climate that promotes attendance, academic achievement, and extracurricular participation.

Limitations

The researcher faced constraints during this study. First and foremost was the impact of COVID-19 on students and school closings. This impacted the implementation of the mentor program and required that students reacclimate to high school. Students who responded to the

survey had to adjust to face-to-face learning and school settings. This could have impacted their comfort level, ability to bond with the school, and transition to high school.

Next, the school district presented limitations in terms of access to data. Data was not available to review ninth-graders academic achievement, making it difficult to see which students were struggling academically. Next, data for attendance was not made available, so that data could not inform if students felt connected to the school. Finally, there was no data available for extracurricular participation nor data on subgroups of students. This limited the ability to compare the perceptions and other factors about the mentor program between student groups and gender and did not provide an opportunity to identify if some groups of students were less optimistic about the program and may need specific support opportunities for program participation.

There is also the possibility that student mentors who had exposure to an earlier version of the program, as discussed in Section 1, may have provided a different experience for the students they were mentoring than those who did not have exposure to an earlier version of the program. Students who may have difficulty reading or maintaining attention for a long time may have been less likely to complete the survey. Although the response rate was high at 88%, knowing which students did not complete the survey or some questions is essential. The findings of this study are also limited to students from one high school in a specific region of the United States. Therefore, the scale must be validated with youth in other schools and areas to conduct multigroup comparisons. It is unclear if the same responses would be shared if the program were replicated in a broader education community. Lastly, while student survey results described the student experience for the mentor program implementation, neither classroom observation nor focus groups for teachers and student mentors were collected, making it difficult to verify if

students or outside observers would share the students' opinions about the impact of the mentor program.

Summary

The purpose of this study was to evaluate the mentoring program at WHS in terms of its influence on academic achievement or other measures related to student engagement or bonding. The investigation aimed to assess the efficacy of a transition mentor program for 9th graders and its influence on indicators of school bonding. I intended to examine specific indicators of school connection and compare African American students to White and other students. Unfortunately, I could not make that comparison due to limitations surrounding the data availability from the district; however, I was able to obtain the perceptions of ninth-grade students regarding the influence and impact of the transition mentor program. Based on the student input survey results, the transition mentor program suggests a somewhat positive initiative the school should continue offering.

Undoubtedly, administrators, teachers, and students will continue to face challenges in and out of the classroom. Educators must ensure that students can navigate the path to graduation successfully. Educators need a way to provide support with specialized programs, develop individualized preparation for standardized assessments, and create teacher professional development so we can support those students most at risk of not graduating. A transition mentor program is an excellent opportunity to capture the interest of ninth-grade students as they enter high school and provide them the opportunity to connect with other students, teachers, and the school community.

Appendices

Appendix A: Mentor Program Overview

Program Description	School-based Cross-age Peer Mentoring Program to ease the transition from middle to high school. Freshmen are placed into small groups (5) led by a mentor and overseen by a staff member to provide individual and group support. Small groups, 1 mentor, and five freshmen are combined into larger groups, four mentors and 20 freshmen, to allow greater learning and bonding.
New Experiences	• Entering the building and moving between 7 classes • Meeting and bonding with student from multiple middle schools • Homecoming and other school activities • A and B days and lunches • Four quarters of high school grading • Managing 7 high school classes • Midterms and Finals
Groupings	• Mentor Teacher • Mentor • Ninth-grade Student • Mentor Group • Homeroom Group
Supports	Four Upperclassmen will: • Answer questions • Connect you with academic support, clubs, and activities • Provide advice • Remind you of important dates Orientation: • Learn about SGA • Connect with mentor and teacher • Follow the schedule and meet the teachers • Tour building • Multiple bonding activities with mentor and homeroom group • Q&A time Mandatory Monthly Program Times: • Social support • Academic support • Participate in ongoing group challenges • Ongoing group connection building
Mentor Responsibilities	• Collaborate with 3 additional Mentors • Lead monthly “Program” lessons (lessons will be provided)

	• Work with other mentors to prepare for each “Program” lesson (share prep with the Mentor Teacher) • Send monthly check-in messages to the mentor group • Send additional messages as needed to remind students of important dates/activities • Remain available all year to provide support for any freshmen in your homeroom group • Contact appropriate support when issues arise • Foster homeroom group collaboration • Remain committed to your ninth graders from orientation until the seniors leave • Participate in on-going training
Teacher Responsibilities	<u>Be attentive to messages from the Program Council</u> Mentor Teachers will work with 4 mentors and 20+ ninth graders to provide ongoing support Orientation – Participate in bonding activities Program Times – Dedicate 1 lesson every month for 30 minutes to provide lessons for the ninth graders (lessons and materials will be provided). Ensure mentors are prepared to lead lessons General Responsibilities – Act as a resource for struggling ninth graders. Foster collaboration among the mentors. Provide support for mentors if needed. Participate in a training session with mentors to bond and prepare for the upcoming year and additional sessions as needed

Appendix B: Student Survey

1. To what extent did the Program (mentor, lessons...) teach you skills (organizational, study, test-taking strategies, time management...) that improved your academic performance?
2. To what extent has the Program (mentors, homeroom activities) inspired you to join or to become a member of extracurricular activities (sports, clubs, activities...)?
3. To what extent has your mentor or group contributed to making you feel comfortable within the school?
4. What aspects of the program inspired you to attend at least one school event or activity (Homecoming events, athletic contests, performances...). Check all that apply.
 - Orientation
 - Lessons, including the one about Homecoming
 - Messages from my mentor
 - Friends you met during the program
 - Nothing from the program inspired me - I just went
 - I have not attended anything
5. How comfortable do you feel talking with your homeroom teacher?
 1. Do you interact with them during the lessons?
 2. Have you ever sought this teacher for advice, information, or help?
6. To what extent does your homeroom teacher care about you as a person?
7. How comfortable are you with talking to your mentor?
 1. Do you feel comfortable reaching out when you have general questions?
 2. Do you feel comfortable going to them with personal problems?

8. To what extent does your mentor care about you as a person?
9. How close do you feel to your mentor group (group of 5) or homeroom (group of 20) group?
10. Would you like to establish relationships with your mentor group and homeroom groups?
11. To what extent did the mentoring program help ease your anxieties as you started the school year?
12. Do you believe that you will be a mentor in 11th and/or 12th grade?
13. Do you believe the mentoring program is an important part of the transition to high school?
14. Which parts of the mentoring program do you believe are useful to keep in future years?

Check all that apply.

- Having a mentor who sends you updates
 - Meeting your mentor during orientation
 - Being a part of a group of 5 other freshmen
 - Being a part of a group of 20 freshmen
 - Having access to 3 other upperclassmen
 - Lessons
 - Orientation activities
 - Having a mentor teacher that you can go to for help.
15. Select a gender
 - Female
 - Male
 - Non-binary

- Other/Prefer not to answer

16. Select a race/ethnicity

- American Indian/AK Native
- Asian
- Black/African American
- Hispanic/Latino
- Two or More Races
- White
- Other/Prefer not to answer

Appendix C: Email to Principal to Conduct Research

Date

Mrs. First name, Last Name

Principal, Western High School

Street address, town, state, zip code

RE: Permission to Conduct Research Study

Dear Mrs. Last Name,

I am writing to request permission to conduct a research study at your school. I am currently enrolled in the University of Maryland College of Education School Leadership (EDUC) EdD program and am in the process of writing my doctoral dissertation. The study is entitled A Review of a High School Transition Mentor Programs for Ninth Grade Students and Its Impact on School Connectedness and Graduation.

I hope the school administration will allow me to analyze the results of the voluntary, anonymous survey the ninth-grade students completed regarding their experience with the ninth-grade mentoring program. The school conducted this 17-question survey during the school day.

The survey results will be pooled and analyzed for the dissertation if approval is granted. Should this study be published, only pooled results will be documented. No costs will be incurred by either the school or the individual participants.

Your approval to conduct this study will be greatly appreciated. I will follow up next week and would be happy to answer any questions or concerns you may have. You may contact me at my email address: brandonlauer@gmail.com.

If you agree, kindly sign below and return the signed form electronically to me.

Sincerely,

A handwritten signature in black ink, appearing to read 'B. Lauer', with a horizontal line extending from the end.

Brandon Lauer

EdD Candidate

University of Maryland, College Park

Approved by:

Printed Name: _____

Title: _____

Signature: _____

Date: _____

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